NSW Public Works

Little Forest Levee Remediation

Review of Environmental Factors

Report Number: FY20242778-PWO-ENV-RP-003-A0

December 2024

Prepared for:

murray river council

Report Number: FY20242778--PWO-ENV-RP-003-A0

P-FY20242778-PWO-ENV-RP-003-A0_LittleForestREF_DRAFT.docx

Document control

Version	Author(s)	Reviewer	Approved for issue	
			Name	Date
0 (preliminary)	Des Andersen	Liz Mathieson	Liz Mathieson	23/10/2024
1 (final)	Des Andersen	Liz Mathieson	Liz Mathieson	20/12/2024

Contact: Des Andersen

Position Title: Environmental Scientist

122 – 132 Mossman Street (Old Teachers College)
Armidale NSW 2350
M 0448 746 401

E derryn.andersen@pwa.nsw.gov.au | **W** www.publicworks.nsw.gov.au

Cover photo: Little Forest Levee.

Source: NSW Public Works, Department of Primary Industries and Regional Development.

© Crown in right of the State of NSW through the Department of Primary Industries and Regional Development 2024

This publication is copyright and may incorporate material to which an individual maintains moral rights. Other than for the purposes of and subject to the conditions prescribed under the Copyright Act 1968, no part of it may, in any form or by any means, be reproduced, altered, manipulated, stored in a retrieval system, or transmitted without prior written consent of the copyright owner or owner of moral rights. Any enquiries relating to consents and use of this publication, including by NSW Government agencies, must be addressed to NSW Public Works.

While this document has been formulated with all due care, the State of New South Wales does not warrant or represent that the document is free from errors or omissions, or that it is exhaustive. The State of NSW disclaims, to the extent permitted by law, all warranties, representations, or endorsements, express or implied, with regard to this document including but not limited to, all implied warranties of merchantability, fitness for a particular purpose, or non-infringement. The State of NSW further does not warrant or accept any liability in relation to the quality or accuracy of this document and no responsibility is accepted by the State of NSW for the accuracy, currency, reliability, and correctness of any information in this document provided by the client or third parties.

All references to NSW Public Works are taken to be references to the Department of Primary Industries and Regional Development for and on behalf of the State of New South Wales.

Certification

This Review of Environmental Factors (REF) has been prepared by NSW Public Works, Department of Primary Industries and Regional Development (DPIRD) on behalf of Murray River Council (MRC). The report presents the assessment of potential impacts that may result from the removal of the Little Forest levee and remediation of excavation work resulting from its construction at Little Forest (part of Koondrook State Forest), Lot 929 DP 207721 and Lot 134 DP 756508, NSW (the Proposal).

MRC is a public authority and a determining authority as defined in the *Environmental Planning and Assessment Act 1979* (EP&A Act). The Proposal satisfies the definition of an activity under the EP&A Act, and as such the NSW Health must assess and consider the environmental impacts of the proposal before determining whether to proceed.

The Proposal is permitted without consent pursuant to the *State Environmental Planning Policy (SEPP) (Transport and Infrastructure) 2021*. Activities permitted without consent still require environmental assessment pursuant to Division 5.1 of the EP&A Act. This REF assesses any potential significant environmental impacts expected as part of the Proposal. Based on the information presented in this REF it is concluded that:

(1) the proposed activity is not likely to have a significant impact on the environment and therefore an Environmental Impact Statement (EIS) is not required.

(2) the proposed activity is not likely to significantly affect threatened species, populations, ecological communities, or critical habitat. Therefore, a Species Impact Statement (SIS) / Biodiversity Assessment Report (BDAR) is not required.

(3) the proposed Activity is not likely to affect any Commonwealth land, is not being carried out on Commonwealth land, or significantly affect any matters of national environmental significance.

Subject to implementation of the measures to avoid, minimise or manage environmental impacts listed in this REF, the proposed activity is recommended to proceed.

Author and Qualifications	Des Andersen, M. Env Mgt
Designation	Environmental Scientist
I certify that I have reviewed and endorsed the contents of this REF document and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under section 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.	
Certifier and Qualifications	Liz Mathieson B.Sc.
Designation	Principal Scientist
Organisation	NSW Public Works, DPIRD
Signature	

Date	20 December 2024

Verification

I have examined this Review of Environmental Factors and the Certification and accept the report on behalf of Murray River Council (the proponent).

Name	
Designation	
Organisation	
Signature	
Date	

Decision Statement

I, CHRISTOPHER O'BRIEN, as an authorised person on behalf of Murray River Council, have examined and considered the REF for the proposed (insert project), prepared in accordance with section 5.5 of the *Environmental Planning and Assessment Act 1979*.

I have reviewed the contents of the REF and I have gained an understanding of the impacts of the proposed activity and I acknowledge the need to implement the stated mitigation measures identified in the REF.

Based on the findings of the REF, the proposed Activity may proceed as:

- The proposed Activity is not likely to have a significant impact on the environment and therefore an Environmental Impact Statement is not required.
- The proposed Activity will not be carried out in a declared area of outstanding biodiversity value and is not likely to significantly affect threatened species, populations or ecological communities, or their habitats or impact biodiversity values, meaning a Species Impact Statement and/or Biodiversity Development Assessment Report is not required.
- The proposed Activity is not likely to affect any Commonwealth land, is not being carried out on Commonwealth land, or significantly affect any matters of national environmental significance.

The proposed Activity may proceed subject to the implementation of the mitigation measures identified in Section 5 of the REF.

Name	CHRISTOPHER O'BRIEN
Designation	ACTING MANAGER DEVELOPMENT SERVICES
Organisation	MURRAY RIVER COUNCIL
Signature	COB
Date	15/1/2025

Executive Summary

This Review of Environmental Factors (REF) has been prepared by NSW Public Works (NSW PW), a division of the Department of Primary Industries and Regional Development, on behalf of Murray River Council (MRC). The report presents the assessment of potential impacts that may result from the removal of the Little Forest levee and remediation of excavation work resulting from its construction at Little Forest, located at Little Forest Lane, Barham NSW (hereafter referred to as the Proposal).

Environmental Planning

The applicable environmental planning instrument for the Proposal is *State Environmental Planning Policy (Transport and Infrastructure) 2021* (SEPP (Transport and Infrastructure) 2021). The works are permissible without consent under Division 7, Section 2.56 of the SEPP (Transport and Infrastructure) 2021) which permits development for the purpose of 'flood mitigation work', including 'environmental management works', to be carried out by or on behalf of a public authority without consent on any land.

'Flood mitigation work' is defined to include works designed and constructed for the express purpose of mitigating flood impacts, including levees. 'Environmental management work' is defined in the SEPP to mean works for the purpose of avoiding, reducing, minimising or managing the environmental effects of development (including effects on water, soil, air, biodiversity, traffic or amenity). As the Proposal is associated with a flood mitigation work and involve works to minimise and manage the environmental effect of the development on Aboriginal Cultural Heritage (ACH), it is considered to meet the provisions of the SEPP Transport and Infrastructure) 2021.

Therefore, the Proposal can proceed without the need to obtain development consent and can be assessed by way of a Review of Environmental Factors (REF) to be prepared under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

This REF provides a true and fair assessment of the proposed development in relation to its likely effects on the environment. It addresses, to the fullest extent possible, all matters affecting or likely to affect the environment as a result of the development.

Impacts and Mitigation

Some minor impacts associated with noise and impacts on the biodiversity of the proposal site and immediate surrounds are predicted during the construction works. It should be noted that the primary purpose of the Proposed works is to remediate and restore the initial impact to the biophysical environment and Aboriginal Cultural Heritage items. It has been assessed that by following the mitigation actions of the REF and associated actions contained in the Aboriginal Cultural Heritage Assessment Report (ACHAR), these impacts can be either managed or avoided altogether. The impacts associated with the works would be short term and can be managed so as not to result in adverse environmental impacts. No adverse operational impacts are anticipated as a result of the proposed development.

Contents

Certification iii

Verification iv

Decision Statement v

Executive Summary vi

Abbreviations and Notations ix

1. Introduction 1
1.1 Background and Purpose of the Proposal 1
1.2 Site Description and Setting 1
1.3 Land Ownership 1

2. Statutory Considerations 2
2.1 Environmental Planning Instruments 2
2.1.1 Wakool Local Environmental Plan 2013 2
2.1.2 State Environmental Planning Policy (Transport & Infrastructure) 2021 8
2.1.3 State Environmental Planning Policy (Biodiversity and Conservation) 2021 8
2.2 Regional Plans 13
2.2.1 Riverina Murray Regional Plan 2041 13
2.3 Legislation 13
2.3.1 Environmental Planning and Assessment Act 1979 13
2.3.2 Additional Relevant Legislation 15
2.4 Consultation 19
2.4.1 Non-Statutory Consultation 19
2.4.2 Aboriginal Consultation 20
2.5 Summary of Approvals 20

3. Description of the Proposal 22
3.1 Need for the Proposal 22
3.2 Options Assessment 22
3.3 Description of the Proposal 23
3.4 Remediation Methodology 25
3.5 Construction Considerations 26
3.5.1 Construction Schedule and Working Hours 26
3.5.2 Construction Equipment and Compound 26
3.5.3 Construction Environmental Management Plan 27

4. Environmental Assessment 28

5. Environmental Management 38
5.1 Construction Environmental Management Plan 38
5.2 Environmental Management Measures 39

6. Conclusion and Recommendations 51
6.1 Conclusion 51

6.2 Recommendations 51

7. References 52

Appendix A Ecological Constraints Report

Appendix B Aboriginal Cultural Heritage Assessment Report

Appendix C Consultation

Tables

Table 2-1: Additional Legislation 15
Table 2-3: Required Approvals 20
Table 4-1: Factors for Consideration under Section 171 of Environmental Planning and Assessment Regulation 2021 29
Table 5-1: Construction Environmental Management Plan Structure 38

Figures

Figure 1-1 Levee location 1
Figure 1-2 Study Area 1
Figure 2-1 Land Use Zoning Map 3
Figure 2-2 – Terrestrial Biodiversity Values Map 4
Figure 2-3 Riparian Lands and Watercourses Map 5
Figure 2-4 Wetlands Map 6
Figure 2-5 Bushfire Prone Lands Map 7
Figure 3-1 Extent of levee remediation and work zones 24

Abbreviations and Notations

Item	Description
ACH	Aboriginal Cultural Heritage
ACHAR	Aboriginal Cultural Heritage Assessment Report
AHIP	Aboriginal Heritage Impact Permit
CEMP	Construction Environmental Management Plan
DECCW	Department of Environment, Climate Change and Water
DPI	Department of Primary Industry
ECA	Ecological Constraints Assessment
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2021
EPA	Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
FC NSW	Forestry Corporation of NSW
JIG	Joint Indigenous Group
LALC	Local Aboriginal land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MRC	Murray River Council
NPW Act	National Parks and Wildlife Act 1974
NSW PW	NSW Public Works
NSW SES	NSW State Emergency Service
POEO Act	Protection of the Environment Operations Act 1997
RAP	Registered Aboriginal Parties
REF	Review of Environmental Factors
SEPP	State Environmental Planning Policy
TO's	Traditional Owners
WHS	Work Health and Safety

1. Introduction

This section provides a brief description of the Proposal, the background to the proposal and its objectives.

1.1 Background and Purpose of the Proposal

The Little Forest levee was constructed in response to potential threats of floodwaters from the Murray River impacting private property neighbouring and downstream of Little Forest. The levee was authorised under the emergency flood powers of the NSW State Emergency Services (NSW SES) and Murray River Council (MRC). The emergency levee measures approximately 1m high, 1.5m wide and approximately 1,800m in length and was constructed using material sourced immediately adjacent to the levee.

In March 2023 the Joint Indigenous Group (JIG) were informed Aboriginal Cultural Heritage (ACH) sites may have been disturbed during the construction of the emergency levee and were subsequently requested by Council to undertake an initial ground survey to determine if any Aboriginal heritage had been disturbed. This survey was conducted by JIG heritage officers from Moama & Deniliquin Local Aboriginal Land Councils (LALC). Twenty-three locations were identified where Aboriginal cultural heritage had been disturbed.

At the request of JIG, MRC is proposing to remove the levee to restore the natural flow of floodwater across the adjacent floodplain and remediate the ACH sites which were disturbed during the emergency works to reinforce the little forest levee during the 2022 floods. This will be completed in consultation with the Moama and Deniliquin LALCs, Forestry Corporation of NSW (FCNSW), the NSW SES and NSW Public Works (NSWPW).

1.2 Site Description and Setting

The Little Forest Levee is located at Lot 134 DP 756 508 and 929 DP 1207721, accessed from Little Forest Lane, Barham NSW and is located approximately 8 km southeast of Barham. The site is part of the Murray River Council Local Government Area (LGA).

The REF is supported by an Ecological Constraints Assessment undertaken in July 2024 for the purpose of identifying any potential impact on the biophysical environment as a result of the Proposal. The study site, and the REF, focus on the levee bank and its immediate surrounds. Maps and aerial views of the Proposal Site are provided in Figure 1-1 and Figure 1-2

1.3 Land Ownership

Land tenure of the Site incorporates Lot 929 DP 1207721 and Lot 134 DP756508. The land is owned by the State of New South Wales and is administered by the FCNSW and dedicated as part of a State Forest known as Koondrook State Forest No. 625.

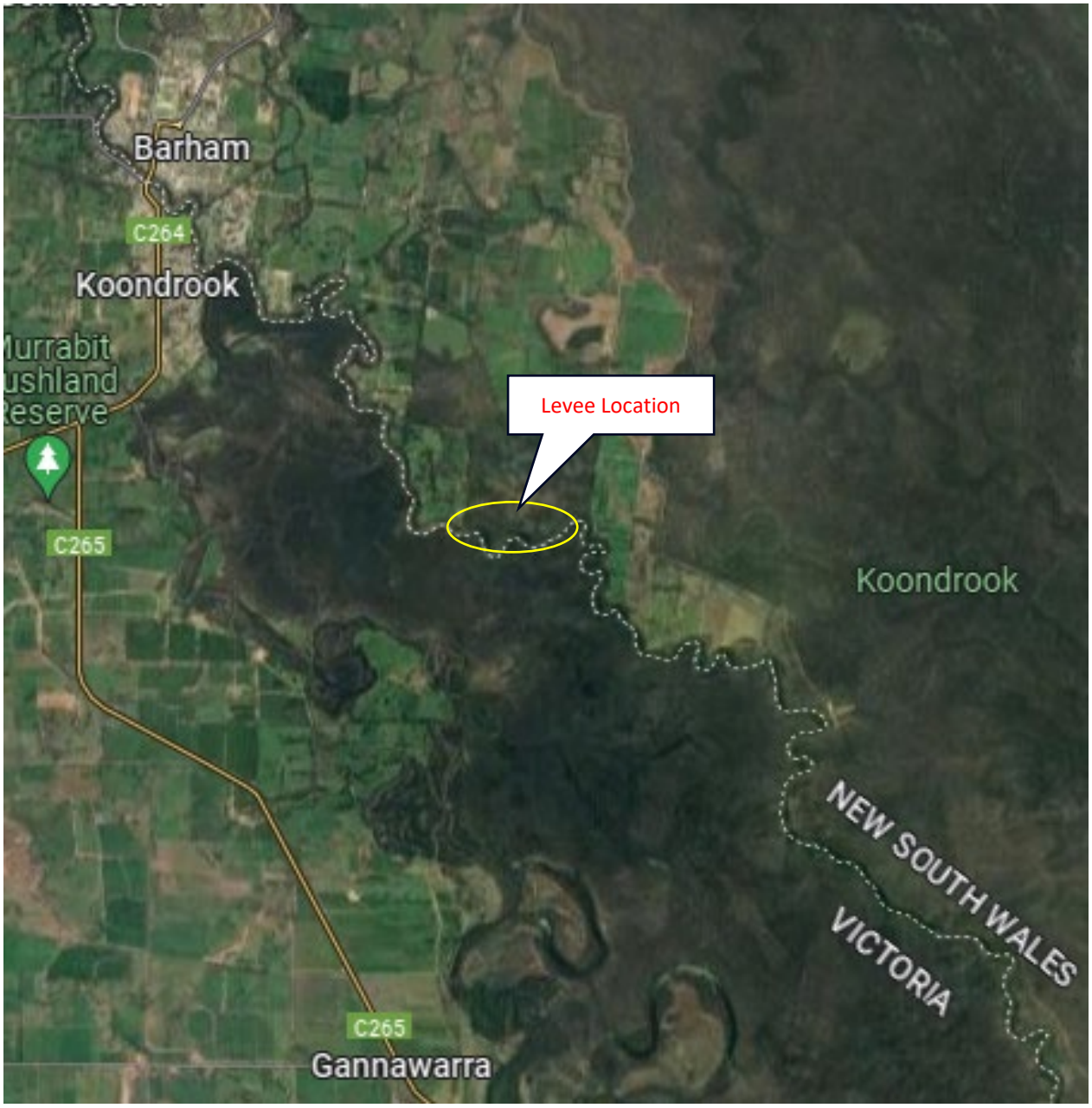


Figure 1-1 Levee location

Source: Google maps 2024

Figure 1-2 Study Area

Source: Google maps 2024

2. Statutory Considerations

2.1 Environmental Planning Instruments

The following Environmental Planning Instruments are relevant to the Proposal.

2.1.1 Wakool Local Environmental Plan 2013

2.1.1.1 *Zoning*

The proposed works site is located within the Murray River Council LGA. The Site is zoned RU3 – Forestry under the Wakool Local Environmental Plan (LEP) 2013 and is surrounded by an area zoned RU1 – Primary Production to the north, east and west of the Proposal site. The Murray River riparian corridor occurs along the southern boundary of the Proposal site is zoned W1 natural waterway (Figure 2-1).

The objectives of the Forestry (RU3) zone are:

- To enable development for forestry purposes.
- To enable other development that is compatible with forestry land uses.

Uses authorised under the *Forestry Act 2012* are permissible without consent under the LEP.

As the Proposal is permissible without consent under the *State Environmental Planning Policy (Transport & Infrastructure) 2021* (SEPP (Transport and & Infrastructure) 2021) (see Section 2.1.2), the development controls contained within the LEP would not be applicable.

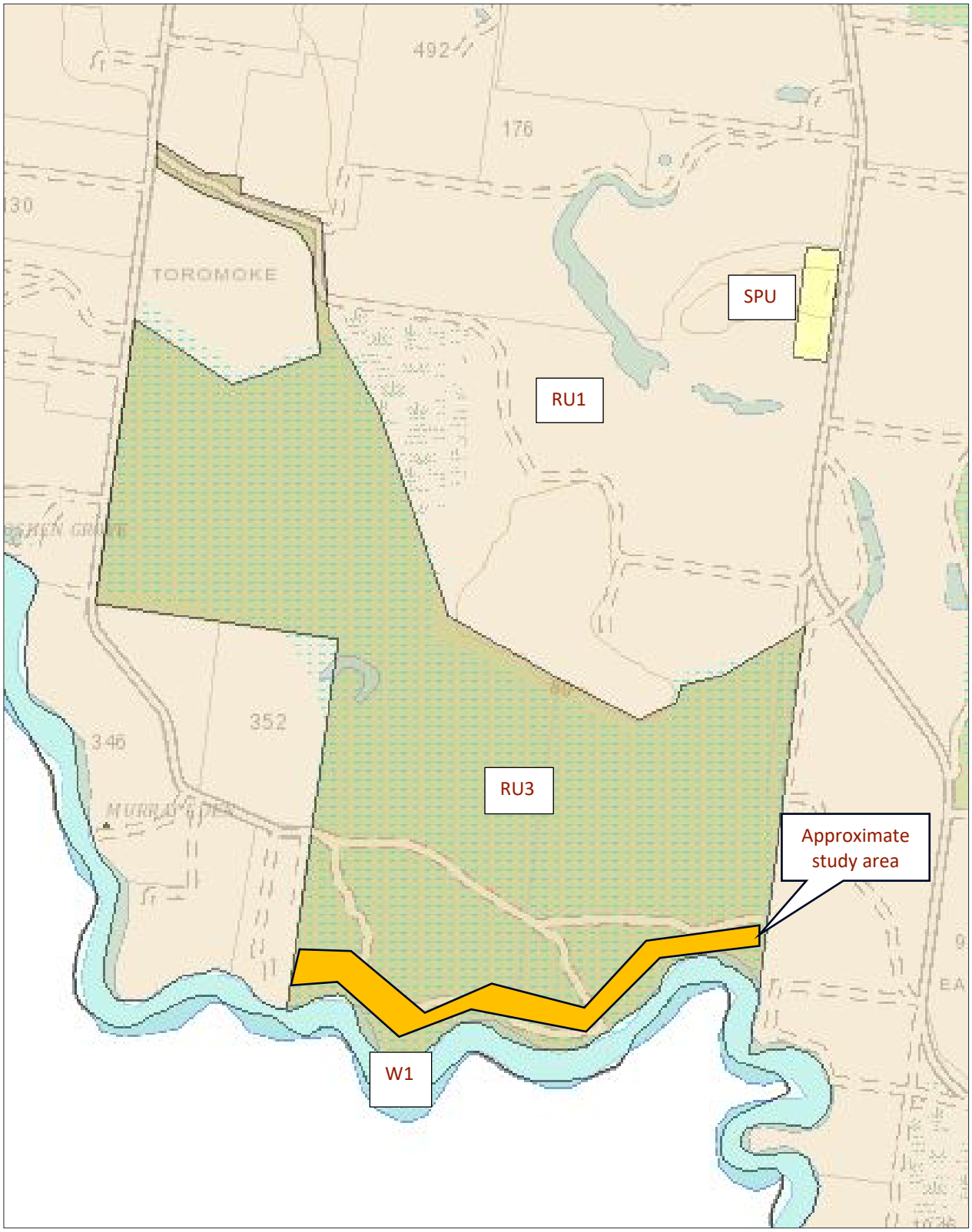


Figure 2-1 Land Use Zoning Map

Source: NSW Planning portal 2024

2.1.1.2 Terrestrial Biodiversity

The objective of Part 6.3 is to maintain terrestrial biodiversity by:

a) protecting native fauna and flora, and

b) protecting the ecological processes necessary for their continued existence, and

c) encouraging the conservation and recovery of native fauna and flora and their habitats.

Part of the proposal is likely to require works done within land mapped as containing Terrestrial Biodiversity Values (Figure 2-2). The proposed works will not contravene the objectives of the LEP. An assessment of the impacts from the proposal is located in Section 4.

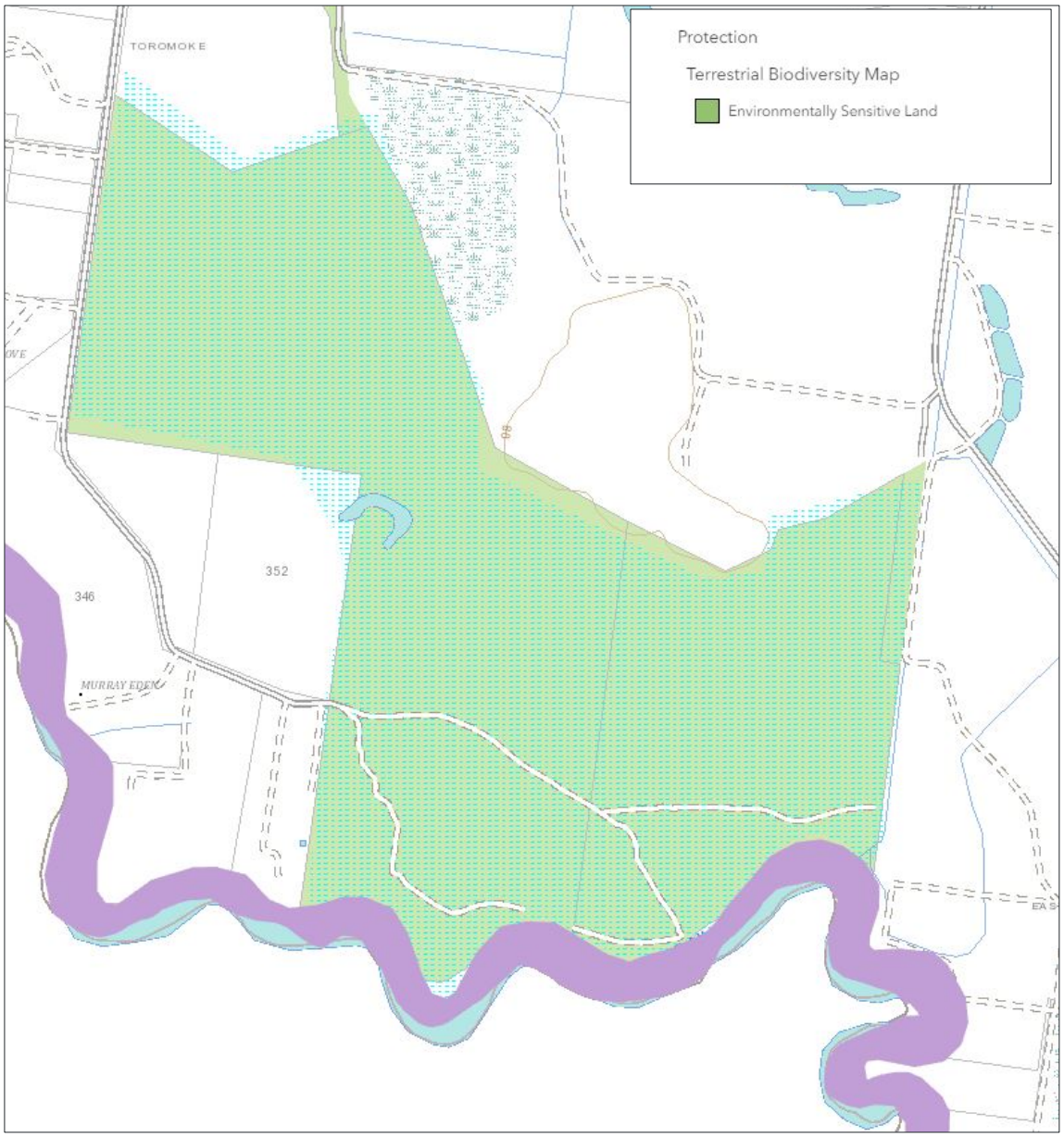


Figure 2-2 – Terrestrial Biodiversity Values Map

Source: NSW Planning Portal 2024

2.1.1.3 Riparian Lands and Watercourses

The objective of Part 6.4 is to protect and maintain the following:

a) water quality within watercourses,

b) the stability of the bed and banks of watercourses,

c) aquatic riparian habitats,

d) ecological processes within watercourses and riparian areas.

This part of the LEP applies to land identified as 'watercourse' under the LEP. The study area traverses over the named watercourse Eagle Creek (Figure 2-3), and therefore is subject to this part of the LEP. An assessment of the impacts from the proposed is located in Section 4.

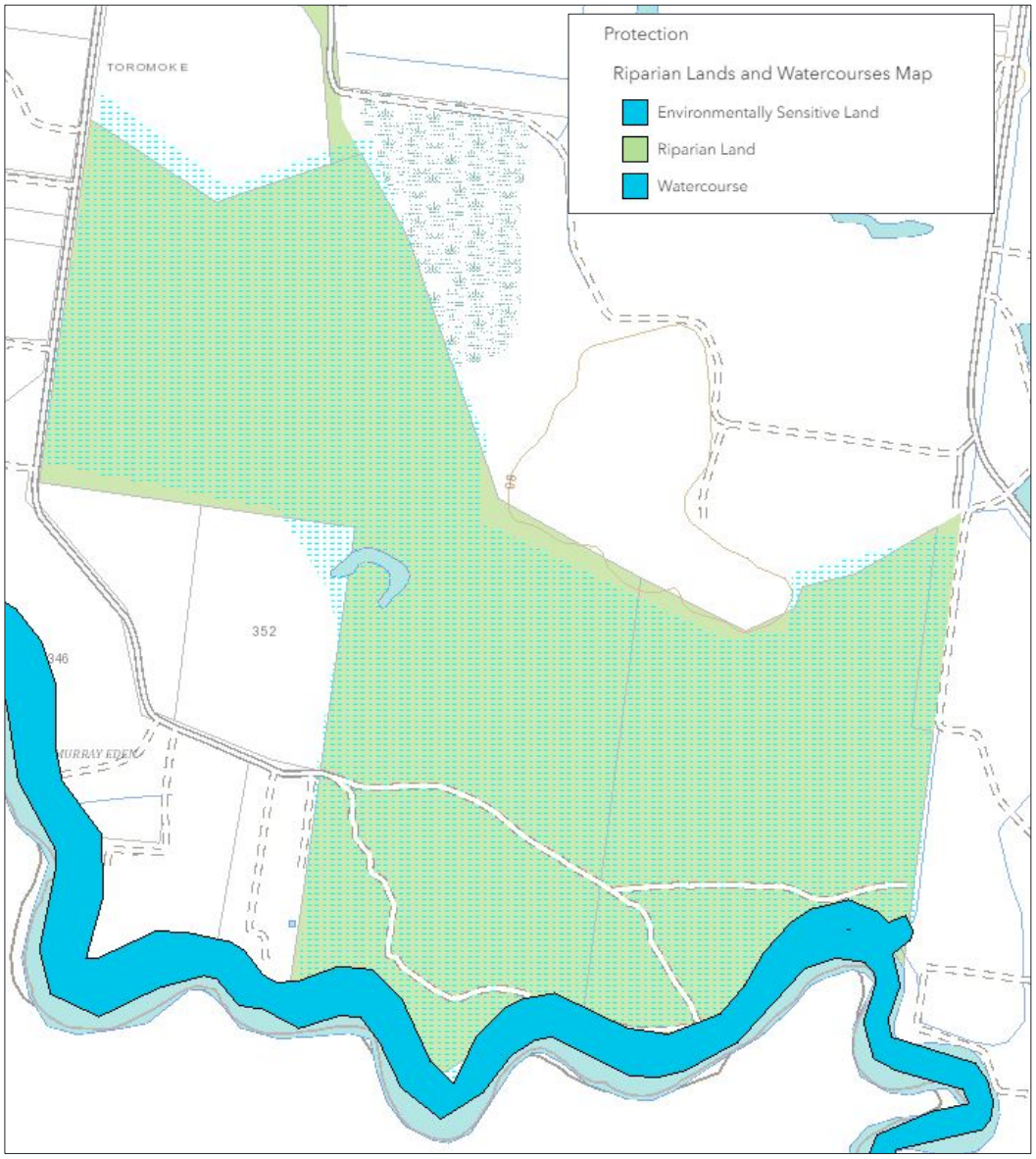


Figure 2-3 Riparian Lands and Watercourses Map

Source: NSW Planning Portal 2024

2.1.1.4 Wetlands

The objective of clause 6.4 is to ensure that wetlands are preserved and protected from the impacts of development. This clause applies to land identified as “Wetland” on the Wetlands Map. Part of the proposal may require works to be carried within land mapped as Wetlands (Figure 2-4). An assessment of the impacts from the proposed is located in Section 4.

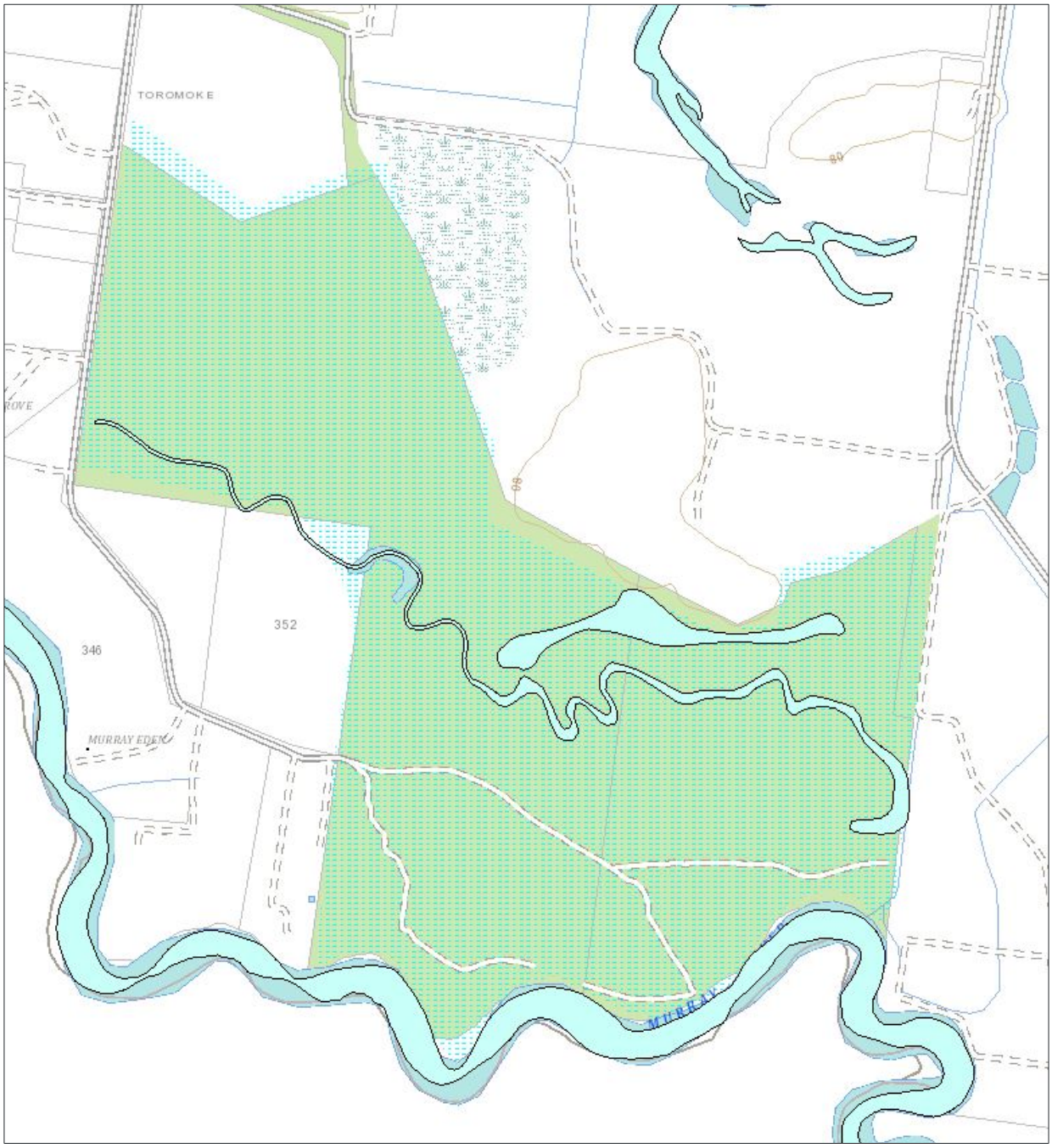


Figure 2-4 Wetlands Map

Source: NSW Planning Portal 2024

2.1.1.5 Bushfire

The Site is identified as containing Category 1 bushfire prone land on the Bushfire Prone Land Map, certified by the NSW Rural Fire Services (Figure 2-5). Bushfire hazard associated with the Proposal is discussed in Section 4

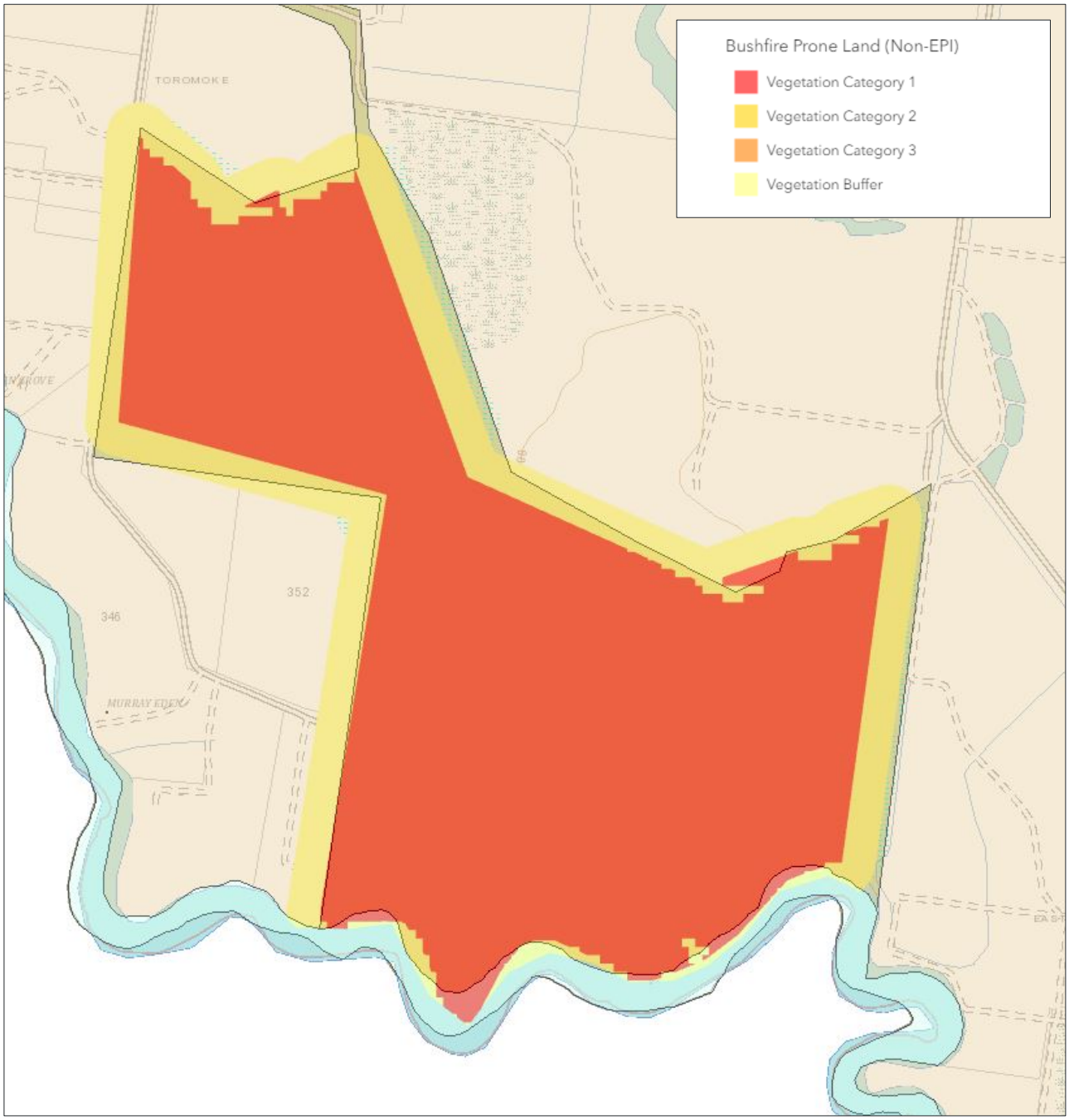


Figure 2-5 Bushfire Prone Lands Map

Source: NSW Planning Portal 2024

2.1.2 State Environmental Planning Policy (Transport & Infrastructure) 2021

Chapter 2 of State Environmental Planning Policy (Transport & Infrastructure) 2021 (SEPP (Transport & Infrastructure) 2021) aims to assist in the effective delivery of public infrastructure by improving certainty and regulatory efficiency. It provides clear definition of the environmental assessment and approval process for public infrastructure and services facilities.

The applicable environmental planning instrument for the Proposal is *State Environmental Planning Policy (Transport and Infrastructure) 2021* (SEPP (Transport and Infrastructure) 2021). The works are permissible without consent under Division 7, Section 2.56 of the SEPP (Transport and Infrastructure) 2021) which permits development for the purpose of 'flood mitigation work', including 'environmental management works', to be carried out by or on behalf of a public authority without consent on any land.

'Flood mitigation work' is defined to include works designed and constructed for the express purpose of mitigating flood impacts, including levees. 'Environmental management work' is defined in the SEPP to mean works for the purpose of avoiding, reducing, minimising or managing the environmental effects of development (including effects on water, soil, air, biodiversity, traffic or amenity). As the Proposal is associated with a flood mitigation work and involve works to minimise and manage the environmental effect of the development on Aboriginal cultural heritage, it is considered to meet the provisions of the SEPP Transport and Infrastructure) 2021.

Therefore, the Proposal can proceed without the need to obtain development consent and can be assessed by way of a Review of Environmental Factors (REF) to be prepared under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

2.1.3 State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 3 of *State Environmental Planning Policy (Biodiversity and Conservation) 2021* (SEPP (Biodiversity & Conservation) 2021)) applies to rural zoned land (RU1 Primary Production, RU2 Rural Landscape and RU3 Forestry) for the purpose of Koala Habitat Protection. This Chapter of the SEPP would apply to the Proposal site and surrounding land and, although this SEPP only applies to proposals that are assessed under Part 4 of the EP&A Act, it should nevertheless be considered in relation to proposals assessed under Part 5 of the EP&A Act.

The Murray River Council LGA is listed in Schedule 2 of the SEPP which provides a list of LGAs to which the SEPP applies. Schedule 3 of the SEPP lists the Koala Use Trees which, if removed as part of any Council development, must be assessed by a suitably qualified and experienced provider under the terms of the SEPP.

An Ecological Constraints Assessment (ECA) was conducted prior to the commencement of works to determine any potential impacts to the existing biodiversity within the Proposal site. The ECA found that while the site does contain potential habitat, no critical habitat is likely to be impacted as a result of the proposed works (Appendix A).

The objectives of Chapter 5 of SEPP (Biodiversity & Conservation) 2021) relate specifically to River Murray lands. The main objectives are:-

(a) to ensure that appropriate consideration is given to development with the potential to adversely affect the riverine environment of the River Murray, and

(b) to establish a consistent and co-ordinated approach to environmental planning and assessment along the River Murray, and

(c) to conserve and promote the better management of the natural and cultural heritage values of the riverine environment of the River Murray.

Section 5.7 of the SEPP applies to the riverine land of the River Murray within the City of Albury and the areas of Balranald, Berrigan, Conargo, Corowa, Deniliquin, Hume, Murray, Wakool, Wentworth and Windouran. Under the SEPP, Section 5.7 applies when —

(a) a consent authority determines a development application, or

(b) a public authority or person proposes to carry out development which does not require development consent, but which has the potential to adversely affect the riverine environment of the River Murray

The Proposal is being undertaken by a public authority (MRC) and does not require development consent, however as the works are limited to the remediation of a levee and will not adversely affect the riverine environment of the River Murray, this Part does not apply. However, consideration of these matters have been undertaken as part of the REF and are detailed in Table 2-1

Table 2-1 SEPP (Biodiversity and Conservation) 2021 – River Murray Lands Matters for Consideration

Matters for Consideration	Response
Aims of SEPP (Biodiversity and Conservation) 2021	The proposal is not inconsistent with the aims of SEPP (Resilience and Hazards) 2021
Section 5.7 When planning principles should be applied	
This Part applies when — *(a) a consent authority determines a development application, or* *(b) a public authority or person proposes to carry out development which does not require development consent but which has the potential to adversely affect the riverine environment of the River Murray.*	The Proposal is being undertaken by a public authority without consent however an Ecological Constraints Assessment (Appendix A) has concluded that the remediation works are unlikely to adversely affect the riverine environment of the River Murray if appropriate safeguards are implemented.
Section 5.8 General principles	
When this Part applies, the following must be taken into account —	The basin plan applies to the Murray River by setting out the amount of water that can be taken from the Basin each year. The Proposal does not contain any

(a) the aims, objectives and planning principles of this Chapter,	provisions that is likely to include water extraction from the Murray River.
(b) any relevant River Management Plan,	The Proposal does not include any proposed plans or developments within the Wakool LGA or downstream LGA.
(c) any likely effect of the proposed plan or development on adjacent and downstream local government areas,	No cumulative impacts apply to this Proposal
(d) the cumulative impact of the proposed development on the River Murray	

5.9 Specific principles

When this Part applies, the following must be taken into account —	
Access	Access
* *The waterway and much of the foreshore of the River Murray is a public resource. Alienation or obstruction of this resource by or for private purposes should not be supported.*	No ongoing or long-term access restrictions to the Murray River foreshore will be enacted as part of this Proposal.
* *Development along the main channel of the River Murray should be for public purposes. Moorings in the main channel should be for the purposes of short stay occupation only.*	The Proposal does not include any proposed plans or developments within the Wakool LGA or downstream LGA.
* *Human and stock access to the River Murray should be managed to minimise the adverse impacts of uncontrolled access on the stability of the bank and vegetation growth.*	No changes to human or livestock access will be forthcoming as part of this Proposal.
Bank disturbance	Bank Disturbance
* *Disturbance to the shape of the bank and riparian vegetation should be kept to a minimum in any development of riverfront land.*	No disturbance to the river bank is anticipated under this Proposal.
Flooding	Flooding
* *Where land is subject to inundation by floodwater —*	Proposed works to remove the levee bank are expected to restore periodic flood regimes. No exceptional impacts are anticipated for sections (b) to (h), relative to the natural flooding regime prior to the levee construction.
(a) the benefits to riverine ecosystems of periodic flooding,	
(b) the hazard risks involved in developing that land,	
(c) the redistributive effect of the proposed development on floodwater,	
(d) the availability of other suitable land in the locality not liable to flooding,	

(e) the availability of flood free access for essential facilities and services, *(f) the pollution threat represented by any development in the event of a flood,* *(g) the cumulative effect of the proposed development on the behaviour of floodwater, and* *(h) the cost of providing emergency services and replacing infrastructure in the event of a flood.* ** Flood mitigation works constructed to protect new urban development should be designed and maintained to meet the technical specifications of the Department of Water Resources.*	
Land degradation ** Development should seek to avoid land degradation processes such as erosion, native vegetation decline, pollution of ground or surface water, groundwater accession, salination and soil acidity, and adverse effects on the quality of terrestrial and aquatic habitats.*	Land degradation N/A
Landscape ** Measures should be taken to protect and enhance the riverine landscape by maintaining native vegetation along the riverbank and adjacent land, rehabilitating degraded sites and stabilising and revegetating riverbanks with appropriate species.*	Landscape Actions to avoid impacts to the riverine landscape as a result of the Proposed works, and appropriate rehabilitation measures to previously disturbed sites are set out in section 5.2.
River related uses ** Only development which has a demonstrated, essential relationship with the river Murray should be located in or on land adjacent to the River Murray. Other development should be set well back from the bank of the River Murray.* ** Development which would intensify the use of riverside land should provide public access to the foreshore.*	River related uses N/A.
Settlement ** New or expanding settlements (including rural-residential subdivision, tourism and recreational development) should be located—* *(a) on flood free land,* *(b) close to existing services and facilities, and*	Settlement N/A.

(c) on land that does not compromise the potential of prime crop and pasture land to produce food or fibre.	
Water quality	
* *All decisions affecting the use or management of riverine land should seek to reduce pollution caused by salts and nutrients entering the River Murray and otherwise improve the quality of water in the River Murray.*	Water Quality Actions to avoid impact to water quality as a result of the Proposed works are set out in section 5.2
Wetlands	
* *Wetlands are a natural resource which have ecological, recreational, economic, flood storage and nutrient and pollutant filtering values.* *Land use and management decisions affecting wetlands should—* *(a) provide for a hydrological regime appropriate for the maintenance or restoration of the productive capacity of the wetland,* *(b) consider the potential impact of surrounding land uses and incorporate measures such as a vegetated buffer which mitigate against any adverse effects,* *(c) control human and animal access, and* *(d) conserve native plants and animals*	Wetlands One of the primary purposes of the Proposed works is to restore hydrological regimes by removing the levee. This work will help restore natural ecological functioning to the impacted area.

2.2 Regional Plans

2.2.1 Riverina Murray Regional Plan 2041

Objective 4 of the Plan aims to: "*Support Aboriginal aspirations through land use planning*".

Specifically, Collaboration Activity 4 is aimed at "*involving LALCs* [Local Aboriginal Land Council] *and native title holders in strategic planning and improving consultation processes*". The Proposal supports this objective through collaborative partnerships between MRC and the Moama LALC to restore and protect culturally significant Aboriginal Heritage sites.

2.3 Legislation

2.3.1 Environmental Planning and Assessment Act 1979

The applicable environmental planning instrument for the works is the SEPP (Transport & Infrastructure) 2021 (refer to Section 2.1.2), which removes the requirement to obtain development consent. Therefore, the Proposal has been assessed under Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). Murray River Council is the proponent and the determining authority for the development.

This REF has been prepared in accordance with Section 5.5 of the EP&A Act, which requires that the proponent take into account to the fullest extent possible all matters affecting or likely to affect the environment due to the proposed activity. Consideration of the factors listed under Section 171 of the *Environmental Planning and Assessment Regulation 2021* (EP&A Regulation) has been used to assist in assessing the significance of the development and is provided in Table 4-1 of this report.

Section 171(4) of the EP&A Regulation requires publication of the REF on the determining authority's website or the NSW planning portal if—

(a) the activity has an estimated development cost of more than $5 million, or

(b) the activity requires an approval or permit as referred to in any of the following provisions before it may be carried out—

(i) *Fisheries Management Act 1994*, sections 144, 200, 205 or 219,

(ii) *Heritage Act 1977*, section 57,

(iii) *National Parks and Wildlife Act 1974*, section 90,

(iv) *Protection of the Environment Operations Act 1997*, sections 47–49 or 122, or

(c) the determining authority considers that it is in the public interest to publish the review.

Where publication of the REF is required, the REF must be published either before the activity commences, or, where this is not practicable, as soon as practicable, and no later than 1 month, after the activity commences.

As the Proposal requires an Aboriginal Heritage Impact Permit (AHIP) issued under section 90 of the NPW Act, MRC will be required to publish the REF on either Council's website or on the NSW Planning Portal.

2.3.1.1 Ecologically Sustainable Development

The encouragement of ecologically sustainable development (ESD) is one of the objects of the EP&A Act. The principles of ESD are:

The reasons justifying the carrying out of the development or activity in the manner proposed, having regard to biophysical, economic and social considerations, including the following principles of ecologically sustainable development:

(a) the precautionary principle, namely, that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions should be guided by:

(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and

(ii) an assessment of the risk-weighted consequences of various options,

(b) inter-generational equity, namely, that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,

(c) conservation of biological diversity and ecological integrity, namely, that conservation of biological diversity and ecological integrity should be a fundamental consideration,

(d) improved valuation, pricing and incentive mechanisms, namely, that environmental factors should be included in the valuation of assets and services, such as:

(i) polluter pays, that is, those who generate pollution and waste should bear the cost of containment, avoidance or abatement,

(ii) the users of goods and services should pay prices based on the full life cycle of costs of providing goods and services, including the use of natural resources and assets and the ultimate disposal of any waste,

(iii) environmental goals, having been established, should be pursued in the most cost-effective way, by establishing incentive structures, including market mechanisms that enable those best placed to maximise benefits or minimise costs to develop their own solutions and responses to environmental problems.

The works are considered to be consistent with these principles and are being proposed to remediate previous impacts to ACH. Environmental safeguards are proposed to be implemented during works to prevent long term and irreversible environmental degradation in accordance with the precautionary principle and inter-generational integrity.

2.3.2 Additional Relevant Legislation

Table 2-1 below lists any additional legislation that is required to be considered and if it is applicable to the Proposal.

Table 2-2: Additional Legislation

Legislation	Application to the Proposal
NSW	
Contaminated Land Management Act 1997	A search of the NSW EPA Contaminated land Record of Notices on 15 October 2024 indicates that the land is not listed on the EPA Contaminated Land Register.
National Parks and Wildlife Act 1974	The National Parks and Wildlife Act 1974 (NPW Act is the primary legislation for the protection of Aboriginal cultural heritage in New South Wales. The Site is not located on or adjacent to land reserved under the *National Parks and Wildlife Act 1974*. Part 6 of the NPW Act provides specific protection for Aboriginal objects and declared Aboriginal places by establishing offences of harm. There are a number of defences and exemptions to the offence of harming an Aboriginal object or Aboriginal place including works undertaken under an Aboriginal Heritage Impact Permit (AHIP). An Aboriginal Cultural Heritage Assessment (ACHA) was prepared by NSWPW which will be used to support an AHIP. A copy of the report is provided in Appendix B.
Forestry Act 2012	The object of the *Forestry Act 2012* is to provide for the dedication, management and use of State forests and other Crown-timber land for forestry and other purposes. It is also used to constitute the Forestry Corporation of New South Wales as a statutory State-owned corporation and to specify their objectives and functions. Under Part 5, Division 2 of the Act, the land manager of the forestry area may, on payment of a fee determined by the land manager, issue a forest permit authorising the permit holder to undertake non-forestry related activities. Consultation with NSW Forestry has indicated a permit will be required prior to the commencement of the Proposed works.
Heritage Act 1977	The Proposal site does not contain any items listed as heritage items under the Wakool LEP 2013. The Proposal site does not contain sites included on the State Heritage Register.

Local Government Act 1993	The provisions of the *Local Government Act 1993* do not apply to the Proposal.
Fisheries Management Act 1994	The *Fisheries Management Act 1993* (FM Act) lists threatened aquatic species, endangered populations and ecological communities and key threatening processes. Potential impacts on species, populations and communities subject to the FM Act, would need to be considered as part of the REF. It is noted that the works will be contained to the banks of the Murray River and are unlikely to impact threatened aquatic species. Section 200 of the FM Act requires a permit for dredging and reclamation works on water land, which is defined to include land submerged by water either permanently or intermittently. As the works will involve the removal of material from the banks of the Murray River, a permit under Section 200 of the FM Act will be required.
Water Management Act 2000	The objectives of the *Water Management Act 2000* (WM Act) are to provide for the sustainable and integrated management of the water sources of the state for the benefit of both present and future generations. Section 91 of the WM Act requires a Controlled Activity Approval (CAA) for specified controlled activities in, on or under waterfront land. However, under Clause 41 of the *Water Management (General) Regulation 2018,* a public authority is exempt from the requirement of a CAA. A CAA is not required in this situation as the works will be undertaken by Murray River Council.
Coal Mine Subsidence Compensation Act 2017	The site is not located in a mine subsidence district within the meaning of the *Coal Mine Subsidence Compensation Act 2017*.
Protection of the Environment Operations Act 1997 *Protection of the Environment Operations (Waste) Regulation 2014*	The Proposal would comply with the relevant requirements of the *Protection of the Environment Operations Act* (POEO Act) with regard to water, noise and air pollution. The management, removal, transportation and disposal of waste from construction works would be undertaken in accordance with the relevant provisions of the POEO Act and the *Protection of the Environment Operations (Waste) Regulation 2014* (POEO (Waste) Reg). It is an offence to transport waste to a place that cannot lawfully receive that waste, or cause or permit waste to be so transported (under Section 143 of the POEO Act).
Work Health and Safety Act 2011	Work to remove the levee and remediate the excavation sites is required to comply with the relevant provisions of the *Work Health and Safety Act 2011* (WHS Act) and the *Work Health and Safety*

Work Health and Safety Regulation 2017	*Regulation 2017* (WHS Reg), for the protection of the safety and health of workers and the public. The handling and removal of hazardous materials such as lead paint or asbestos materials, would need to comply with the requirements of this Act and SafeWork NSW regulations.
Biodiversity Conservation Act 2016	A detailed Ecological Constraints Report was commissioned prior to this REF to comprehensively assess potential environmental impacts resulting from this proposal. Section 4 discusses these results and the potential for impact resulting from the proposed works. A copy of the report is provided in Appendix A. Pursuant to the test under s 7.3 of the BC Act, the Proposal is not likely to significantly affect threatened species or ecological communities, or their habitats. The Proposal is not likely to: • have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction; and • have an adverse effect, or substantially modify the composition of, an ecological community so that it would likely be placed at risk of extinction. • have an adverse effect on any declared area of outstanding biodiversity value; and • increase the impact of a key threatening process. Therefore, a Species Impact Statement (SIS) and/or Biodiversity Assessment Report (BDAR) are not required. The land is not under a biodiversity stewardship agreement under Part 5 and is not biodiversity certified land under Part 8 of the *Biodiversity Conservation Act* (BC Act) *2016.*The Site is not mapped as having Biodiversity Value under the BC Act.
Biosecurity Act 2015	The Biosecurity Act 2015 guides the management of weeds at the regional level throughout NSW. Under the Act, all plants are regulated with a general biosecurity duty to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant who knows or ought to know of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable. Individual land holders and managers are required under the Act to control priority weeds for their area according to the relevant biosecurity toolset.

	The CEMP will provide instructions that relate to vehicle hygiene requirements pursuant to the Act.
Aboriginal Land Rights Act 1983	A search of the Crown Lands database on the 24 October 24 confirmed that the Site is not currently subject to any undetermined Aboriginal Land Claims.
Commonwealth	
Environment Protection and Biodiversity Conservation Act 1999	A Protected Matters Search for threatened species, populations or Endangered Ecological Communities listed under the *Environment Protection and Biodiversity Conservation Act* (EPBC Act) *1999* was undertaken as part of the ECA. The results are discussed in Section 4. A full copy of the search is contained in Appendix A.
Native Title Act 1993	A search of the National Native Title Register on 23 October 2024 indicated that the site is not subject to any native title claims.

2.4 Consultation

Part 2, Division 1 of the SEPP (Transport & Infrastructure) 2021 requires consultation with government agencies for certain development permitted without consent under the SEPP.

No statutory consultation is required for this Proposal under Sections 2.10, 2.11, 2.12 or 2.14 of the SEPP in accordance with Section 2.17 which states that consultation under 2.10-2.15 does not apply where notice is given to a Council that is carrying out a development.

Consultation with the NSW SES under Section 2.13 of the SEPP is not required as the Proposal is not a relevant provision to which this section applies.

Similarly, consultation under Section 2.15 is not required as the development does not constitute specified development. Consideration of Planning for Bush Fire Protection (Section 2.16) is not required as the Proposal does not contain any building or construction work.

2.4.1 Non-Statutory Consultation

Non-statutory consultation was undertaken with FC NSW, SES and Department of Primary Industries and Regional Development – Fisheries (DPIRD – Fisheries) as part of the REF process. A copy of the responses are provided in Appendix C.

2.4.1.1 Consultation with Forestry Corp NSW

Under Part 5, Division 2 of the *Forestry Act 2012*, the land manager of the forestry area may, on payment of a fee determined by the land manager, issue a forest permit authorising the permit holder to undertake non-forestry related activities.

(FCNSW is the legal land manager of the Koondrook State Forest and supports the remediation of the cultural heritage sites discussed in the proposal (Appendix C). FCNSW has advocated for the levee to be removed not only for cultural heritage protection but also to restore the natural flood regimes and associated critical biological processes enacted through regular forest flooding. FCNSW also notes that maintaining the levee in whole or part will potentially cause an alteration in natural flood patterns, causing flood water to be redirected in ways that would otherwise not have occurred. FC NSW also notes that the placement of the levee is likely to create scouring during overbank events, potentially creating further impact cultural heritage sites.

Following consultation, FCNSW has advised that a Forestry Permit will be required prior to the commencement of the Proposed work.

2.4.1.2 Consultation with the NSW State Emergency Service

Non-statutory consultation was undertaken with the SES as part of the development will occur on flood prone land. The SES requested that the REF consider:

- the impact of flooding and flood risks on the infrastructure and workers at the site
- Consider the impacts on riverine floodings in emergency management planning on the workers and the ability to quickly and safely evacuate from the site.

- Ensure worker are aware of the flood risk.
- Consider closing the worksite and securing all materials and equipment prior to the start of the working day if there is a risk of riverine flooding.
- Ensure material removed from site is adequately secured during a weather event.
- Consider the impact on flood behaviour and downstream communities by the removal of the temporary levee and any change to emergency management risks.

The comments received have been considered and the appropriate mitigation measure has been included in Section 5.16

2.4.1.3 Consultation with DPI Fisheries

Consultation with DPIRD – Fisheries was undertaken to ensure remediation works comply with the requirements of the *Fisheries Management Act 1994* (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act respectively) and the associated *Policy and Guidelines for fish habitat conservation and management (2013)*.

As MRC (Local Government) is the proponent, if there are to be any dredging and reclamation works (i.e. excavation within, or filling or draining of, water land or the removal of large woody debris, snags, rocks or freshwater native aquatic vegetation or the removal of any other material from water land that disturbs, moves or harms these instream habitats), a permit under section 201 of the *Fisheries Management Act 1994* will be required.

No dredging or reclamation works are included in this Proposal.

2.4.2 Aboriginal Consultation

Consultation with the Joint Indigenous group (Deniliquin and Moama) has been a key part of the proposal and will help inform the recovery and restoration of ACH items. The development of the ACHAR has followed the *Aboriginal Cultural Heritage Consultations Requirements for Proponents 2010* (DECCW 2010c). A log and copies of correspondence relating to the consultation is provided in Appendix B of the ACHAR (contained in Appendix B of this REF).

2.5 Summary of Approvals

A summary of the statutory approvals required for the proposal are listed in Table 2-3.

Table 2-3: Required Approvals

Agency	Requirements	Reference
National Parks and Wildlife Service	Aboriginal Heritage Impact Permit	Section 90 of the NPW Act
Forestry Corporation NSW	A forest permit authorising the permit holder to undertake non-forestry related activities	Under Part 5, Division 2 of the FC Act

3. Description of the Proposal

3.1 Need for the Proposal

During a peak flood event in 2022, an emergency levee was constructed adjacent to the north bank of the Murray River within Little Forest (part of Koondrook State Forest), Barham, NSW. The levee was authorised and constructed under the emergency flood powers of the State Emergency Services (SES) and Murray River Council.

The purpose of the emergency levee was to prevent floodwaters entering Little Forest and ultimately moving onto surrounding properties, following an alert received from a neighbouring landholder. In response, an emergency levee was constructed, measuring approximately 1.5 km in length, 1 m in height and 1.5 m in width.

In March 2023 the Joint Indigenous Group (JIG) were informed Aboriginal heritage may have been disturbed during the construction of the emergency levee and were requested by Council to undertake an initial ground survey to determine if any Aboriginal heritage had been disturbed. A survey of the levee and associated excavated/disturbed area was conducted by JIG heritage officers from Moama & Deniliquin LALCs. Twenty-three locations were identified where Aboriginal heritage had been disturbed.

At the request of the JIG, Murray River Council is proposing to remove the Little Forest emergency levee and remediate the ACH sites which were disturbed during the levee's construction.

FC NSW supports the removal of the levee. Furthermore, FC NSW notes the presence of excavation (borrow) pits created through the construction of the levee is likely to compromise safety to the public and needs to be resolved.

3.2 Options Assessment

MRC has considered the options listed below to address the concerns of the relevant stakeholder groups for the removal and remediation of the levee.

- Option 1 – Do nothing – this option would not alleviate the impact to Aboriginal Cultural Heritage sites.
- Option 2 – Removal of the levee and remediation of ACH site disturbance – this option will partially address the impact to the ACH sites and is the favoured option of the JIG. This option will also restore natural flooding regimes and associated biological processes and reduce the risk to the public caused by excavation work for the borrow pits.

The preferred option is Option 2 as it is the only option that would meet the key objectives of the Proposal.

3.3 Description of the Proposal

The proposed works for the remediation of the emergency flood levee and ACH sites will be informed by the ACHAR and associated Aboriginal Heritage Impact Permit (AHIP) (upon approval). As part of the AHIP, formulating a methodology for these remediation works will be done consultation with the Registered Aboriginal Parties (RAPs) and other stakeholders and will need to adhere to all relevant codes of practice.

Due to the nature and extent of the proposed works (Figure 4-1), the wants of the Traditional Owners (TO's), and the amount of remediation to be undertaken, the methodology for site remediation has been developed based on 'zoning' of the proposed works areas. Zoning is based on the current visible extents of Aboriginal sites which were impacted by the construction of the levee. The zones are defined in Appendix Table A-1 of the ACHAR (Appendix B).

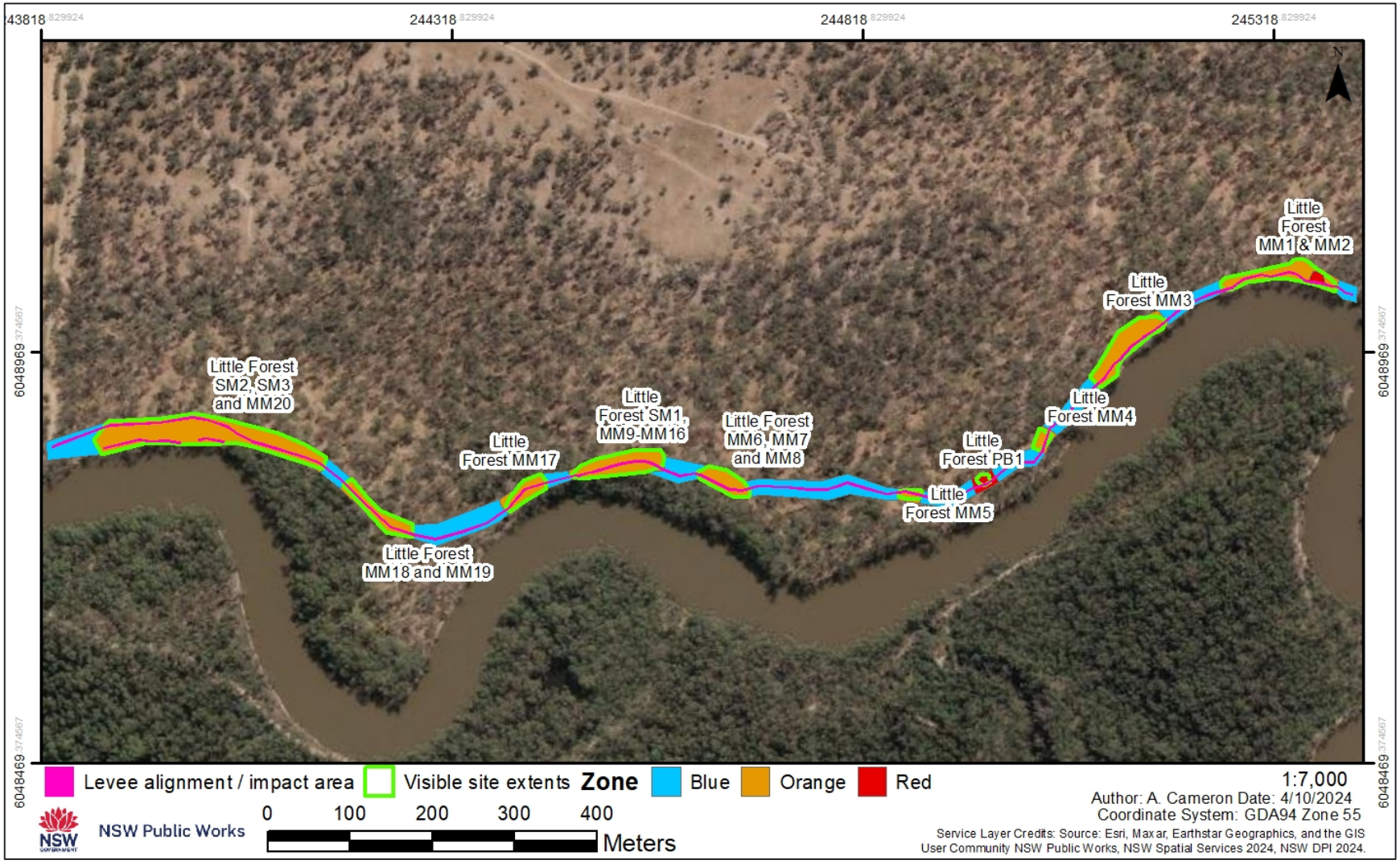


Figure 3-1 Extent of levee remediation and work zones

Source: NSW Public Works 2024

3.4 Remediation Methodology

The proposed works to remove the levee and remediate sites would include:

- 1 or more excavators
- Light transport vehicles
- Hand tools such as trowels, sieves, dustpans, shovels

The aim of this remediation methodology is to enable the TO's to remove the emergency levee and remediate any ACH materials back to their inferred original location and to refill the excavated areas/borrow pits with the soil from the levee.

This methodology has been developed in conjunction with the Moama LALC (as representatives of the TOs) and reflects their vision of how the remediation works would proceed. Other Registered Aboriginal Parties (RAPs) who have registered interest in the project will have the opportunity to comment and provide feedback during the Stage 4 RAP review of the ACHAR.

The proposed methodology will be informed by the directions provided by the ACHAR and AHIP and be carried out under the supervision of a Sites Officer.

A summary of the methodology for the proposed levee removal and remediation work is contained in Table 3-1 below. A detailed methodology can be found in the ACHAR (Appendix B).

Table 3-1 ACH remediation methodology

Zone	Definition / Sites	Method Number
Red	Ancestral burials are known to occur in the area, including inside Little Forest. Unless the burial appears to be of recent (forensic) age (in which case contact the NSW Police), any human skeletal remains encountered during the remediation will be treated as an ancestral burial. Cultural Protocols as developed and agreed on by TOs will be implemented.	Remediation in red zones, or if any additional potential ancestral burial locations are located during the works should follow **Method 1**. (Appendix A.1.1 in the ACHAR). If cultural material such as concentrations of shell, heat retainers, artefacts, etc are identified during works, then **Method 2** (Appendix A.1.2 ACHAR) should be implemented.
Orange	Locations where cultural materials such as shell, clay heat retainers, and charcoal deposits have been recorded in the levee or adjacent borrow pits.	**Method 2.**
Blue	Locations where no cultural materials have yet to be recorded in/on the levee or adjacent borrow pits.	**Method 3** (Appendix A.1.3 ACHAR).

The work will include all necessary provisions for Site signage, safe access points, safety and security fencing, amenities, etc. to meet SafeWork NSW WHS requirements and current Australian Standards.

- Prior to work commencing, consultation with FC NSW is required to identify any current or existing forestry operations or future planned forestry works that may be impacted by the proposed works.
- Identification of services at the Site.
- Establishment of site preliminaries such as entry/exit points, pollution management controls, marking and temporary protection fencing where necessary for native flora, sensitive environmental areas and steep slopes etc.
- Clean-up site and remove all materials and equipment from the site.

3.5 Construction Considerations

3.5.1 Construction Schedule and Working Hours

The Proposed works are not expected to interfere with the normal operation of the surrounding forestry activities.

The active works areas will be marked with appropriate signage and temporary fencing until remediation of excavation sites is complete.

Works are to be generally undertaken during standard construction working hours in accordance with Interim Construction Noise Guidelines (DECC 2009),

- Monday to Friday 07:00 am to 6:00 pm.
- Saturdays 08:00 am to 1:00 pm.
- No work on Sundays or public holidays.
- Or as per the requirements of Forestry Corporation NSW.

3.5.2 Construction Equipment and Compound

Works are likely to require the following equipment:

- Light commercial and passenger vehicles;
- Small excavator;
- general hand tools.

A construction laydown (if required) may be established in a cleared area adjacent to the proposed work site, subject to FCNSW approval. Construction vehicle parking would also be available in the vicinity of the proposed works site as directed by FCNSW.

The date of commencement and duration of the remediation works is to be confirmed.

3.5.3 Construction Environmental Management Plan

Construction of the Proposal would be undertaken in accordance with a Construction Environmental Management Plan (CEMP) that would be prepared by the construction contractor/s and approved by MRC prior to commencement. The CEMP would incorporate all of the mitigation measures identified in this REF as well as any conditions of approval and any other licence/approval conditions. The CEMP would also incorporate an emergency response plan in case of a pollution incident, a complaint handling procedure and a 24-hour telephone contact number. The complete list of the mitigation measures recommended in this REF is provided in Section 5.

4. Environmental Assessment

This section identifies and characterises the likely potential impacts associated with the construction and operational phases of the project.

The impacts of the proposed works have been assessed in the context of Section 171 of the Environmental Planning and Assessment Regulation 2021 – "Review of Environmental Factors", as detailed in Table 4-1. Appropriate environmental management procedures and control measures for the identified impacts are summarised in Section 5.

Table 4-1: Factors for Consideration under Section 171 of Environmental Planning and Assessment Regulation 2021

Environmental Factor	Impact Assessment	Mitigation Actions
(a) The environmental impact on the community	All work activities would be carried out with due diligence, duty of care and best management practices. This would be documented in the project specific CEMP. In addition, control measures outlined in Section 5.3 would be implemented during construction as part of the contractor's CEMP, which would minimise environmental and community impacts. <u>Traffic and Access</u> There would be short term and temporary traffic impacts during the works, as vehicles and machinery would be required to transport personnel and materials to and from the Site. This is likely to include trucks associated with delivery and placement of work and safety equipment such as temporary fencing. Any construction vehicles accessing the site would access the site via existing vehicle access points and onsite forestry service roads via the site via Little Forest Lane entrance off The Northern Road. A small work compound would be established adjacent to the designated active work zone. The loading/unloading and operation of heavy machinery such as petrol driven excavators should be done by accredited personnel only and must follow the relevant WH&S procedures. Prior to the commencement of daily work, consultation with FC NSW staff should be undertaken to ensure access tracks are navigable to vehicles. If access is impeded due to heavy rain, fallen timber etc. then work should be delayed until FC NSW staff have assess and approved site access. Residents of the adjacent property located at 382 Little Forest Lane should be notified of the scheduled works 2 weeks from the commencement of work activity. Given the relatively small scale of the works and the isolated location of the site, works are expected to have minimal disruption to neighbours and routine Forestry operations.	Section 5.2

Noise

The works may cause some minor and short-term noise impacts to the adjacent property located at 382 Little Forest Lane, given the closest section of the levee is located approximately 30 from residential buildings. There are no other sensitive receivers in close proximity to the site.

The background noise level at the Site is estimated to be less than 35 dB(A), using the NSW Roads and Maritime Construction and Maintenance Noise Estimator Tool as a guide. The external noise management level during daytime hours for the area is therefore considered to be 45 dB(A) (being the background level plus 10 dB(A)), based on the construction management noise level guidelines listed in the Interim Construction Noise Guidelines (DECC, 2009) (ICNG).

Potential noise impacts during the construction period have been considered based on the ICNG and AS 2436-2010 Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites for the construction equipment likely to be used during the works (listed in Section 3.2.2 above). It has been identified that construction noise generated by the Proposal could potentially exceed the daytime noise management level at the adjacent property however impacts to the closest dwelling are expected to be minor and short-term.

As the works would be temporary and construction hours would be limited to the normal daytime construction hours specified by the ICNG (Monday to Friday 7am to 6pm, Saturday 8am to 1pm, no work on Sunday or public holidays) the adverse noise impacts from the Proposal are expected to be minor.

Air Quality

Construction vehicle movements and the excavation of materials at the Site have the potential to affect local air quality and generate dust. As the nature of the works are short term and minor no significant air quality impacts are expected to occur as part of the Proposal and appropriate dust control measures would be identified within the CEMP and implemented during construction if visible dust occurs due to construction.

	Appropriate and site-specific measures would minimise any environmental impact on the surrounding areas. Provided the mitigation measures detailed in Section 5 are implemented, potential community impacts during the construction period are unlikely to be significant. No air quality impacts are anticipated during operation of the Proposal.	
(b) The transformation of the locality	None. The works would involve the removal of a levee constructed in 2022 for flood control. The purpose of the work is to undertake site remediation for the recovery of ACH sites and the landscape impacted by the construction of the levee. Site works are intended to restore the landscape features to a condition comparable to existing environment prior to the levee construction. Impacts on vegetation resulting from work activity will be avoided and minimised through the procedures outlined in Section 5.2	Section 5.2
(c) The environmental impact on the ecosystems of the locality	An Ecological Constraints Assessment (ECA) (Appendix A) was undertaken in July to investigate the potential for impacts arising from the removal of the levee and site remediation. The results of the ECA are included and discussed below. The proposed project area is located in the Riverina Bioregion and the Murray Fans subregion, identified under the Interim Biogeographic Regionalisation for Australia. The study area is located adjacent to the bank of the Murray River. The topography is a naturally flat flood plain. The closest permanent watercourse is the Murray River adjacent to the south side of the study area boundary. Barbers Creek is located 1 km east of the study area in the Koondrook Forest. There is also an unnamed and unmapped watercourse which intersects through the centre of Little Forest but is visible on aerials. Figure 3-2 shows the topography and hydrology of the study area and surrounds. The New South Wales plant community type (PCT) classification was developed in 2011 to establish an unambiguous master community-level classification for use in vegetation mapping programs, biometric-based regulatory decisions, and as a standard typology for other planning and data gathering programs. Four natural vegetation communities occur within the works area:	Section 5.2

- River Red Gum-sedge dominated very tall open forest in frequently flooded forest wetland along major rivers and floodplains in south-western NSW (PCT 2)
- River Red Gum - Lignum very tall open forest or woodland wetland on floodplains of semi-arid (warm) climate zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion) (PCT 11)
- Canegrass swamp tall grassland wetland of drainage depressions, lakes and pans of the inland plains (PCT 24)
- Forb-rich Speargrass - Windmill Grass - White Top grassland of the Riverina Bioregion (PCT 44)

The site is mapped on the Biodiversity Values map published by the NSW Department of Planning and Environment.

A database search was undertaken on 18 July 2024 of the NSW Environment and Heritage (BioNet Atlas of NSW Wildlife) and the Department of the Environment and Energy websites to identify threatened species that may be found within the proposed project site as listed under the *Biodiversity Conservation Act 2016* and the *Environmental Protection and Biodiversity Act 1999* (EPBC Act).

A desktop search of the online databases was undertaken as follows:

- NSW Environment and Heritage BioNet Atlas of NSW Wildlife (refer to Appendix B)
- Department of the Climate Change, Energy, the Environment and Water, Environmental Protection and Biodiversity Conservation (EPBC) Protected Matters Report.

The Protected Matters Search revealed the potential occurrence of:

- 6 Wetlands of International Importance, including NSW Central Murray State Forests which includes the Koondrook State Forest
- 6 Threatened Ecological Communities
- 31 Threatened fauna species

	• 11 Threatened plant species • 9 Migratory species (refer to Appendix B). Hollow and nest bearing trees were observed within the study area are not proposed to be removed or impacted as a result from the rehabilitation works. The ECA included a general flora and habitat site assessment undertaken on 22 July. The flora assessment revealed no vegetation species populations of which are of local, regional or state conservation significance (refer to Table 5). Significant disturbance was observed from the construction of the levee with significant weed invasion that will need to be mitigated. Due to the extensive surrounding habitat and the disturbed nature of the study area, no 'critical habitat' for fauna species identified in Table 6 of the ECA (Appendix x) is expected to be impacted. The proposed remediation works are justified as it aims to remediate the disturbance footprint from construction of the Little Forest emergency levee. Impacts from the remediation works is assumed to be limited to understory vegetation, trees will not be impacted. All work activity should follow the mitigation procedures outlined in the REF to ensure no impacts to ecosystems occur during construction or post-construction.	
(d) Reduction of the aesthetic, recreational, scientific or other environmental quality or value of the locality	No reduction in the aesthetic quality of the Proposal site would occur as a result of the proposed works. Once complete, the Proposal would enhance the current site condition by assisting the restoration of the existing landscape attributes prior to the construction of the levee.	Section 5.2
(e) The effects on any locality, place or building that has - (i)aesthetic, anthropological, archaeological,	<u>Aboriginal Heritage</u> The primary purpose of this REF is to minimise the environmental impact arising from work activity associated with the removal and remediation of the levee and to restore	Section 5.2

architectural, cultural, historical, scientific or social significance, or (ii) other special value for present or future generations	associated impacts on Aboriginal Cultural heritage resulting from the construction of the levee. The ACHAR (Appendix B) contains an extensive search of the Aboriginal Heritage Information Management System (AHIMS) was conducted on 14 June 2024 covering an approximate 2 km zone around the study area: • Eastings 241795–247516 • Northings 6046688–6051121 A summary of the extensive search is provided below. The search returned 109 Aboriginal sites inside the search area. Appendix C of the ACHAR provides a copy of the extensive search. The most frequent site type in the area are earth mounds (88.1%), followed by burial/s (3.7%) and then either modified trees (2.8%) or complex sites with hearths, PADs, shell & non-human bone, and organic matter (2.8%). Table 6-1 of the ACHAR summarises the full details of AHIMS site type frequencies and Figure 6-1 shows the location of AHIMS sites in relation to the study area. There is one AHIMS site located inside the study area. This is 54-4-0986, a burial which was recorded in 2020 by Dr Colin Pardoe. The site card states the burial is located near the centre of an earth mound approximately 300 mm below present surface and that it was complete and undisturbed. The site card also mentioned that the preservation and placement of the burial was consistent with “antiquity of several hundred to more than 1,000 years” (AHIMS 54-4-0986: 2). There were an additional 152 Aboriginal sites recorded inside Little Forest during a survey in 2021, however, these have not yet been registered on AHIMS (see Section 6.3.3). There were also twenty-three Aboriginal sites consisting of either midden or earth mound materials recorded during a preliminary survey of the emergency levee and study area (Hutton 2023). These particular sites will be registered on AHIMS following the pedestrian survey and detailed recorded of these sites for the ACHA (see appendix x)

	The proposed works for the remediation of the emergency flood levee and Aboriginal Cultural Heritage sites will be informed by the Aboriginal Cultural Heritage Assessment Report (ACHAR) and the required Aboriginal Heritage Impact Permit (AHIP) upon approval. As part of the AHIP, formulating a methodology for these remediation works will be done consultation with the Registered Aboriginal Parties (RAPs) and other stakeholders and will need to adhere to all relevant codes of practice. Historic Heritage There are no heritage items listed on the State Heritage Register or Wakool LEP 2011 at or in proximity to the Proposal site. Therefore, it is considered that there would be no historic heritage impacts during construction or operation associated with the Proposal.	
(f) The impact on the habitat of protected animals within the meaning of the Biodiversity Conservation Act 2016	An ECA found that no impact on the habitat of protected animals is anticipated as a result of the proposed works. No threatened flora and fauna species, populations or communities, or their habitats as listed under the BC Act would be impacted by the Proposal during construction or post-construction. A full copy of the ECA can be found in Appendix A.	Section 5.2
(g) The endangering of a species of animal, plant or other form of life, whether living on land, in water or in the air	No (refer to (c) and (f) above.	Section 5.2
(h) Long-term effects on the environment	None The Proposal will have a positive long-term effect by restoring the natural flow of flood waters and remediating ACH sites.	Section 5.2
(i) Degradation of the quality of the environment	Construction works may result in a temporary increase in noise and air pollution as identified in item (a) above; however, this is not anticipated to be significant in a local context. Minor erosion impacts may occur from the movement of vehicles and machinery however vehicle movements will be restricted to existing tracks where possible. Work activity	Section 5.2

	involving the movement of machinery and vehicles will be avoided during wet weather as advised by FC NSW.A site-specific Erosion and Sediment Control Plan prepared by the Contractor in accordance with the Blue Book will be prepared by the contractor prior to the commencement of work activity and will be included in the CEMP. This plan should be commensurate with the extent of ground disturbance required. Vehicle hygiene procedures pursuant to the Biosecurity Act should be applied prior to site entry to mitigate the risk of site contamination. With the proper implementation of sediment and erosion control measures listed in Section 5, which aim to prevent run-off from entering drainage lines or being washed off Site, the impact on water quality is anticipated to be minor. Spill management measures would be included in the CEMP for the works.	
(j) Risk to the safety of the environment	The proposed works would occur during daytime hours when Forestry operations are in progress. Therefore, there may be a minor and temporary risk to the safety of site personnel due to the operation of the site excavator(s) and vehicle movements. However, the construction area would be clearly marked with restricted access, and management measures would be implemented to minimise impacts to safety. Ongoing consultation would be undertaken with FC NSW staff in relation to any disruption to routine activities.	Section 5.2
(k) Reduction in the range of beneficial uses of the environment	None. The proposed works would maintain the beneficial use of Forestry operations within the existing site. Furthermore, the Proposal will help remediate the impact of the levee construction on ACH sites.	Section 5.2
(l) Pollution of the environment	There is a risk that the excavation works may result in sediment of the adjoining Murray River. Water quality would be protected through sediment and erosion controls. A ESCP will be provided within the CEMP with the necessary guidelines to prevent pollution of the environment through sediment and erosion.	Section 5.2
(m) Environmental problems associated with the disposal of waste	None. All excavated spoil will be returned to borrow sites located immediately adjacent to the levee. No spoil will be disposed offsite.	Section 5.2

	Waste generated as a result of the works would mainly comprise of rubbish arising from food, fuel containers and other material bought onto the site during work activity. A Waste Management Plan would be prepared as part of the CEMP for any waste generated by the works.	
(n) Increased demands on natural or other resources that are, or are likely to become, in short supply	None. The proposed development would not create a demand on resources that are in short supply.	Section 5.2
(o) The cumulative environmental effect with other existing or likely future activities	None anticipated.	Section 5.2
(p) The impact on coastal processes and coastal hazards, including those under projected climate change conditions	None. The Proposal site is not located in the coastal zone.	Section 5.2
(q) applicable local strategic planning statements, regional strategic plans or district strategic plans made under the Act, Division 3.1,	The applicable local strategic planning statements include the Riverina Murray Regional Plan 2041. The provisions of the plans pursuant to this REF is discussed in section 2.2.1 and 2.2.2.	Section 5.2
(r) other relevant environmental factors.	The Site is located within an area mapped as Bushfire prone. The relevant safeguards to minimise bushfire risks are provided in section 5.2.	Section 5.2

5. Environmental Management

5.1 Construction Environmental Management Plan

Preparation of a Construction Environmental Management Plan (CEMP) is mandatory for all projects undertaken by or on behalf of government agencies or where funding is being provided by the government.

The CEMP would be developed to ensure that appropriate environmental management practices are followed during a project's construction and/or operation. Murray River Council would review the CEMP for this Proposal, which should include the following elements, as described in the Guideline for the Preparation of Environmental Management Plans (DIPNR, 2004). The CEMP should generally conform to the structure shown in Table 5-1.

Table 5-1: Construction Environmental Management Plan Structure

Background	• Introduction to the document • Description of the proposal and project details • The context for the EMP in regards to the overall project • The EMP objectives • The contractor's environmental policy
Environmental Management	• Environmental management structure of the organisation and specific team responsibilities with respect to the EMP and its implementation • Approval and licensing requirements relevant to the project • Reporting requirements • Environmental training • Emergency contacts and response
Implementation	• A project specific risk assessment • A detailed list of environmental management safeguards and controls • EMP sub plans for specific environmental controls • A detailed schedule assigning responsibility to each environmental management activity and control
Monitor and Review	• Environmental monitoring • Environmental auditing • Corrective action • EMP review and document control procedures

The CEMP would include a risk assessment which ensures that the safeguards identified in this REF, as well as any others that are considered relevant, are effectively translated into actual construction techniques and environmental management activities, controls, and monitoring/verification to prevent or minimise environmental impacts. The CEMP should also identify the requirements for compliance with relevant legislation and any other regulatory requirements to ensure environmental safeguards described throughout this REF are implemented. The environmental management objectives and supporting actions presented in this section are intended to assist in this process.

The following section details the proposed mitigation measures for the Proposal, with best management construction measures to be documented in the project specific CEMP. This list is not definitive, and additional measures detailed as part of the determination of the project and conditions of any other approvals must also be included.

5.2 Environmental Management Measures

Implementation of the mitigation measures outlined below would be undertaken during several phases of the project. These phases comprise:

- Pre-construction – prior to the contractor arriving on site to carry out the works
- Construction – during construction phase
- Operation – post construction

Environmental Safeguard	Timing	Responsibility
Health and Safety		
Carry out all works in compliance with the requirements of SafeWork NSW and the provisions of the *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2017*.	Construction	Contractor
In accordance with SafeWork NSW requirements, all plant and equipment used in construction work must comply with the relevant Australian Standards and manufacturer specifications.	Construction	Contractor
Land Use		
A Forestry Permit will be required prior to the commencement of Proposed works		
Undertake consultation with FC NSW to determine potential disruptions to other activities within the site as a result of construction works and identify appropriate mitigation measures and project scheduling to minimise such impacts if required.	Pre-Construction	Proponent / Contractor
Site access and the appropriate use of internal tracks and vehicle routes is to be arranged with FC NSW and documented in the CEMP prior to construction commencing.	Pre-Construction	Contractor
No materials, machinery or equipment are to be stored or parked on private property.	Pre-Construction	Contractor
Appropriate security, supervision and access controls (including signage and fencing) would be put in place and properly monitored to prevent access by unauthorised personnel to the work area. Temporary fencing/barricades and gates are to be installed where necessary to exclude the public from the work site. Any temporary fencing or gates no longer required are to be removed at the completion of the construction works.	Construction	Contractor
The contractor is required to take all necessary steps to prevent damage to State and privately-owned property, State owned and privately owned land and infrastructure, including, but not limited to, vegetated areas, fences, gates and access roads. Should damage occur to State or	Construction	Contractor

Environmental Safeguard	Timing	Responsibility
property or private property the contractor must restore, or arrange to have restored, the damaged property/infrastructure to a condition equivalent to the original condition.		
Areas disturbed during construction would be reinstated to the pre-construction condition.	Construction	Contractor
Appropriate vehicle storage and equipment lay down areas e are to be arranged with FC NSW. No materials are permitted to be dumped or stored on roads or waterways, or on private land, unless necessary approvals and consents are obtained.	Construction	Contractor
All construction plant, equipment, materials and waste will be removed from the site at completion of works.	Construction	Contractor
Traffic and Access		
Site access and the appropriate use of internal tracks and vehicle routes and parking areas is to be arranged with FC NSW and documented in the CEMP prior to construction commencing. A Traffic Control Plan (TCP) may be developed in consultation with FC NSW if required.	Pre-Construction	Contractor
Sensitive environmental areas will be marked by an accredited assessor prior to the commencement of work activities. These areas are to be avoided while undertaking any vehicle / machinery movements including transit, parking, and unloading of equipment.	Pre-Construction	Contractor
All traffic would comply with all applicable traffic laws and regulations including speed limits.	Construction	Contractor
Post construction any roads impacted by the works would be returned to a condition equivalent to or better than its prior condition.	Construction	Contractor
Trucks shall not access the sites in weather conditions that would cause damage to properties or the environment.	Construction	Contractor

Environmental Safeguard	Timing	Responsibility
Air Quality		
Construction vehicles and equipment would be suitably serviced within the six-month period prior to commencement of construction activities and all necessary maintenance undertaken during the construction period to meet EPA air quality requirements.	Pre-construction/ Construction	Contractor
The excessive use of vehicles and powered construction equipment would be avoided.	Construction	Contractor
All construction machinery would be turned off when not in use to minimise emissions.	Construction	Contractor
Vehicles travelling on unsealed public roads should avoid excessive speed when passing adjacent residences.	Construction	Contractor
The burning of waste materials is not permitted on site.	Construction	Contractor
Noise and Vibration		
Residents at 382 Little Forest Lane are to be consulted with prior to the works commencing to inform them of any potential impacts including access, noise etc. The notification is to include contact details in the event of any complaints during the construction works.	Pre-Construction	Proponent/Contractor
Works would be undertaken during normal work hours i.e., 7am to 6pm Monday to Friday; 8am to 1pm Saturdays; and no work would be undertaken on Sundays, Public Holidays or outside these work hours without notification to affected community and EPA. Notification would provide the following details: • The locations and types of surrounding receivers likely to be affected. • The nature of the proposed work. • The noise characteristics of any powered equipment likely to be used.	Construction	Contractor

Environmental Safeguard	Timing	Responsibility
• Measures to be taken to reduce noise emissions; and • Any other information EPA may request.		
Consideration should be given to the siting of work areas, vehicle and plant parking areas, materials stockpiles and equipment storage areas to minimise noise impacts to adjoining properties.	Construction	Contractor
All plant and machinery used for the project would be well maintained.	Construction	Contractor
All possible measures would be taken to ensure construction equipment is operated to manufacturer's specifications.	Construction	Contractor
Any noise complaint received would be investigated as soon as practicable. Any practicable and feasible measures to minimise noise would be identified. The complainant would be advised of the outcome.	Construction	Contractor
Aboriginal Heritage		
The proposed works for the remediation of the emergency flood levee and ACH sites will be informed by the ACHAR and associated AHIP upon approval. As part of the AHIP, formulating a methodology for these remediation works will be done consultation with the Registered Aboriginal Parties (RAPs) and other stakeholders and will need to adhere to all relevant codes of practice.	Pre-construction	Contractor
As part of an induction, all workers and sub-contractors are to be made aware of their responsibilities under the provisions of the AHIP.	Pre-construction/ Construction	Contractor
To avoid inadvertent impact to any potential ACH sites outside of the designated work zones, the proposed works must be contained to inside approved work zone areas. If additional locations outside what has been assessed as the study area in this report, are to be impacted then further	Construction	Contractor

Environmental Safeguard	Timing	Responsibility
archaeological assessment may be necessary as there are known sites throughout the rest of Little Forest which have not yet been registered on AHIMS (see Section 6.3.3, Appendix B.		
Historic Heritage		
An Unexpected Finds Protocol is to be prepared as part of the Contractor's CEMP. The Protocol is to detail the steps and actions required in the event that a previously unrecorded or unanticipated historic heritage item is located on the site during the construction works.	Pre-construction	Contractor
As part of an induction, workers should be made aware of their responsibilities under the provisions of the NSW *Heritage Act 1977* in the unlikely event that any historical relics or sites are identified. In this event all works must cease and the area be protected until a qualified archaeologist inspects the site and provides management advice in consultation with Heritage NSW.	Pre-construction/ Construction	Contractor
Biodiversity & Biosecurity		
Prior to commencement of works, an accredited assessor will survey the designated work site and adjacent areas and establish any necessary exclusion zones to protect sensitive areas. For any trees in the vicinity of the works, establish a Tree Protection Zone (TPZ) and install orange mesh barrier fencing around the trees identified for retention in order to prevent impacts to the root zones of these trees. No works are to be undertaken within this TPZ and no vehicles, machinery or stockpiles would be located beneath canopies of trees.	Pre-construction/ Construction	Contractor
Prior to commencement of works, an accredited assessor will survey the borrow pits marked for the replacement of excavated soil to determine the presence of native fauna or active/occupied nests or burrows. If native animals or active nest/burrows are detected, then active work on the site will be suspended while an accredited native animal handler is contacted to remove the animal and/or active nests/burrows.	Pre-construction/ Construction	Contractor

Environmental Safeguard	Timing	Responsibility
Appropriate hygiene strategies are to be identified and implemented during the construction phase of the development to minimise the infestation and spread of noxious weeds and pathogens as a result of the works.	Construction	Contractor
The works are to be undertaken in accordance with *AS 4970-2009 Protection of trees on development sites*.	Construction	Contractor
Best practice weed management practices would be implemented to prevent the spread of weeds, seeds, pathogens and fungi, including washing of machinery and tools.	Construction	Contractor
WIRES (1300 094 737) or a local wildlife carer must be notified immediately to care for any fauna injured during construction works.	Construction	Contractor
Soils and Water Quality		
A site-specific Erosion and Sediment Control Plan prepared by the Contractor in accordance with the Blue Book will be prepared by the contractor prior to the commencement of work activity and will be included in the CEMP. This plan should be commensurate with the extent of ground disturbance required.	Pre-construction	Contractor

Environmental Safeguard	Timing	Responsibility
A site-specific spill management plan would be prepared as part of the CEMP and include the following requirements: • Emergency spill kits are to be kept at the site and within vehicles. • Refuelling of machinery to be undertaken in a dedicated area within the construction compound appropriately protected as outlined in the spill management plan. • Any chemicals and fuels are to be stored in a bunded area at least 50 metres from any drainage line. • Refuelling should be undertaken no closer than 50m from any drainage line, creek or watercourse. • Any hazardous materials stored on site would be stored in the compounds and within impervious and bunded enclosures capable of storing 120% of the volume of material stored there. • Workers would be trained in the spill management plan and the use of the spill kits.	Pre-construction	Contractor
The CEMP would incorporate a pollution incident response management plan that defines appropriate procedures for notification of pollution incidents to the required authorities in accordance with s. 147 to 153 of the POEO Act and requires response actions to be implemented in order to address any risks such as incidents posed to the environment, property or surrounding communities.	Pre-construction	Contractor
Vehicles and machinery movements will be restricted to existing tracks where possible. Work activity involving the movement of machinery and vehicles will be avoided during wet weather as advised by FC NSW.		
All spoil/fill is to be placed carefully in existing levee borrow pits and lightly compacted.	Construction	Contractor

Environmental Safeguard	Timing	Responsibility
Any disposal of wastewater or fluids generated as part of construction works would be undertaken in a manner that does not cause water pollution. The CEMP would document an appropriate offsite facility for treatment and disposal.	Construction	Contractor
A Monitoring and Flood Response Plan would be prepared as part of the CEMP to detail procedures for monitoring rainfall and waterway flows and to identify subsequent response actions that will be taken to ensure the protection of personnel, equipment and water quality during the construction works.	Pre-construction	Contractor
To mitigate against the risk of flooding: • Ensure workers are aware of flood risk. • Check weather forecasts each day so to allow adequate time to vacate and/or prepare the site prior to the commencement of the flood event. • In the event of a flood risk as notified by the Bureau of Meteorology, remove/secure equipment and materials that are likely to be inundated or damaged, removal of chemicals strengthening/improvement of sediment controls.	Construction	Contractor
In the event of flooding, construction works in affected areas would cease and would not commence until floodwaters have receded.	Pre-construction/Construction	Contractor
In the event of flooding, construction works in affected areas will cease and will not commence until floodwaters have receded.	Construction	Contractor
Waste Management		
A Waste Management Plan (WMP) would be prepared as part of the CEMP by the construction contractor for the management of waste generated during construction works. The WMP must be prepared in accordance with the applicable waste management provisions of the *Protection of*	Pre-construction	Contractor

Environmental Safeguard	Timing	Responsibility
the Environment Operations Act 1997 and the *Protection of the Environment Operations (Regulation) 2014*. The WMP would follow the resource management hierarchy principles embodied in the *Waste Avoidance and Resource Recovery Act 2001* and the *NSW Government Resource Efficiency Policy 2019*. It would address, but not necessarily be limited to, the following: • Non-recyclable waste and containers would be regularly collected and disposed of at a licensed landfill or other disposal site in the area. Waste oil would be sent to approved recyclers. • The worksite would be left tidy and rubbish free each day prior to leaving site and at the completion of construction. • Transportation of waste must be done in a manner that avoids the waste spilling, leaking, or otherwise escaping from the vehicle or plant used to transport the waste. Waste would be transported to a place that can lawfully receive that waste. • Details of, and the waste management action proposed for, each type of waste. • A description of the roles and responsibilities of everyone who manages the waste, including the site supervisor and sub-contractors.		
If any contaminated material is encountered during earthworks, work shall cease, the site secured, and a safe work method statement(s) and appropriate practices shall be implemented. Any contaminated material would be classified first and then stored, transported, and disposed of in accordance with EPA requirements at an EPA licensed waste facility.	Construction	Contractor
The EPA is to be notified immediately of any pollution incidents or harm to the environment (as defined under Part 5.7 of the POEO Act).	Construction	Contractor

Environmental Safeguard	Timing	Responsibility
Visual Amenity		
Existing vegetation should be protected, avoiding vehicle contact with all vegetation types including groundcover, shrubs and trees as practicable.	Construction	Contractor
Maintain/avoid impact to natural aesthetic features such as waterways, insect earth mounds, fallen timber etc.	Construction	Contractor
Utilities and Services		
Prior to transporting the excavators, a survey of the appropriate route is to be undertaken to avoid encountering hazards involving contact with overhead infrastructure including powerlines, street signage, streetlights and vegetation. The appropriate transport route will be selected and communicated to the appropriate transport personnel to avoid these hazards.	Pre-construction/ construction	Contractor
Bushfire		
Construction staff are to be made aware of the potential for bushfire risk.	Construction	Contractor
The CEMP and daily work plan should include a risk assessment for machinery and work practices that can lead to fire i.e., welding, grass cutting and surface scraping. Where possible, works should be undertaken in the months April – September to avoid high fire danger occurrences.	Pre-construction	Contractor
On each workday, a review of the current fire danger should be undertaken. Preparations and procedures for fire risk should be implemented within daily work plans. If the work site is mapped as bushfire prone, no work should be undertaken under Extreme or Catastrophic fire danger. A water cart should be present on site during any BoM determined high fire danger periods	Construction	Contractor

Environmental Safeguard	Timing	Responsibility
No hot works are to be undertaken on Total Fire Ban days.	Construction	Contractor
Greenhouse Gases and Climate Change		
Energy efficiency requirements would be included in the site environmental induction.	Construction	Contractor

6. Conclusion and Recommendations

6.1 Conclusion

The Proposal is for the removal of the Little Forest Levee bank and remediation of excavation (borrow) pits used for its construction. The proposal has come at the request of the Joint Indigenous Group (Deniliquin and Moama) and is supported by Murray River Council and Forestry Corporation NSW. The removal of the levee and remediation of the site is purposed with restoring the natural flow of floodwaters across the surrounding floodplain and is purposed with restoring Aboriginal Cultural Heritage items disturbed during the construction of the levee.

The Proposal would potentially cause short term and minor noise and biophysical impacts; however, the works are temporary and can be managed to minimise these impacts.

This REF has been prepared in accordance with Sections 5.5 and 5.7 of the Environmental Planning and Assessment Act 1979 and Section 171 of the Environmental Planning and Assessment Regulation 2021. It provides a true and fair assessment of the proposed activity in relation to its likely effects on the environment, it addresses to the fullest extent possible all matters affecting or likely to affect the environment as a result of the proposed activity.

Based on the information in this REF, it is concluded that:

(1) the proposed activity is not likely to have a significant impact on the environment and therefore an Environmental Impact Statement (EIS) is not required.

(2) the proposed activity is not likely to significantly affect threatened species, populations, ecological communities, or critical habitat. Therefore, a Species Impact Statement (SIS)/Biodiversity Assessment Report (BDAR) is not required.

(3) the proposed activity is not likely to affect any Commonwealth land, is not being carried out on Commonwealth land, or significantly affect any Matters of National Environmental Significance.

The proposed activity is recommended to proceed subject to implementation of the measures to avoid, minimise or manage environmental impacts listed in this REF.

6.2 Recommendations

It is recommended that the Proposal for the removal of the Little Forest levee and remediation of excavation sites be approved with the following conditions:

- a CEMP would be developed for the Proposal incorporating the mitigation measures outlined in Section 5 of this REF and any other appropriate environmental management measures. The CEMP must be reviewed and approved by MRC prior to the commencement of construction.
- A Forestry permit is obtained prior to the commencement of works.
- An AHIP is obtained prior to the commencement of works.

7. References

Australian Standard AS2436-2010. *Guide to Noise and Vibration Control on Construction, Demolition and Maintenance Sites*

Department of Energy and Climate Change and Water (DECCW). (2010). *NSW Government Interim Construction Noise Guidelines*

Department of Infrastructure, Planning and Natural Resources (DIPNR). (2004). *NSW Government Guideline for the Preparation of Environmental Management Plans*

Department of Energy and Climate Change (DECC). (2010). *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*

Environment Protection Authority, 2017, *Noise Policy for Industry*

Landcom, 2004, *Managing Urban Stormwater: Soils and Construction, 4th Edition (The Blue Book)*

Murray Darling Basin Authority 2011, Acid Sulfate Soils in the Murray Darling Basin

NSW Department of Planning and Environment (2023) Riverina Murray Regional Plan 2041

Appendix A Ecological Constraints Report

Little Forest Levee Ecological Constraints Report

greenedge environmental

Little Forest Levee

For NSW Public Works

Business name	Green Edge Environmental P/L
ABN	18 654 533 712
Postal address	c/o Springton Post Office, Springton SA 5235
Principle Point of contact	Chris Alderton
Email and Mobile	chris@geenvironmental.com.au 0438 345 109

Rev	Purpose of document	Author	Reviewer	Issue date
A	Draft report for internal review	R. Allwright	C. Alderton	30 July 2024
B	Draft for client review	R. Allwright	C. Alderton	31 July 2024
0	Final	R. Allwright	C. Alderton	15 August 2024

© No part of this report may be reproduced, stored in a retrieval system or transmitted in any form by any means, electronic, mechanical, photocopying, recording or otherwise without prior permission from the author.

TABLE OF CONTENTS

1.0 The proposal 1
1.1 Introduction 1
1.2 Locality 2
2.0 Planning context 2
2.1 Approval process 2
2.5 State environmental planning policies 7
2.6 Zoning 8
2.7 Determining authority 8
2.8 T&I SEPP Consultation 8
3.0 Environmental impacts 10
3.1 Flora 10
3.2 Fauna 17
4.0 Conclusion 21
4.1 Justification for the proposed project 21
4.2 Principles of ESD 21
5.0 References 23

TABLES

Table 1: Details of the proposed project land titles 2
Table 2: Approvals required for the project 3
Table 3: PCT characteristics 10
Table 4: Threatened flora with potential habitat 14
Table 5: Flora Species recorded on-site 15
Table 6: Listed fauna species 18
Table 7: Fauna species recorded on site 20

FIGURES

Figure 1: Study area for the proposed levee removal and site rehabilitation (sourced from NSW PW, June 2024) 2

APPENDICES

Appendix A: Map Series

Appendix B: Threatened species searches

1.0 The proposal

1.1 Introduction

Murray River Council (MRC) are proposing to remove and site remediate the Little Forest Flood Levee in Koondrook State Forest, Barham NSW.

The emergency levee, measuring 1m tall, 1.5m wide and 1,800m long, was constructed in response to the neighboring landholder identifying potential floodwaters impacting on private property neighboring and downstream of Little Forest. Borrow clay was excavated from nearby and used to build up the levee to alleviate the threat of the levee overtopping during high water. The proposed works will be undertaken to decommission the levee and remediate the impacted area.

For the purpose of this assessment, it is assumed that the methodology used to remediate the levee will involve the use of an excavator to return and compact the soil back into the borrow pits used for the construction of the levee. No additional trees, vegetation or habitat are expected to be impacted as a result of the proposed remediation works.

NSW Public Works (PW) on behalf of MRC, have engaged Green Edge Environmental (GEE) to prepare an Ecological Constraints Report (ECR) for the proposed remediation works.

The purpose of this assessment is to gather information and data regarding the existing flora, vegetation, and fauna within the proposed project area, to determine whether threatened species are present and if the project triggers a referral under the EPBC Act. Additionally, the report seeks to identify measures to reduce any potential impact on the surrounding environment.

The objectives of the assessment were to:

- Undertake a desktop assessment, particularly of threatened flora and fauna species recorded within or likely to be within the proposed project area, including any species listed under the *EPBC Act*
- Conduct an on-ground flora and fauna survey to verify desktop assessment of the species present and vegetation association/conditions within the proposed works footprint
- Determine the local and regional significance of the flora and vegetation recorded in the desktop assessment and confirmed through the on-ground survey
- Provide recommendations on the ecological constraints of the proposed remediation works and suggest mitigation measures required.

1.2 Locality

The proposed works are located in Barham, NSW and are proposed to occur on freehold (private land). The works footprint is shown in Appendix A and Figure 1 and will occur on the land titles outlined in Table 1.

Figure 1: Study area for the proposed levee removal and site rehabilitation (sourced from NSW PW, June 2024)

Table 1: Details of the proposed project land titles

Location name	Lot and DP	Tenure	Disturbance history
Emergency levee	929/DP1207721	Freehold – managed by NSW Forestry Corporation	Forestry
Emergency levee	134/DP756508	Freehold – managed by NSW Forestry Corporation	Forestry

2.0 Planning context

2.1 Approval process

2.1.1 *Environmental Planning and Assessment Act 1979*

This Ecological Constraints Report (ECR) will assist NSW Public Works finalise design to reduce impacts of the proposed works and will input into a future Review of Environmental Factors (REF).

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides the statutory basis for planning and environmental assessment in New South Wales. The Minister for Planning, Statutory Authorities and Local Councils are responsible for implementing the EP&A Act. This Act provides the framework for environmental planning and development approvals and includes provisions to ensure that the potential environmental impacts of a proposed development are assessed and considered in the decision-making process.

The EP&A Act contains two parts which impose requirements for planning approval:

- Part 4 provides for control of local development that requires development consent from the local council
- Part 5 provides for control of 'activities' that do not require development consent or approval from the Minister for Planning.

Any future impact assessment will be assessed under Part 5 of the EP&A Act, with MRC being the proponent and determining authority.

Table 2: Approvals required for the project

Act	Provision	Approval
Water Management Act 2000	Part 3 Chapter 3; Water Management (General) Regulation 2018	Exempt from a controlled activity approval (Clause 41)
Forestry Act 2012	Part 5, Division 2	A permit may be required on land dedicated as a state forest for non-forestry related works (awaiting correspondence)

2.2 Environmental planning instruments

2.2.1 Local Environmental Plan

Wakool Local Environmental Plan (LEP) 2013

The site is located within the Wakool local government area, governed by the Murray River Council, and consequently guided by the Wakool LEP 2013. Under the Wakool LEP, the proposed site is zoned Forestry (RU3), (refer Appendix A).

The objectives of the Forestry (RU3) zone is to:

- To enable development for forestry purposes.
- To enable other development that is compatible with forestry land uses.

Heritage conservation

Part 5.10 of the LEP specifies the requirements of the consent authority in relation to impacts on areas of heritage significance. The objectives are:

a) to conserve the environmental heritage of Wakool
b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,
c) to conserve archaeological sites
d) to conserve Aboriginal objects and Aboriginal places of heritage significance.

The proposed works will not contravene the objectives of the LEP.

Terrestrial Biodiversity

The objective of Part 6.3 is to maintain terrestrial biodiversity by:

a) protecting native fauna and flora, and
b) protecting the ecological processes necessary for their continued existence, and

c) encouraging the conservation and recovery of native fauna and flora and their habitats.

The proposed works will not contravene the objectives of the LEP. An assessment of the impacts from the proposal is located in Section 3.0.

Riparian Land and Watercourses

The objective of Part 6.4 is to protect and maintain the following:

a) water quality within watercourses,
b) the stability of the bed and banks of watercourses,
c) aquatic riparian habitats,
d) ecological processes within watercourses and riparian areas.

This part of the LEP applies to land identified as 'watercourse' under the LEP. The study area traverses over the named watercourse Eagle Creek, and therefore is subject to this part of the LEP. An assessment of the impacts from the proposed is located in Section 3.0.

2.3 Other environmental legislation and approvals

2.3.1 Fisheries Management Act

Under Section 198A of the *Fisheries Management Act 1994*, dredging is defined as:

- any work that involves excavating water land
- any work that involves the removal of material from water land that is prescribed by the regulations as being dredging work to which this Division applies.

This section describes water land as land submerged by water:

a) whether permanently or intermittently
b) whether forming an artificial or natural body of water.

The proposal is unlikely to involve excavation of material from the bed of the waterways and thus does not constitute dredging, as defined by the *Fisheries Management Act*.

The *Fisheries Management Act* lists threatened aquatic species, endangered populations and ecological communities and key threatening processes. Potential impacts on species, populations and communities, subject to the *Fisheries Management Act,* would need to assess impacts on threatened aquatic species.

2.3.2 Water Management Act

The Water Management Act 2000 (WM Act) is administered by the Department of Planning and Environment (DPE). Under the WM Act, the DPE is the consent authority for a Controlled Activity Approval (CAA) where works are located within 40m of a waterway in NSW. A CAA is not required in this situation as the works will be undertaken by MRC. Under the Water Management (General) Regulation 2018 – Clause 41, an exemption from the requirements for having CAA is applicable if the works are undertaken by or on behalf of public authorities and local councils '*Public authority is defined in the Water Management Act 2000. Public authorities include NSW public service agencies and local councils, but not Landcom or the Superannuation Administration Corporation.'* This exemption applies to any kind of controlled activity.

2.3.3 National Parks and Wildlife Act

The *National Parks and Wildlife Act 1974* (NPW Act), administered by the Office of Environment and Heritage (OEH), is the primary legislation for the protection of some aspects of Aboriginal cultural heritage in New South Wales. Part 6 of the NPW Act provides specific protection for Aboriginal objects and declared Aboriginal places by establishing offences of harm. There are a number of defences and exemptions to the offence of harming an Aboriginal object or Aboriginal place.

One of the defences is that the harm was carried out under an Aboriginal Heritage Impact Permit (AHIP).

2.3.4 Heritage Act

The Heritage Act 1977 identifies and protects heritage items, administered by the NSW Office of Environment and Heritage. Any developments which would impact on an item listed on the State Heritage Register would require approval from the Heritage Council under section 60 of the Act.

No items listed on the local (LEP) or State Heritage Register are located within the immediate vicinity of the proposal.

2.3.5 Biodiversity Conservation Act

The *Biodiversity Conservation Act* 2016 (BC Act) lists a number of factors to consider when deciding whether there will be a significant impact on threatened species, populations or ecological communities and their habitats. A Species Impact Statement (SIS) is required when the level of determined significance is 'likely'.

Through design, the proposal will not significantly impact on a threatened species, population or ecological community. Thus, the proposal does not require approval under the BC Act, or the completion of a SIS.

Under the Act, proponents proposing to clear native vegetation can offset their obligations through the Biodiversity Offset Scheme. Activities assessed and determined under Part 5 of the *Environmental Planning and Assessment Act 1979* (generally, proposals by government entities), if proponents choose to 'opt in' to the Scheme.

2.3.6 Local Lands Service Act

The objects of the *Local Lands Service Act 2013* are as follows:

(a) to establish a statutory corporation with responsibility for management and delivery of local land services in the social, economic and environmental interests of the State in accordance with any State priorities for local land services

(b) to establish a governance framework to provide for the proper and efficient management and delivery of local land services

(c) to establish local boards for the purpose of devolving management and planning functions to regional levels to facilitate targeted local delivery of programs and services to meet community, client and customer needs

(d) to require decisions taken at a regional level to take account of State priorities for local land services

(e) to ensure the proper management of natural resources in the social, economic and environmental interests of the State, consistently with the principles of ecologically sustainable development (described in section 6 (2) of the *Protection of the Environment Administration Act 1991*)

(f) to apply sound scientific knowledge to achieve a fully functioning and productive landscape

(g) to encourage collaboration and shared responsibility by involving communities, industries and non-government organisations in making the best use of local knowledge and expertise in relation to the provision of local land services

(h) to establish mechanisms for the charging of rates, levies and contributions on landholders and fees for services

(i) to provide a framework for financial assistance and incentives to landholders, including, but not limited to, incentives that promote land and biodiversity conservation.

The project does not impact on a Travelling Stock Route (TSR). Formal concurrence is required where works impact on the TSR by the Local Lands Services.

2.3.7 Protection of the Environment Operations Act

The object of the *Protection of the Environment Operations Act 1997* is to achieve the protection, restoration, and enhancement of the quality of the NSW environment. The Act provides for the issuing of three types of environment protection notices: clean-up, prevention, and prohibition notices.

Clean-up notices can be issued to deal with pollution incidents (e.g. a spill of pollutants). Prevention notices can be issued where an activity is being carried out in an environmentally unsatisfactory manner. Clean-up and prevention notices are issued by the regulatory authority for the activity or premises concerned. In emergencies, the EPA can issue a clean-up notice even though it is not the regulatory authority in the circumstances.

2.3.8 Forestry Act

The object of the *Forestry Act 2012* is to provide for the dedication, management and use of State forests and other Crown-timber land for forestry and other purposes. It is also used to constitute the Forestry Corporation of New South Wales as a statutory State-owned corporation and to specify their objectives and functions.

Under Part 5, Division 2 of the Act, the land manager of the forestry area may, on payment of a fee determined by the land manager, issue a forest permit authorising the permit holder to undertake non-forestry related activities.

As the proposed levee remediation works are not in relation to a forestry activity a permit may be required by the land manager, which in this case is NSW Forestry Corporation (awaiting correspondence).

2.4 Commonwealth legislation

Under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act), any actions which are likely to have a significant impact on matters of National Environmental Significance (NSE) require approval from the Commonwealth Minister for Environment and Heritage.

An Environmental Protection and Biodiversity Conservation (EPBC) Act Protected Matters Search Tool report was generated for the study area on a 10-kilometer buffer. The report found:

- no World Heritage Areas near the proposed site
- no items of National Heritage Places near the proposed site
- the study site is located upstream from five wetlands of international importance and downstream from one
- no Commonwealth Marine areas near the proposed site
- potential for six listed threatened ecological community to exist within the proposed site
- potential for 40 listed threatened species to occur in the vicinity of the proposed site
- potential for nine listed migratory species to occur within the vicinity of the proposed site.

No matters of NES will be impacted upon by the proposed project.

2.5 State environmental planning policies

2.5.1 Transport and Infrastructure SEPP 2021

The project does not require development consent (from Council) under Part 4 of the EP&A Act due to the application of Division 7 of the T&ISEPP states that development for the purpose of flood mitigation work may be carried out by or on behalf of a public authority without consent on any land.

Division 7 Flood mitigation work –

Flood mitigation work means work designed and constructed for the express purpose of mitigating flood impacts. It involves changing the characteristics of flood behaviour to alter the level, location, volume, speed or timing of flood waters to mitigate flood impacts. Types of works may include excavation, construction or enlargement of any fill, wall or levee that will alter riverine flood behaviour, local overland flooding, or tidal action so as to mitigate flood impacts.

2.56 - Development permitted without consent (Summary of relevant points):

1. Development for the purpose of flood mitigation work may be carried out by or on behalf of a public authority without consent on any land.
2. A reference in this section to development for the purpose of flood mitigation work includes a reference to development for any of the following purposes if the development is in connection with flood mitigation work -
3. (a) construction works,
4. (b) routine maintenance works,
5. (c) environmental management works.

Environmental management works means— (a) works for the purpose of avoiding, reducing, minimising or managing the environmental effects of development (including effects on water, soil, air, biodiversity, traffic or amenity), and (b) environmental protection works.

2.5.2 Riverina Murray Regional Strategy 2036

The Riverina Murray Regional Strategy 2036 replaces the Murray Regional Plan Number 2 – Riverine Land (2004). The objectives of this plan are to:

- protect and manage sensitive riverine environment
- recognise, value and protect the cultural and archaeological heritage values of the region.

2.6 Zoning

The site is located within the Wakool local government area, governed by the Murray River Council, and consequently guided by the Wakool LEP 2013. Under the Wakool LEP, the proposed site is zoned Forestry (RU3).

The objectives of the Forestry (RU3) zone is to:

- Enable development for forestry purposes
- To enable other development that is compatible with forestry land uses.

2.7 Determining authority

Under the Wakool Local Environmental Plan 2013 - Reg 1.6, the determining authority is the MRC.

2.8 T&I SEPP Consultation

Part 2 of the T&ISEPP contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development. This is detailed below:

Is consultation with Council required under clauses 13-15 of the infrastructure SEPP?		
Are the works likely to have a substantial impact on the stormwater management services which are provided by council?	☐ Yes	☒ No
Are the works likely to generate traffic to an extent that will strain the capacity of the existing road system in a local government area?	☐ Yes	☒ No
Will the works involve connection to a council owned sewerage system? If so, will this connection have a substantial impact on the capacity of the system?	☐ Yes	☒ No
Will the works involve connection to a council owned water supply system? If so, will this require the use of a substantial volume of water?	☐ Yes	☒ No
Will the works involve the installation of a temporary structure on, or the enclosing of, a public place which is under local council management or control? If so, will this cause more than a minor or inconsequential disruption to pedestrian or vehicular flow?	☐ Yes	☒ No

Will the works involve more than a minor or inconsequential excavation of a road or adjacent footpath for which council is the roads authority and responsible for maintenance?	☐ Yes	☒ No
Is there a local heritage item (that is not also a state heritage item) or a heritage conservation area in the study area for the works? If yes, does a heritage assessment indicate that the potential impacts to the heritage significance of the item/area are more than minor or inconsequential?	☐ Yes	☒ No
Are the works located on flood liable land? If so, will the works change flooding patterns to more than a minor extent?	☐ Yes	☒ No
Is consultation with public authorities required under clause 16 of the infrastructure SEPP?		
Are the works adjacent to a national park, nature reserve or other area reserved under the *National Parks and Wildlife Act 1974*, or on land acquired under that Act?	☐ Yes	☒ No
Are the works on land in Zone E1 National Parks and Nature Reserves or in a land use zone equivalent to that zone?	☐ Yes	☒ No
Are the works adjacent to an aquatic reserve or a marine park declared under the *Marine Estate Management Act 2014*?	☐ Yes	☒ No
Is the proposal in the Sydney Harbour Foreshore Area as defined by the *Sydney Harbour Foreshore Authority Act 1998*?	☐ Yes	☒ No
Are the works for the purpose of residential development, an educational establishment, a health services facility, a correctional facility or group home in bush fire prone land?	☐ Yes	☒ No
Would the works increase the amount of artificial light in the night sky and that is on land within the dark sky region as identified on the dark sky region map? (Note: the dark sky region is within 200 kilometres of the Siding Spring Observatory)	☐ Yes	☒ No
Are the works on buffer land around the defence communications facility near Morundah? (Note: refer to Defence Communications Facility Buffer Map referred to in clause 5.15 of Lockhart LEP 2012, Narrandera LEP 2013 and Urana LEP 2011).	☐ Yes	☒ No
Are the works on land in a mine subsidence district within the meaning of the *Mine Subsidence Compensation Act 1961*?	☐ Yes	☒ No

2.8.1 Agency consultation

Although Part 2 of the T&ISEPP, does not require Council to consult with other agencies, the following relevant agencies and stakeholders have been consulted on the proposal and their recommendations and requirements have contributed to the development of this ECR, where applicable, including:

- NSW Public Works
- NSW Forestry Corporation

3.0 Environmental impacts

3.1 Flora

3.1.1 Existing environment

The proposed project area is located in the Riverina Bioregion and the Murray Fans subregion, identified under the Interim Biogeographic Regionalisation for Australia.

The New South Wales plant community type (PCT) classification was developed in 2011 to establish an unambiguous master community-level classification for use in vegetation mapping programs, biometric-based regulatory decisions, and as a standard typology for other planning and data gathering programs. Four natural vegetation communities occur within the works area (refer Appendix A, Figure 4):

- River Red Gum-sedge dominated very tall open forest in frequently flooded forest wetland along major rivers and floodplains in south-western NSW (PCT 2)
- River Red Gum - Lignum very tall open forest or woodland wetland on floodplains of semi-arid (warm) climate zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion) (PCT 11)
- Canegrass swamp tall grassland wetland of drainage depressions, lakes and pans of the inland plains (PCT 24)
- Forb-rich Speargrass - Windmill Grass - White Top grassland of the Riverina Bioregion (PCT 44).

Details of these PCT's are shown in Table 3.

Table 3: PCT characteristics

PCT	PCT name	Description
2	River Red Gum-sedge dominated very tall open forest in frequently flooded forest wetland along major rivers and floodplains in south-western NSW	Very tall open forest dominated by River Red Gum (*Eucalyptus camaldulensis subsp. camaldulensis*) that grow to over 30m high and sometimes exceed 45m. Shrubs are usually absent. The ground cover may be sparse and covered in litter or mid-dense to dense. It is dominated by sedges such as *Eleocharis acuta*, *Eleocharis pusilla*, *Carex inversa, Cyperus xaltatus, Cyperus gymnocaulis, Carex gaudichaudiana* and *Carex tereticaulis* along with the rushes *Juncus amabilis* and *Juncus flavidus*. Grass species include Spiny Mudgrass (*Pseudoraphis spinescens*), Blown Grass (*Lachnagrostis filiformis*) and Warrego Grass (*Paspalidium jubiflorum*). Forb species include *Centipeda cunninghamii, Persicaria prostrata, Rumex brownii, Alternanthera denticulata, Senecio quadridentatus, Centipeda minima var. minima, Stellaria angustifolia* and the pond waterplants *Triglochin procerum* and *Myriophyllum crispatum*. Weed species may be common and include *Bromus hordeaceus*, *Hypochaeris radicata, Hypochaeris glabra, Paspalum distichum, Aster subulatus, Cirsium vulgare, Conyza bonariensis, Sonchus oleraceus* and *Phyla canescens*. Occurs on black to grey silty-loam-clay alluvial (often self-mulching) soils in frequently flooded sites bordering stream channels, ox-bows and in nearby low-lying areas including intermittent lakes. Mainly distributed

PCT	PCT name	Description
		along the Murray River with smaller areas along the Murrumbidgee and Lachlan Rivers in the Riverina and Murray-Darling Basin Bioregions of New South Wales and Victoria with small areas in the NSW South-western Slopes Bioregion. The largest areas occur in the middle sections of the Murray River in NSW and Victoria. Many of the forests have been extensively logged so the River Red Gum trees are of smaller stature than prior to logging but some unlogged areas remain. Poorly represented in protected areas as of 2008 but largely uncleared due to its location near river channels. Weed invasion, inappropriate logging and lack of flooding due to irrigation draw-off or climate change are the main threats to this community. Dieback of trees since 2000 has altered the threat category of this community from Near Threatened to Vulnerable.
7	River Red Gum - Warrego Grass - herbaceous riparian tall open forest wetland mainly in the Riverina Bioregion	Tall open forest averaging dominated by River Red Gum (*Eucalyptus camaldulensis subsp. camaldulensis*) growing to an average of about 20 m high with a canopy cover of about 40%. Shrubs are generally absent but scattered River Cooba (*Acacia stenophylla*) may be present. The ground may contain much leaf litter but also a mid-dense herbaceous ground cover dominated by grasses and forbs. Grasses include Warrego Grass (*Paspalidium jubiflorum*), wheatgrass (*Elymus scaber*), Blown Grass (*Lachnagrostis filiformis*) and wallaby grasses (*Austrodanthonia spp.*). Forbs include *Wahlenbergia fluminalis, Senecio quadridentatus, Ranunculus inundatus, Brachyscome basaltica var. gracilis, Pratia concolor, rumex brownii, Picris squarrosa* and *Centipeda cunninghamii*. Sedges include *Carex tereticaulis, Carex inversa, Eleocharis acuta* and *Eleocharis pusilla*. Weeds may be common in places and include *Hordeum leporinum, Cirsium vulgare, Bromus diandrus, Echium plantagineum, Hypochaeris glabra, Lolium perenne, Lolium rigidum, Medicago polymorpha, Vulpia muralis* and *Vulpia myuros*. The floristic composition varies with changes in flooding. Occurs on alluvial brown or grey cracking clay soils or clay loams on the inner floodplains and lining channels including on levees of major river systems. Distributed from the lower slopes along the lower Lachlan and Murrumbidgee Rivers including in the Great Cumbung Swamp and the mid-west to western section of the Murray River in NSW (generally west of Deniliquin) mainly in the Riverina Bioregion. This is the dominant River Red Gum forest between Deniliquin and Swan Hill. The main threats to this community are altered flooding due to river controls and irrigation, over-logging and weed invasion. Tree dieback from drought has increased since 2000.
11	River Red Gum - Lignum very tall open forest or woodland wetland on floodplains of semi-arid (warm) climate zone (mainly Riverina Bioregion and Murray Darling Depression Bioregion)	Tall open forest or woodland with trees to about 20m high, dominated by River Red Gum (*Eucalyptus camaldulensis*) to 20 m high with patches of River Cooba (*Acacia stenophylla*), Lignum (*Muehlenbeckia florulenta*) and Nitre Goosefoot (*Chenopodium nitrariaceum*) as a shrub understorey. Black Box (*Eucalyptus largiflorens*) is sometimes present. Ground cover

PCT	PCT name	Description
		is usually mid-dense or sparse and is dominated by Warrego Grass (*Paspalidium jubiflorum*) and forb species such as *Pratia concolor, Alternanthera denticulata, Wahlenbergia fluminalis, Chenopodium pumilio, Brachyscome basaltica var. gracilis, Eclipta platyglossa, Senecio quadridentatus, Asperula gemella, Euchiton sphaericus, Minuria integerrima, Rorippa laciniata, Centipeda minima var. minima, Rumex tenax, Damasonium minus* and *Ranunculus undosus*. The sedge Cyperus gymnocaulos is commonly present. Occurs on heavy grey clay soil in drainage depressions and flood-outs of major water courses on the floodplains along western sections of Murray, Murrumbidgee and Lachlan Rivers and extending up the Darling River to Wilcannia. Mainly in the Riverina and Murray-Darling Depression Bioregions of the semi-arid (warm) climate zone. Reasonable stands remain and the greatest threat is over-grazing, changed flooding regimes and extended drought. Tree dieback from drought has increased since 2000.
24	Canegrass swamp tall grassland wetland of drainage depressions, lakes and pans of the inland plains	Tall, tussock grassland dominated by Canegrass *(Eragrostis australasica*) growing to over 2 m high ranging in cover from dense to isolated plants. Sometimes growing with Glasswort (*Sclerostegia tenuis*) or samphire *Halosarcia pergranulata*. Depending which part of NSW a range of grass species may be present including Windmill Grass (*Chloris truncata*), Blown Grass (*Lachnagrostis filiformis*), Plains grass (*Austrostipa aristiglumis*), Neverfail (*Eragrostis setifolia*) and *Eragrostis parviflora*. A range of low shrubs occur including *Sclerolaena spp*., *Atriplex spp*. and *Teucrium racemosum*. Sedges such as *Eleocharis acuta, Eleocharis pusilla* and *Eleocharis pallens* may be common along with rushes (J*uncus s*pp.). The aquatic *Marsilea drummondii, M. costulifera, Azolla filiculoides and Myriophyllum* spp. May be present but die off in dry times. Highly salt tolerant plant species are more common in western-most areas and include *Disphyma crassifolium subsp. clavellatum, Frankenia serpyllifolia* and *Osteocarpum acropterum.*
44	Forb-rich Speargrass - Windmill Grass - White Top grassland of the Riverina Bioregion	Open to closed grasslands usually about 0.3m high composed of speargrass (*Austrostipa nodosa*), Windmill Grass (*Chloris truncata*) and Whitetop Wallaby Grass (*Austrodanthonia caespitosa*) with forbs including a range of daisies such as *Leucochrysum molle* and *Calotis scabiosifolia* and legumes such as *Swainsona spp.* The bluebush species *Maireana pentagona* and *Maireana excavata* are often present as scattered low shrubs. Occurs on grey-cracking clays and red-brown clays often including scalds on the plains of the southern part of the Riverine Plain Bioregion from Urana in the east to Deniliquin in the west and to the north. A number of threatened plant species such as *Swainsona plagiotropis, Leptorhynchos scaber, Sclerolaena napiformis* and Lepidium *monoplocoides* have been recorded in this community. About 100 native species and over 40 exotic species have been recorded. Some

PCT	PCT name	Description
		annual exotic species such as Rye Grass (*Lolium spp.)* and Wild Oats (*Avena spp*.) can dominate cover in Spring then die off leaving native perennial grasses as dominants. This community is "disclimax" in that the grassland of today was probably mixed with chenopod shrublands prior to European settlement. A combination of sheep and rabbit grazing and a drought in the 1880s led to the destruction of the larger saltbushes. Grasslands in best condition are found on roadsides, in travelling stock reserves or in lightly grazed paddocks where ploughing has not occurred.

3.1.2 Threatened species

A database search was undertaken on 18 July 2024 of the NSW Environment and Heritage (BioNet Atlas of NSW Wildlife) and the Department of the Environment and Energy websites to identify threatened species that may be found within the proposed project site as listed under the *Biodiversity Conservation Act 2016* and the *Environmental Protection and Biodiversity Act 1999* (EPBC Act).

A desktop search of the online databases was undertaken as follows:

- NSW Environment and Heritage BioNet Atlas of NSW Wildlife (refer to Appendix B)
- Department of the Climate Change, Energy, the Environment and Water, Environmental Protection and Biodiversity Conservation (EPBC) Protected Matters Report (refer to Appendix B).

Only those flora species that have the potential to occur at the proposed work zone have been discussed in Table 4.

Table 4: Threatened flora with potential habitat

Scientific name	Common name	Level of threat		Suitable habitat
		State	Federal	
Lepidium monoplocoides	Winged Pepper-cress	Endangered	Endangered	The Winged Peppercress occurs in open, sparsely vegetated sites in a range of habitats on heavy clay or clay-loam soils, usually on sites that are seasonally flooded or prone to waterlogging, in arid to semi-arid areas with an average rainfall range of 200–450mm per year. Species or species habitat likely to occur within area. Not recorded on site and unlikely to based on current and future management.
Swainsona murrayana	Slender Darling-pea, Slender Swainson, Murray Swainson-pea	Vulnerable	Vulnerable	Slender Darling-pea is found in grassland, herbland, and open Black-box woodland, often in depressions.This species grows in heavy grey or brown clay, loam, or red cracking clays. Species or species habitat likely to occur within area. Not recorded on site and unlikely to based on current and future management.
Amphibromus fluitans	River Swamp Wallaby-grass	Vulnerable	Vulnerable	River Swamp Wallaby grass is a slender aquatic or semi-aquatic perennial, with arching flowering stems that may be longer than 1m, but with around half the stem being below the water. Species or Species habitat likely to occur with the area. Not recorded on site and unlikely to based on current and future management.
Myriophyllum porcatum	Ridged Water-milfoil	-	Vulnerable	The ridged water-milfoil occurs in shallow, ephemeral and seasonal wetlands, including lakes, swamps, rock pools in granite outcrops, waterholes in claypans, and highly modified habitats including farm dams and drainage lines. Species or species habitat likely to occur within area. Not recorded on site and unlikely to based on current and future management.

3.1.3 Threatened communities

The above-mentioned databases were also searched for threatened communities. 6 threatened communities were listed, including:

1. Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions
2. Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
3. Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions
4. Natural Grasslands of the Murray Valley Plains
5. White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland
6. Weeping Myall Woodlands

None of these communities occur at the proposed project site.

3.1.4 Impact assessment

A general flora assessment was conducted across the proposed project site and the surrounding area on 22 July 2024 by Rachel Allwright (B App Sci). The four-hour assessment, focused on areas of likely higher vegetation values and active searches of likely habitat for reptiles and small mammals. Weather conditions were a clear sky, maximum temperature of 20ºC and no wind.

The survey method undertaken is described as a 'stratified ramble assessment', where the whole site was assessed, with particular focus on areas of higher quality habitat (older trees with potential for nests and hollows, better quality vegetation) that could be potentially impacted upon. One vegetation type occurs within the study this is consistent with PCT 7 - River Red Gum - Warrego Grass - herbaceous riparian tall open forest wetland mainly in the Riverina Bioregion.

Hollow and nest bearing trees were observed within the study area are not proposed to be removed or impacted as a result from the rehabilitation works.

The flora assessment revealed no vegetation species populations of which are of local, regional or state conservation significance (refer to Table 5). Significant disturbance was observed from the construction of the levee with significant weed invasion that will need to be mitigated.

Table 5: Flora Species recorded on-site

Scientific name	Common name	Threatened/Status
Acacia dealbata	Silver wattle	No
Atriplex semibaccata	Creeping saltbush	No
Austrodanthonia spp.	Wallaby grasses	No
Einadia nutans	Climbing saltbush	No
Enchylaena tomentosa	Ruby saltbush	No
Eucalyptus camaldulensis	River Red Gum	No

Scientific name	Common name	Threatened/Status
Exocarpos strictus	Pale-fruit cherry	No
Elymus scaber	Wheat grass	No
Medicargo sp.	Medick	No
Paspalidium jubiflorum	Warrego grass	No
#Cirsium vulgare	Spear Thistle	General Biosecurity Duty
#Chenopodium album	Fat hen	No
#Lycium ferocissimum	African Box thorn	WoNS, General Biosecurity Duty
#Medicargo sp.	Medick	No
#Phyla nodiflora	Lippia	No
#Lactuca serriola	Prickly lettuce	No
#Lycium ferocissimum Miers	African Boxthorn	Weed of National Significance
#Solanum sp.	Nightshade	No
#Cucumis myriocarpus	Prickly paddy melon	No
#Murrubium vulgare	Horehound	General Biosecurity Duty
#Malva sp.	Mallows	General Biosecurity Duty

3.1.5 Mitigation measures

- The tree retention zone (12x Diameter at Breast Height) of trees within and adjacent to the works footprint shall be appropriately fenced where it is practically possible to identify 'exclusion zones'
- No parking or stockpiling within the tree protection zone of any surrounding trees will occur for periods longer than seven days
- Excavating is limited to the movement of levee material into the existing borrow pits. No new ground disturbance is to occur
- Borrow material returned to borrow pits, to be compacted to match in with surrounding soil compaction
- Species profiles to be kept on-site of threatened species that have potential to in-habitat the site
- Implement a vehicle hygiene procedure and weed management plan.

3.2 Fauna

3.2.1 Threatened species

A database search was undertaken on 18 July 2024 of the NSW Environment and Heritage (BioNet Atlas of NSW Wildlife) and the Department of Climate Change, Energy, the Environment and Water websites to identify threatened species that may be found within the proposed project site as listed under the BC Act, and the *Environmental Protection and Biodiversity Act 1999* (EPBC Act). The *Fisheries Act 1994*, Schedules 4, 4A and 5 were also referred to in order to add to the list of potential threatened species that could be found at the project site.

A desktop search of the online databases was undertaken as follows:

- NSW Environment and Heritage BioNet Atlas of NSW Wildlife (refer to Appendix B)
- Department of Climate Change, Energy, the Environment and Water, Environmental Protection and Biodiversity Conservation (EPBC) Protected Matters Report (refer to Appendix B).

None of these species were recorded during site assessment on 22 July 2024.

Table 6 lists the fauna species with state and national conservation significance that have the potential to occur within the study area. The column in Table 6 headed 'comment', identifies the suitability of the site for the species, such as for habitat utilisation, nesting/burrowing requirements, food and water requirements and the vegetation type preferred by the species. Due to the extensive surrounding habitat and the disturbed nature of the study area, no 'critical habitat' for the species identified in Table 6 is expected to be impacted.

Table 6: Listed fauna species

Class	Common name	Species name	State	National	Comment
Bird	Australasian Bittern	*Botaurus poiciloptilus*	Endangered	Endangered	Potential habitat, no critical habitat to be impacted.
Bird	Australian Painted Snipe	*Rostratula australis*	Endangered	Endangered	Potential habitat, no critical habitat to be impacted.
Bird	Blue-winged Parrot	*Neophema chrysostoma*		Vulnerable	Potential habitat, no critical habitat to be impacted.
Bird	Brown Treecreeper (eastern subspecies)	*Climacteris picumnus victoriae*	Vulnerable		Potential habitat, no critical habitat to be impacted.
Bird	Curlew Sandpiper	*Calidris ferruginea*	Endangered	Critically Endangered	Potential habitat, no critical habitat to be impacted.
Bird	Diamond Firetail	*Stagonopleura guttata*	Vulnerable	Vulnerable	Potential habitat, no critical habitat to be impacted.
Bird	Grey Falcon	*Falco hypoleucos*	Vulnerable	Vulnerable	Potential habitat, no critical habitat to be impacted.
Bird	Major Mitchell's Cockatoo	*^Lophochroa leadbeateri*	Vulnerable	Endangered	Potential habitat, no critical habitat to be impacted.
Bird	Malleefowl	*Leipoa ocellata*	Endangered	Vulnerable	Potential habitat, no critical habitat to be impacted.
Bird	Painted Honeyeater	*Grantiella picta*	Vulnerable	Vulnerable	Potential habitat, no critical habitat to be impacted
Bird	Plains-wanderer	*Pedionomus torquatus*	Endangered	Critically Endangered	No habitat present, live in semi-arid, lowland native grasslands that typically occur on hard red-brown soils, >99% of records of Plains-wanderers in NSW over the past 30 years come from an area of the western Riverina
Bird	South-eastern Hooded Robin,	*Melanodryas cucullata cucullata*	Vulnerable	Endangered	Potential habitat, no critical habitat to be impacted
Bird	Southern Whiteface	*Aphelocephala leucopsis*		Vulnerable	Potential habitat, no critical habitat to be impacted
Bird	Superb Parrot	*Polytelis swainsonii*	Vulnerable	Vulnerable	Potential habitat, in the Riverina superb parrots nest in the hollows of large trees (dead or alive) mainly in tall riparian River Red Gum forest or woodland, feed in trees and understorey shrubs and on the ground and their diet consists mainly of grass seeds and herbaceous plant
Bird	Latham's Snipe	*Gallinago hardwickii*		Vulnerable	Potential habitat, no critical habitat to be impacted
Bird	Sharp-tailed Sandpiper	*Calidris acuminata*		Vulnerable	Potential habitat, no critical habitat to be impacted
Fish	Flathead Galaxia	*Galaxias rostratus*	Critically Endangered	Critically Endangered	No potential habitat,
Fish	Macquarie Perch	*Macquaria australasica*	Endangered	Endangered	No habitat to be impacted
Fish	Murray Cod	*Maccullochella peelii*		Vulnerable	No habitat to be impacted

Class	Common name	Species name	State	National	Comment
Fish	Murray Hardyhead	*Craterocephalus fluviatilis*	Endangered	Endangered	No habitat to be impacted
Fish	Silver Perch	*Bidyanus bidyanus*	Vulnerable	Critically Endangered	No habitat to be impacted
Fish	Trout Cod	*Maccullochella macquariensis*	Endangered	Endangered	No habitat to be impacted
Frog	Sloane's Froglet	*Crinia sloanei*	Endangered	Endangered	Potential habitat, no critical habitat to be impacted
Frog	Southern Bell Frog	*Litoria raniformis*	Endangered	Vulnerable	Potential habitat, no critical habitat to be impacted
Mammal	Corben's Long-eared Bat	*Nyctophilus corbeni*	Vulnerable	Vulnerable	No habitat to be impacted
Mammal	Koala	*Phascolarctos cinereus*	Endangered	Endangered	Potential habitat, no critical habitat to be impacted
Reptile	Grey Snake	*Hemiaspis damelii*	Endangered	Endangered	Potential habitat, no critical habitat to be impacted
Reptile	Pink-tailed Worm-lizard	*Aprasia parapulchella*	Vulnerable	Vulnerable	Potential habitat, no critical habitat to be impacted

Superb parrot should be assessed through an assessment of significance (Five-part test) once the final remediation method is known and as part of the Review of Environmental Factors.

3.2.2 Impact assessment

A general fauna assessment was conducted across the proposed area, including nearby areas of intact vegetation, by Rachel Allwright (B Sci). The assessment also focused on the access to the site and proposed works areas. It was noted that nests and hollows exist within the area proposed for the activity, especially in the larger mature River Red Gums.

The fauna assessment revealed no species; population or communities, which are of local, regional or state conservation significance (refer to Table 7). The number of species recorded on site was average for the timing of the assessment, weather conditions, quality of habitat foraging areas, food and water sources.

Table 7: Fauna species recorded on site

Scientific name	Common name	Threatened
Eolophus roseicapilla	Galah	No
Gymnorhina tibicen	Australian Magpie	No
Manorina flavigula	Yellow throated miner	No
Egretta novaehollandiae	White Faced Heron	No
Chenonetta jubata	Australian Wood Duck	No
Dacelo novaeguineae	Laughing Kookaburra	No
Trichoglossus moluccanus	Rainbow lorikeet	No
Dromaius novaehollandiae	Emu	

3.2.3 Mitigation measures

- ensure sediment fences are in place until the works are stable, during and following remediation works
- profiles of threatened species that have potential to inhabit the site will be kept on site
- any trench/excavation that is left open overnight fauna ramps (sticks or vegetation) are used to allow fauna to escape. Excavations should be checked in the morning and any trapped animals are removed and released in vegetation nearby.

4.0 Conclusion

4.1 Justification for the proposed project

The project has been proposed to rehabilitate the emergency levee that was constructed in response to the neighbouring landholder identifying potential floodwaters impacting on private property adjacent to and downstream of Little Forest.

The objective of this ECR was to assess the proposed works against applicable legislation in the areas of environmental requirements. Where additional permits are required, there are processes that need to be followed to allow the works to proceed.

The proposed remediation works are justified as it aims to remediate the disturbance footprint from construction of the Little Forest emergency levee. Impacts from the remediation works is assumed to be limited to understory vegetation, trees will not be impacted.

Further assessment will be undertaken as part of an REF for the proposed remediations works. This ECR did not identify any significant environmental constraints or State or Commonwealth threatened species that would be impacted by the proposed works. Negligible impact is expected to native species and mitigation measures, summarised below, should be adhered to further minimise impacts on the surrounding environment.

Summary of Mitigation Measures:

- The tree retention zone (12x Diameter at Breast Height) shall be appropriated fences and no parking or stockpiling will occur for periods longer than seven days
- Species profiles to be kept on-site of threatened species that have potential to in-habitat the site
- Implement a vehicle hygiene procedure and weed management plan
- Borrow material returned to borrow pits, to be compacted to match in with surrounding soil compaction
- Ensure sediment fences are in place until the works are stable, during and following remediation works
- Any trench/excavation that is left open overnight fauna ramps (sticks or vegetation) are used to allow fauna to escape. Excavations should be checked in the morning and any trapped animals are removed and released in vegetation nearby.

4.2 Principles of ESD

4.2.1 The precautionary principle

This preliminary biodiversity assessment has been prepared using the Ecologically Sustainable Development (ESD) precautionary principle. If threats are perceived that could lead to serious or irreversible environmental damage, then action such as not proceeding or modifying the project will occur to ensure that such threats do not exist.

4.2.2 Inter-generational equity

The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. The proposed works would not impact on natural or cultural features to a level that would

compromise the health, diversity or productivity of the environment for future generations.

4.2.3 Conservation of biological diversity and ecological integrity

The proposed remediation works would not impact on threatened species or their habitats. The assessment has identified that the concept would not impact significantly on the biological diversity and ecological integrity of the locality, rather contribute to the rehabilitation and improvement of the surrounding environment.

Furthermore, mitigation measures have been developed that would assist in protecting ecological habitats during the rehabilitation works.

4.2.4 Appropriate valuation of environmental factors

This principle relates to giving monetary values to environmental resources. The proposed works would assist in ensuring waste is removed from the site in a safe and economic way. These factors ensure that the development would conform to the principles of "ecologically sustainable development".

5.0 References

Bureau of Meteorology (2024)
[Online, accessed 18 July 2024]
http://www.bom.gov.au/climate/dwo/IDCJDW3037.latest.shtml

Costermans, Leon, (1983). *Native Trees and Shrubs of South Eastern Australia*. New Holland Ltd., Sydney.

DCCEEW (2024), *Protected Matters Search Tool*, Environment Protection and Biodiversity Conservation Act 1999, Retrieved 18 July 2024, from https://www.dcceew.gov.au/environment/epbc/protected-matters-search-tool

Department of Climate Change, Energy, the Environment and Water (DCCEEW)(2013), *Matters of National Environmental Significance. Significant Impact Guidelines 1.1.* Retrieved 25 September 2023

EPA Contaminated Lands website [accessed 18 July 2024]
http://www.epa.nsw.gov.au/prclmapp/searchresults.aspx?&LGA=5550&Suburb=&Notice=&Name=&Text=&DateFrom=&DateTo=

DPI (2008). Threatened Species Assessment Guidelines
[Online, accessed 18 July 2024] https://www.dpi.nsw.gov.au/fishing/species-protection/legislation-and-approvals/impact-assessment/info-sheet

NSW Department of Environment and Heritage [accessed 18 July 2024]
http://www.environment.nsw.gov.au/awssapp/MySearches.aspx

NSW Department of Planning and Environment, NSW Plant Community Type Classification [accessed 18 July 2024],
https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity/nsw-bionet/nsw-plant-community-type-classification

NSW Department of Primary Industries website [accessed 24 July 2024]
http://www.dpi.nsw.gov.au/biosecurity/weeds

NSW State Heritage website [accessed 18 July 2024] http://www.heritage.nsw.gov.au

NSW State Environmental Planning Policy (Transport and Infrastructure) 2021 [accessed 19 July 2024]

Office of Environment and Heritage, (2012). *Threatened Species Assessment Guidelines: The Assessment of Significance*, Department of Environment and Heritage, Sydney.
http://www.environment.nsw.gov.au/threatenedspecies/

Department of Climate Change, Energy, the Environment and Water (2023) [Online, accessed 18 July 2024]
http://www.environment.gov.au/biodiversity/threatened/

Office of Environment and Heritage (NSW) (2018) BioNet Atlas of NSW Wildlife, [Online, accessed 18 July 2024
https://atlas.bionet.nsw.gov.au/UI_Modules/ATLAS_/AtlasSearch.aspx

Appendix A: Map Series

greenedge environmental

LEGEND

Site Extent

N

0 500 1,000 1,500 2,000 m

Scale 1:50,000 @ A4

Coordinate System: GDA 1994 MGA Zone 54

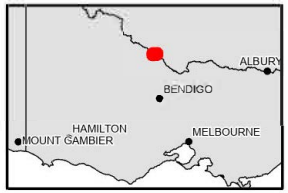


Figure **1**

Little Forest Levee in Barham, NSW
Location Map

greenedge environmental

Figure **2**

Little Forest Levee in Barham, NSW
Site Map

LEGEND

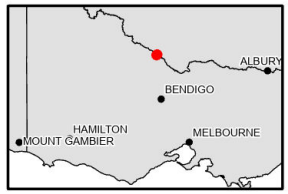
Study Area

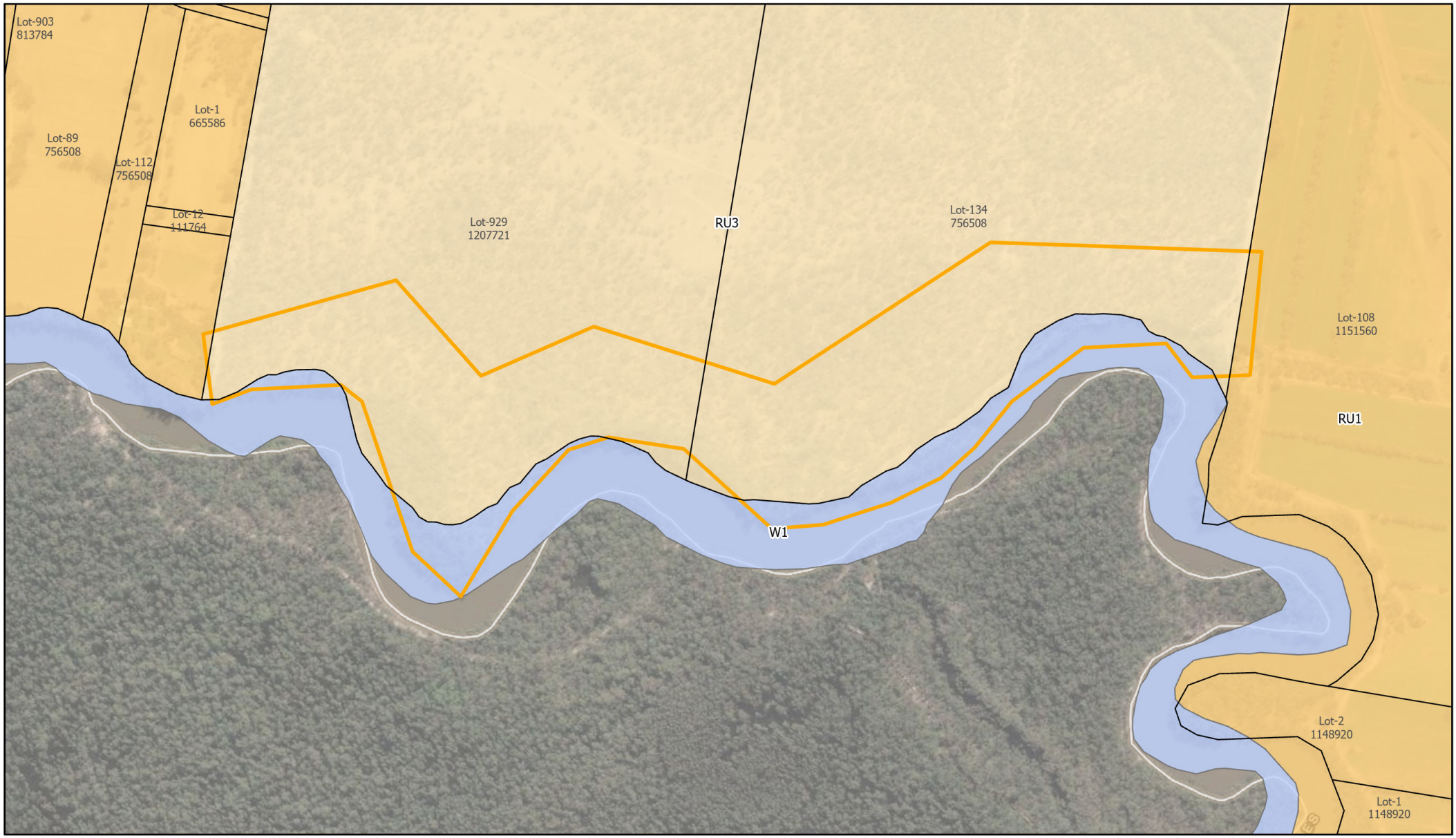
N

0 100 200 300 400 m

Scale 1:8,500 @ A4

Coordinate System: GDA 1994 MGA Zone 54





greenedge environmental

Figure **3**

Little Forest Levee in Barham, NSW
Cadastre and Zoning Map

LEGEND

- Study Area
- Lot

Zoning

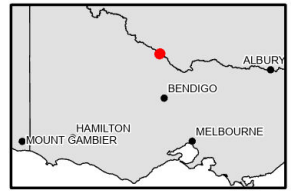
- RU1
- RU3
- W1

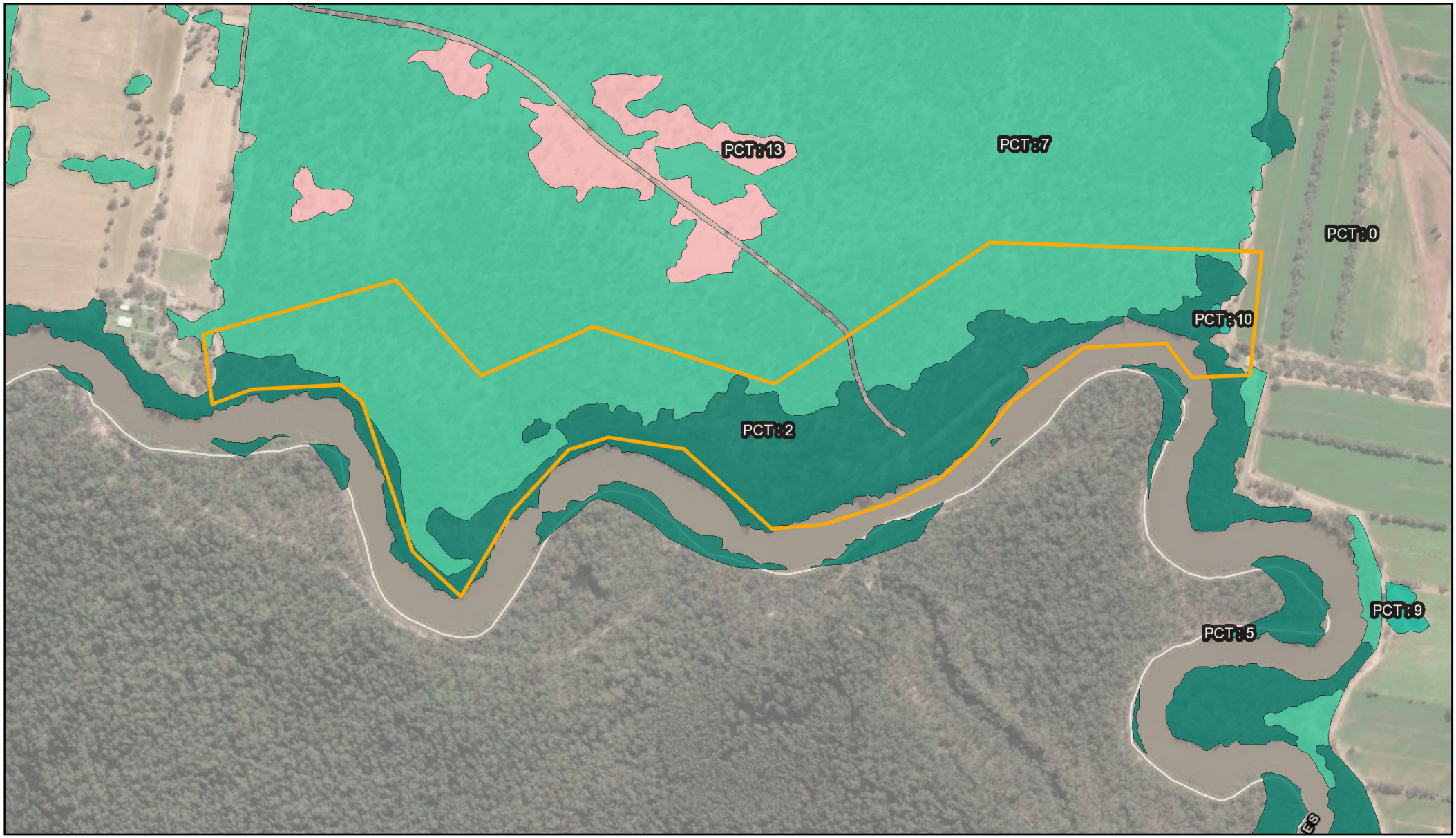
N

0 100 200 300 400 m

Scale 1:8,500 @ A4

Coordinate System: GDA 1994 MGA Zone 54





greenedge environmental

LEGEND

Study Area

N

0 100 200 300 400 m

Scale 1:8,500 @ A4

Coordinate System: GDA 1994 MGA Zone 54

ALBURY
BENDIGO
HAMILTON
MOUNT GAMBIER
MELBOURNE

Figure **4**

Little Forest Levee in Barham, NSW
PCTs Map

Appendix B: Threatened species searches

Data from the BioNet Atlas website, which holds records from a number of custodians. The data are only indicative and cannot be considered a comprehensive inventory, and may contain errors and omissions. Species listed under the Sensitive Species Data Policy may have their locations denatured (^ rounded to 0.1°C; ^^ rounded to 0.01°C. Copyright the State of NSW through the Department of Planning, Industry and Environment. Search criteria : Public Report of all Valid Records of Entities in selected area [North: -35.62 West: 144.13 East: 144.23 South: -35.72] returned a total of 1,445 records of 338 species.
Report generated on 18/07/2024 9:13 PM

Kingdom	Class	Family	Species Code	Scientific Name	Exotic	Common Name	NSW status	Comm. status	Records	Info
Animalia	Aves	Accipitridae	0219	*Circus approximans*		Swamp Harrier	P		2	
Animalia	Aves	Accipitridae	0226	*Haliaeetus leucogaster*		White-bellied Sea-Eagle	V,P		1	
Animalia	Aves	Burhinidae	0174	*Burhinus grallarius*		Bush Stone-curlew	E1,P		5	
Animalia	Aves	Climacteridae	8127	*Climacteris picumnus victoriae*		Brown Treecreeper (eastern subspecies)	V,P	V	5	
Animalia	Aves	Meliphagidae	0603	*^Anthochaera phrygia*		Regent Honeyeater	E4A,P,2	CE	2	
Animalia	Aves	Pomatostomidae	8388	*Pomatostomus temporalis temporalis*		Grey-crowned Babbler (eastern subspecies)	V,P		2	
Animalia	Aves	Petroicidae	0380	*Petroica boodang*		Scarlet Robin	V,P		1	
Animalia	Aves	Petroicidae	0382	*Petroica phoenicea*		Flame Robin	V,P		3	
Plantae	Flora	Myrtaceae	6961	*Eucalyptus leucoxylon subsp. pruinosa*		Yellow Gum	V		4	

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 18-Jul-2024

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	7
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	6
Listed Threatened Species:	42
Listed Migratory Species:	9

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	16
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	7
Regional Forest Agreements:	None
Nationally Important Wetlands:	2
EPBC Act Referrals:	7
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Banrock station wetland complex	300 - 400km upstream from Ramsar site	In feature area
Gunbower forest	Within Ramsar site	In feature area
Hattah-kulkyne lakes	150 - 200km upstream from Ramsar site	In feature area
Kerang wetlands	Within 10km of Ramsar site	In buffer area only
Nsw central murray state forests	Within Ramsar site	In feature area
Riverland	300 - 400km upstream from Ramsar site	In feature area
The coorong, and lakes alexandrina and albert wetland	300 - 400km upstream from Ramsar site	In feature area

Listed Threatened Ecological Communities			[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions	Endangered	Community may occur within area	In feature area
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Community likely to occur within area	In feature area
Natural Grasslands of the Murray Valley Plains	Critically Endangered	Community likely to occur within area	In feature area
Plains mallee box woodlands of the Murray Darling Depression, Riverina and Naracoorte Coastal Plain Bioregions	Critically Endangered	Community may occur within area	In feature area

Community Name	Threatened Category	Presence Text	Buffer Status
Weeping Myall Woodlands	Endangered	Community may occur within area	In feature area
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Community may occur within area	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anthochaera phrygia Regent Honeyeater [82338]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat known to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Climacteris picumnus victoriae Brown Treecreeper (south-eastern) [67062]	Vulnerable	Species or species habitat known to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lathamus discolor Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area	In feature area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat may occur within area	In feature area
Lophochroa leadbeateri leadbeateri Major Mitchell's Cockatoo (eastern), Eastern Major Mitchell's Cockatoo, Pink Cockatoo (eastern) [82926]	Endangered	Species or species habitat likely to occur within area	In feature area
Melanodryas cucullata cucullata South-eastern Hooded Robin, Hooded Robin (south-eastern) [67093]	Endangered	Species or species habitat known to occur within area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Pedionomus torquatus Plains-wanderer [906]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Polytelis swainsonii Superb Parrot [738]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
Stagonopleura guttata Diamond Firetail [59398]	Vulnerable	Species or species habitat known to occur within area	In feature area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area
FISH			
Bidyanus bidyanus Silver Perch, Bidyan [76155]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Craterocephalus fluviatilis](#) Murray Hardyhead [56791]	Endangered	Species or species habitat may occur within area	In feature area
[Galaxias rostratus](#) Flathead Galaxias, Beaked Minnow, Flat-headed Galaxias, Flat-headed Jollytail, Flat-headed Minnow [84745]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Maccullochella macquariensis](#) Trout Cod [26171]	Endangered	Species or species habitat may occur within area	In feature area
[Maccullochella peelii](#) Murray Cod [66633]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Macquaria australasica](#) Macquarie Perch [66632]	Endangered	Species or species habitat may occur within area	In feature area
FROG			
[Crinia sloanei](#) Sloane's Froglet [59151]	Endangered	Species or species habitat may occur within area	In feature area
[Litoria raniformis](#) Southern Bell Frog,, Growling Grass Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat known to occur within area	In feature area
MAMMAL			
[Nyctophilus corbeni](#) Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area	In feature area
[Phascolarctos cinereus (combined populations of Qld, NSW and the ACT)](#) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Endangered	Species or species habitat known to occur within area	In feature area
PLANT			
[Amphibromus fluitans](#) River Swamp Wallaby-grass, Floating Swamp Wallaby-grass [19215]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Austrostipa metatoris](#) [66704]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Austrostipa wakoolica](#) [66623]	Endangered	Species or species habitat likely to occur within area	In feature area
[Lepidium aschersonii](#) Spiny Peppercress [10976]	Vulnerable	Species or species habitat may occur within area	In feature area
[Lepidium monoplocoides](#) Winged Pepper-cress [9190]	Endangered	Species or species habitat known to occur within area	In feature area
[Maireana cheelii](#) Chariot Wheels [8008]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Myriophyllum porcatum](#) Ridged Water-milfoil [19919]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Sclerolaena napiformis](#) Turnip Copperburr [11742]	Endangered	Species or species habitat may occur within area	In feature area
[Senecio behrianus](#) Stiff Groundsel, Behr's Groundsel [14030]	Endangered	Translocated population known to occur within area	In feature area
[Swainsona murrayana](#) Slender Darling-pea, Slender Swainson, Murray Swainson-pea [6765]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Swainsona plagiotropis](#) Red Darling-pea, Red Swainson-pea [10804]	Vulnerable	Species or species habitat may occur within area	In feature area
REPTILE			
[Aprasia parapulchella](#) Pink-tailed Worm-lizard, Pink-tailed Legless Lizard [1665]	Vulnerable	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Hemiaspis damelii](#) Grey Snake [1179]	Endangered	Species or species habitat may occur within area	In feature area

Listed Migratory Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
Migratory Terrestrial Species			
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat known to occur within area	In feature area
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State	Buffer Status
Communications, Information Technology and the Arts - Telstra Corporation Limited		
Commonwealth Land - Australian Telecommunications Commission [15352]	NSW	In buffer area only

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat may occur within area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Breeding likely to occur within area overfly marine area	In feature area
Calidris acuminata			
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat known to occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Calidris melanotos			
Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area	In feature area
Chalcites osculans as Chrysococcyx osculans			
Black-eared Cuckoo [83425]		Species or species habitat likely to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Gallinago hardwickii](#) Latham's Snipe, Japanese Snipe [863]	Vulnerable	Species or species habitat may occur within area overfly marine area	In feature area
[Haliaeetus leucogaster](#) White-bellied Sea-Eagle [943]		Breeding known to occur within area	In feature area
[Lathamus discolor](#) Swift Parrot [744]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
[Merops ornatus](#) Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
[Motacilla flava](#) Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area	In feature area
[Myiagra cyanoleuca](#) Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
[Neophema chrysostoma](#) Blue-winged Parrot [726]	Vulnerable	Species or species habitat likely to occur within area overfly marine area	In feature area
[Rostratula australis as Rostratula benghalensis (sensu lato)](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area

Extra Information

State and Territory Reserves [Resource Information]

Protected Area Name	Reserve Type	State	Buffer Status
Gannawarra Red Gum Swamp N.C.R.	Natural Features Reserve	VIC	In buffer area only
Harts Swamp W.R.	Natural Features Reserve	VIC	In buffer area only
McDonald Swamp W.R	Natural Features Reserve	VIC	In buffer area only
Murrabit B.R	Natural Features Reserve	VIC	In buffer area only
Pollack	Flora Reserve	NSW	In buffer area only
River Murray Reserve	Natural Features Reserve	VIC	In feature area
River Murray Reserve (non-PV)	Natural Features Reserve	VIC	In buffer area only

Nationally Important Wetlands [Resource Information]

Wetland Name	State	Buffer Status
Gunbower Island	VIC	In feature area
Koondrook and Perricoota Forests	NSW	In buffer area only

EPBC Act Referrals [Resource Information]

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Guttrum and Benwell Floodplain Restoration Project, VIC	2020/8754		Assessment	In buffer area only
Controlled action				
The Modified Operation of the Goulburn Murray Irrigation District	2009/5123	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Flooding Enhancement of Gunbower Forest	2005/1994	Not Controlled Action	Completed	In feature area
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed	In feature area
Koondrook-Pericoota Forest Flood Enhancement Works	2009/5115	Not Controlled Action	Completed	In buffer area only

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Not controlled action (particular manner)				
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval	In feature area

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

© Commonwealth of Australia
Department of Climate Change, Energy, the Environment and Water
GPO Box 3090
Canberra ACT 2601 Australia
+61 2 6274 1111

Appendix B Aboriginal Cultural Heritage Assessment Report

NSW Public Works

Little Forest Levee Remediation

Aboriginal Cultural Heritage Assessment Report

Barham, NSW

Report Number: P-FY20242778-PWO-ENV-RP-002-A3

December 2024

Prepared for:

murray river council

Report Number: P-FY20242778-PWO-ENV-RP-002-A3

P-FY20242778-PWO-ENV-RP-002-A3_LittleForestACHAR_FINAL.docx

Template Rev 6 Feb 2023

Document control

Version	Author(s)	Reviewer	Approved for issue	
			Name	Date
0 (draft)	A Cameron	Liz Mathieson	Liz Mathieson	24/10/2024
1 (client review)	A Cameron	J. Hore	Liz Mathieson	24/10/2024
2 (RAP review)	A Cameron	RAPs	Liz Mathieson	7/11/2024
3 (final)	A Cameron	Liz Mathieson	Lis Mathieson	11/12/2024

Dr Alyce Cameron

Archaeologist

NSW Public Works, 4PSQ, 12 Darcy Street, Parramatta NSW 2150

Locked Bag 5022, Parramatta NSW 2124

M 0488 316 037

E alyce.cameron@pwa.nsw.gov.au | **W** www.publicworks.nsw.gov.au

Cover photo: View north of the emergency levee and associated borrow pit at Little Forest.
Source: NSW Public Works, NSW Department of Primary Industries & Regional Development.

© Crown in right of the State of NSW through the Department of Primary Industries & Regional Development 2024.

This publication is copyright and may incorporate material to which an individual maintains moral rights. Other than for the purposes of and subject to the conditions prescribed under the Copyright Act 1968, no part of it may, in any form or by any means, be reproduced, altered, manipulated, stored in a retrieval system, or transmitted without prior written consent of the copyright owner or owner of moral rights. Any enquiries relating to consents and use of this publication, including by NSW Government agencies, must be addressed to NSW Public Works.

While this document has been formulated with all due care, the State of New South Wales does not warrant or represent that the document is free from errors or omissions, or that it is exhaustive. The State of NSW disclaims, to the extent permitted by law, all warranties, representations, or endorsements, express or implied, with regard to this document including but not limited to, all implied warranties of merchantability, fitness for a particular purpose, or non-infringement. The State of NSW further does not warrant or accept any liability in relation to the quality or accuracy of this document and no responsibility is accepted by the State of NSW for the accuracy, currency, reliability, and correctness of any information in this document provided by the client or third parties.

All references to NSW Public Works are taken to be references to NSW Department of Primary Industries & Regional Development for and on behalf of the State of New South Wales.

Executive Summary

During a peak flood event in 2022, an emergency levee was constructed adjacent to the Murray River riverbank within Little Forest (part of Koondrook State Forest), Barham, NSW. The purpose of the emergency levee was to prevent floodwaters entering Little Forest in response to a neighbouring landholder identifying potential floodwater threats. The emergency levee measures approximately 1.5 kilometres (km) in length and is approximately 1 metre (m) in height and 1.5 m in width. The levee was authorised under the emergency flood powers of the State Emergency Services (SES) and the Murray River Council.

In March 2023 the Joint Indigenous Group (JIG) were informed Aboriginal heritage may have been disturbed during the construction of the emergency levee and were requested to undertake an initial ground survey to determine if any Aboriginal heritage had been disturbed. An initial ground survey of the levee and associated excavated/disturbed area was conducted by JIG heritage officers from Moama & Deniliquin Local Aboriginal Land Councils (LALCs). Twenty-three locations were identified where Aboriginal heritage had been disturbed.

At the request of Moama Local Aboriginal Land Council and its members in consultation with the JIG, Murray River Council is proposing to remove the Little Forest emergency levee and remediate the Aboriginal Cultural Heritage sites which were disturbed during the levee's construction.

The purpose of this Aboriginal Cultural Heritage Assessment (ACHA) is to help facilitate the remediation of the Aboriginal Cultural Heritage sites by Moama LALC which were disturbed during the construction of the emergency flood levee. In April 2024, Heritage NSW advised that in order to remediate the sites an Aboriginal Heritage Impact Permit (AHIP) would be required.

The ACHA study area consists of the emergency flood levee and locations where Aboriginal Cultural Heritage sites were disturbed from its construction.

The survey was undertaken by Dr Alyce Cameron (Archaeologist, NSW PW) and representatives from Moama Local Aboriginal Land Council (LALC) on Tuesday 10 September 2024:

- Patrick Kerr
- Montell Kerr
- Jonathan Verotage

The surveyors focused on areas of ground surface visible along and adjacent to the emergency levee bank. This included areas from where soil had been excavated to create the levee, as well as the adjacent undisturbed ground surface.

The pedestrian survey resulted in relocating the twenty-two locations where Aboriginal shell midden or earth mound material/s was identified in March 2023 (Hutton 2023). In addition, further locations of Aboriginal cultural materials were identified during the survey.

The March 2023 site information has been collated with the information from this ACHA survey in order to be submitted to AHIMS. In total there are ten discrete site extents which

consist of a variety of archaeological features such as visible shell and midden material, earth mound materials (baked clay, charcoal), and potential ancestral burials.

A preliminary draft remediation methodology for the levee and sites has been developed in consultation with Moama LALC and the Traditional Owners (TOs). This is presented in Appendix A and forms the basis of the proposed works, as well as the required AHIP.

The proposed works will directly harm ten sites: AHIMS 5-4-1158 to 54-4-1167. However, as these sites have already been extensively disturbed through the construction of the emergency levee, and the works are to reinstate the area and sites back to a stable condition, additional harm to the sites and associated cultural materials and features is negligible in comparison to the original impacts.

In order to minimise any further impacts to subsurface deposits which are likely through the whole area, only small sized excavators (three to six-tonne) and light vehicles (4WDs) will be used during the proposed works (see Appendix A). There will be no additional ground disturbance, as the borrow pits will be refilled using the deconstructed emergency levee bank. Plant and vehicle movement across undisturbed areas will also be minimised during the works as borrow pit locations are either directly adjacent to the levee bank or within 1–5 m from the base of the levee.

The following recommendations are made based on the proposed impacts to sites and regarding the legal requirements under the terms of the NPW Act whereby it is illegal to damage, deface or destroy an Aboriginal place or object without the prior written consent of Heritage NSW. The recommendations also account for the findings of the current investigation detailed in this report for the study area, and where expressed the interests of the Aboriginal community in protection and management of their Cultural Heritage.

Recommendations concerning Aboriginal cultural values within the study area are as follows:

1. This assessment is confined to within the assessed study area. Should the parameters of the proposed work extend beyond these assessed locations, then further archaeological assessment may be required.
2. An AHIP is required for ten Aboriginal sites to be impacted by the project (AHIMS 5-4-1158 to 54-4-1167). Further details regarding the AHIP application are provided in Section 10.
3. The levee and site remediation methodology (Appendix A) developed during this assessment should be implemented as the proposed works.
4. Construction staff should undergo cultural heritage induction and awareness training to ensure they recognise Aboriginal objects and are aware of the legislative protection of Aboriginal objects under the NPW Act and the contents of the AHIP and the levee and site remediation methodology (as detailed in Appendix A). The RAPs should be provided the opportunity to review and provide feedback on the induction and training materials prior to the induction occurring.

Contents

Executive Summary iii

Glossary ix

Abbreviations and Notations xi

1. Introduction 1
1.1 Purpose of the proposal 1
1.2 The study area 1
1.3 The proposed works 1

2. Statutory Considerations 4
2.1 State legislation 4
2.1.1 Heritage Act 1977 4
2.1.2 National Parks and Wildlife Act 1974 4
2.1.3 Environmental Planning and Assessment Act 1979 (EP&A Act) 4
2.2 Commonwealth legislation 5
2.2.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) 5
2.2.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSHIP Act) 5
2.2.3 Protection of Movable Cultural Heritage Act 1986 5
2.3 Applicability to assessment 5
2.4 Report compliance 5
2.4.1 Report authorship 7

3. Environmental context 8
3.1 Topography and hydrology 8
3.2 Geology and soils 8
3.3 Vegetation 8
3.4 Past Land use 9
3.5 Climate 9
3.6 Conclusion 9

4. Aboriginal Consultation 16
4.1 Stage 1 16
4.2 Stage 2/3 17
4.3 Survey fieldwork 17
4.4 Post fieldwork & project updates 18
4.5 Stage 4 19

5. Cultural values 20
5.1 Intellectual property 20
5.2 Classified / restricted information. 20
5.3 Cultural values identified during the assessment. 20

6. Archaeological context 22
6.1 Ethnohistory 22
6.2 Database searches 23

6.3 Previous Assessments 25
6.3.1 Regional context – the central Murray 25
6.3.2 Local context 26
6.3.3 Little Forest 28
6.4 Predictive model 29

7. Field Survey 31
7.1 Survey methodology 31
7.2 Survey coverage 32
7.3 Survey results 35
7.3.1 Recorded sites 37
7.4 Discussion 60

8. Significance assessment 61
8.1 Social and cultural values 61
8.2 Historic values 62
8.3 Scientific and archaeological values 62
8.4 Aesthetic values 62
8.5 Assessing significance 63

9. Impact assessment 64
9.1 Mitigation and avoiding harm 64
9.2 Conservation opportunities 64
9.3 Ecologically Sustainable Development 65
9.4 Applying ESD to the project 65
9.5 Assessing project impacts 66

10. Aboriginal Heritage Impact Permit 69
10.1 Harm to certain Aboriginal objects through the proposed works and community collection 71
10.2 Short term management of Aboriginal objects 71
10.3 Long term management of Aboriginal objects 71
10.4 Contingency protocols for unanticipated finds 72

11. Recommendations 73

12. References 74

Appendix A Levee & site remediation methodology

Appendix B ACHCR documentation

Appendix C Extensive AHIMS search

Appendix D AHIP application detailed maps & GPS coordinates

Tables

Table 2-1: Requirements of the Code of Practice. 6
Table 6-1: AHIMS site types. 23
Table 7-1: Effective survey coverage of the study area 33
Table 7-2: Landform summary. 33
Table 7-3: Summary of newly recorded sites. 35
Table 8-1: Summary of significance assessment. 63
Table 9-1: Impact assessment. 67
Table 10-1: Cadastral information for AHIP application. 69

Figures

Figure 1-1: Location of study area 2
Figure 1-2: Aerial of study area. 3
Figure 3-1: Mitchell's landscape (2002) and the study area. 10
Figure 3-2: Topography and hydrology of the study area. 11
Figure 3-3: Soil landscapes and the study area. 12
Figure 3-4: Historical aerial from 1961. 13
Figure 3-5: Historical aerial from 1975. 14
Figure 3-6: Historical aerial from 1991. 15
Figure 6-1: AHIMS results and the study area. 24
Figure 7-1: Survey units and pedestrian transects. 34
Figure 7-2: Location of sites recorded during the pedestrian survey. 36
Figure 7-3: Site map of LF MM1 & MM2. 39
Figure 7-4: Site map of LF MM3. 41
Figure 7-5: Site map of LF MM4. 43
Figure 7-6: Site map of LF MM5. 45
Figure 7-7: Site map of LF MM6, MM7 & MM8. 47
Figure 7-8: Site map of LF SM1, MM9–MM16. 50
Figure 7-9: Site map of LF MM17. 52
Figure 7-10: Site map of LF MM18 & MM19. 54
Figure 7-11: Site map of LF SM2, SM3 and MM20. 57
Figure 7-12: Site map of LF PB1. 59
Figure 9-1: Proposed works area. 68
Figure 10-1: AHIP application area 70

Photos

Photo 7-1: View northwest of LF MM1 & MM2 location from eastern extent of site. 38
Photo 7-2: View west of LF MM1 & MM2 location from centre of visible site extent. 38
Photo 7-3: Detail of mussel shell fragment recorded on levee at LF MM1 & MM2. 38

Photo 7-4: View of borrow pit at LF MM1 & MM2 where concentration of shell fragments present. 38
Photo 7-5: View west of potential ancestral burial location in borrow pit adjacent to north of levee at LF MM1 & MM2. 38
Photo 7-6: Detail of potential ancestral burial location in borrow pit adjacent to north of levee at LF MM1 & MM2 38
Photo 7-7: View west of LF MM3 location. 40
Photo 7-8: View north of LF MM3 location and borrow pit inside it 40
Photo 7-9: Detail of mussel shell concentration recorded at LF MM3 41
Photo 7-10: Detail of mussel shell fragment at LF MM3. 41
Photo 7-11: View northeast of LF MM4 location. 42
Photo 7-12: View southeast of LF MM4 location 42
Photo 7-13: Detail of mussel shell fragments recorded at LF MM4. 43
Photo 7-14: View southeast of borrow pit with shell midden remnants recorded at LF MM4 43
Photo 7-19: View west of LF MM5 location. 44
Photo 7-20: View northeast of LF MM5 location. 44
Photo 7-21: Detail of snail shell recorded at LF MM5. 45
Photo 7-22: Detail of mussel shell fragments recorded at LF MM5. 45
Photo 7-23: View south across visible site extent of LF MM6, MM7 & MM8, 46
Photo 7-24: View southwest of LF MM6, MM7 & MM8 location. 46
Photo 7-25: View northwest across LF MM6, MM7 & MM8 showing levee and borrow pit on south of levee 47
Photo 7-26: Detail of mussel shell fragments recorded at LF MM6, MM7 & MM8. 47
Photo 7-27: View west of LF SM1, MM9–MM16 location from eastern extent. 49
Photo 7-28: View east across centre of LF SM1, MM9–MM16 visible site extent. 49
Photo 7-29: Detail of mussel shell recorded at LF SM1, MM9–MM16. 49
Photo 7-30: Detail of snail shell recorded at LF SM1, MM9–MM16. 49
Photo 7-31: View west of LF MM17 location 51
Photo 7-32: View southwest of LF MM17 location along levee alignment. 51
Photo 7-33: View south across visible extent of LF MM17 52
Photo 7-34: Detail of shell deposit in an borrow pit at LF MM17. 52
Photo 7-35: View west of LF MM18 & MM19 location from eastern visible site extent. 53
Photo 7-36: View northeast of LF MM18 & MM19 location from western visible site extent. 53
Photo 7-37: View southeast towards Murray River across visible site extent at LF MM18 & MM19. 54
Photo 7-38: Detail of shell fragment recorded at LF MM18 & MM19 54
Photo 7-39: View east of LF SM2, SM3 and MM20 location along south side main levee. 56
Photo 7-40: View west of LF SM2, SM3 and MM20 location along north side of main levee. 56
Photo 7-41: Detail of clay heat retainer at LF SM2, SM3 and MM20. 56
Photo 7-42: Detail of shell fragments recorded at LF SM2, SM3 and MM20. 56
Photo 7-15: View northeast across LF PB1 location 58
Photo 7-16: View southwest across LF PB1 location. 58
Photo 7-17: Detail of wall where bone fragments recorded at LF PB1. 59
Photo 7-18: Detail of charcoal and baked clay at LF PB1 59

Glossary

Term	Definition
Aboriginal object/s	Aboriginal object/s are any deposit, object, or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains. Defined by the *National Parks and Wildlife Act 1974* (NPW Act).
Aboriginal Place	An Aboriginal Place is a location declared to be an Aboriginal Place under Section 84 of the *National Parks and Wildlife Act* by the Minister administering the NPW Act and by order published in the Gazette. The Aboriginal Place is of special significance with respect to Aboriginal culture and may or may not contain Aboriginal objects.
Aboriginal site	The location of one or more Aboriginal objects and material traces of past Aboriginal land use.
Alluvial landscape	Soil landscapes formed by deposition along rivers and streams. Soil parent material is usually deep, sorted and often stratified or previously stratified alluvium Alluvial soil landscapes include current floodplains and alluvial deposits. Typical landform elements include those found on meander plains including bars, back plains, scrolls, scroll plains, flood-outs, oxbows, levees, lower terraces, prior and current stream channels.
Alluvium / alluvial soils	Alluvium is a loose clay, silt, sand, or gravel that has been deposited by running water. Alluvium is typically geologically young and not consolidated into solid rock.
Artefact scatter	An artefact scatter consists of two or more stone artefacts located within 50 metres of each other. Artefact scatters can be located on the ground surface or as subsurface deposits. Sometimes recorded in association with other archaeological features such as hearths, modified trees or PADs.
Cenozoic	The Cenozoic is Earth's current geological era, representing the last 66 million years of Earth's history. It is characterized by the dominance of mammals, birds, conifers, and angiosperms. It is the latest of three geological eras, preceded by the Mesozoic and Palaeozoic.
Earth mounds (ovens)	Earth mounds are often a circular or oval shape with lumps of burnt clay or stone present as well as sometimes small fragments of charcoal. Sometimes shells, animal bones, stone tools and human burials will also be present. Earth mounds used as ovens were formed through the repeated use of the mound for cooking purposes.

Term	Definition
Isolated find	A stone artefact located by itself, usually at least 50 metres from any other Aboriginal archaeological feature (i.e., an artefact scatter, modified tree, quarry location, etc.).
Modified tree	A modified tree has been culturally modified through scarring, carving or the deliberate removal by traditional methods of the bark or wood from a tree, or the deliberate modification by traditional methods of the wood of the tree.
National Parks and Wildlife Act (NPW Act):	The NSW legislation which covers the conservation of the natural and cultural heritage of the state of New South Wales; fostering public appreciation, understanding and enjoyment of its natural and cultural heritage; and managing any lands reserved for the purposes of conserving and fostering public appreciation and enjoyment of its natural and/or cultural heritage.
Potential archaeological deposit (PAD)	An area where subsurface stone artefacts and/or other cultural features are likely to occur.
Quaternary	The current and most recent geologic era which began 2.58 million years ago. It is one of three periods of the Cenozoic Era and follows on from the Neogene Period.
Regolith	A region of loose unconsolidated rock and dust that sits atop a layer of bedrock.
Shell midden	Shell middens contain the remains of shellfish eaten by Aboriginal people. They can consist of the shells from a single meal, or many different meals eaten in the same location over many years. Shell middens can also contain the remains of a more varied diet including fish and mammals. Charcoal and hearth stones/heat retainers from fires as well as other cultural items such as stone and bone artefacts can also be present.

Abbreviations and Notations

Item	Description
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHCRs	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
BCD	Biodiversity Conservation Division. Formerly OEH, now HNSW.
DECCW	Department of Environment, Climate Change and Water
DPIRD	Department of Primary Industries and Regional Development New South Wales
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
FC	NSW Forestry Corporation
HNSW	Heritage NSW. Formerly OEH and BCD.
JIG	Joint Indigenous Group
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
MLALC	Moama Local Aboriginal Land Council
MRC	Murray River Council
NPW Act	National Parks and Wildlife Act 1974
NSW	New South Wales
NSW PW	NSW Public Works
OEH	Office of Environment and Heritage. Was BCD, now HNSW.
RAPs	Registered Aboriginal Parties
REF	Review of Environmental Factors
SES	NSW State Emergency Servies
TOs	Traditional Owners

1. Introduction

1.1 Purpose of the proposal

During a peak flood event in 2022, an emergency levee was constructed adjacent to the Murray River riverbank within Little Forest (part of Koondrook State Forest), Barham, NSW. The purpose of the emergency levee was to prevent floodwaters entering Little Forest in response to a neighbouring landholder identifying potential floodwater threats. The emergency levee measures approximately 1.5 kilometres (km) in length and is approximately 1 metre (m) in height and 1.5 m in width. The levee was authorised under the emergency flood powers of the State Emergency Services (SES) and the Murray River Council.

In March 2023 the Joint Indigenous Group (JIG) were informed Aboriginal heritage may have been disturbed during the construction of the emergency levee and were requested to undertake an initial ground survey to determine if any Aboriginal heritage had been disturbed. An initial ground survey of the levee and associated excavated/disturbed area was conducted by JIG heritage officers from Moama & Deniliquin Local Aboriginal Land Councils (LALCs). Twenty-three locations were identified where Aboriginal heritage had been disturbed.

At the request of Moama Local Aboriginal Land Council and its members in consultation with the JIG, Murray River Council is proposing to remove the Little Forest emergency levee and remediate the Aboriginal Cultural Heritage sites which were disturbed during the levee's construction.

The purpose of this Aboriginal Cultural Heritage Assessment (ACHA) is to help facilitate the remediation of the Aboriginal Cultural Heritage sites by Moama LALC which were disturbed during the construction of the emergency flood levee. In April 2024, Heritage NSW advised that in order to remediate the sites an Aboriginal Heritage Impact Permit (AHIP) would be required.

1.2 The study area

The study area is in the Murray River Local Government Area (LGA) and extends along the southern boundary of Little Forest approximately 6 km southeast of the town centre of Barham. The location of the study area is shown in Figure 1-1.

The study area consists of the emergency flood levee and locations where Aboriginal Cultural Heritage sites were disturbed from its construction. An aerial of the study area is provided in Figure 1-2.

1.3 The proposed works

The proposed works for the remediation of the emergency flood levee and Aboriginal Cultural Heritage sites is part of this ACHA. In order to remediate the sites an AHIP is required. Formulating a methodology for these remediation works in consultation with the Registered Aboriginal Parties (RAPs) and other stakeholders is a key part of this ACHA.

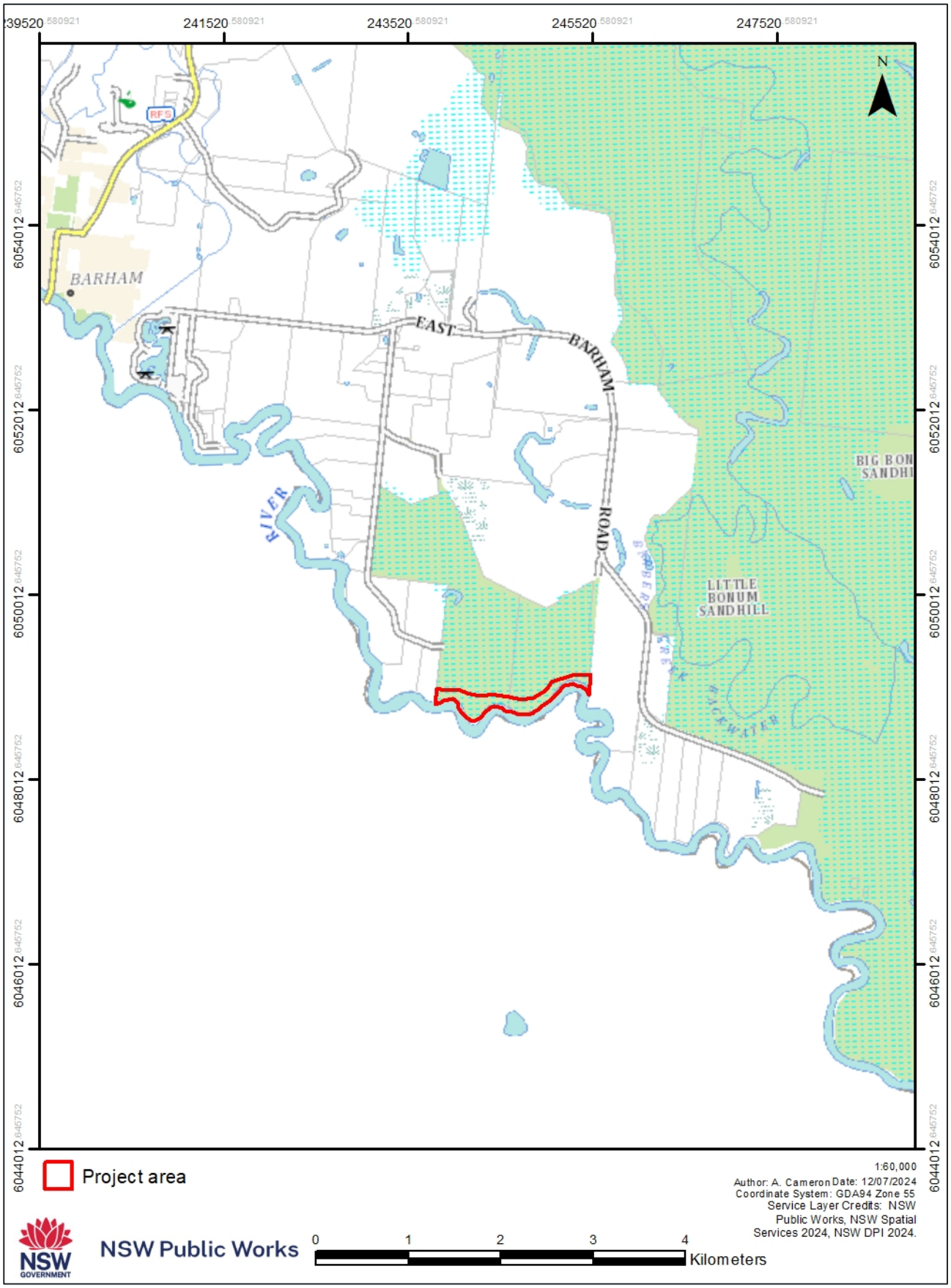


Figure 1-1: Location of study area

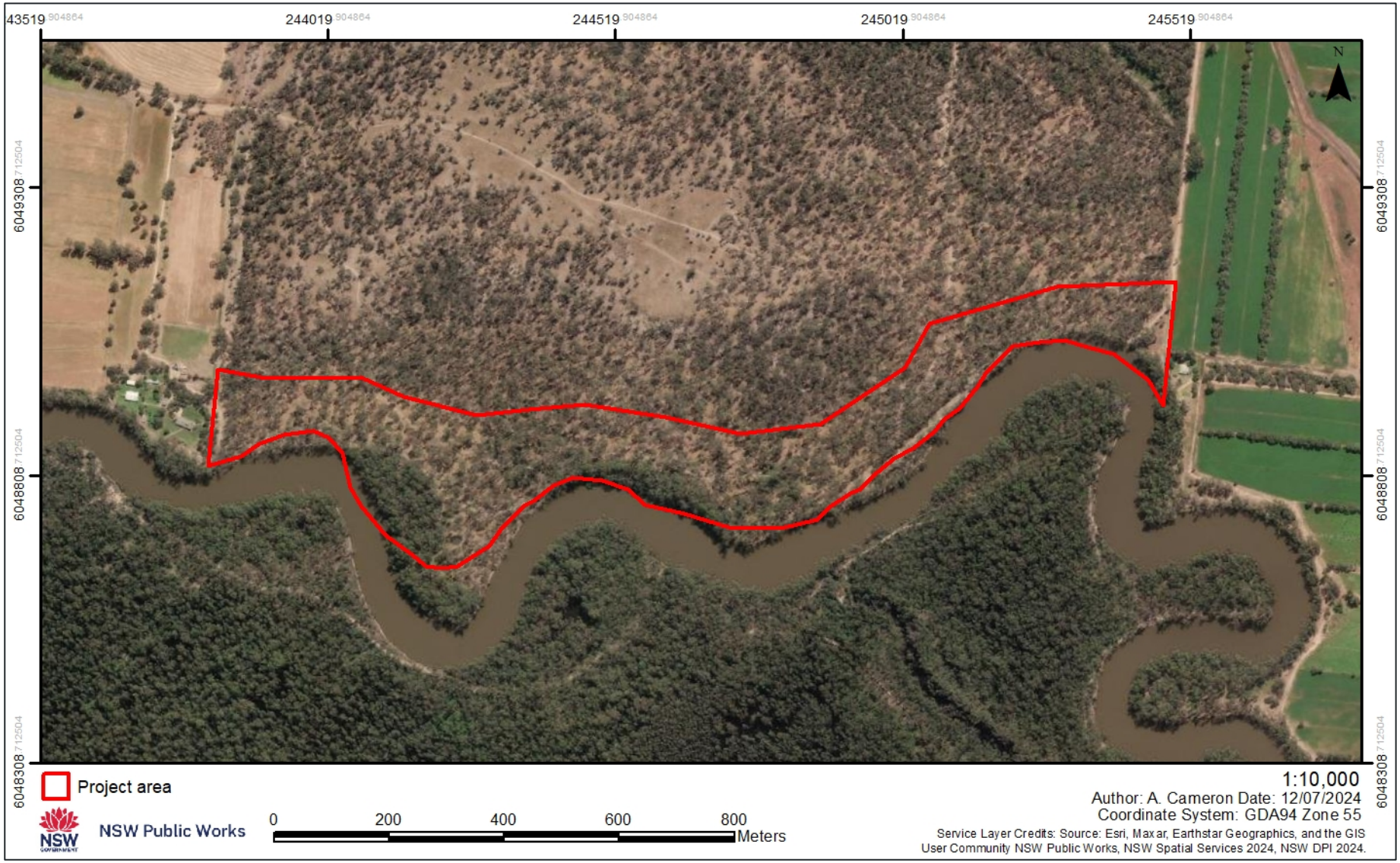


Figure 1-2: Aerial of study area.

2. Statutory Considerations

2.1 State legislation

2.1.1 Heritage Act 1977

The *Heritage Act 1977* protects and aims to conserve the environmental heritage of New South Wales. Environmental heritage is broadly defined under Section 4 of the *Heritage Act 1977* as consisting of "those places, buildings, works, relics, moveable objects, and precincts, of State or local heritage significance" (Heritage Branch, DoP 2009:4). Aboriginal places or objects that are recognised as having high cultural value (potentially of local and State significance) can also be listed on the State Heritage Register and protected under the provisions of the *Heritage Act 1977.*

2.1.2 National Parks and Wildlife Act 1974

The National Parks and Wildlife Act 1974 (NPW Act) provides for the statutory protection of Aboriginal cultural heritage places, objects, and features. One of the objects of the NPW Act is the conservation of places, objects, and features of significance to Aboriginal people (Section 2A). The NPW Act provides for the management of both Aboriginal Objects and Aboriginal Places and is administrated by Heritage NSW within the Department of Planning and Environment.

Aboriginal Objects and Aboriginal Places are protected under Part 6 of the NPW Act and there are legislative penalties if a person harms or desecrates an Aboriginal Place or Object (s. 86). Harm to an Aboriginal Place or Object includes any act or omission that destroys, defaces, or damages the object or place, or, in relation to an Aboriginal object, moves the object from the land on which it had been situated. However, harm to an Aboriginal Object that is 'trivial or negligible' does not constitute an offence. Also, it is a defence against prosecution for unintentionally harming Aboriginal Objects if due diligence had been exercised to determine that no Aboriginal object would be harmed, or the harm or desecration was authorised by an Aboriginal Heritage Impact Permit (AHIP).

2.1.3 Environmental Planning and Assessment Act 1979 (EP&A Act)

The EP&A Act establishes the requirements relating to environmental planning and assessment for NSW. It governs matters such as planning administration, planning instruments, development assessments, building certification, infrastructure finance, appeals and enforcement.

Section 1.3(f) of the EP&A Act is to promote the sustainable management of built and cultural heritage (including Aboriginal cultural heritage).

The parts of the EP&A Act relevant to environmental and heritage assessment are:

- Part 4 Development assessment and consent, including local government schedules of heritage items.
- Part 5 Infrastructure and environmental impact assessment, which includes self-determining authorities.

2.2 Commonwealth legislation

2.2.1 Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act is the federal environmental legislation that covers environmental assessments and approvals. It aims to protect significant biodiversity and integrate the management of important nature and cultural places.

The EPBC Act establishes the National Heritage List and the Commonwealth Heritage List of protected places.

2.2.2 Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSHIP Act)

The ATSHIP Act is Commonwealth legislation which enables intervention to preserve and protect areas and objects of particular significance to Aboriginal or Torres Strait Islander peoples from being desecrated or injured.

2.2.3 Protection of Movable Cultural Heritage Act 1986

The *Protection of Moveable Cultural Heritage Act 1986* is legislation that ensures objects that have cultural significance remain in Australia. The Act also provides for the return of foreign cultural property that has been illegally imported into Australia from other countries.

2.3 Applicability to assessment

Any Aboriginal sites, objects or places within the study area are protected under the NPW Act.

There are no Commonwealth or National heritage listed places within the study area. As such, the EPBC Act does not apply.

The project will be assessed under Part 5 of the EP&A Act.

2.4 Report compliance

This report follows the requirements as outlined in:

- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (the Code of Practice, DECCW 2010)
- *Guide to investigation, assessing and reporting on Aboriginal cultural heritage in NSW* (the Guide, DECCW 2010b)
- *Aboriginal cultural heritage consultation requirements for proponents 2010* (ACHCRs, DECCW 2010c)

The requirements of the Code of Practice and where each requirement is addressed in this report are summarised in Table 2-1.

Table 2-1: Requirements of the Code of Practice.

Requirement	Section/s of this report
1. Review previous archaeological work	Section 6
1a. Previous archaeological work	Section 6.3
1b. AHIMS search	Section 6.2
2. Review the landscape context	Section 3
3. Summarise and discuss the local and regional character of Aboriginal land use and its material traces	Section 6.3
4. Predict the nature and distribution of evidence	Section 6.4
4a. Predictive model	Section 6.4
4b. Predictive model results	Section 7.4
5. Archaeological survey	Section 7
5a. Survey sampling strategy	Section 7.1
5b. Survey requirements	Section 7.2
5c. Survey units	Section 7.2
6. Site definition/s	Section 7.1
7. Site recording	Section 7.1 & Appendix B.9
7a. Information to be recorded	Appendix B.9
7b. Scales for photography	Photography of features (i.e., shell scatters) included an appropriate scale.
8. Location information and geographic reporting	
8a. Geospatial information	Geospatial information was recorded during the survey. See Section 7.3.
8b. Datum and grid coordinates	All GPS coordinates are in GDA94 Zone 55
9. Record survey coverage data	Section 7.2
10. Analyse survey coverage	Section 7.2

Requirement	Section/s of this report
11. Archaeological report content and format	This report includes the required sections.
12. Records	All records will be kept for a minimum of five years and provided to authorised officers as necessary.
13. Notifying and reporting	No notification to HNSW has been necessary due to non-compliance breaches of the Code.
14. Test excavation which is not excluded from the definition of harm	Not applicable as test excavation was not undertaken as part of this assessment.
15. Pre-conditions to carrying out test excavation	Not applicable.
16. Test excavation that can be carried out in accordance with code	Not applicable.
17. When to stop test excavations	Not applicable.
18. Artefact recording	Appendix B.9
18a. Visible artefacts on the ground surface	Section 7.3
19. Attribute recording	Appendix B.9.
20. Photography and drawing	Appendix B.9. Photographs of specific features included a suitable scale.
21. AHIMS records	AHIMS site cards for recorded sites have been submitted.

2.4.1 Report authorship

This report was written by Dr Alyce Cameron (BA Hons & PhD Archaeology and Palaeoanthropology, The Australian National University), archaeologist at NSW Public Works. It was reviewed by Liz Mathieson, Principal Scientist, NSW Public Works.

3. Environmental context

Understanding the landscape is essential to the interpretation of Aboriginal land use across an area. It helps provide context and is required for any archaeological investigation as an understanding of the landscape of a study area guides survey strategies and the detection of archaeological sites. It also allows archaeologists to better understand natural geomorphic processes such as erosion or deposition of soils, which, in turn affects the preservation of archaeological sites and the degree to which past Aboriginal occupation may be preserved and detected (DEECW 2010: 8).

3.1 Topography and hydrology

Little Forest is part of the Koondrook-Perricoota Forests which are also part of the NSW Central Murray State Forests Ramsar site (DCCEEW 2023).

The study area is in the Mitchell landscape of Murray Channels and Floodplains which is characterised by active channels and seasonally inundated floodplains of Murray River streams in Quaternary alluvium (Mitchell 2002: 103; see Figure 3-1). Often billabongs, swamps, channels, levees, and source bordering dunes are included in this landscape, as well as scalded alluvial flats, broad elevated floodplains, and isolated sandy rises.

The study area is located adjacent to the bank of the Murray River. The topography is naturally flat. The closest permanent watercourse is the Murray River adjacent to the south side of the study area boundary. Barbers Creek is located 1 km east of the study area in the Koondrook Forest. There is also an unnamed and unmapped watercourse which intersects through the centre of Little Forest but is visible on aerials. Figure 3-2 shows the topography and hydrology of the study area and surrounds.

3.2 Geology and soils

The underlying geological unit of the study area and its surrounds is Cenozoic regolith which consists of poorly consolidated alluvial, colluvial, aeolian, lacustrine and coastal deposits (Geoscience Australia 2024).

The study is inside the soil landscape Wakool River Variant A and consists of an alluvial back plain of the Murray River (Figure 3-3). Typical soils include cracking grey clays along the floodplains, with brown clays on the margins (OEH 2010).

3.3 Vegetation

Vegetation in the study area consists of open forested wetlands, dominated by River Red Gums. Grasses such as Warrego Grass, wheatgrass, blown grass and wallaby grasses may be present (DPE 2021). The Koondrook-Perricoota Forests, including Little Forest, are a designated Ramsar Wetlands and as part of the NSW Central Murray State Forests Ramsar site depends on flows in the Murray River to maintain a healthy ecosystem. Koondrook-Perricoota Forests are the dominant River Red Gum forests between Deniliquin and Swan Hill in NSW.

3.4 Past Land use

The study area is part of the Koondrook State Forest. Historical aerials from 1961 (Figure 3-4), 1975 (Figure 3-5) and 1991 (Figure 3-6) show there has not been large scale changes at Little Forest since the early 1960s. Known disturbances inside the forest include tracks , a levee, and use of the area previously for logging purposes. Several archaeological studies have shown that the environment and landscape of the region has significantly changed through agricultural and irrigation practices implemented since the 1880s. Further discussion of this is provided in Section 6.3.

3.5 Climate

The closest weather station to the study area is at Kerang approximately 23 km southwest (BOM 2024). The maximum average temperature for the region is 31.8 degree Celsius in January, with the minimum average temperature is in July at 4.0 degree Celsius. October has the highest mean rainfall (37.3 millimetres), while February has the lowest mean rainfall (23.2 millimetres).

3.6 Conclusion

The regional environment would have provided ample resources for the Aboriginal groups occupying and utilising the area. The Murray River region would have provided resources such as freshwater creeks and rivers, including freshwater fish and aquatic resources. Land resources would have included edible vegetations such as yams and roots/tubers, as well as terrestrial animals such as kangaroos, possums, birds, snakes, and lizards, and riverine animals such as fish, eels, shellfish, crayfish, platypus, turtles, and aquatic birds (River Country 2024). The climate of the area is generally temperate which would have allowed year-round occupation. Many of the food resources would have been available year-round, while others would be seasonal (i.e., certain types of freshwater fish and waterbirds). The Murray River region would have provided enough resources to maintain a large population and network of Aboriginal groups.

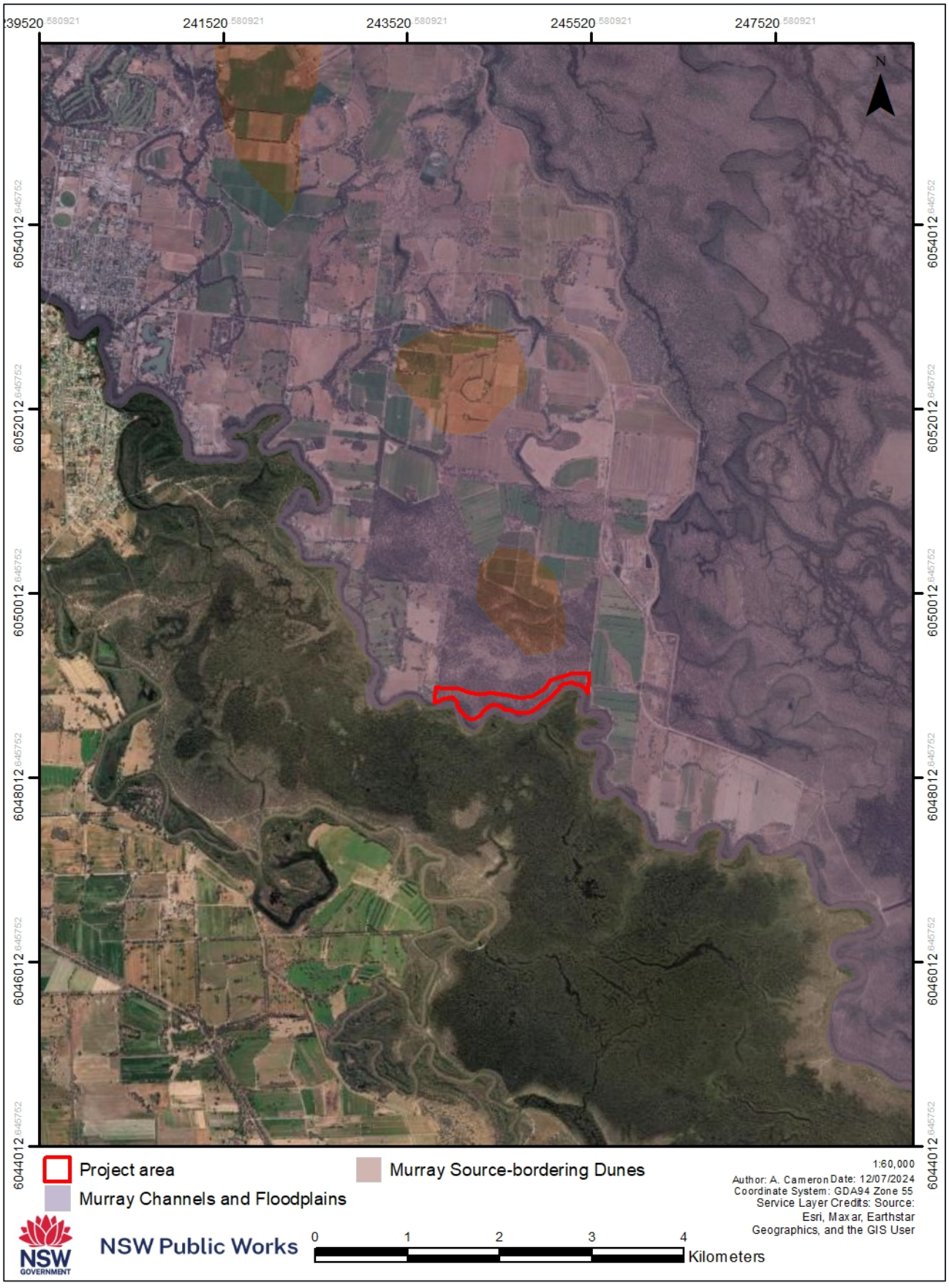


Figure 3-1: Mitchell's landscape (2002) and the study area.

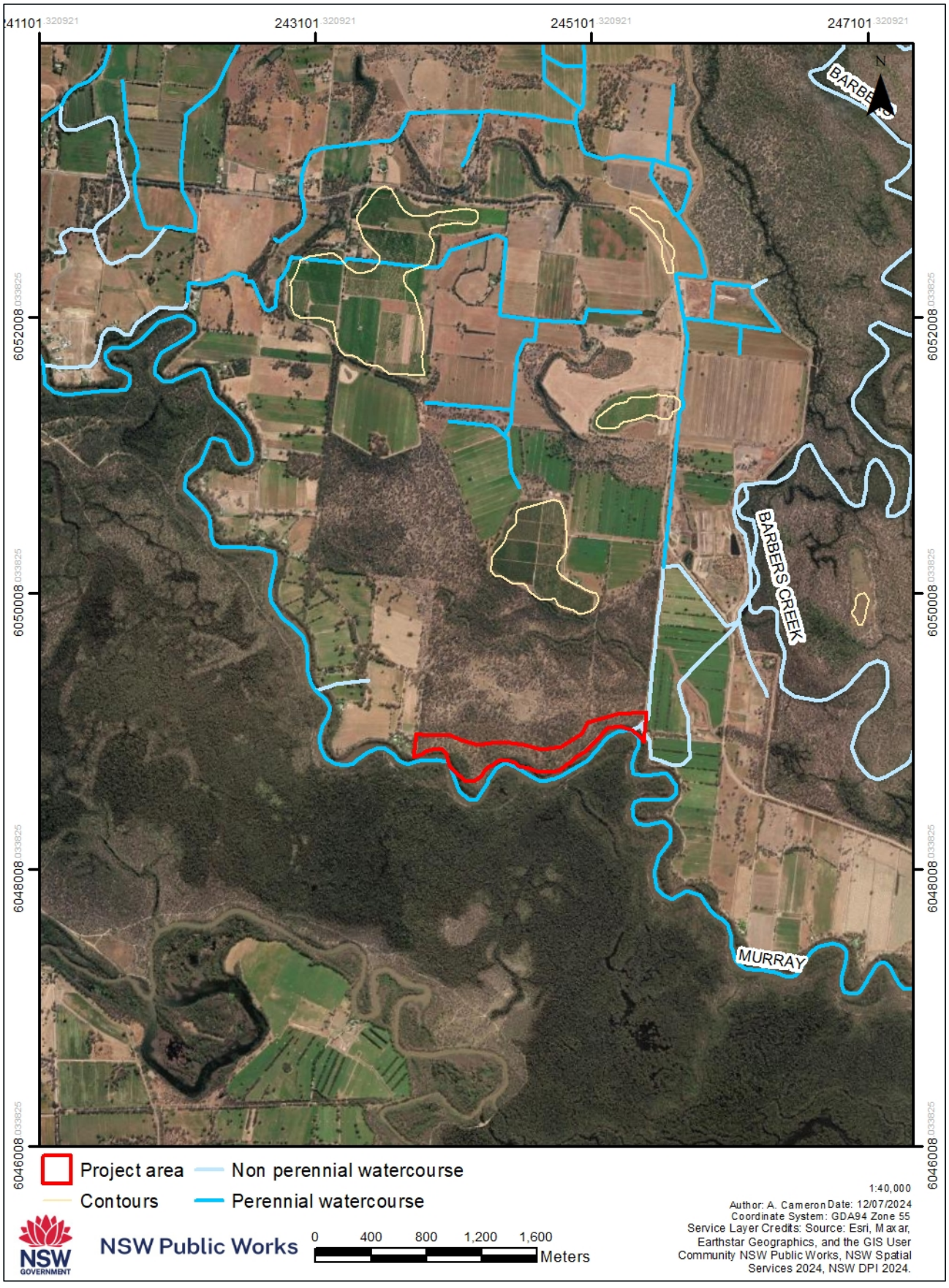


Figure 3-2: Topography and hydrology of the study area.

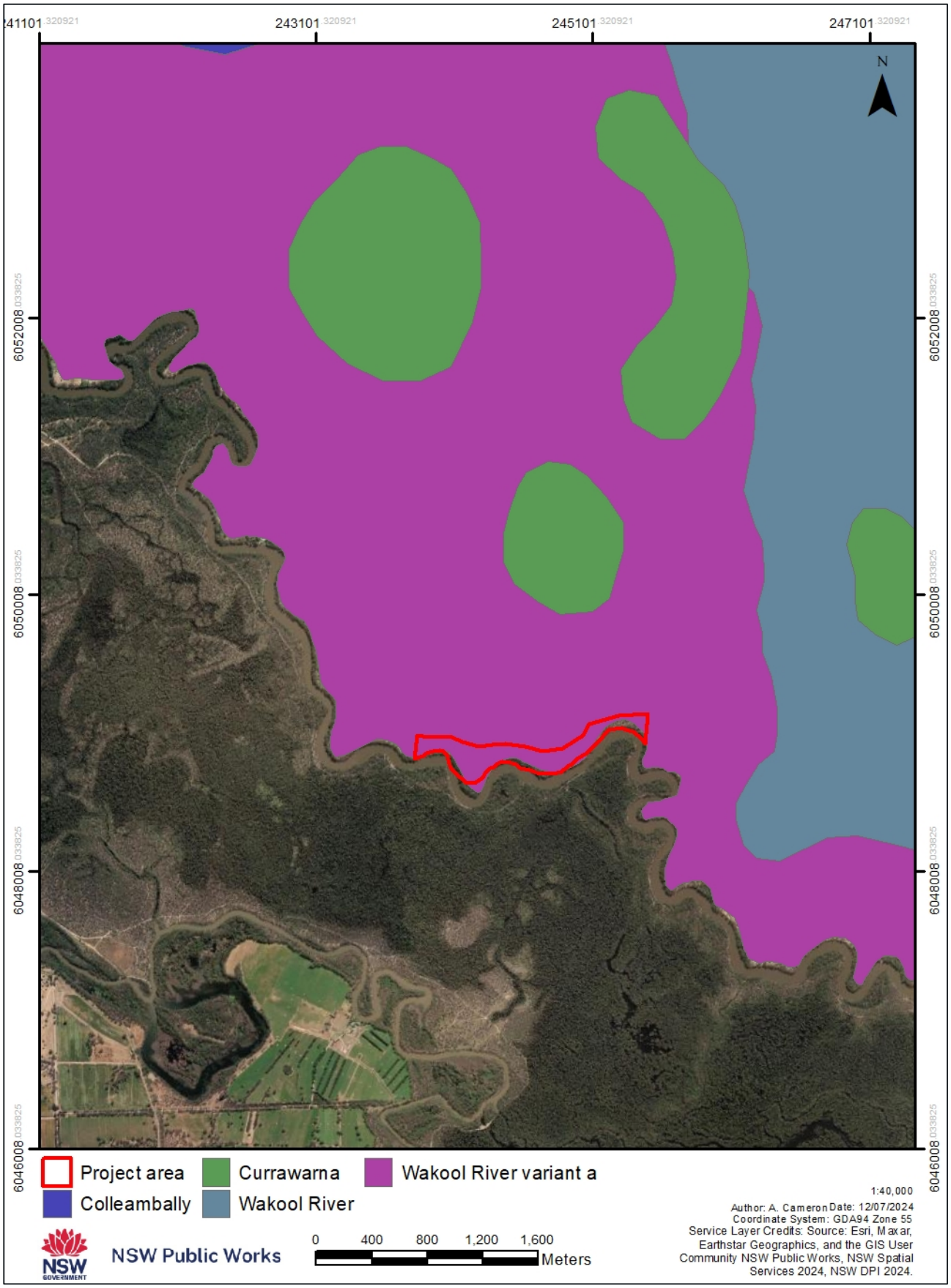


Figure 3-3: Soil landscapes and the study area.

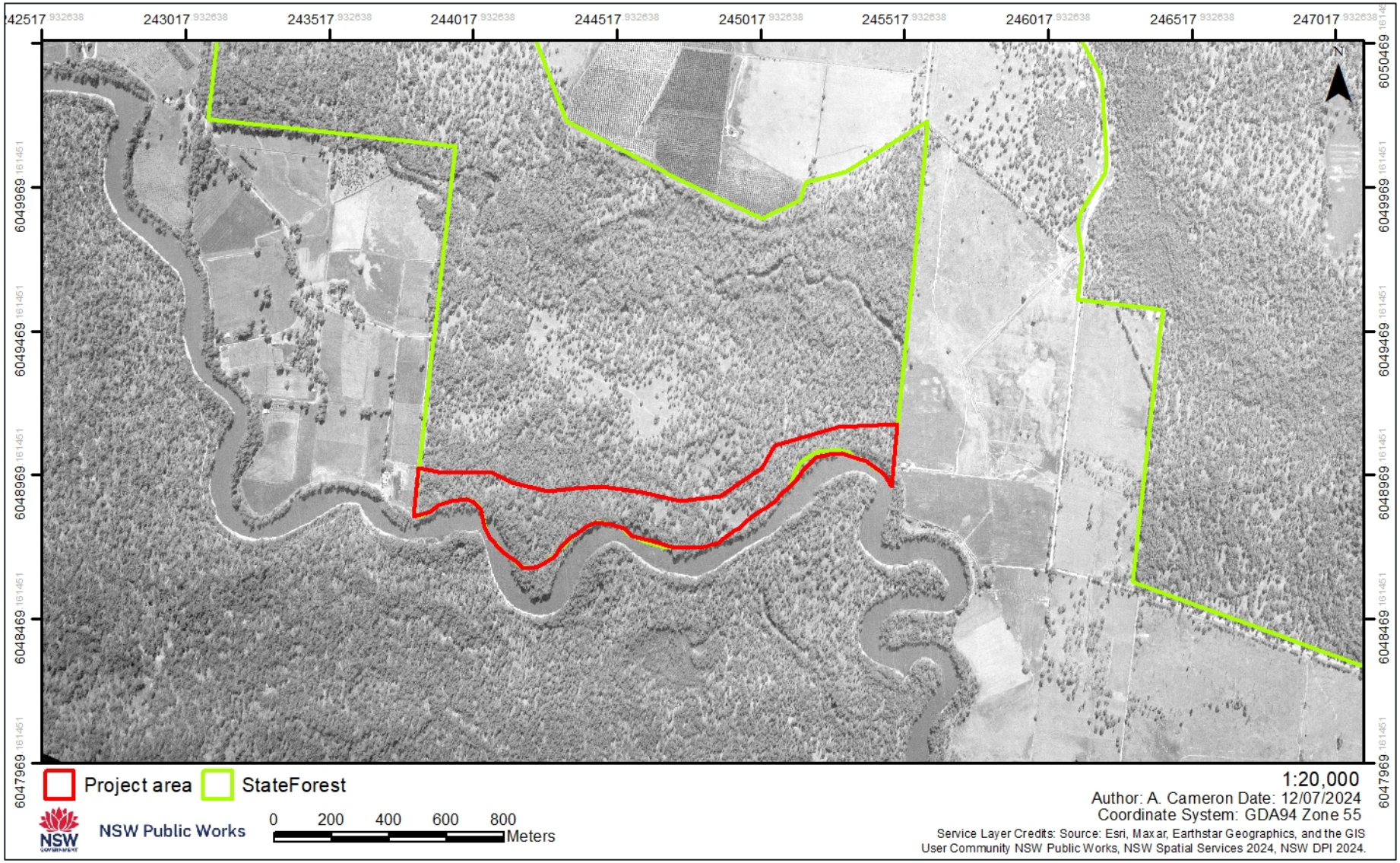


Figure 3-4: Historical aerial from 1961.

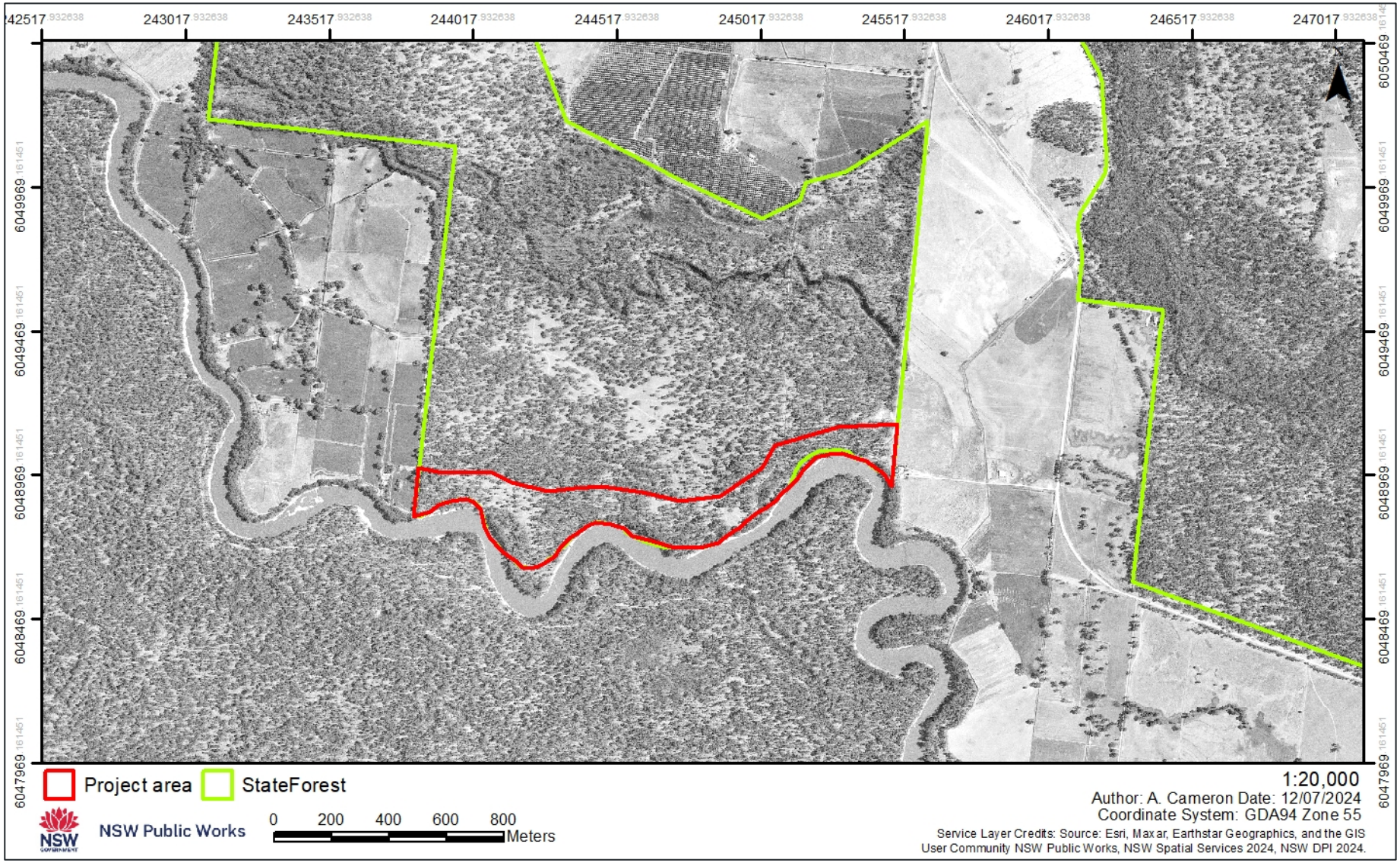


Figure 3-5: Historical aerial from 1975.

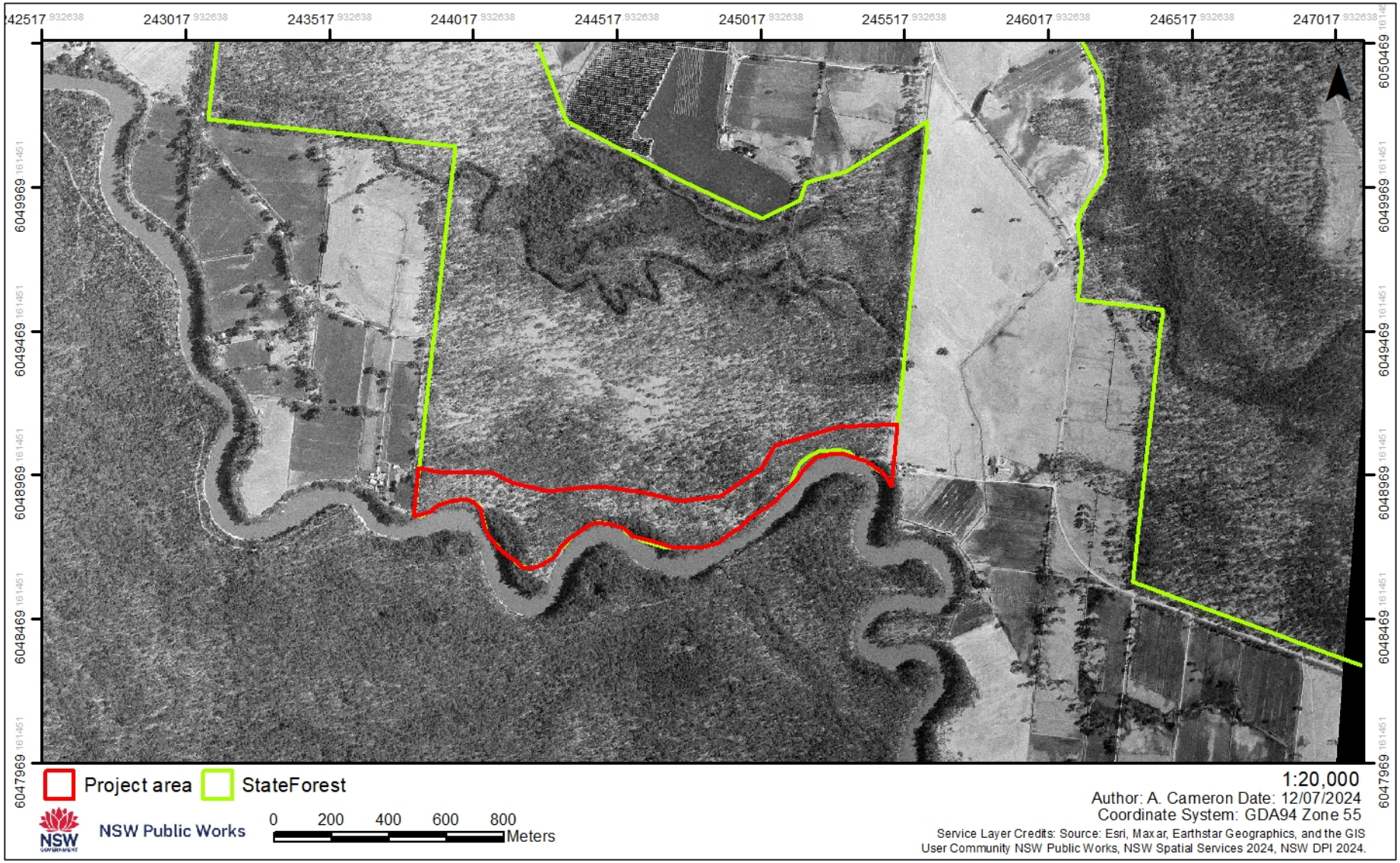


Figure 3-6: Historical aerial from 1991.

4. Aboriginal Consultation

This assessment has followed the Aboriginal Cultural Heritage Consultations Requirements for Proponents 2010 (DECCW 2010c). A log and copies of correspondence relating to the consultation is provided in Appendix B.

4.1 Stage 1

Letters to the following government agencies and other organisations requesting details of local Aboriginal stakeholders who may be interested in being consulted about the project were sent out on 14 June 2024:

- Heritage NSW
- Murray River Council
- The Office of the Registrar Aboriginal Land Rights Acts 1983
- NTSCORP Limited
- Murray Local Land Services
- Moama Local Aboriginal Land Council (LALC)
- Forestry Corporation of NSW
- NSW State Emergency Services

A search of the National Native Title Vision was conducted 14 June 2024 in lieu of directly contacting the National Native Title Tribunal as per this organisation's directions on their website. There are no Native Title applications or determinations for the study area.

The responses received from government agencies consist of:

- Heritage NSW (received 18 June 2024)
- The Office of the Registrar Aboriginal Land Rights Acts 1983 (received 14 June 2024)
- Moama LALC (received 14 June 2024)
- Forestry Corporation of NSW (received 14 June 2024
- NSW State Emergency Services (received 18 June 2024)
- Murray Region Local Land Services (Received 14 June 2024)

Letters to Aboriginal stakeholders identified by the government agencies were sent out on 26 June 2024, inviting individuals and organisations to register as Registered Aboriginal Parties (RAPs) for the project by close of business 26 July 2024.

A public notice inviting local Aboriginal stakeholders were published in the Riverine Herald (3 July 2024) and the Koondrook-Barham Bridge (4 July 2024), inviting individuals and organisations to register as RAPs for the project by close of business 23 July 2023.

The following individuals or organisations are registered as RAPs for the project:

- Moama LALC (registered 14 June 2024)
- Thomas Dahlstrom (registered 3 July 2024)
- Yorta Yorta Nation Aboriginal Corporation (registered 11 July 2024)
- Bangerang Aboriginal Corporation (registered 10 July 2024)
- Gary Pappin (registered 25 July 2024)
- Michelle Francies (registered 28 July 2024)

A copy of the list of RAPs for the project was sent to Moama LALC and Heritage NSW on 25 July 2024.

4.2 Stage 2/3

A copy of the project information and assessment methodology requesting any information pertinent to the study area was sent out to RAPs on 25 July 2024. Comments on the methodology were requested by close of business Friday 26 August 2024.

No comments were received from RAPs on the assessment methodology during the review period.

John Kerr (formerly CEO of Moama LALC) did respond via email on 14 September 2024 stating that Little Forest is a significant site for Cultural Heritage with many sites within its boundaries including ancestral burials, scarred trees, birthing trees, and many others. He stated that the assessment methodology did not capture the importance and essence of Little Forest.

John detailed that the Traditional Owners (TOs) had a proposal to undertake the works. He expressed that the TOs are being undermined in relation to their Cultural Heritage, and are very concerned about the ancestral remains, and would provide recommendations as to how they would like the proposed works to be undertaken.

> *"We need to have control of our CH [Cultural Heritage] and how it is repatriated back to the dreaming, our ancestors are lost and have been for the past 20 months with no regards for our culture at all" (pers. communication John Kerr 14 September 2024).*

John also stated that the TOs would like Forestry Corporation and those responsible for the emergency levee to be held accountable for their actions. Alyce Cameron (archaeologist, NSWPW) responded to John on 20 September 2024, thanking him for the information and sharing his feelings about Little Forest. Alyce responded that the remediation of the sites and removal of the emergency levee is being guided by the Community on how it should be done, and that if there are any specific recommendations or ideas, then they could be incorporated into the draft remediation methodology which was currently being written based on discussions during the survey with Sites Officers. A copy of the email and NSWPW response is available in B.10.

4.3 Survey fieldwork

They survey of the proposed impact areas (levee bank and borrow pits) and recording of sites was undertaken on Tuesday 10 September 2024.

The survey was undertaken by Dr Alyce Cameron (Archaeologist, NSW PW) and representatives from Moama Local Aboriginal Land Council (LALC):

- Patrick Kerr
- Montell Kerr
- Jonathan Verotage

Specific details of the survey are provided in Section 7.

4.4 Post fieldwork & project updates

Following the survey a brief update was sent to Moama LALC regarding survey results on 13 September 2024. Included was a request for initial input into the remediation methodology (which forms part of this ACHAR, see Appendix A) as it was discussed with Moama LALC representatives while onsite during the survey and Moama LALC have been campaigning for the remediation to occur since 2022.

A phone meeting on Wednesday 2 October 2024 was held with Alyce Cameron (NSWPW archaeologist), LaToya Morgan (CEO Moama LALC) and John Kerr (former CEO Moama LALC) regarding how the TOs envisioned and wanted the remediation to occur. Potential methodologies were discussed between the participants. Key points during the conversation include:

- Ancestral burials should be handled by TOs onsite as per their Cultural Protocols.
- The levee is too extensive to use hand tools only. Mechanical deconstruction of the levee should occur using a small bobcat which will not churn up ground where moving, and a Sites Officer must be present to 'spot' during any deconstruction of the levee.
- A 'hot spot' or 'zoning' method would be acceptable around known sites.
- The TOs do not want to sieve the whole levee.
- The predicted timing of the remaining project (i.e., when would works be able to occur).
- The importance of Little Forest to the TOs as a highly significant cultural place.
- The urgency they feel in remediating the exposed cultural materials as soon as possible because it has been too long already.
- The lack of trust between the TOs towards NSW Forestry Corporation, and how this is exacerbating the situation.

A draft of the remediation methodology was sent to Moama LALC for initial review and discussion on Friday 4 October 2024. A follow up email was sent on Monday 14 October 2024. LaToya Morgan replied that she was happy with the remediation methodology but will also have the board members and John Kerr to also have a look.

4.5 Stage 4

A draft copy of this ACHAR was provided to all RAPs on 7 November 2024, with a request for any reviews or comments to be provided by close of business on Friday 6 December 2024 (B.11).

One response was received concerning the draft ACHAR from Moama LALC. A wording change was requested regarding a sentence in the executive summary and Section 1.1. This wording change has been implemented (see B.12).

5. Cultural values

Indigenous heritage is dynamic. It includes tangible and intangible expressions of culture that link generations of Indigenous people over time. Indigenous people express their cultural heritage through 'the person', their relationships with country, people, beliefs, knowledge, law, language, symbols, ways of living, sea, land, and objects all of which arise from Indigenous spirituality (AHC 2002:4).

One of the aims of this ACHAR is to help protect intangible cultural values as well as tangible values, by identifying cultural values in the landscape the project is located in. The purpose of doing this is so that values can be recognised and incorporated into any management recommendations.

As stated in the quote above, there is no single definition of cultural values (Tram and Barcham 2018: 8). Understanding of the cultural values and landscape can only come from the Aboriginal community.

5.1 Intellectual property

Any cultural information provided by members of the Aboriginal community during this assessment remains the property of the provider. Where cultural information has been provided, the provider has been identified individually by chosen name unless they have opted to be anonymous or to use only their group name.

Any cultural information provided was done so with the knowledge that such information would be included in this report with provisions made for classified/restricted information as detailed below.

5.2 Classified / restricted information.

Any information provided by the Aboriginal community has been treated in accordance with their instructions. This includes that if information is confidential or culturally sensitive it has not been detailed in the public report. If necessary, a redacted report will be available to the public with sensitive cultural information removed.

5.3 Cultural values identified during the assessment.

Throughout the assessment it has been highlighted that Little Forest is highly significant for the TOs and is a very special cultural location for them. This includes the tangible aspects of Cultural Heritage present at Little Forest such as:

- Ancestral burials
- Scarred trees
- Birthing trees
- Earth mounds

Intangible values of Cultural Heritage have not been expressly detailed, however, the cultural connection to Little Forest has been mentioned several times by John Kerr, LaToya Morgan, Patrick Kerr, Montell Kerr and Jonathan Verotage. This was especially mentioned in relation to

remediating the sites in order to address the damage caused by the emergency levee, as well as addressing any future works and access to Little Forest as a whole.

There were concerns raised by Moama LALC about the ongoing impacts to the sites which were impacted by the construction of the emergency levee. These impacts include animal disturbance (i.e., foxes) and the ongoing erosion of cultural materials from the sites. There has been an emotional impact of the sites being disturbed in the first place, and then waiting to remediate them which has been detrimental to the well-being of the community and distressing to individual TOs.

6. Archaeological context

6.1 Ethnohistory

The study area is located in Barapa Barapa Country. Barapa Barapa Country covers a region from the southern tributaries of the Murrumbidgee River near Hay in NSW, into Victoria, including Gannawarra, Loddon, Campaspe, and Kerang. Neighbours of the Barapa Barapa include the Wamba-Wenba, the Yorta Yorta and the Dja Dja Wurrung.

Key waterways in Victoria include Gunbower Forest and Creek, Kerang Lakes, Guttrum Forest, Loddon River, Sheepwash Creek, Little Murray and Murray River. In New South Wales the Edwards and Wakool Rivers are important to the Barapa Barapa Nation.

The Barapa People used the complex and seasonally changing environment of Barapa Country to their advantage. The Mile or Mirri (Murray River) is a key feature within the landscape as activities and movement through Barapa Country were partially governed by the flood and dry seasons. There is substantial evidence of ongoing Barapa occupation and resource use in the landscape, including fish traps and larders at the edges of lagoons and waterways, earth mounds situated above the normal flood height, utilisation of local stone outcrops where available and evidence of trading for natural resources not readily available in Barapa Country (McConachie et al 2020).

For the majority of the year during warmer months, the Barapa people could rely on resources that the wetlands and river provided, and they used a variety of methods for collection of food resources including netting, spearing, and trapping with wooden weirs along drainage channels. Cooking of meat and roots were with on an open fire or in earthen ovens formed from a hole in the ground which held the fire and baked clay balls or clay lumps to retain heat. Repeated use of earthen ovens results in the formation of large oven and hearth mounds.

European arrival in Barapa Country began in the 1830s with expeditions from Major Thomas Mitchell, Edward Eyre, and Captain Charles Sturt. Settlement by Europeans followed soon after. Ethnographic and archaeological sources indicate that the area was a densely populated part of Aboriginal Australia prior to European colonisation (Mitchell 1838, Clark 2000, Littleton et al 2021, Pardoe and Hutton 2020).

The Barapa People and other Aboriginal Nations along the Murray River refused to submit to outsiders coming into their Country, resulting in conflict (McConachie et al 2020, Burke et al 2016). The rapid European colonisation of the region resulted in substantial changes to the local environment, transformed the landscape, and ended the Aboriginal land management practices and firestick farming (Pardoe and Hutton 2020: 4). River Red Gums were logged along the Murray River, the flow of the river was altered by irrigation diversion and dams and clearing for farming of agricultural crops and grazing occurred. There was also forced removal of many Barapa people to missions or reserves such as the Moonacullah Mission approximately 100 km east.

Many Barapa people remain involved with their Country today, and many people in the community are involved in caring for Country by providing resources and knowledge for the management of Country, including the water, land, culture, and heritage.

6.2 Database searches

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) was conducted on 14 June 2024 covering an approximate 2 km zone around the study area:

- Eastings 241795–247516
- Northings 6046688–6051121

The search returned 109 Aboriginal sites inside the search area. Appendix C provides a copy of the extensive search. The most frequent site type in the area are earth mounds (88.1%), followed by burial/s (3.7%) and then either modified trees (2.8%) or complex sites with hearths, PADs, shell & non-human bone, and organic matter (2.8%). Table 6-1 summarises the full details of AHIMS site type frequencies and Figure 6-1 shows the location of AHIMS sites in relation to the study area.

There is one AHIMS site located inside the study area. This is 54-4-0986, a burial which was recorded in 2020 by Dr Colin Pardoe. The site card states the burial is located near the centre of an earth mound approximately 300 mm below present surface and that it was complete and undisturbed. The site card also mentioned that the preservation and placement of the burial was consistent with "antiquity of several hundred to more than 1,000 years" (AHIMS 54-4-0986: 2).

There were an additional 152 Aboriginal sites recorded inside Little Forest during a survey in 2021, however, these have not yet been registered on AHIMS (see Section 6.3.3). There were also twenty-three Aboriginal sites consisting of either midden or earth mound materials recorded during a preliminary survey of the emergency levee and study area (Hutton 2023). These particular sites will be registered on AHIMS following the pedestrian survey and detailed recorded of these sites for this ACHA.

Table 6-1: AHIMS site types.

Site Type	Number	Frequency (%)
Earth mound	96	88.1
Burial/s	4	3.7
Hearth, PAD, shell & non-human bone, and organic matter	3	2.8
Modified tree	3	2.8
Burial/s & shell	1	0.9
Habitation structure, PAD, shell & non-human bone, and organic matter	1	0.9
Mound (oven)	1	0.9
Total	**109**	**100**

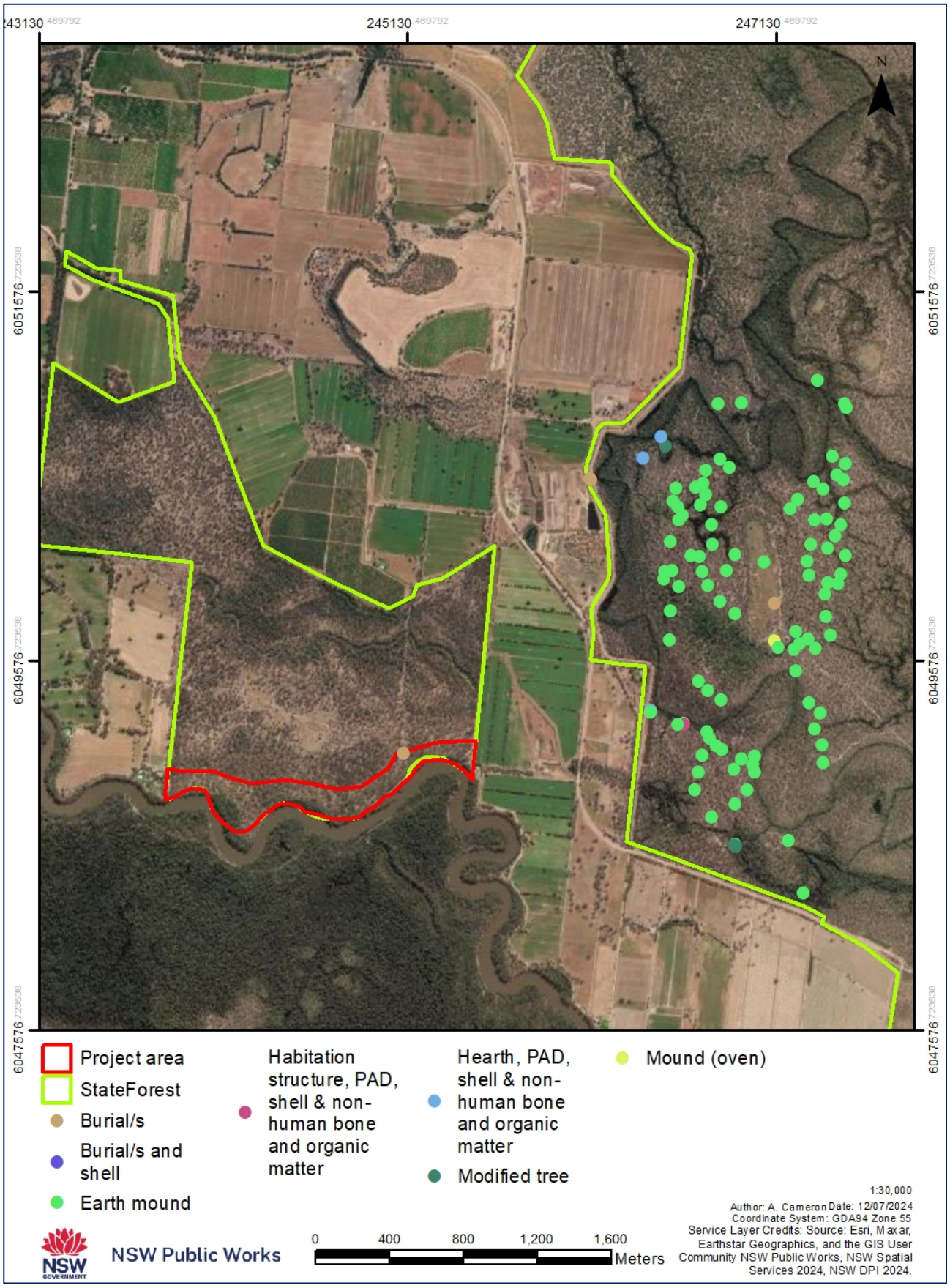


Figure 6-1: AHIMS results and the study area.

6.3 Previous Assessments

6.3.1 Regional context – the central Murray

Investigations in the Riverina region began as early as the 1930s, when Dow reported on carvings and mounds (Navin Officer 2009). Archaeological investigations began more predominately in the late 1960s and 1970s at Lake Mungo and Kow Swamp (i.e., Bowler et al 1970, Thorne 1971, Thorne 1975).

A regional archaeological survey of the Murray Valley was started by Buchan (1974) which aimed to establish a register of sites in the area. Work on this continued during the 1980s with more specific studies on mounds by Simmons (1980), Berryman and Frankel (1984), and Klaver (1987). The specific archaeology of the Murray and Darling River corridors were also investigated by Kefous (1983 and 1988), Webb (1984) and Pardoe (1988). Bonhomme undertook research at Barmah Forest into modified trees and earth mounds (Bonhomme 1990), while Nyah Forest (on the Victorian side of the Murray River, approximately 91 km northwest of the study area) started being investigated in the 1970s (Coutts et al. 1979).

There were three earth mounds excavated at Nyah Forest including the largest known as Dry Plains 1 (mound DP/1). This earth mound had been recently disturbed by rabbits, rabbit-trappers ripping up the warren, and illegal removal of soil for market gardens. Frankel notes in relation to DP/1:

> *There was no neat layering of deposits from discrete episodes of site use or formation, nor could this be expected. Not only was this due to the recent disturbance, but also because of the way in which a big mound like this built up over generations of digging, re-digging, and raking out the contents of ovens. Much of the mound was made up of fragments of the baked clay heat-retainers used in the earth ovens where both the animal and plant food had been cooked. But there was little evidence of what people ate… Although few in number, the scraps that survived came from a wide range of animals, birds, fish, crayfish and shellfish, suggesting a diverse and varied diet* (Frankel 2017: 104).

The research at Nyah Forest indicated that there was a relationship between the size of mounds and the way the local area seasonally flooded (Frankel 2017: 108). Research at Wakool, adjacent to the Wakool River, indicates a similar pattern. During an initial survey of 250-hectare (ha) property in 1983, 95 earth mounds and eleven scarred trees were recorded. The research found that the largest earth mounds in size were spaced out along the Wakool River, with the earth mounds further away from the river were smaller and lower. In 1983, three of the earth mounds had small sections excavated. There were no artefacts or traces of food refuse recorded during this, though one earth mound had clay heat-retainers present “still in the position where they had been raked out of the earth-oven when it was used by someone 2700 years before” (Frankel 2017: 108).

Approximately 100 km north of the study area, Martin undertook surveys and excavations at two locations known as Ravensworth 3 and Tchelery 1.1 (Martin 2006: 102). These two sites were in use between 5000–4000 years ago. The excavations resulted in Martin being able to collect small fragments of charcoal, bone and shell. Wetland plants, bones and eggs of various

sized birds such as ducks, waterhens and swans, as well as fish bones such as Murray cod or golden perch were identified (Martin 2006: 150–152).

There have also been shell middens examined and excavated in the region. Many of the middens in the central Murray region consist of thin temporal horizons which being laterally expansive in size, as well as being dominated by two aquatic molluscs: the river mussel and the river snail (Garvey 2017).

Prendergast et al (2009) excavated part of a large midden known as Homestead Midden at Ned's Corner Station (located west of Mildura on the Victorian side of the Murray River). The midden is laterally expansive, measuring approximately 400 m east-west and 20 m north-south. The excavation included a 1 m by 1 m square, excavated to the depth of 110 cm. The cultural deposits occurred 60 cm below the ground surface. The midden was 20 cm thick and consisted mostly of river mussel, with the remainder of the deposit being river snail. When the midden was dated, it was determined to be approximately 15,000 years old (Prendergast et al 2009: 66).

In 2014, Garvey re-excavated part of the Homestead Midden, as well as a second midden called the Murray River midden (between 500–600 years old). The middens both had river mussels and river snails present (Garvey 2017). When comparing the assemblages between the two midden sites and a modern sample of river mussels, the shell from the Homestead midden would have had twice as much meat as those from the Murray River Midden, and the modern sample about twice as much meat again as the Homestead midden mussels. This trend is opposite in the river snails, where modern samples are generally smaller than the ones from the middens (Garvey 2017).

Development-driven assessments also became more prevalent in the region from the 1990s onwards. Relevant development-driven assessments are summarised below in Section 6.3.2.

6.3.2 Local context

In 1984, Berryman and Frankel completed an archaeological survey of 250 hectares of floodplain along the Wakool River, north and northeast of Barham. During the survey, ninety-five earth mounds and eleven scarred trees were recorded. Test excavations on three earth mounds resulted in charcoal samples being taken for radiocarbon dating. Unfortunately, the results of the dating came back with discrepancies. The study of the mounds allowed details of cook practices and mound formation to be better understood (Berryman and Frankel 1984).

Bonhomme undertook an archaeological survey at Lake Victoria and Koondrook State Forest in 1993. During the survey, 89 sites were recorded at Koondrook State Forest, including earth mounds, burials, and scarred trees (Bonhomme 1993: 5–6). The assessment indicated that the site numbers should be considered a minimum, and that actual numbers of sites at both locations are likely to be higher.

In 2009, Navin Officer Heritage Consultants (NOHC) undertook an assessment for the Koondrook-Perricoota Forest flood enhancement works, focusing on the proposed work locations. Five Aboriginal sites were recorded during the survey: one burial and four scarred trees. In addition, nine historical sites were also identified consisting of six surveyor-marked trees, a rifle range with associated structures, stockyards and associated structures, sawmill

house and one scarred tree of indeterminate origin. NOHC recommended that all Aboriginal sites are avoided during the proposed works.

In 2011, Landskape Nature and Cultural Heritage Management reported on two burial sites (54-4-0046 and 54-4-0047) in the Koondrook-Perricoota Forest. Both burial locations were exposed during earthworks for the Koondrook-Perricoota Forest Flood Enhancement Works. The burials were recovered by hand and revegetated with the works realigned in order to avoid further disturbance (Cupper 2011).

Colin Pardoe undertook a study of two burial sites (54-4-0069 and 54-4-0070) that were excavated as a result of the Koondrook-Perricoota Forest Flood Enhancement Works. (Pardoe 2012 and 2013). The 2012 reports detail the location and condition of four burials located along a levee bank above a creek, as well as the results of the excavation of the burials. Radiocarbon dating was undertaken which provided an age of 1510–1570 Before Present (BP) for 54-4-0069) and 1375–1530 BP for 54-4-0070. In total, the study included an analysis of skeletal remains from eleven burials. The 2013 report provides the results of isotopic analysis on these burials in order to assess the diet. The analysis identified grass grains were an important component of the diet of these ancestors (Pardoe 2013).

In 2020, Pardoe and Hutton published an academic paper exploring managed water flows against the archaeological record. The purpose of the paper was to try and reconstruct seasonal residential patterns and economic activities of large populations using archaeological, environmental, and hydrological information to provide evidence of how people lived at the Murray River floodplain wetlands before European colonisation. The study focused on Pollack Swamp, a 220-hectare swamp inside a flora reserve at Koondrook State Forest located approximately 11 km north of the study area. During flooding events water enters the swamp via Pollack Creek which is feed from Barbers Creeks via a small channel from Barbers Overflow. Detailed pedestrian surveys were conducted at Pollack Swamp in 2014 and 2015, during which 153 earth mounds were recorded. When the location of the earth mounds was mapped against LiDAR the relationship between mounds and water became more apparent. The distribution of mounds in Pollock Swamp were able to be grouped in thirteen clusters and analysed in terms of proximity to water and potential resources, resulting in the identification of locations inside the area which were of highest value to Aboriginal people.

> *The number, size and density of earth mounds in the study area, and their distribution in clusters raised above low lying ground that would have been subject to inundation, supported a hypothesis that large numbers of Barapa Aboriginal people lived for many months of the year in permanent residences in the red beds of the Mid Murray. In exploiting the resources of the wetland ecology, they had practised a form of aquaculture over thousands of years (Pardoe and Hutton 2020: 9).*

The study concluded that:

> *Pollack Swamp until 1845 was a population centre of the Barapa Aboriginal nation. There are 153 earth mounds around the swamp, grouped according to minor topographic features of flood channels and higher ground. The distribution of these mounds is a distillation of 3000 years of Barapa traditional knowledge and land management practices... Large numbers of people, perhaps hundreds in a place like Pollack Swamp, require a lot of food.*

> *It is reasonable to infer that people chose their larger centres – villages and hamlets – with food availability as a major criterion. (Pardoe and Hutton 2020: 14).*

In 2022, Austral Archaeology prepared an Aboriginal Cultural Heritage Assessment Report for eight locations in the Koondrook-Perricoota Forest as part of the Sustainable Diversion Limit Adjustment Mechanism Acceleration (SDLAM) Program. Test excavations were conducted at three of the locations, which resulted in the conclusion that the works at these locations would not impact subsurface archaeological deposits. The pedestrian survey resulted in the recording of seventeen sites consisting of earth mounds, scarred trees, PADs, a burial, and an isolated artefact (Austral Archaeology 2022 in Austral Archaeology 2023).

6.3.3 Little Forest

Part of Little Forest was surveyed in 2021. The survey targeted areas likely to be inundated during watering events. The location of the emergency levee was not surveyed during this assessment (Hutton 2021 as reported in Hutton 2023: 4). There were 152 Aboriginal sites recorded during this survey including burial/s, earth mounds, scarred trees, birthing trees, and Aboriginal ponds.

> *The heritage survey recorded considerable evidence of sustained, seasonal Aboriginal occupation over thousands of years prior to colonisation. The size and number of mounds is consistent with other findings and these are likely to date within the same rough time period of about 3,500 years. The sites types are consistent with those recorded within other areas of Koondrook Forest and the nearby Pollack. In general, the heritage sites are in reasonable condition although many do show evidence of historical disturbance by forestry roading, harvesting and other activities.*
>
> *The topography and interconnections between the recorded sites add to this interpretation. As a whole, this area is of importance representing what could only have been a named entity – such as a village – in the archaeological record. Local Aboriginal people see this as the social history of their ancestors over thousands of years. The cultural values of this area are considered highly significant by the local Aboriginal communities, offering connection to ancestral social, cultural and economic traditional practices.*
>
> *It is worth noting additional Aboriginal heritage sites were identified but not recorded outside the surveyed areas (Hutton 2021 as in Hutton 2023: 5).*

It is important to note that the Aboriginal sites recorded during the 2021 survey of Little Forest areas have not been registered on AHIMS as of July 2024. As such, these are not included in Section 6.2 analyses. However, it is stated that the quantity, types, and patterning of the Aboriginal heritage sites in Little Forest are consistent with other locations within Koondrook-Perricoota Forest that have been identified as residential settlements or villages, such as reported on by Pardoe and Hutton (2020).

A brief report on the Little Forest Emergency Flood Levee Aboriginal Heritage Disturbance and Recommendations was produced by Hutton in 2023. This report details an initial pedestrian survey undertaken to determine if Aboriginal heritage had been disturbed by the emergency levee. The survey identified twenty-three locations where Aboriginal heritage had

been disturbed, including heritage material and deposit that was exposed an in situ, as well as heritage material deposit that had been moved during construction. The heritage material identified included earth mound and midden deposits of baked clay, charcoal, fragments of native fauna bone, freshwater mussel, and snail shell. Detailed information of each site was not provided in the report, however, GPS coordinates and a basic description of whether each site is a shell midden or earth mound material is provided.

The report concluded with recommendations including:

- a detailed survey be undertaken to determine type and extent of individual sites, as well as the remaining unsurveyed area adjacent to the Murray River bank.
- That the detailed survey be documented, and summaries shared with interested parties and the broader general public.
- Opportunities for training and public education, including the opportunity to improve and formalise communication between organisations so Aboriginal heritage is considered in similar future situations.
- Rehabilitation of the heritage materials in the emergency levee returned to their original locations.
- Protection of the rehabilitated areas from further disturbances such as vehicle access.
- That adequate funding be sourced by organisations involved in constructing the emergency levee to resource the above recommendations.

The previous archaeological assessments shows that the Little Forest and its surrounding area is highly sensitive for archaeological sites. Little Forest in particular, has a very high number of earth mounds recorded (though not registered on AHIMS) indicating the location was used extensively and over a long period of time. In addition, the presence of at least one known ancestral burial in Little Forest, and at least several other burials in the Koondrook-Perricoota Forest to the west, highlights how important Little Forest is, not just archaeologically, but culturally for the Traditional Owners.

6.4 Predictive model

Known Aboriginal Cultural Heritage sites inside the study area include earth mound and midden deposits, as well as at least one known ancestral burial location. Other site types in the broader area include modified trees, hearths, and potential archaeological deposits. Based on known sites in the area and previous assessments and research, the following predictive statements regarding Aboriginal Cultural Heritage sites can be made for the general area:

- Earth mounds are often located in the Murray Channels and Floodplains Mitchell's landscape. In some locations there are high densities of earth mounds indicating use of these locations for prolonged periods of times and providing evidence of Aboriginal villages in the landscape.

- Modified trees are present in the region and have been recorded up to 1.5 km from an existing water source. Modified trees may be present where mature remnant vegetation exists, in particular River Red Gums or Black Box.
- Shell middens consisting of local shellfish are most likely to be located in proximity to a current or former water source.
- Burials are predominately located in earth mounds, natural or man-made levees, floodplains related to residential areas or sand rises within 500 m of water. Burials can range from single individuals to larger clustering or as cemeteries.
- Stone artefact scatters are relatively rare, though sometimes stone artefacts are recorded in conjunction with earth mounds, shell middens or burials. Most have been formerly recorded on natural levee scalds, and sometimes on lunettes or dune margins in the wider region. Dominant raw material types are silcrete and fine-grained siliceous materials, with lesser quantities of chert, quartz and volcanic stone being present. However, ground stone, usually fragmented is more common than flaked stone artefacts.
- Aboriginal Cultural Heritage sites are most likely to be located in relative proximity to existing or former watercourses, especially slightly higher locations which are out of the flood zone on the plains.

Based on the known archaeological sites that have already been recorded by the Joint Indigenous Group and Forestry Corporation inside Little Forest, as well as the twenty-two locations where sites were disturbed by the construction of the emergency levee, it is highly likely that further archaeological cultural materials will be present inside the study area. Archaeological features such as baked clay heat retainers and midden (shell) deposits are highly likely to be present in the study based on the preliminary inspection (Hutton 2022). There has also been at least one ancestral burial identified in proximity to the study area, as well as several burial locations in the nearby Koondrook-Perricoota Forest, providing tangible evidence that there may be further ancestral burials present in Little Forest.

7. Field Survey

7.1 Survey methodology

The survey was undertaken by Dr Alyce Cameron (Archaeologist, NSW PW) and representatives from Moama Local Aboriginal Land Council (LALC) on Tuesday 10 September 2024:

- Patrick Kerr
- Montell Kerr
- Jonathan Verotage

The surveyors focused on areas of ground surface visible along and adjacent to the emergency levee bank. This included areas where soil had been excavated from to create the levee, as well as the adjacent undisturbed ground surface.

The survey followed standard archaeological field survey and recording methods as outlined in Burke and Smith (2004) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010). There was no change of landform across the study area.

During the survey, the archaeologist recorded general information including:

- Ground surface visibility
- Ground surface exposure
- Any disturbances to the ground surface and the extent of each
- General condition of the study area
- Limitations to the survey
- Photographs of each area to show the study area as it was at the time of the survey.
- Any cultural, landscape or archaeological information that RAP representatives shared.

When Aboriginal objects or previous recorded locations were located during the survey, then the archaeologist:

- Recorded the location using a handheld GPS device and marked the position of the object with a flag.
- Recorded the feature and its context.
  - To the standard necessary for AHIMS site cards (i.e., for an artefact scatter then a sample of artefacts was recorded in full [type, material, length, width, thickness, platform type, termination type, etc.] including photographs and GPS information for each one recorded).
  - This was done using GPS, handwritten/electronic notes, and photographs.

- AHIMS site cards for sites recorded or re-recorded during the survey were prepared and submitted by the archaeologist using the information recorded on physical aspects of the site. Any cultural information provided regarding specific sites by RAP representatives during the survey was included on the site card, excluding any sensitive or confidential information.

The study area consists of a single landform being floodplain of the Murray River and associated channels.

7.2 Survey coverage

The determination of ground surface visibility (GSV) and ground surface exposure (GSE) is an important consideration for archaeological surveys, and in determining the effective survey coverage. Factors which affect the effective survey coverage include the amount of survey area physically inspected as well as the conditions of the survey, including GSV and GSE (Burke and Smith 2004:78–79).

Ground surface exposure (GSE) is simply defined as how much of the surface is visible. The Code of Practice defines GSE as:

> …the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals' (DECCW 2010: 37).

Ground surface visibility (GSV) is how much of the surface is concealed. The Code of Practice defines GSV as:

> …the amount of bare ground (or visibility on the exposures which might reveal artefacts or other archaeological materials…. Visibility refers to 'what conceals' (DECCW 2010: 39).

The survey focused on any areas of ground surface along the levee bank, borrow pits and adjacent undisturbed locations. The surveyors started at a centre point along the emergency levee, and procced to traverse east and northeast following the levee alignment and back again to the starting point (survey unit 1). Survey Unit 2 was traversed in the same manner, except followed the levee alignment westwards and back again. Table 7-1 summarises the effective survey coverage of the study area and Survey Units 1 and 2 (Figure 7-1). On average, Survey Unit 1 had the higher effective coverage (24.8%), followed by Survey Unit 2 (20%). Overall, 21.9% of the study area was effectively surveyed, with ten sites recorded and a total of 98 different features (Table 7-2). Figure 7-1 also shows the pedestrian transects of one surveyor.

Table 7-1: Effective survey coverage of the study area

Survey unit	Landform	Survey unit area (m^2)	Visibility (%)	Exposure (%)	Effective coverage area (m^2)	Effective coverage (%)
1	Floodplain	66609	54%	46%	16546	24.8
2	Floodplain	102510	50%	40%	20502	20

Table 7-2: Landform summary

Landform	Landform area (m^2)	Area Effectively surveyed (m^2)	% of landform effectively surveyed (%)	Number of sites	Number of artefacts or features
Floodplain	169150	37048	21.9	10	98

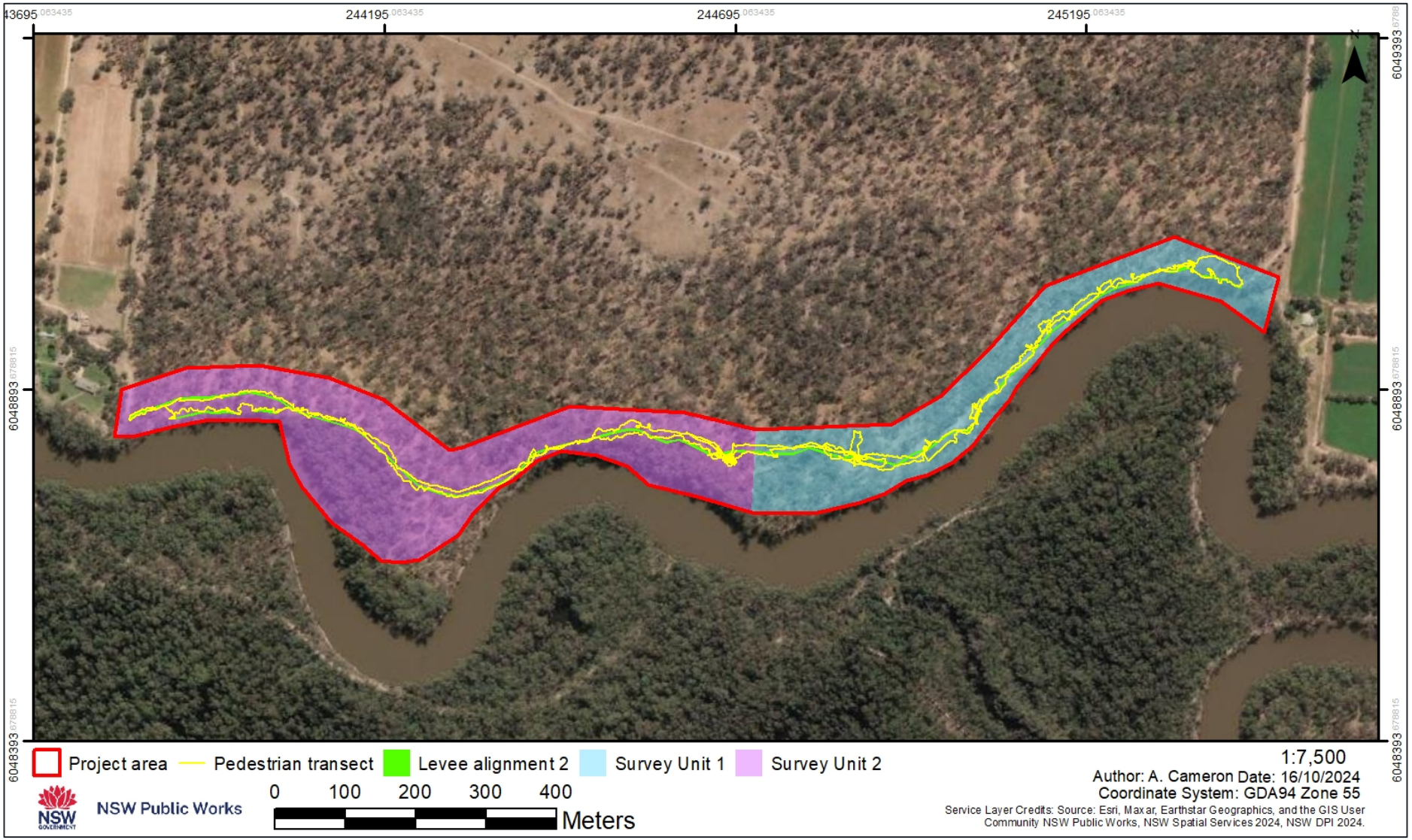


Figure 7-1: Survey units and pedestrian transects.

7.3 Survey results

The pedestrian survey resulted in relocating the twenty-two locations where Aboriginal shell midden or earth mound material/s was identified in March 2023 (Hutton 2023). In addition, further locations of Aboriginal cultural materials were identified during the survey.

The March 2023 site information has been collated with the information from this survey in order to be submitted to AHIMS. In total there are ten discrete site extents which consist of a variety of archaeological features such as visible shell and midden material, earth mound materials (baked clay, charcoal), and potential ancestral burials. The identification names used in Hutton 2023 have been appropriated when registering these sites with AHIMS. A summary of the sites is provided in Table 7-3. Figure 7-2 shows the location of each site in relation to the study area, and details of each site are provided in Section 7.3.1.

Table 7-3: Summary of newly recorded sites

AHIMS ID	Site Name	Site type	Landform
54-4-1158	Little Forest MM1 & MM2	Complex site including shell midden and earth mound materials. Potential ancestral burial located inside the visible site extent.	Floodplain
54-4-1159	Little Forest MM3	Complex site including shell midden and earth mound materials.	Floodplain
54-4-1160	Little Forest MM4	Complex site including shell midden and earth mound materials.	Floodplain
54-4-1161	Little Forest MM5	Complex site including shell midden and earth mound materials.	Floodplain
54-4-1162	Little Forest MM6, MM7 and MM8	Complex site including shell midden and earth mound materials.	Floodplain
54-4-1163	Little Forest SM1, MM9–MM16	Complex site including shell midden and earth mound materials.	Floodplain
54-4-1164	Little Forest MM17	Complex site including shell midden and earth mound materials.	Floodplain
54-4-1165	Little Forest MM18 and MM19	Complex site including shell midden and earth mound materials.	Floodplain
54-4-1166	Little Forest SM2, SM3 and MM20	Complex site including shell midden and earth mound materials.	Floodplain
54-4-1167	Little Forest PB1	Potential ancestral burial.	Floodplain

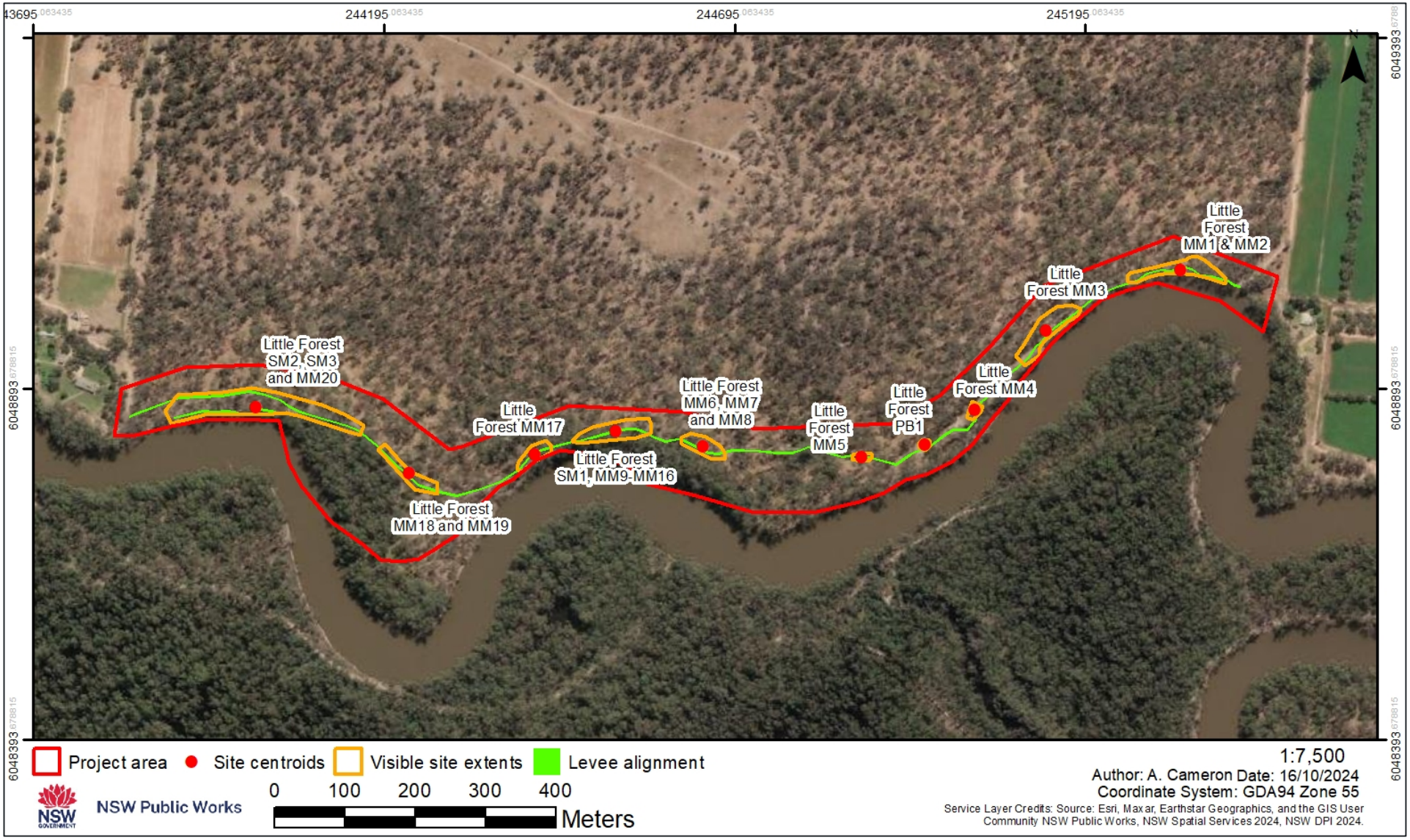


Figure 7-2: Location of sites recorded during the pedestrian survey.

7.3.1 Recorded sites

7.3.1.1 Little Forest MM1 and MM2 (AHIMS 54-4-1158)

Site Name:	Little Forest MM1 and MM2 (LF MM1 & MM2)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	245330
		Northing:	6049062
Site type:	Shell midden, earth mound and potential ancestral burial.		
Site extent:	145 m (east-west) by 30 m (north-south). See Figure 7-3 for map of site.		
Site description:	Little Forest MM1 and MM2 was first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits was recorded in September 2024. The site is a shell midden and earth mound. The shell material consists of mussel shell (fragments and whole) located either in the levee bank, or in the borrow pits. No specific materials associated with earth mounds such as baked clay or charcoal was noted at the site, though these may have been affected by water wash and/or erosion since MM1 and MM2 were first recorded in March 2023. The visible extent of the site is approximately 145 m east-west and 30 m north-south. It is located at the eastern end of the levee, and in some places is close to the bank of the Murray River (Photo 7-1). The emergency levee intersects through the centre of the visible site extent as shown in Figure 7-3. There is potential for further subsurface deposits for at least 40 m northwards adjacent to the visible site extent. The visible site extent primarily consists of the levee and borrow pits (Photo 7-2). Photo 7-3 and Photo 7-4 show examples of the shell material recorded in the bank of the levee and in an borrow pit inside the visible site extent. There was also one bone from a potential ancestral burial located inside one of the borrow pits at the east of the site (Photo 7-5). The bone appears to be a rib, with the sternal end of the bone eroding from the cut of the borrow pit. Based on the context and the presence of other burials in the area, it is likely to be human bone. The bone is located approximately 18 cm below ground surface, with approximately 4–5 cm of bone eroding from the northern wall of the borrow pit (Photo 7-6). The visibility at LF MM1 and MM2 was moderate, with approximately 60% GSV and 40% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short scattered grass present, though the levee bank top and slopes were clear of vegetation, as were the majority of the borrow pits. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-1: View northwest of LF MM1 & MM2 location from eastern extent of site.

Photo 7-2: View west of LF MM1 & MM2 location from centre of visible site extent.

Photo 7-3: Detail of mussel shell fragment recorded on levee at LF MM1 & MM2.

Photo 7-4: View of borrow pit at LF MM1 & MM2 where concentration of shell fragments present.

Photo 7-5: View west of potential ancestral burial location in borrow pit adjacent to north of levee at LF MM1 & MM2.

Photo 7-6: Detail of potential ancestral burial location in borrow pit adjacent to north of levee at LF MM1 & MM2.

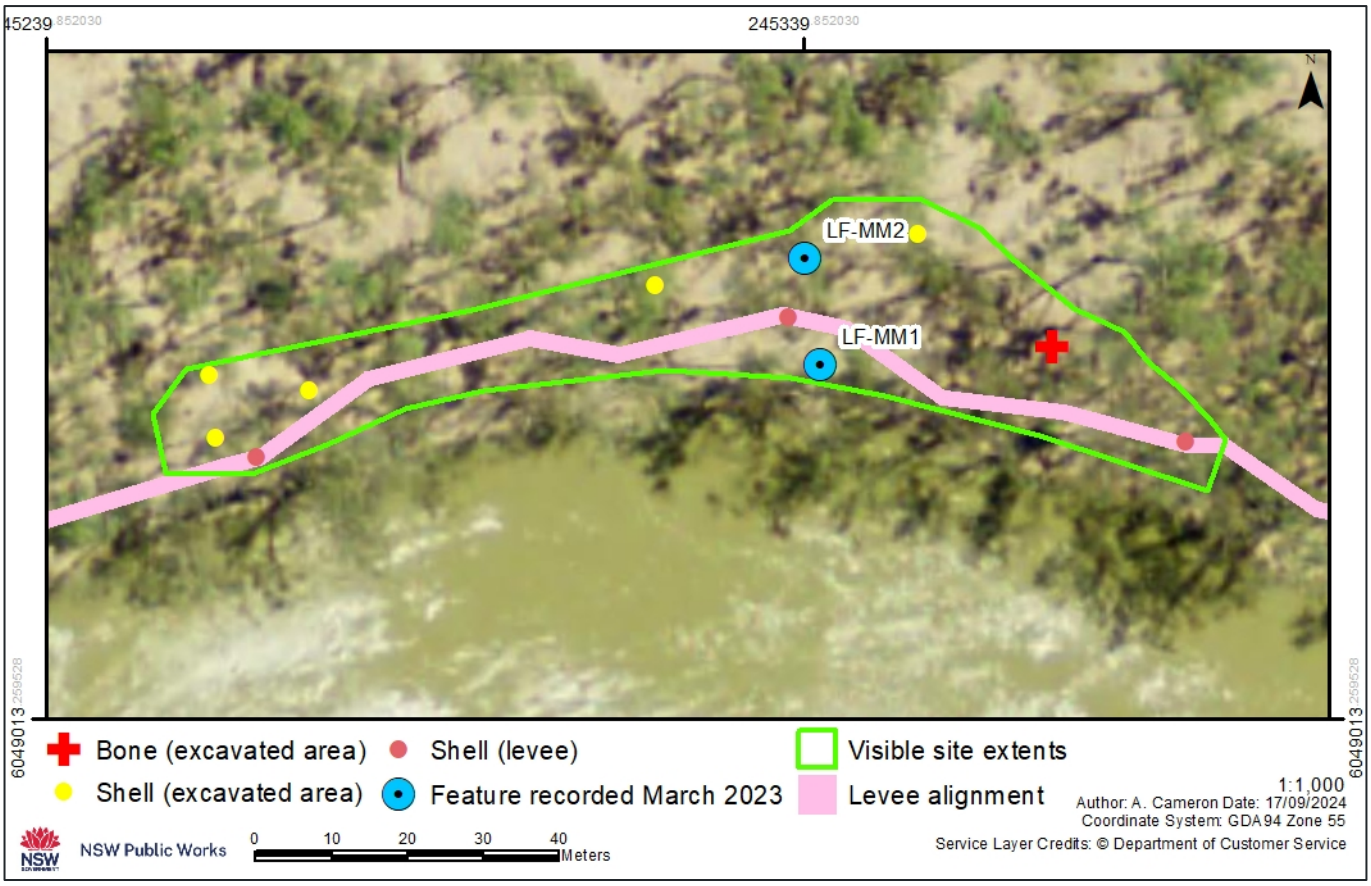


Figure 7-3: Site map of LF MM1 & MM2.

7.3.1.2 Little Forest MM3 (AHIMS 54-4-1159)

Site Name:	Little Forest MM3 (LF MM3)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	245138
		Northing:	6048975
Site type:	Shell midden and earth mound.		
Site extent:	115 m (northeast-southwest) by 30 m (northwest-southeast). See Figure 7-4 for map of site.		

Site description: Little Forest MM3 was first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits was recorded in September 2024. The site is a shell midden and earth mound. The shell material consists of mussel shell (fragments and whole) located either in the levee bank, in the borrow pits, or on the ground surface. No specific materials associated with earth mounds such as baked clay or charcoal was noted at the site, though these may have been affected by water wash and/or erosion since MM3 was first recorded in March 2023.

The visible extent of the site is approximately 115 m northeast-southwest and 30 m northwest-southeast. It is located towards the eastern end of the levee, and the levee runs parallel to the bank of the Murray River (Photo 7-7). The emergency levee intersects through the centre of the visible site extent as shown in Figure 7-4. There is potential for further subsurface deposits adjacent to the visible site extent which primarily consists of the levee and borrow pits (Photo 7-7 and Photo 7-8). Photo 7-9 and Photo 7-10 show examples of the shell material recorded at the site, including a concentration of midden material.

The visibility at LF MM3 was high, with approximately 70% GSV and 50% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short scattered grass present, though the levee bank top and slopes were clear of vegetation, as were the majority of the borrow pits and a lot of the remaining natural ground surface. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.

Photo 7-7: View west of LF MM3 location.

Photo 7-8: View north of LF MM3 location and borrow pit inside it.

Photo 7-9: Detail of mussel shell concentration recorded at LF MM3.

Photo 7-10: Detail of mussel shell fragment at LF MM3.

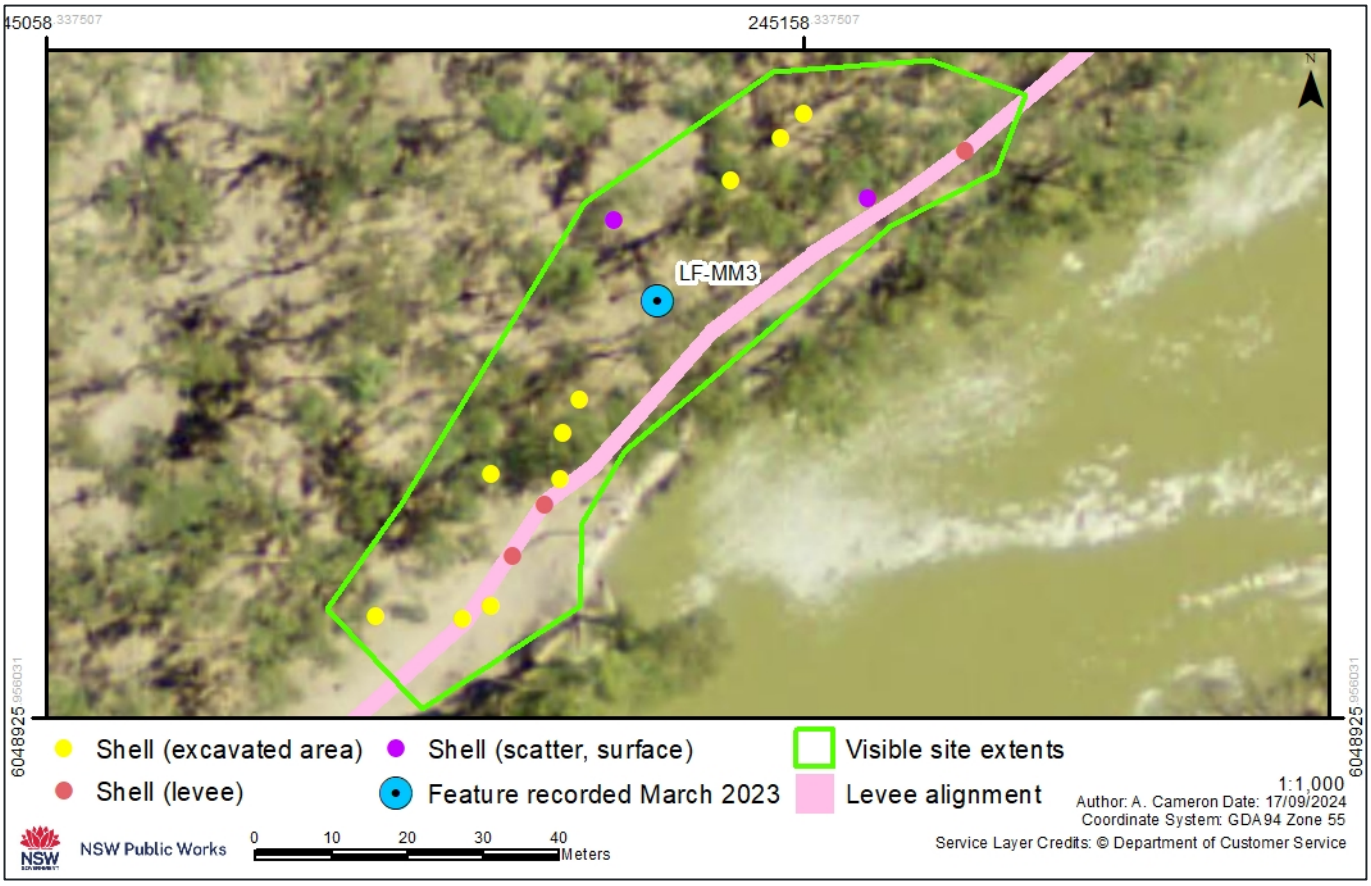


Figure 7-4: Site map of LF MM3.

7.3.1.3 Little Forest MM4 (AHIMS 54-4-1160)

Site Name:	Little Forest MM4 (LF MM4)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	245036
		Northing:	6048862
Site type:	Shell midden and earth mound.		
Site extent:	25 m (northeast-southwest) by 16 m (southeast-northwest). See Figure 7-5 for map of site.		
Site description:	Little Forest MM4 was first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits was recorded in September 2024. The site is a shell midden and earth mound. The shell material consists of mussel shell (fragments and whole) located either in the levee bank or in the borrow pits. No specific materials associated with earth mounds such as baked clay or charcoal was noted at the site, though these may have been affected by water wash and/or erosion since MM4 was first recorded in March 2023. The visible extent of the site is approximately 25 m northeast-southwest and 16 m northwest-southeast. It is located along the central portion of the levee, approximately 40 m northeast of a pumpstation and pipeline infrastructure. The levee is approximately 8 m northwest of the bank of the Murray River. The emergency levee intersects through the eastern section of the visible site extent as shown in Figure 7-5. There is potential for further subsurface deposits adjacent to the visible site extent which primarily consists of the levee and borrow pits (Photo 7-11 and Photo 7-12). Photo 7-13 shows an example of the shell material recorded at the site. Photo 7-14 shows a flag indicating where shell material was identified in the wall of an borrow pit. The visibility at LF MM4 was moderate, with approximately 50% GSV and 60% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short scattered grass present, though the levee bank top and slopes were clear of vegetation, as were the majority of the borrow pits. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-11: View northeast of LF MM4 location.

Photo 7-12: View southeast of LF MM4 location.

Photo 7-13: Detail of mussel shell fragments recorded at LF MM4.

Photo 7-14: View southeast of borrow pit with shell midden remnants recorded at LF MM4.

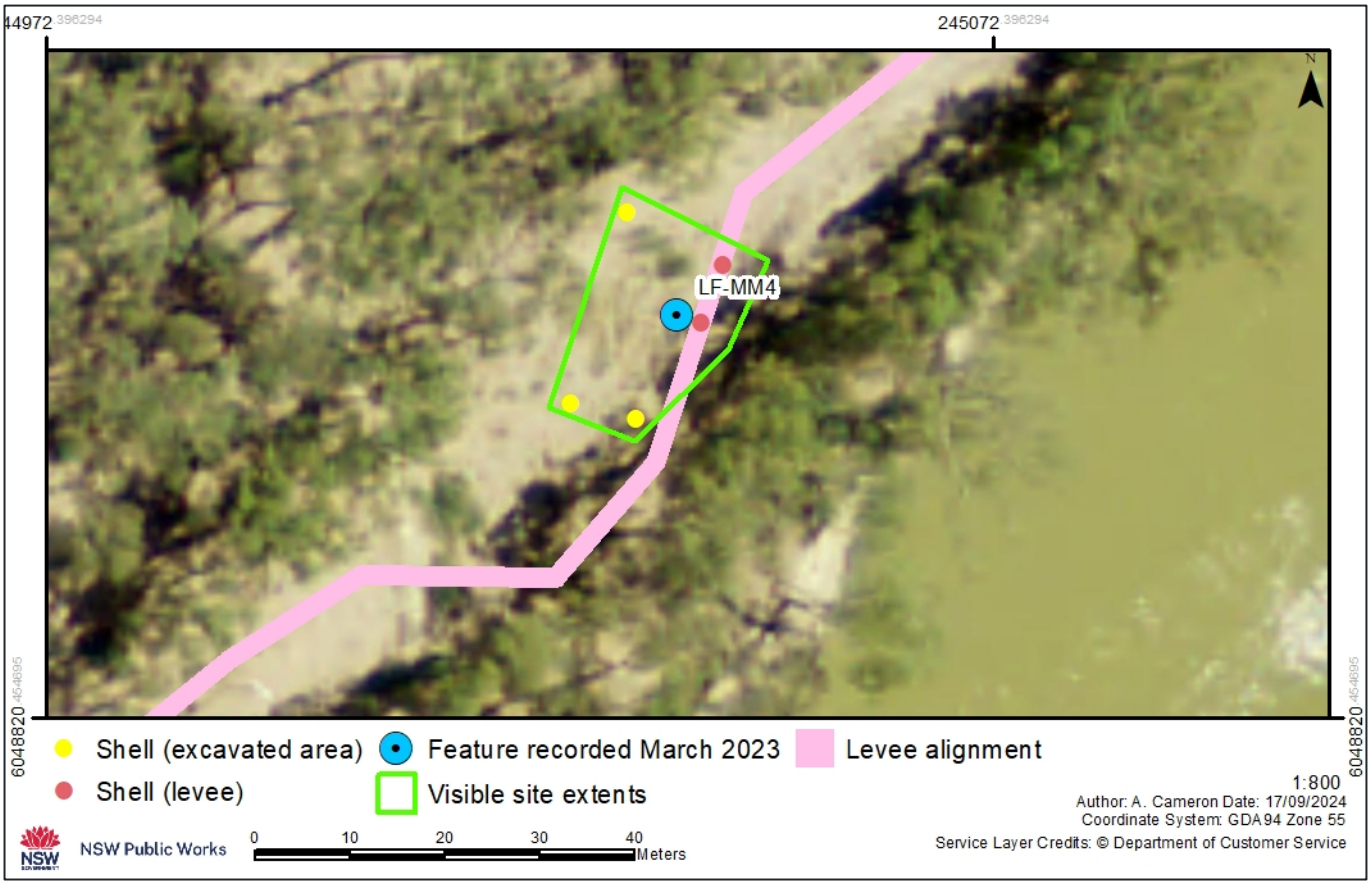


Figure 7-5: Site map of LF MM4.

7.3.1.4 Little Forest MM5 (AHIMS 54-4-1161)

Site Name:	Little Forest MM5 (LF MM5)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	244876
		Northing:	6048796
Site type:	Shell midden and earth mound.		
Site extent:	30 m (east-west) by 12 m (north-south). See Figure 7-6 for map of site.		
Site description:	Little Forest MM5 was first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits was recorded in September 2024. The site is a shell midden and earth mound. The shell material consists of mussel shell (fragments and whole) as well as at least one snail shell, located in the borrow pits adjacent to the south side of the levee. No specific materials associated with earth mounds such as baked clay or charcoal was noted at the site, though these may have been affected by water wash and/or erosion since MM5 was first recorded in March 2023. The visible extent of the site is approximately 30 m east-west and 15 m north-south It is located along the central portion of the levee, and the levee runs through the centre and northern portion of the visible site. The site is approximately 50 m north of the bank of the Murray River. There is potential for further subsurface deposits adjacent to the visible site extent which primarily consists of the levee and borrow pits (Photo 7-15 and Photo 7-16). Photo 7-17 shows the snail shell recorded at the site, and Photo 7-18 shows an example of the shell material recorded at the site. The visibility at LF MM5 was moderate, with approximately 40% GSV and 40% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short grass present including on parts of the levee bank top and slopes as well as parts of the borrow pits. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-15: View west of LF MM5 location.

Photo 7-16: View northeast of LF MM5 location.

Photo 7-17: Detail of snail shell recorded at LF MM5.

Photo 7-18: Detail of mussel shell fragments recorded at LF MM5.

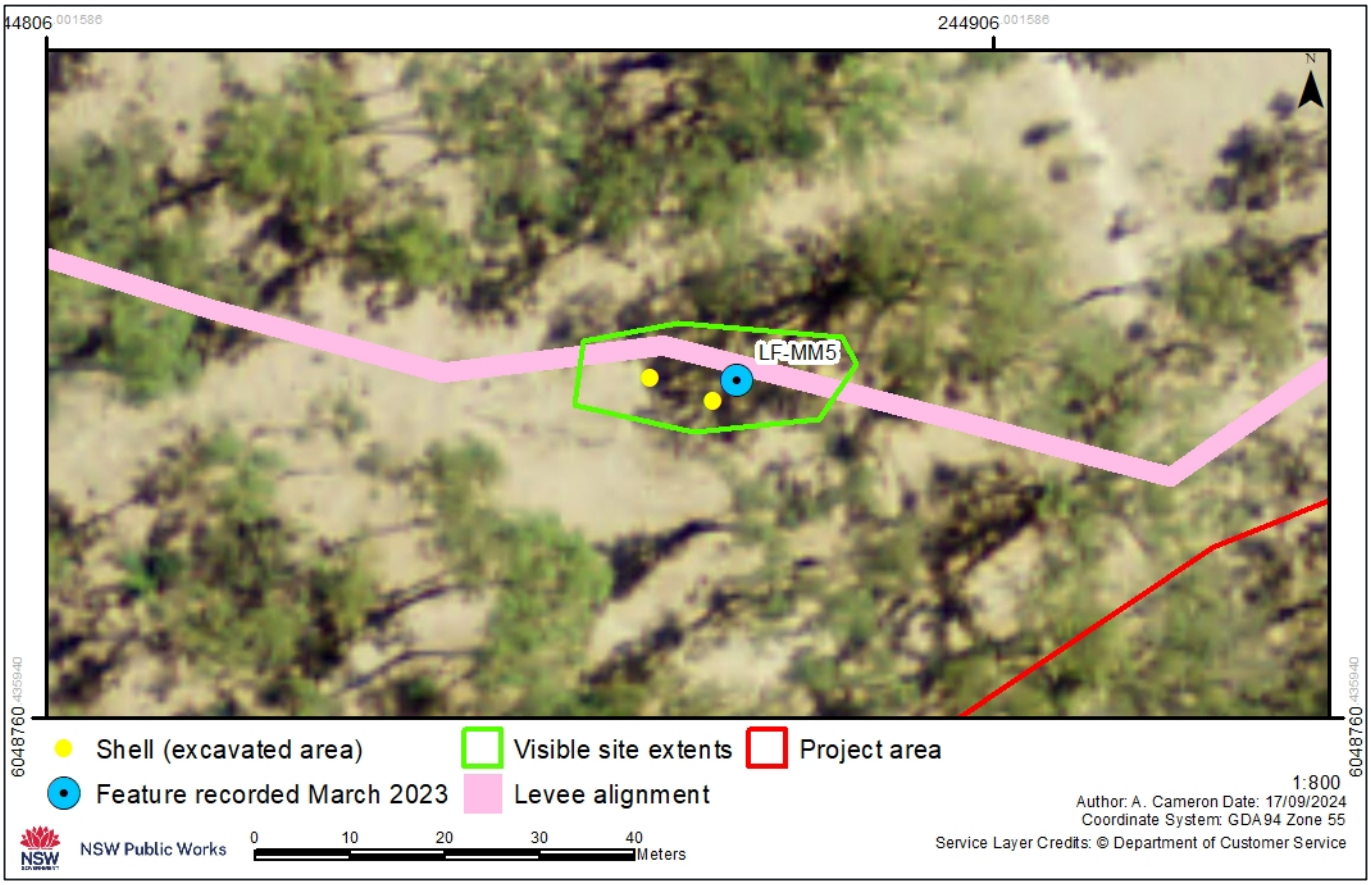


Figure 7-6: Site map of LF MM5.

7.3.1.5 Little Forest MM6, MM7 and MM8 (AHIMS 54-4-1162)

Site Name:	Little Forest MM6, MM7 and MM8 (LF MM6, MM7 & MM8)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	244650
		Northing:	6048811
Site type:	Shell midden and earth mounds.		
Site extent:	70 m (southeast-northwest) by 25 m (northeast-southwest). See Figure 7-7 for map of site.		
Site description:	Little Forest MM6, MM7 and MM8 were first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits was recorded in September 2024. The site consists of a shell midden and at least three earth mound deposits. The shell material consists of mussel shell (fragments and whole) located in the borrow pits adjacent to the southwest and northeast sides of the levee. There are also some shell fragments recorded on the dirt track which runs along the northern boundary of the visible site extent. No specific materials associated with earth mounds such as baked clay or charcoal was noted at the site, though these may have been affected by water wash and/or erosion since MM6, MM7 and MM8 were first recorded in March 2023. The visible extent of the site is approximately 70 m southeast-northwest and 25 m northeast-southwest. The site is located along the central portion of the levee, and the levee runs through the southern portion of the visible site. The site is approximately 45 m northeast of the bank of the Murray River. There is potential for further subsurface deposits adjacent to the visible site extent which primarily consists of the levee, borrow pits, and the dirt track (Photo 7-19 to Photo 7-21). Photo 7-22 shows an example of the shell material recorded at the site. The visibility at LF MM6, MM6 and MM7 was moderate, with approximately 60% GSV and 50% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short grass present including on parts of the levee bank top and slopes as well as parts of the borrow pits. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-19: View south across visible site extent of LF MM6, MM7 & MM8,

Photo 7-20: View southwest of LF MM6, MM7 & MM8 location.

Photo 7-21: View northwest across LF MM6, MM7 & MM8 showing levee and borrow pit on south of levee.

Photo 7-22: Detail of mussel shell fragments recorded at LF MM6, MM7 & MM8.

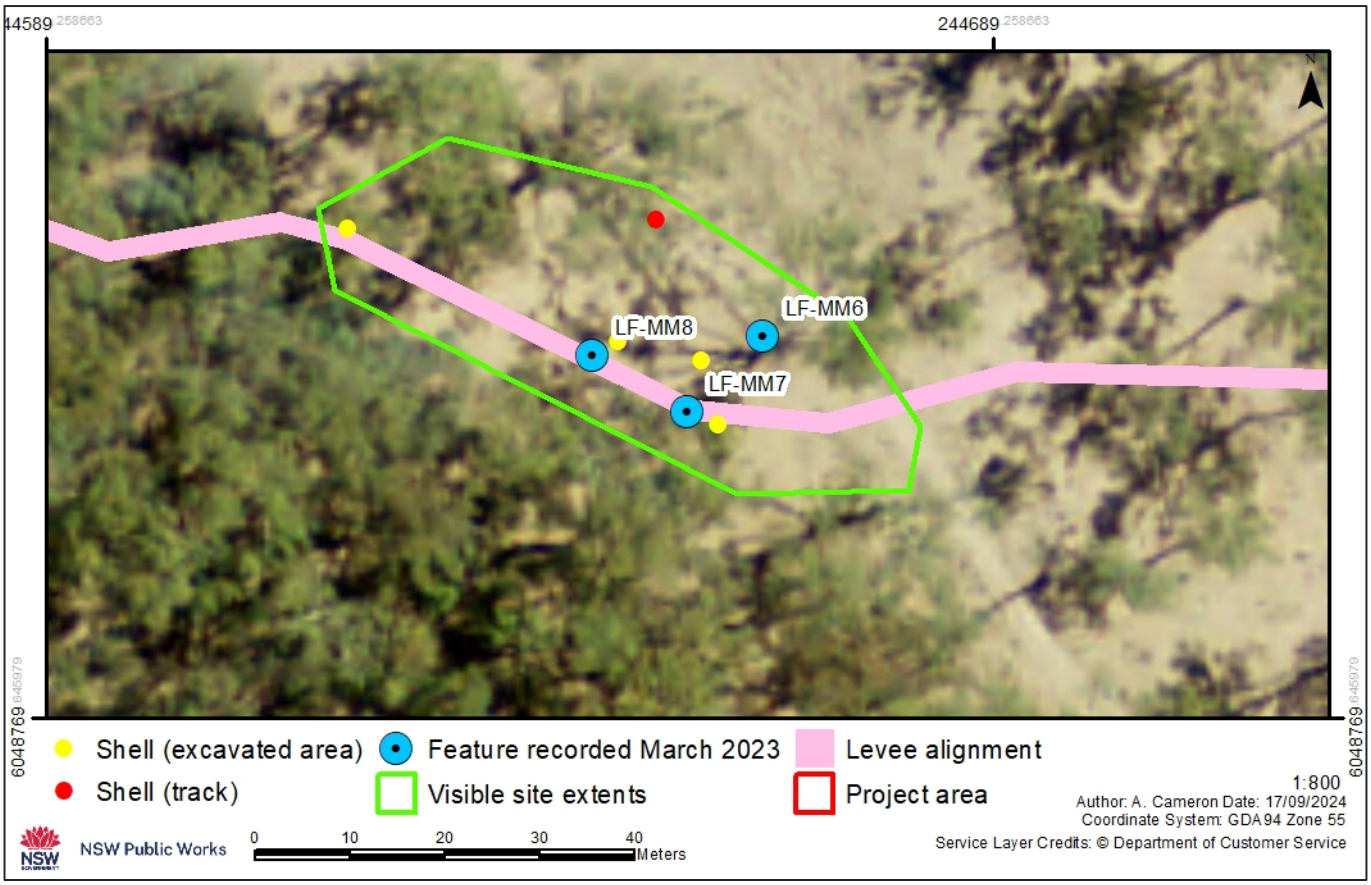


Figure 7-7: Site map of LF MM6, MM7 & MM8.

7.3.1.6 Little Forest SM1, MM9–MM16 (AHIMS 54-4-1163)

Site Name:	Little Forest SM1, MM9–MM16 (LF SM1, MM9–MM16)		
Date recorded:	March 2023 & 10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	244525
		Northing:	6048833
Site type:	Shell midden and earth mounds.		
Site extent:	115 m (east-west) by 30 m (north-south). See Figure 7-8 for map of site.		
Site description:	Little Forest SM1 and MM9–MM16 were first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits and charcoal with shell fragments was recorded in September 2024. The site consists of a shell midden and at least eight earth mound deposits. The shell material consists of mussel shell (fragments and whole) located in the levee bank, borrow pits adjacent to the levee, and on the surface of a dirt track. Several snail shells were also recorded at the site. No specific materials, excluding one instance of charcoal with shell fragments, associated with earth mounds such as baked clay was noted at the site, though these may have been affected by water wash and/or erosion since earth mound deposits were first recorded in March 2023. The visible extent of the site is approximately 115 m east-west and 30 m north-south. The site is located along the central portion of the levee, and the levee runs through the centre of the visible site. The site is approximately 15–30 m north of the bank of the Murray River. There is potential for further subsurface deposits adjacent to the visible site extent which primarily consists of the levee, borrow pits, and the dirt track (Photo 7-23 and Photo 7-24). Photo 7-25 and Photo 7-26 show examples of the shell material or snail shells recorded at the site. The visibility at LF SM1 and MM9–MM16 was low-moderate, with approximately 40% GSV and 30% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter, short grass and small shrubs present including on parts of the levee bank top and slopes as well as parts of the borrow pits. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-23: View west of LF SM1, MM9–MM16 location from eastern extent.

Photo 7-24: View east across centre of LF SM1, MM9–MM16 visible site extent.

Photo 7-25: Detail of mussel shell recorded at LF SM1, MM9–MM16.

Photo 7-26: Detail of snail shell recorded at LF SM1, MM9–MM16.

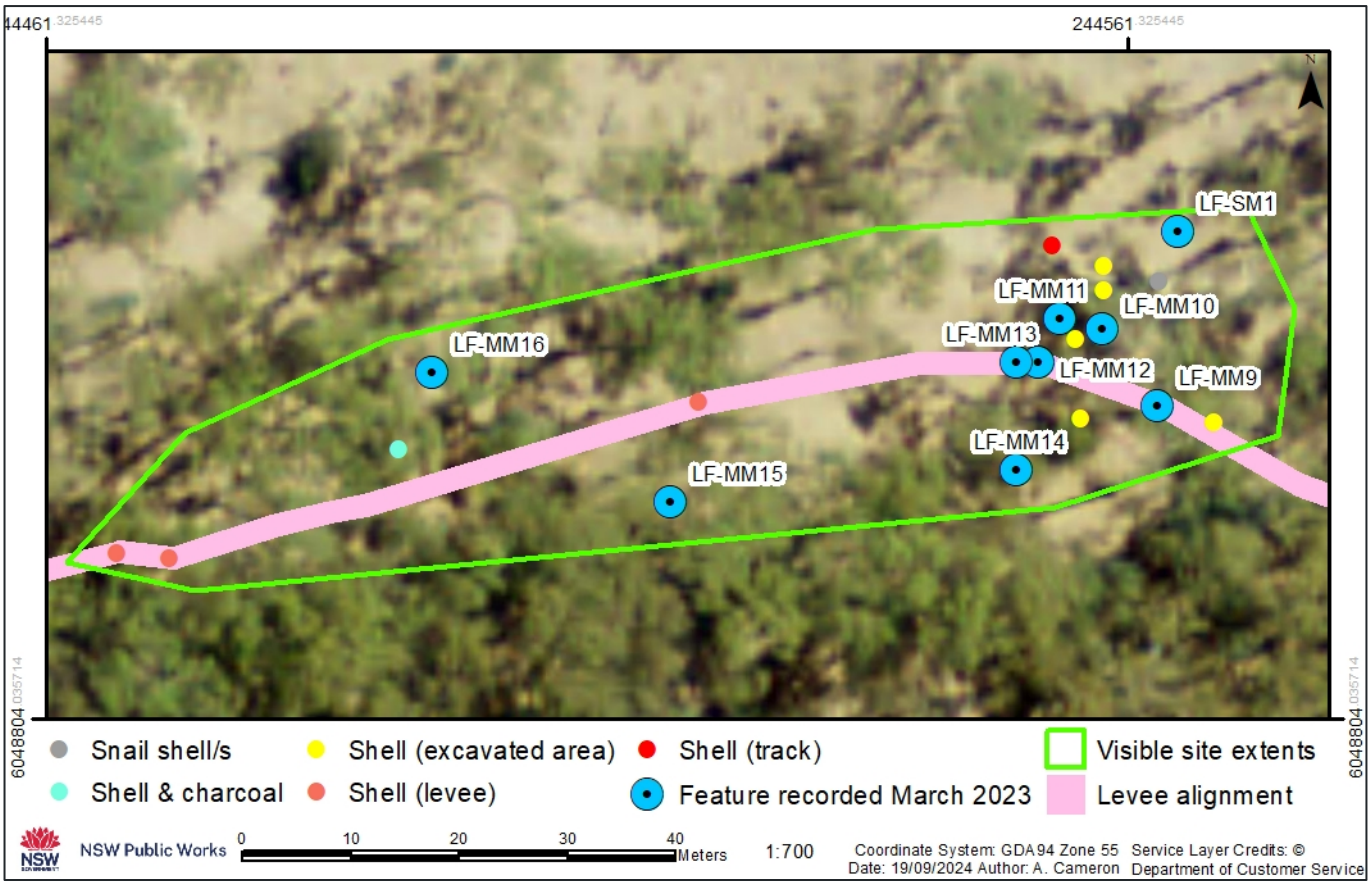


Figure 7-8: Site map of LF SM1, MM9–MM16.

7.3.1.7 Little Forest MM17 (AHIMS 54-4-1164)

Site Name:	Little Forest MM17 (LF MM17)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	244409
		Northing:	6048799
Site type:	Shell midden and earth mound.		
Site extent:	60 m (northeast-southwest) by 25 m (northwest-southeast). See Figure 7-9 for map of site.		
Site description:	Little Forest MM17 was first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits was recorded in September 2024. The site consists of a shell midden and at one earth mound deposit. The shell material consists of mussel shell (fragments and whole) located in the levee bank and the borrow pits adjacent to the north/northwest and southeast sides of the levee. No specific materials associated with earth mounds such as baked clay or charcoal was noted at the site, though this may have been affected by water wash and/or erosion since earth mound deposits were first recorded in March 2023. The visible extent of the site is approximately 60 m northeast-southwest and 25 m northwest-southeast. The site is located along the central portion of the levee, and the levee runs through the centre of the visible site. The site is adjacent to the bank of the Murray River. There is potential for further subsurface deposits adjacent to the visible site extent which primarily consists of the levee and borrow pits (Photo 7-27 to Photo 7-29). Photo 7-30 shows an examples of shell material recorded at the site in the side of an borrow pit. The visibility at LF MM17 was high, with approximately 70% GSV and 50% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short grass present including on parts of the levee bank top and slopes, though much of the borrow pits were clear excepting some scattered leaf litter. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-27: View west of LF MM17 location.

Photo 7-28: View southwest of LF MM17 location along levee alignment.

Photo 7-29: View south across visible extent of LF MM17.

Photo 7-30: Detail of shell deposit in an borrow pit at LF MM17.

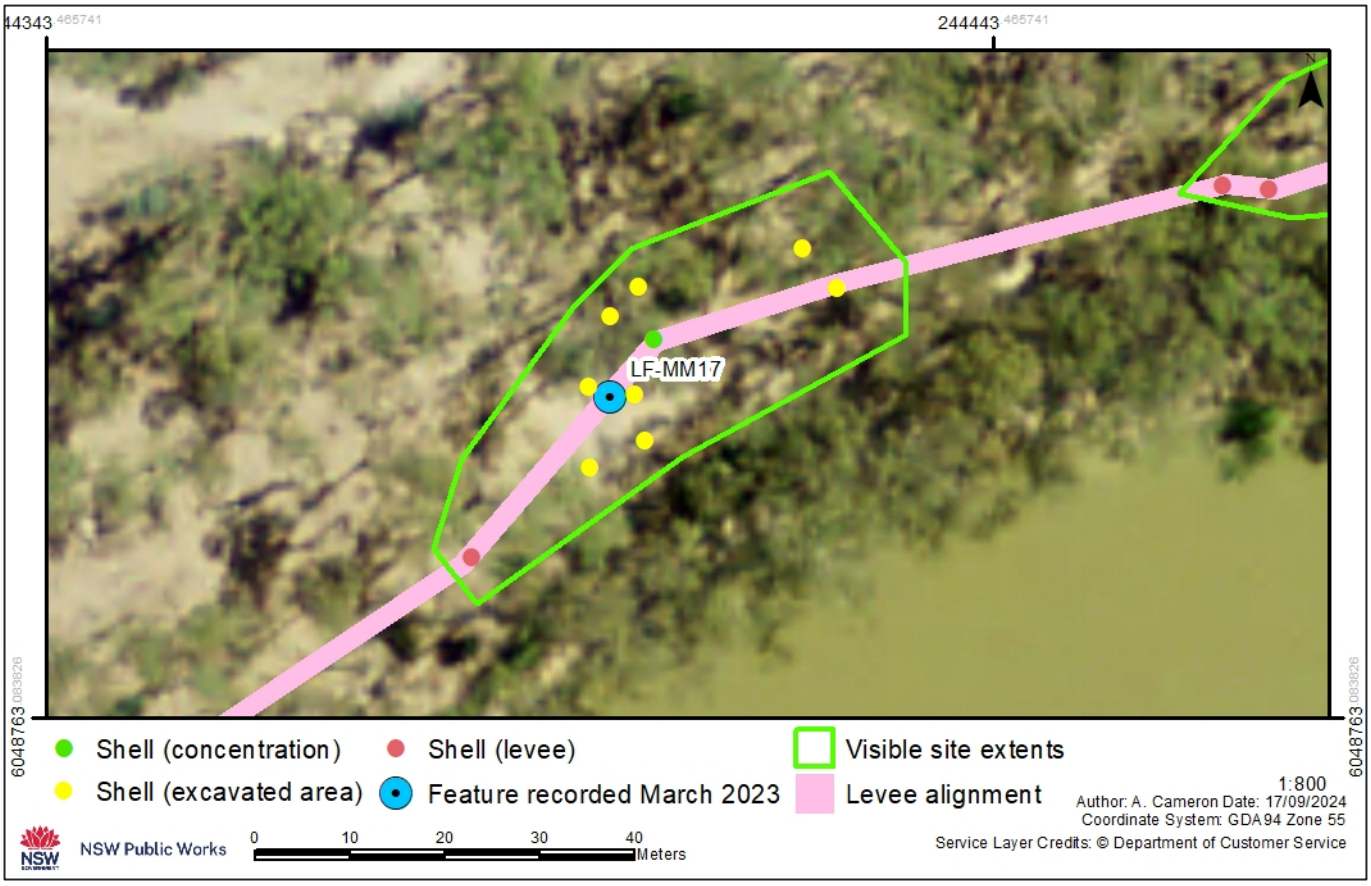


Figure 7-9: Site map of LF MM17.

7.3.1.8 Little Forest MM18 and MM19 (AHIMS 57-4-1165)

Site Name:	Little Forest MM18 and MM19 (LF MM18 & MM19)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	244231
		Northing:	6048773
Site type:	Shell midden and earth mounds.		
Site extent:	105 m (northwest-southeast) by 25 m (northeast-southwest). See Figure 7-10 for map of site.		
Site description:	Little Forest MM18 and MM19 was first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits was recorded in September 2024. The site consists of a shell midden and at least two earth mound deposits. The shell material consists of mussel shell (fragments and whole) located in the levee bank and the borrow pits adjacent to the levee. No specific materials associated with earth mounds such as baked clay or charcoal was noted at the site, though this may have been affected by water wash and/or erosion since earth mound deposits were first recorded in March 2023. The visible extent of the site is approximately 25 m northeast-southwest and 60 m northwest-southeast. The site is located along the western portion of the levee, and the levee runs through the centre of the visible site. The site is adjacent to the bank of the Murray River. There is potential for further subsurface deposits adjacent to the visible site extent which primarily consists of the levee and borrow pits (Photo 7-31 to Photo 7-33). Photo 7-34 shows an example of shell material recorded at the site in an borrow pit. The visibility at LF MM18 and MM19 was low, with approximately 30% GSV and 30% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short grass present including on parts of the levee bank top and slopes as well as parts of the borrow pits. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-31: View west of LF MM18 & MM19 location from eastern visible site extent.

Photo 7-32: View northeast of LF MM18 & MM19 location from western visible site extent.

Photo 7-33: View southeast towards Murray River across visible site extent at LF MM18 & MM19.

Photo 7-34: Detail of shell fragment recorded at LF MM18 & MM19.

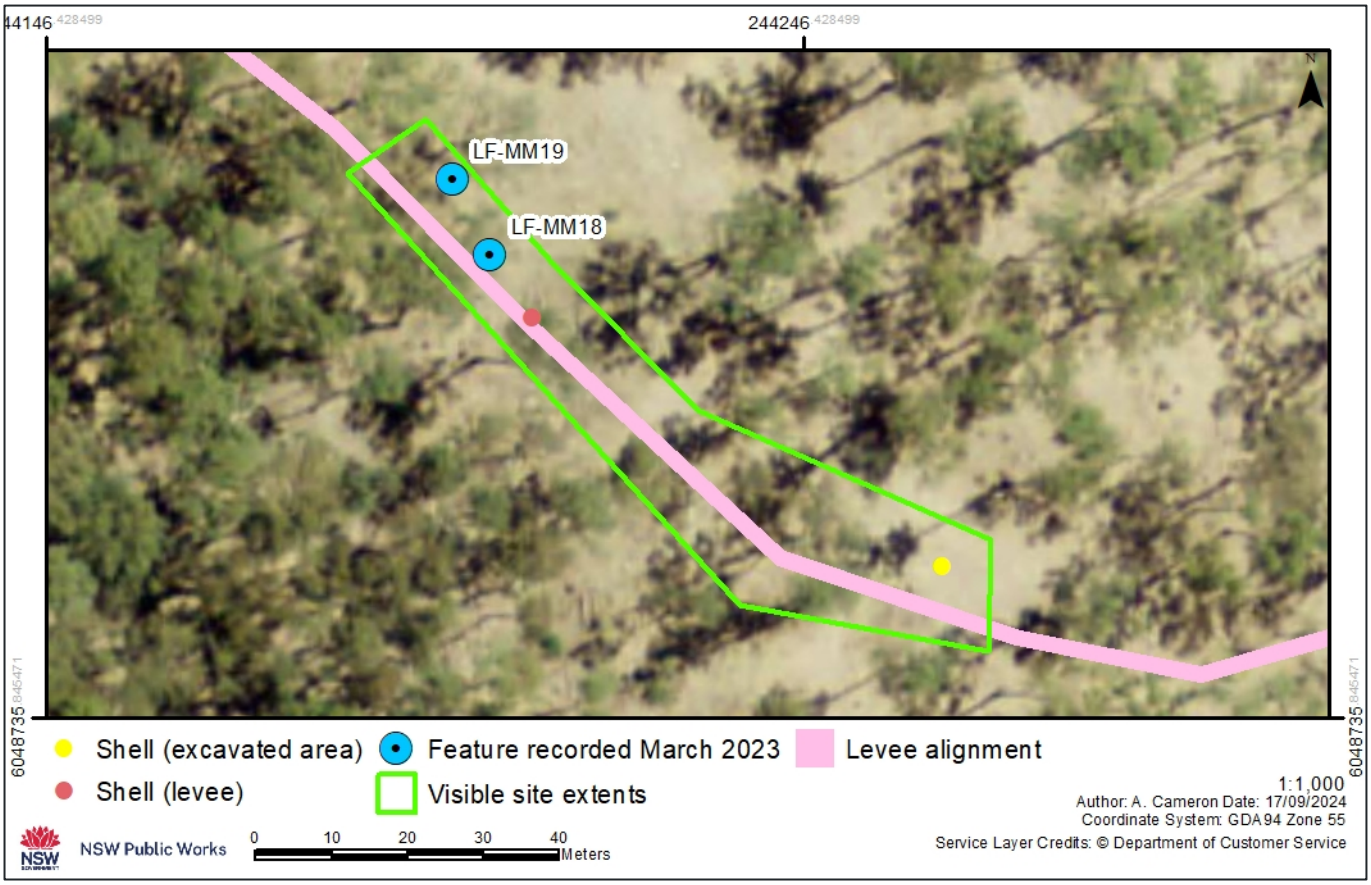


Figure 7-10: Site map of LF MM18 & MM19.

7.3.1.9 Little Forest SM2, SM3 and MM20 (AHIMS 57-4-1166)

Site Name:	Little Forest SM2, SM3 and MM20 (LF SM2, SM3 and MM20)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	244012
		Northing:	6048867
Site type:	Shell midden and earth mound.		
Site extent:	285 m (east-west) by 40 m (north-south). See Figure 7-11 for map of site.		
Site description:	Little Forest SM2, SM3 and MM20 was first recorded in March 2023 (Hutton 2023). Additional features consisting of shell midden deposits and one clay heat retainer was recorded in September 2024. The site consists of a shell midden and at least one earth mound deposit. The shell material consists of mussel shell (fragments and whole) located in the levee bank, the borrow pits adjacent to the levee, and on what appears to be eroded natural ground surface. One clay heat retainer was identified on the top of the levee, as well as a deposit of charcoal (see Figure 7-11 for locations). The previously recorded earth mound feature may have been affected by water wash and/or erosion since they were recorded in March 2023, though shell deposits were recorded at the same location as MM20. The visible extent of the site is approximately 285 m east-west and 40 m north-south. The site is located along the western portion of the levee, and the main levee runs through the northern section of the visible site. There is an additional levee along the southern edge of the visible site boundary. The site is adjacent to the bank of the Murray River. There is potential for further subsurface deposits adjacent to the visible site extent which primarily consists of the levee and borrow pits (Photo 7-35 to Photo 7-36). Photo 7-37 shows the clay heat retainer recorded on the top of the levee and Photo 7-38 shows an example of shell material recorded at the site in an borrow pit. The visibility at LF SM2, SM3 and MM20 was moderate, with approximately 50% GSV and 40% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short grass present including on parts of the levee bank top and slopes as well as parts of the borrow pits. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-35: View east of LF SM2, SM3 and MM20 location along south side main levee.

Photo 7-36: View west of LF SM2, SM3 and MM20 location along north side of main levee.

Photo 7-37: Detail of clay heat retainer at LF SM2, SM3 and MM20.

Photo 7-38: Detail of shell fragments recorded at LF SM2, SM3 and MM20.

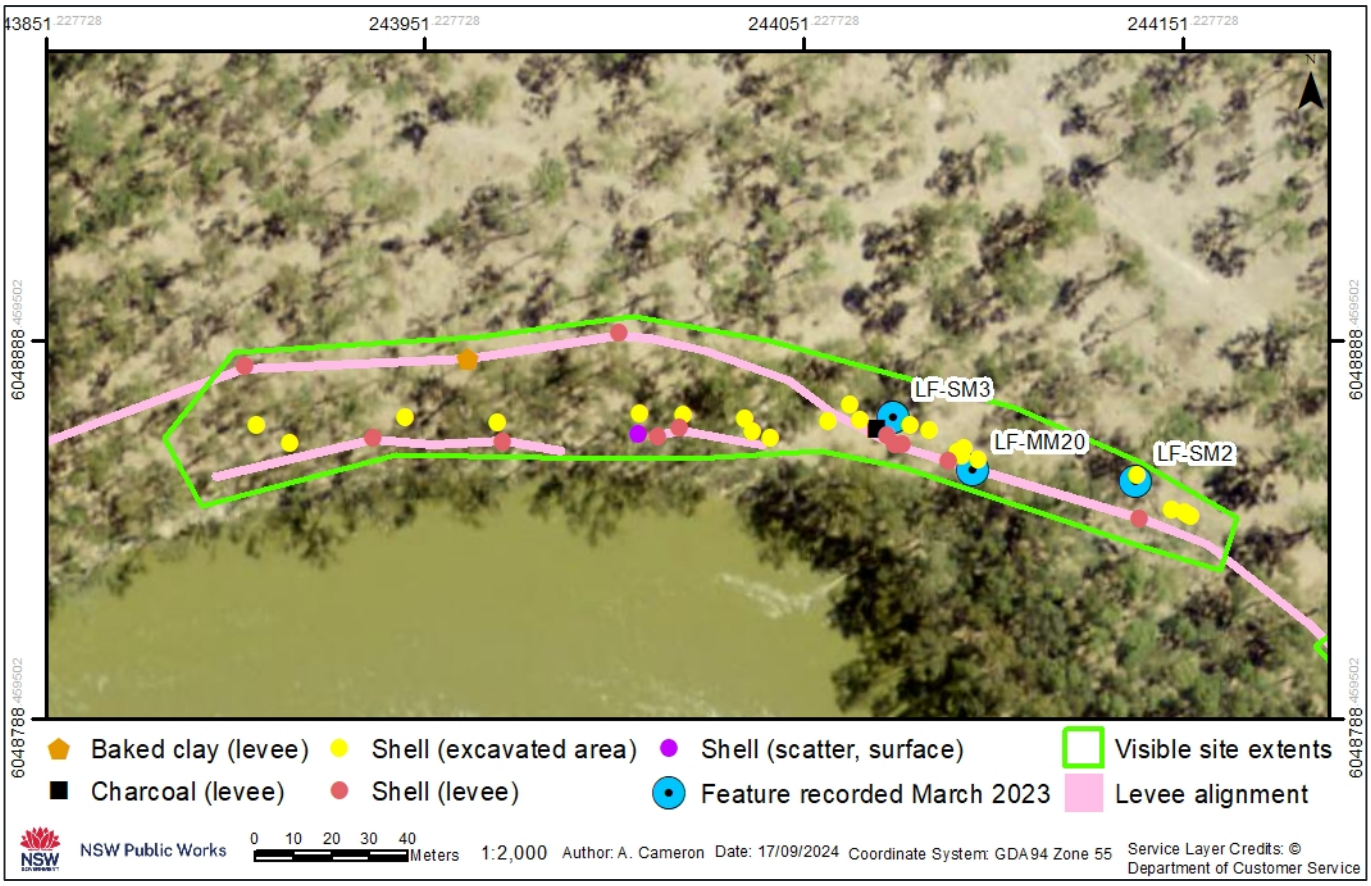


Figure 7-11: Site map of LF SM2, SM3 and MM20.

7.3.1.10 Little Forest PB1 (AHIMS 54-4-1167)

Site Name:	Little Forest PB1 (LF PB1)		
Date recorded:	10 September 2024	Recorders:	A. Cameron, P. Kerr, M. Kerr, & J. Verotage
Site centroid GPS coordinates (GDA94 Zone 55)		Easting:	244965
		Northing:	6048814
Site type:	Potential burial.		
Site extent:	15 m (northeast-southwest) by 15 m (northwest-southeast). See Figure 7-12 for map of site.		
Site description:	Little Forest PB1 was first identified in late August or early September by a Moama LALC representative who was monitoring works at or near the pump station approximately 30 m east of the site and reported there were small bone fragments present in an borrow pit adjacent to the northwest side of the levee (Jonathan Verotage, pers.comm. 10/09/2024). Photo 7-39 and Photo 7-40 show the borrow pit. The location was inspected during the survey, and two small (approximately 0.5 cm by 1 cm) fragments of bone were identified and recorded. These bone fragments were exposed on the wall of the borrow pit as shown in Photo 7-41 and approximately 15 cm below ground surface. It is unknown whether the bone fragments are human ancestral remains or animal bone fragments due to the undiagnostic nature of them. In the southwest wall of the same borrow pit, what appears to be degraded baked clay mixed with charcoal was also identified (Photo 7-42), approximately 3 m southwest of the bone fragments. The visibility at LF PB1 was moderate, with approximately 50% GSV and 40% GSE. The soil at the site consisted primarily of a light brown/tan loam. There was leaf litter and short grass present, though the levee bank top and slopes were clear of vegetation, as were part of the borrow pits. The site has been impacted by the construction of the emergency levee and subsequent water wash and erosion.		

Photo 7-39: View northeast across LF PB1 location

Photo 7-40: View southwest across LF PB1 location.

Photo 7-41: Detail of wall where bone fragments recorded at LF PB1.

Photo 7-42: Detail of charcoal and baked clay at LF PB1.

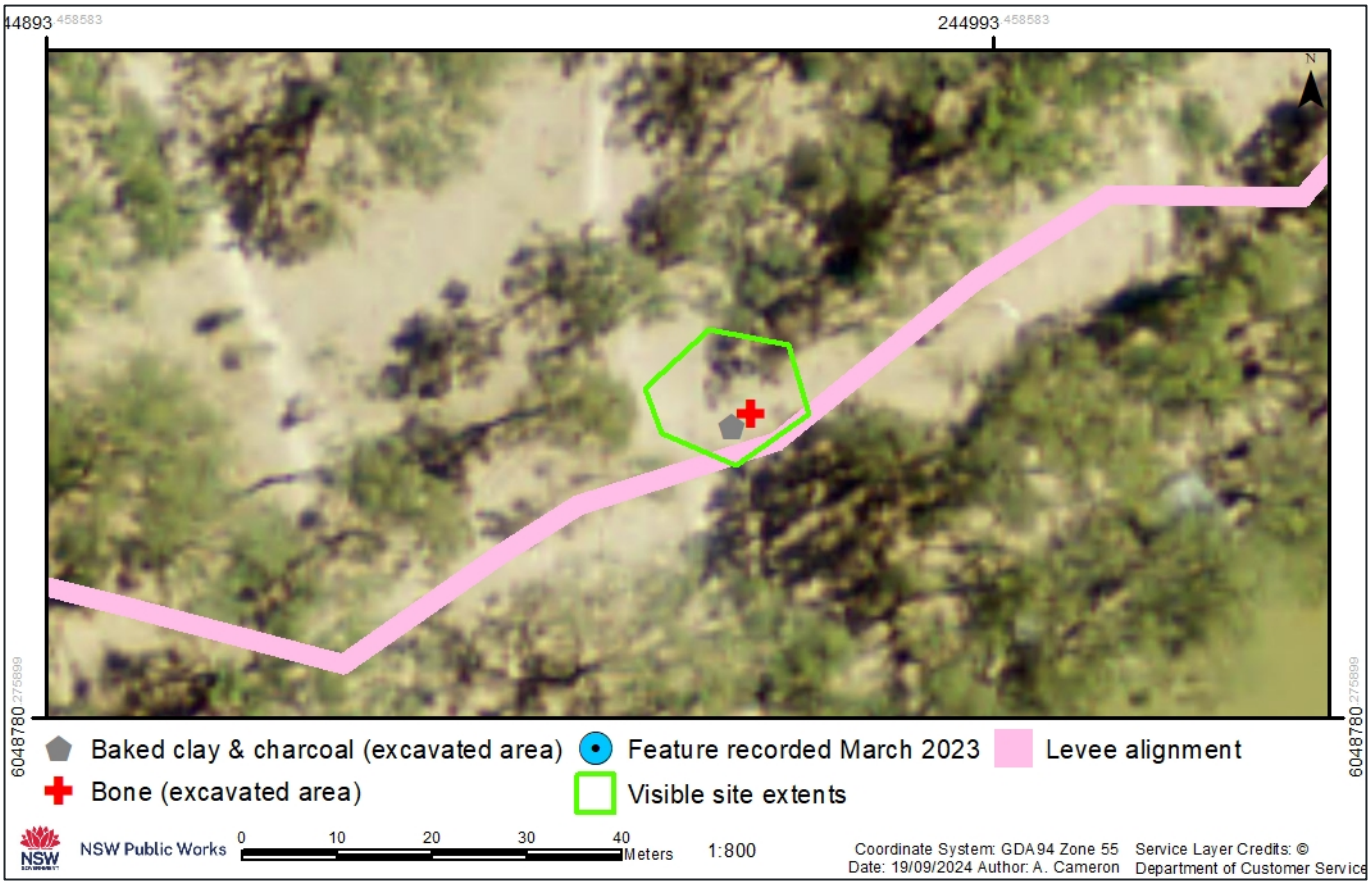


Figure 7-12: Site map of LF PB1.

7.4 Discussion

The pedestrian survey and recording of site features along the emergency levee identified ten Aboriginal sites. The known extents of these sites are based on visible features, the majority of which are shells or shell fragments. All of the known extents of the ten sites have been visibility and comprehensively disturbed by the construction of the emergency levee.

Based on the frequency of shell/s recorded in the borrow pit locations, in particular the walls and bases, it is likely evidence of this midden material on the ground surface would have been limited to where the natural ground surface had eroded to expose the deposit. As such, there is high potential for further undisturbed sub-surface deposits of midden and earth mound materials inside the study area, particularly around the edges of the known site extents.

Middens are a frequent site type in the central Murray region, and are often extensive laterally, spreading over a large surface area, while being thin horizontally (Garvey 2017). From the midden features recorded during this assessment, albeit already extensively disturbed, it appears that these middens may be of a similar composition being widely dispersed laterally along the majority of the levee bank. There were also no extensive horizontal deposits or concentrations of shell material identified in the walls of the borrow pits, though it is possible that any such deposits which may have been present in the borrow pit locations were destroyed during the construction of the levee, and the midden materials in the borrow pits and in the levee is the remaining dispersed materials.

Unfortunately, the majority of earth mound materials recorded during the initial inspection of the levee in early 2023 were not detailed in the brief report (Hutton 2023), so it is unknown whether these features remain or have been further impacted due to exposure. It is possible these materials were either covered by vegetation, covered by soil, displaced due to water wash, or have been deteriorated by natural elements since being exposed. The general location where these features were recorded (see Section 6.3.3 and Hutton 2022) did have additional features recorded during the survey in September 2024, mostly consisting of shell and midden materials.

The two small bone fragments identified at Little Forest PB1 (AHIMS 54-4-1167) and the possible rib at Little Forest MM1 and MM2 (AHIMS 54-4-1158) are potentially ancestral burials which have been impacted by the construction of the emergency levee. Ancestral burials have been previously recorded in Little Forest (i.e., AHIMS 5-4-0986) and in the nearby Koondrook State Forest (i.e., AHIMS 54-4-0047, 54-4-0074 and 54-4-0075). Information provided by TOs also indicated that there were further ancestral burials inside Little Forest which have not yet been registered on AHIMS (see Section 6.2 and Section 6.3.3).

The predictive model (Section 6.4) for the region is indicative of the site types recorded this assessment, with evidence of middens, earth mounds and ancestral burials being present inside the study area and Little Forest.

8. Significance assessment

As outlined in the Guide (DECCW 2010b: 7) there are two main steps when assessing the significance of a site:

- Identifying the range of values present across the study area.
- Assessing why they are important.

The identification and assessment of cultural heritage considers the four values of social, historical, scientific, and aesthetic values, as outlined in the Burra Charter (Australian ICOMOS 2013). The Burra Charter provides 'guidance for the conservation and management of places of cultural significance'. It defines cultural significance as 'embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places, and related objects'. A place may have a range of values for different individuals or groups, and the cultural significance or values of a place can change over time. The assessment of values of a place is to consider what is significant and why is it significant.

When considering each of the values of a place, these are graded in terms that allow significance to be described and compared (e.g., low, moderate, or high). When assessing the significance of a place following should also be considered:

- Research potential
- Representativeness
- Rarity
- Education potential

8.1 Social and cultural values

Social and cultural values refer to spiritual, traditional, historical, or contemporary associations and attachments the place has for Aboriginal people. It is how people express their connection with a place and the meaning that the place has for them (DEECW 2010b: 8).

Based on comments from site officers in the field and discussions with MLALC following the fieldwork, high social and cultural value has been assigned to all Aboriginal sites inside the study area (AHIMS 5-4-1158 to 54-4-1167). All sites have the same high cultural significance and value as Ancestors created them and the sites are links to the past.

Little Forest as a whole is extremely important to the TOs. The high number of archaeological sites in such a small area indicates that this location was used extensively as a 'village', and reinforces the connection the TOs have to Country, both past and present. In addition, at least one ancestral burial and two potential burial locations have been identified to date in Little Forest. The presence of ancestral burials (and the potential for further burials) highlights how culturally significant the location is.

8.2 Historic values

Historic values refer to a place's associations with a historically important person, phase, event, or activity in an Aboriginal community. A place does not always have physical evidence of its historical importance and may also have shared historic values with other communities. It is important to remember that places of post-contact Aboriginal history have been generally poorly recognised, and subsequently the Aboriginal involvement and contribution to regional historical themes is often missing (DEECW 2010b: 9).

There are no known historic (post-contact) values associated with AHIMS 5-4-1158 to 54-4-1167. The features recorded during this assessment all indicate to a long Aboriginal use of Little Forest prior to colonisation, and no Aboriginal objects (such as flaked glass or ceramic) indicating to its use following colonisation were identified during the assessment. As such, the historical values of AHIMS 5-4-1158 to 54-4-1167 are assessed as being low.

If any historic values are identified during consultation with the RAPs these will be detailed here, and the significance reassessed.

8.3 Scientific and archaeological values

The scientific and archaeological values of a place, landscape, area, or object considers its rarity, representativeness, and the extent that it can contribute to further research and understanding (DEECW 2010b: 9).

The scientific and archaeological significance of AHIMS 5-4-1158 to 54-4-1167 is assessed as high. These sites are described as having high scientific/archaeological significance based on the following values:

- Likely associated with undisturbed archaeological deposits.
- Are part of a wider grouping of archaeological sites within Little Forest.
- The undisturbed areas (i.e., not used as borrow pits) have research potential regarding Aboriginal occupation of Little Forest and the wider region for a high-usage village that may have been used for extended periods of time.

8.4 Aesthetic values

Aesthetic values refer to scenic, architectural, sensory, and creative aspects of a place. It is often closely linked with the social values. When considering aesthetic values, it is important to reflect on the form, scale, colour, texture and material of any fabric or landscape, including the smell and sounds at the place (DEECW 2010b: 9).

Excluding the emergency levee and locations of water infrastructure, the area has high aesthetic values. All sites (AHIMS 5-4-1158 to 54-4-1167) are located adjacent to the Murray River and excepting the emergency levee, borrow pits and weeds, the area is aesthetically pleasing. As such, the aesthetic values of AHIMS 5-4-1158 to 54-4-1167 are assessed as being moderate. If the emergency levee had not been constructed, the area would be assessed as having high aesthetic values.

8.5 Assessing significance

Table 8-1 summarised the significance of sites recorded during this assessment. All sites recorded (AHIMS 5-4-1158 to 54-4-1167) have been assessed as having high cultural and archaeological values, moderate aesthetic values and low historical values.

Little Forest is an important location to the TOs, both culturally and archaeologically. It was once a village location, with archaeological evidence of its use over extended periods of time. Overall, Little Forest has the potential for further research regarding location and density of earth mounds, in particular the placement of earth mounds in relation to natural water flows which would have affected the forest prior to irrigation and water management schemes in the catchment. The presence of ancestral burials (and the potential for further burials) highlights how culturally significant the location is.

Table 8-1: Summary of significance assessment.

AHIMS ID	Site name	Social/ cultural values	Historical values	Aesthetic values	Archaeological/ scientific values
54-4-1158	Little Forest MM1 & MM2	High	Low	Moderate	High
54-4-1159	Little Forest MM3	High	Low	Moderate	High
54-4-1160	Little Forest MM4	High	Low	Moderate	High
54-4-1161	Little Forest MM5	High	Low	Moderate	High
54-4-1162	Little Forest MM6, MM7 and MM8	High	Low	Moderate	High
54-4-1163	Little Forest SM1, MM9–MM16	High	Low	Moderate	High
54-4-1164	Little Forest MM17	High	Low	Moderate	High
54-4-1165	Little Forest MM18 and MM19	High	Low	Moderate	High
54-4-1166	Little Forest SM2, SM3 and MM20	High	Low	Moderate	High
54-4-1167	Little Forest PB1	High	Low	Moderate	High

9. Impact assessment

The management of cultural heritage sites and locations is partly determined by the assessed significance as well as the potential impacts of the proposal.

The proposed works for the project are outlined in Section 1.3 with the full methodology provided as Appendix A. The impacts will be restricted to:

- The emergency levee bank (approximately 1 m in height, 1.5 m in width and 1.8 km in length)
- The extents of the borrow pits which are adjacent to the levee.

The proposal does not include any additional disturbance of the natural ground surface. The proposed works area shown in Section 8 discusses the significance assessment in relation to Aboriginal cultural heritage sites which are inside, were recorded, or were attempted to be relocated during this assessment.

In terms of best practice and desired outcomes there are several general principals regarding management options for cultural heritage sites. These principals include either avoiding impact, or if impact is unavoidable then appropriate management of sites through mitigation measures to limit the amount of impact where possible.

9.1 Mitigation and avoiding harm

To not inadvertently impact any potential Aboriginal cultural heritage sites outside of the study area, the proposed works must be contained to inside the study area. If additional locations outside what has been assessed as the study area in this report, then further archaeological assessment may be necessary as there are known sites throughout the rest of Little Forest which have not yet been registered on AHIMS (see Section 6.3.3).

The sites inside the project area, AHIMS 5-4-1158 to 54-4-1167, were first impacted during the construction of the emergency levee through the excavation of borrow pits. This was done under the *State Emergency and Rescue Management Act 1989*, and as such did not require an AHIP or assessment under Section 87A(c) of the NPW Act.

As the proposed works are to remove the emergency levee and refill borrow pits using the levee bank in order to help preserve and remediate the sites that were disturbed, additional harm to the sites recorded during this assessment (AHIMS 5-4-1158 to 54-4-1167) is unavoidable and is in fact the purpose of the proposed works.

9.2 Conservation opportunities

The proposed works regarding the remediation of the sites have been an aim of the Moama LALC and TOs since the construction of the emergency levee in early 2022. In terms of conservation, replacing the soils back into the borrow pits that was used to construct the levee will help protect the remaining subsurface deposits adjacent to the visible site extents. Currently the borrow pits and levee itself are currently being affected by erosion through water wash, which is also affecting the disturbed Aboriginal objects / features at the sites. Deconstructing the levee and placing the soil back into the borrow pits will help to preserve

any cultural and / or archaeological materials which were disturbed by the construction of the levee, as well as potential undisturbed subsurface deposits adjacent to the borrow pit locations.

9.3 Ecologically Sustainable Development

Ecologically Sustainable Development (ESD) has five different principles that need to be accounted for. ESD is one of the objects of the EP&A Act and is defined in the Protection of the Environment Administration Act 1991 (PEA Act) as requiring:

Ecologically sustainable development requires the effective integration of social, economic, and environmental considerations in decision-making processes. (PEA Act Section 6(2)).

To implement ESD the following principles are used to assess the project:

- The precautionary principle – careful evaluation to avoid, wherever practicable, serious, or irreversible damage to the environment using an assessment of the risk-weighted consequences of various options.
- Inter-generational equity – the present generation should ensure that the health, diversity, and productivity of the environment are maintained or enhanced for the benefit of future generations.
- Conservation of biological diversity and ecological integrity – that conservation of biological diversity and ecological integrity should be a fundamental consideration.
- Improved valuation, pricing, and incentive mechanisms – environmental factors should be included in the valuation of assets and services.

In relation to cultural heritage, the two main ESD principles to be considered is the inter-generational equity and the precautionary principle. In terms of intergenerational equity, considering the cumulative impact of a project on cultural heritage is essential, both at a local, regional and a state level. In general, the precautionary principle should also be applied to a project.

In addition, the ESD Principle of Integration, while not formally acknowledged in the legislation, promotes the integration of economic development, social development, and environmental protection as being interdepended and mutually reinforced.

9.4 Applying ESD to the project

The precautionary principle has been applied to this assessment by undertaking a robust assessment to ensure that harm to undisturbed Aboriginal objects is minimised. A precautionary approach was also taken when assessing the archaeological potential of the recorded sites and the site extents.

The site remediation methodology (Appendix A) has been written in consultation with TOs and Moama LALC. Any further comments on the methodology and this report by RAPs during Stage 4 review of this report will be included. The implementation of the methodology (proposed works) will be directed by and is inclusive of the TOs in managing their cultural

heritage and returning the sites to a stable condition in order to preserve what remains for future generations.

There have already been cumulative impacts to Aboriginal heritage in Little Forest due to the construction of the emergency levee. The proposed works will not be impacting any areas or sites that have not already been impacted by the emergency works. Because of this, the remediation of the levee and sites (proposed works) will not be adding to cumulative impacts of the area.

9.5 Assessing project impacts

When assessing the impact of a project on cultural heritage and its associated values, it is important to assess any changes that may be caused by the proposed activity to ensure that it will not diminish, harm or remove its assessed significance. This includes assessing how the project will change the surrounding landscape setting.

As outlined in the Guide there are two types of harm to be considered:

- Direct harm – the result of any activity which disturbs the ground surface (i.e., site preparation activities, installation of services and infrastructure, drainage or flood mitigation measures, changes in water flows that affect the values of a cultural site, etc.).
- Indirect harm – which may affect sites or features beyond the study area, or by a cumulative effect in the future (e.g., increased impact to art in a shelter from increased visitation, destruction of site from increased erosion, etc.).

The proposed works will be directly harming AHIMS 54-4-1158 to 54-4-1167. However, as these sites have already been extensively disturbed through the construction of the emergency levee, and the works are to reinstate the area and sites back to a stable condition, additional harm to the sites and associated cultural materials and features is negligible in comparison to the original impacts. As summarised in Table 9-1 there will be a partial loss of value to each site, however, this has already occurred.

In order to minimise any further impacts to subsurface deposits which are likely through the whole area, only small sized excavators (three-tonne), skid steer (bobcat) and light vehicles (4WDs) will be used during the proposed works (see Appendix A). There will be no additional ground disturbance, as the borrow pits will be refilled using the deconstructed emergency levee bank. Plant and vehicle movement across undisturbed areas will also be minimised during the works as borrow pit locations are either directly adjacent to the levee bank or within 1–5 m from the base of the levee.

Table 9-1: Impact assessment

AHIMS ID	Site name	Type of Harm	Degree of Harm	Consequence of harm
54-4-1158	Little Forest MM1 & MM2	Direct	Partial	Partial loss of value
54-4-1159	Little Forest MM3	Direct	Partial	Partial loss of value
54-4-1160	Little Forest MM4	Direct	Partial	Partial loss of value
54-4-1161	Little Forest MM5	Direct	Partial	Partial loss of value
54-4-1162	Little Forest MM6, MM7 and MM8	Direct	Partial	Partial loss of value
54-4-1163	Little Forest SM1, MM9–MM16	Direct	Partial	Partial loss of value
54-4-1164	Little Forest MM17	Direct	Partial	Partial loss of value
54-4-1165	Little Forest MM18 and MM19	Direct	Partial	Partial loss of value
54-4-1166	Little Forest SM2, SM3 and MM20	Direct	Partial	Partial loss of value
54-4-1167	Little Forest PB1	Direct	Partial	Partial loss of value

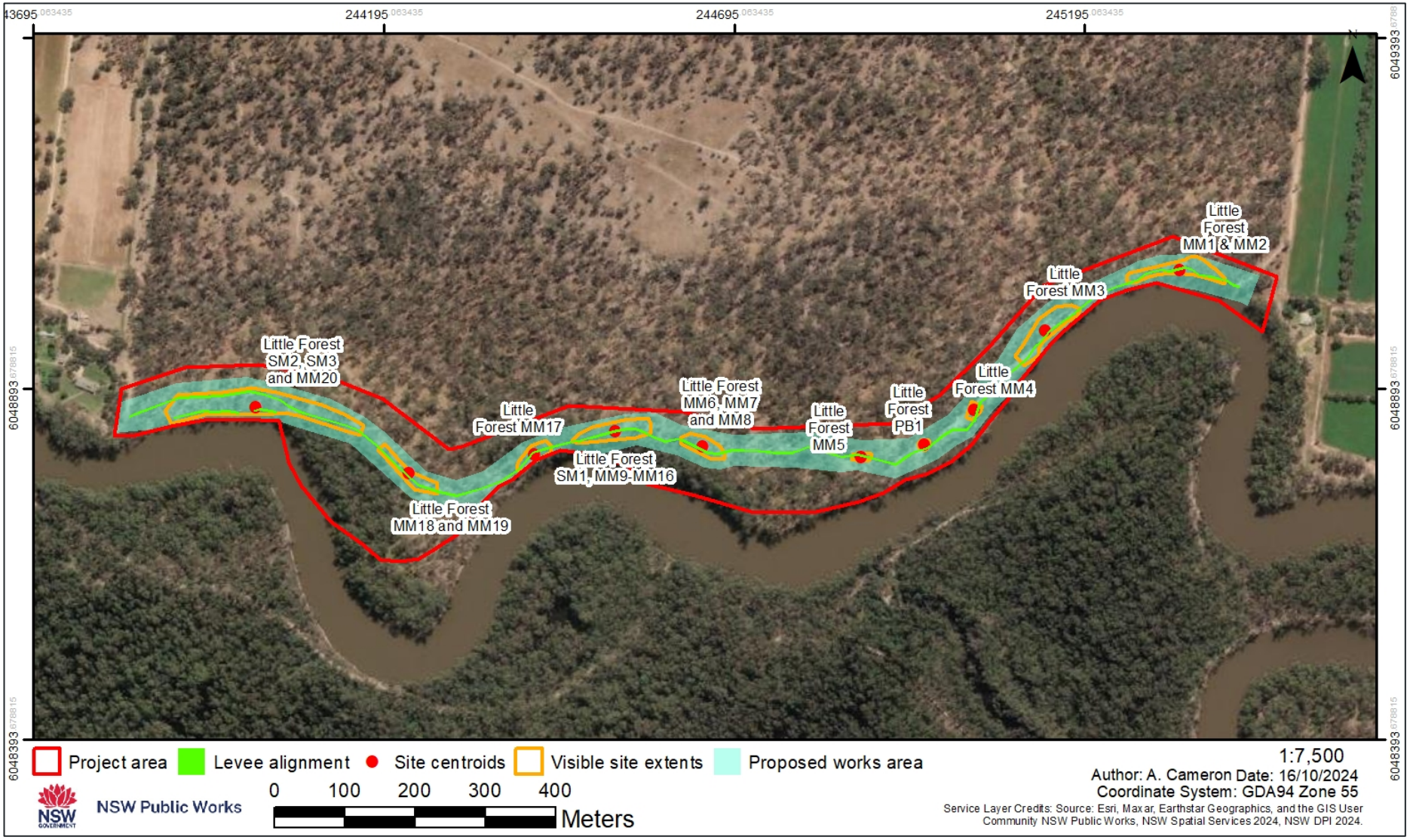


Figure 9-1: Proposed works area.

10. Aboriginal Heritage Impact Permit

This section contains the additional information required for submitting an Aboriginal Heritage Impact Permit (AHIP). Ten sites will be impacted by the proposed remediation works in the study area and require an AHIP:

- 54-4-1158 (Little Forest MM1 and MM2)
- 54-4-1159 (Little Forest MM3)
- 54-4-1160 (Little Forest MM4)
- 54-4-1161 (Little Forest MM5)
- 54-4-1162 (Little Forest MM6, MM7 and MM8)
- 54-4-1163 (Little Forest SM1, MM9–MM16)
- 54-4-1164 (Little Forest MM17)
- 54-4-1165 (Little Forest MM18 and MM19)
- 54-4-1166 (Little Forest SM2, SM3 and MM20)
- 54-4-1167 (Little Forest PB1)

Table 10-1 outlines the cadastral information required for the AHIP application, while Figure 10-1 shows the extent of the AHIP application area. Detailed maps and GPS coordinates of the AHIP application are provided as Appendix C. The extent of the application area includes the levee and borrow pits.

The duration being applied for the with the AHIP is one year starting February/March 2025 and ending February/March 2026.

Table 10-1: Cadastral information for AHIP application.

Information	Details
Street address(es)	n/a
Lot(s)/DP(s)	Lot 929 DP1207721 Lot 134 DP756508
LGA	Murray River Shire
GDA Zone	55
Parish	Barham
County	Wakool

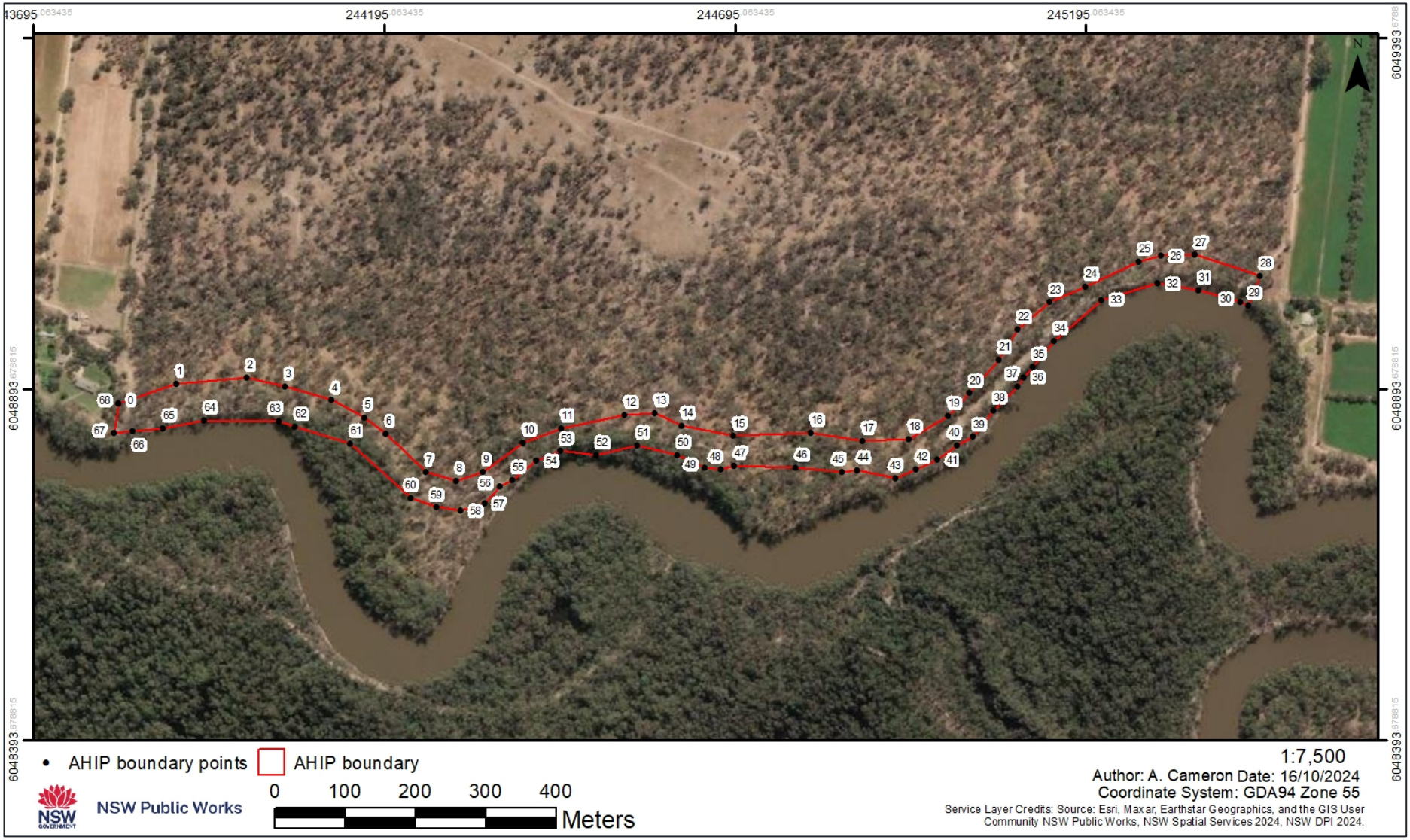


Figure 10-1: AHIP application area

10.1 Harm to certain Aboriginal objects through the proposed works and community collection

Ten sites will be impacted by the proposed works. The AHIP should include the following for these ten sites:

- Harm to certain Aboriginal objects through the proposed works
  - 54-4-1158 (Little Forest MM1 and MM2)
  - 54-4-1159 (Little Forest MM3)
  - 54-4-1160 (Little Forest MM4)
  - 54-4-1161 (Little Forest MM5)
  - 54-4-1162 (Little Forest MM6, MM7 and MM8)
  - 54-4-1163 (Little Forest SM1, MM9–MM16)
  - 54-4-1164 (Little Forest MM17)
  - 54-4-1165 (Little Forest MM18 and MM19)
  - 54-4-1166 (Little Forest SM2, SM3 and MM20)
  - 54-4-1167 (Little Forest PB1)

The TOs through Moama LALC have stated their main objective is to reinstate the soil and any cultural / archaeological deposits or features which were disturbed by the construction of the emergency levee. The levee and site remediation methodology will be implemented during the works (see Appendix A) to ensure the information of interest to the TOs is collected while the works are proceeding.

10.2 Short term management of Aboriginal objects

It is the intent that any Aboriginal objects, materials, or features which are recorded during the works are immediately reburied at the site they are recorded in with any recording / analysis being completed onsite. Ancestral burials or suspected ancestral burials will be managed by the TOs using their Cultural Protocols.

However, if any Aboriginal objects or features are removed from the site during the works for further recording / analysis, these will be temporarily kept at the office of Moama LALC at 52 Chanter St, Moama NSW 2731 in a locked cupboard or drawer until the long-term management can be implemented.

10.3 Long term management of Aboriginal objects

It is the intent that any Aboriginal objects, materials, or features which are recorded during the works are immediately reburied at the site they are recorded at during the re-filling of the borrow pits. The reburial/s will not follow Requirement 26 of the Code and instead be guided Cultural Protocol as implemented by the TOs on site.

10.4 Contingency protocols for unanticipated finds

Contingency protocols for Aboriginal sites located outside of known site extents has been included in the levee and site remediation methodology (see Appendix A).

11. Recommendations

Ten Aboriginal sites were recorded during this assessment. Site cards have been submitted to AHIMS and approved for these sites.

The following recommendations are made based on the proposed impacts to sites and regarding the legal requirements under the terms of the NPW Act whereby it is illegal to damage, deface or destroy an Aboriginal place or object without the prior written consent of Heritage NSW. The recommendations also account for the findings of the current investigation detailed in this report for the study area, and where expressed the interests of the Aboriginal community in protection and management of their Cultural Heritage.

Recommendations concerning Aboriginal cultural values within the study area are as follows:

1. This assessment is confined to within the assessed study area. Should the parameters of the proposed work extend beyond these assessed locations, then further archaeological assessment may be required.
2. An AHIP is required for ten Aboriginal sites to be impacted by the project (AHIMS 5-4-1158 to 54-4-1167). Further details regarding the AHIP application are provided in Section 10.
3. The levee and site remediation methodology (Appendix A) developed during this assessment should be implemented as the proposed works.
4. Construction staff should undergo cultural heritage induction and awareness training to ensure they recognise Aboriginal objects and are aware of the legislative protection of Aboriginal objects under the NPW Act and the contents of the AHIP and the levee and site remediation methodology (as detailed in Appendix A). The RAPs should be provided the opportunity to review and provide feedback on the induction and training materials prior to the induction occurring.

12. References

Austral Archaeology. 2022. Koondrook-Perricoota Flow Enabling Works Koondrook-Perricoota Forest, NSW.

Austral Archaeology. 2023. Barham Sewerage Upgrades Scheme, Barham, New South Wales: Aboriginal Cultural Heritage Due Diligence Assessment. Report to Green Edge Environmental.

Berryman, A. and Frankel, D. 1984. Archaeological Investigations of Mounds on the Wakool River, near Barham, New South Wales: A preliminary Account. *Australian Archaeology* 19: 21-30.

Bonhomme, T. 1990. An Archaeological survey of the Barmah Forest. Victoria Archaeological Survey Occasional Report 34.

Bonhomme, T. 1993. State Forests of NSW Murray Valley Archaeology Study: Lake Victoria and Koondrook State Forests. Report to NSW Forestry Commission.

Bowler, J.M., Jones, R., Allen, H., and Polach, H.A. 1970. Pleistocene man in Australia: Age and significance of the Mungo skeleton. *Nature* 240:48–50.

Buchan, R.A. 1974. Report on an Archaeological Survey in the Murray Valley, New South Wales. Report to NSW National Parks and Wildlife Service.

Burke, H. and Smith, C. 2004. The Archaeologist's Field Handbook, Blackwell, Oxford.

Burke, H., Roberts, A., Morrison, M., Sullivan, V., and the River Murray and Mallee Aboriginal Corporation (RMMAC). 2016. The space of conflict: Aboriginal/European interactions and frontier violence on the western Central Murray, South Australia, 1830-41. *Aboriginal History*, Volume 40: 145–179.

Bureau of Meteorology (BOM). 2024. Climate Statistics for Australian locations: Kerang. Online resource: http://www.bom.gov.au/climate/averages/tables/cw_080023.shtml

Coutts, P., Henderson, P., Fullagar R. 1979. A preliminary investigation of Aboriginal mounds in northwestern Victoria. Records of the Victorian Archaeological Survey 9.

Department of Environment, Climate Change & Water (DECCW). 2010. Code of Practice for Archaeological Investigation of Aboriginal Objects.

Department of Climate Change, Energy, the Environment and Water (DCCEEW). 2023. The Ramsar Convention on Wetlands. Australian Government. Online resource: https://www.dcceew.gov.au/water/wetlands/ramsar.

Frankel, D. 2017. Between the Murray and the sea: Aboriginal archaeology in southeastern Austral. Tom Austen Brown Studies in Australasian Archaeology. Sydney University Press: Sydney.

Garvey, J. 2017. Australian Aboriginal freshwater shell middens from late Quaternary northwest Victoria: Prey choice, economic variability and exploitation. Quaternary Internal 427: 85–102.

Geoscience Australia. 2024. Stratigraphic Unit Details: Cenozoic regolith 76541. Online resource: https://asud.ga.gov.au/search-stratigraphic-units/results/76541.

Hutton, D. 2023. Little Forest Emergency Flood Levee: Aboriginal Heritage Disturbance & Recommendations. A Joint Indigenous Group initiative in collaboration with Western Murray Land Improvement Group, Forestry Corporation of NSW & Koondrook-Perricoota Alliance.

Kefous K.C. 1983. Riverain: Water availability and Aboriginal prehistory of the Murray River, Lake Victoria area, western New South Wales. MA thesis. Australian National University, Canberra.

Kefous K.C. 1988. Butlin's Bootstraps: Aboriginal population in pre-contact Murray-Darlin region. In: Meehan, B. and Jones, R. (eds) *Archaeology with Ethnography: An Australian Perspective*, Australian National University: Canberra.

Klaver, J. 1987. Old Ovens are Soon Hot: A study of Function and Location of Aboriginal Mounds in the Upper Murrumbidgee Region. BA (hons) Thesis. Australian National University, Canberra.

Landskape Nature and Cultural Heritage Management (Cupper, M). 2011. Cultural Heritage Report: Burials BUR-006 and BUR-007. Report to Barapa Barapa Nation, Joint Indigenous Group and NSW State Water Corporation.

Martin, S. 2006. Inscribing the Plains: Constructed, conceptualised and socialised landscapes of the Hay Plain, South Eastern Australia. Thesis submitted for Doctor of Philosophy, University of New England.

McConachie, F., Jenny, B., Reinke, K., and Arrowsmith C. 2016. Barapa Country through Barapa eyes: cultural mapping of Gunbower Island, Australia. *Journal of Maps*, 16(1): 13-20.

Mitchell, P. 2002. Descriptions for NSW (Mitchell) Landscapes Version 2. NSW Department of Environment and Climate Change.

Navin Officer Heritage Consultants (NOHC). 2009. Koondrook-Perricoota Forest Flood Enhancement Works: Cultural Heritage Assessment Indigenous and Non-Indigenous Heritage.

NSW Department of Planning and Environment. 2021. Trees Near Me. Online resource: https://treesnearme.app/explore.

NSW Parks and Wildlife Services (NPWS). 2003. The Bioregions of New South Wales – their biodiversity, conservation and history. Chapter 16: The South Eastern Highlands Bioregion.

NSW Spatial Services. 2024. Historical Imagery. Online resource: https://portal.spatial.nsw.gov.au/portal/apps/webappviewer/index.html?id=f7c215b873864d44bccddda8075238cb

Office of Environment and Heritage (OEH). 2010. Reconnaissance Soil and Land Resources of the Murray Catchment. NSW Office of Environment and Heritage, Sydney.

Pardoe, C. 1988. Prehistoric Biology, Demography and Society of the River Murray Corridor.

Pardoe, C. 2012. Burials from Barber Overflow Koondrook State Forest, NSW.

Pardoe, C. 2013. Burials through the ages among the Barapa Barapa.

Pardoe, C and Hutton, D. 2020. Aboriginal heritage as ecological proxy in south-eastern Australia: A Barapa wetland village. *Australasian Journal of Environmental Management*, DOI: 10.1080/14486563.2020.1821400.

Prendergast, A.L., Bowler, J.M., and Cupper, M.L. 2009. Late Quaternary environments and human occupation in the Murray River Valley of northwestern Victoria. In: Fairbairn, A., O'Connor, S., Marwick, B. (Eds.), New Directions in Archaeological Science. Terra Australis, pp. 55–74.

River Country. 2024. Indigenous Culture. Online resource: https://www.visitthemurray.com.au/places-to-go/central/rivercountry/things-to-do/art-and-culture/indigenous-culture

Simmons, S. 1980. Site Surveys on the Floodplain between the Murray and Wakool Rivers, New South Wales. *Records of the Victorian Archaeological Survey* 10.

Thorne, A.G. 1971. Mungo and Kow Swamp: Morphological Variation in Pleistocene Australians. *Mankind* 8:85–9.

Thorne, A.G. 1975. Kow Swamp and Lake Mungo. PhD Thesis. University of Sydney, Sydney.

Webb, S.G. 1984. Intensification, Population and Social Change in Southeastern Australia: the skeletal evidence. *Aboriginal History* 8: 154–172.

Appendix A Levee & site remediation methodology

A.1 Aim

The aim of this remediation methodology is to enable the Traditional Owners (TOs) to remove the emergency levee and remediate any Aboriginal Cultural Heritage materials back to their inferred original location and to refill the excavated areas/borrow pits with the soil from the levee.

This methodology has been developed in conjunction with the Moama LALC (as representatives of the TOs) and reflects their vision of how the remediation works would proceed. Other Registered Aboriginal Parties (RAPs) who have registered interest in the project will have the opportunity to comment and provide feedback during the Stage 4 RAP review of the Aboriginal Cultural Heritage Assessment Report (ACHAR).

A.2 Pre-Works

- It may be necessary for an ecologist or wildlife specialist to check the borrow pit locations two to three days prior to works commencing. This is to allow any fauna that may be using the borrow pits to be removed. Further discussion of how / when this would occur will be confirmed by Council.
- It may be necessary for an ecologist or suitable specialist to check for threatened flora species prior to works commencing. Further discussion of necessity / how / when this would occur will be confirmed by Council.
- All Sites Officers should be inducted regarding the methodology prior to works starting. Materials and tools for recording should be kept on site during the works.

A.3 Methodology

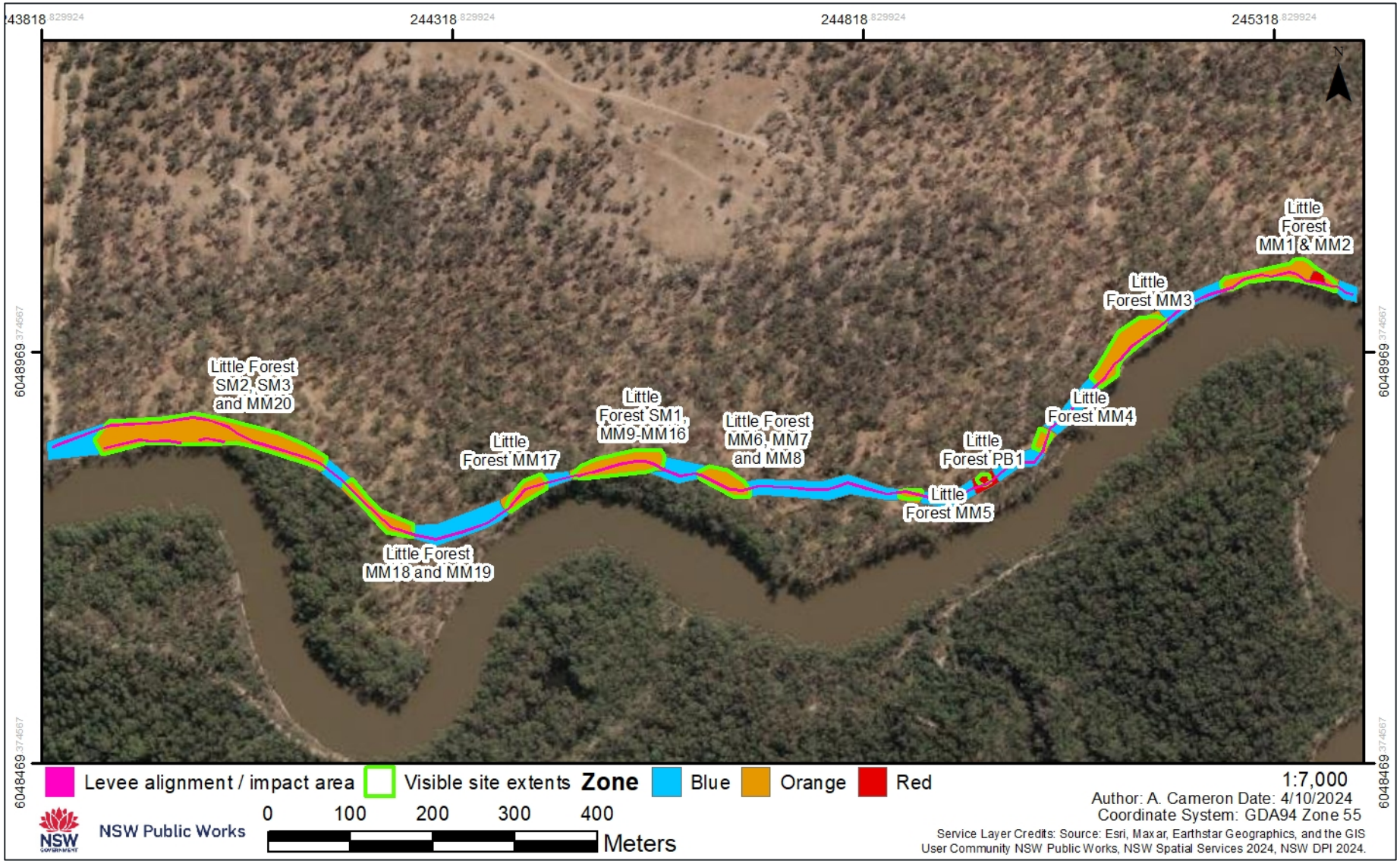
Due to the nature of the proposed works, the wants of the TOs, and the amount of remediation to be undertaken, this methodology has been developed based on ‘zoning’ of the proposed works areas. The zones are defined in Appendix Table A-1. An overview of the zoning is shown in Appendix Figure A-1, with Appendix Figure A-2 to Appendix Figure A-4 providing close up of areas.

Zoning is based on the current visible extents of Aboriginal sites which were impacted by the construction of the levee.

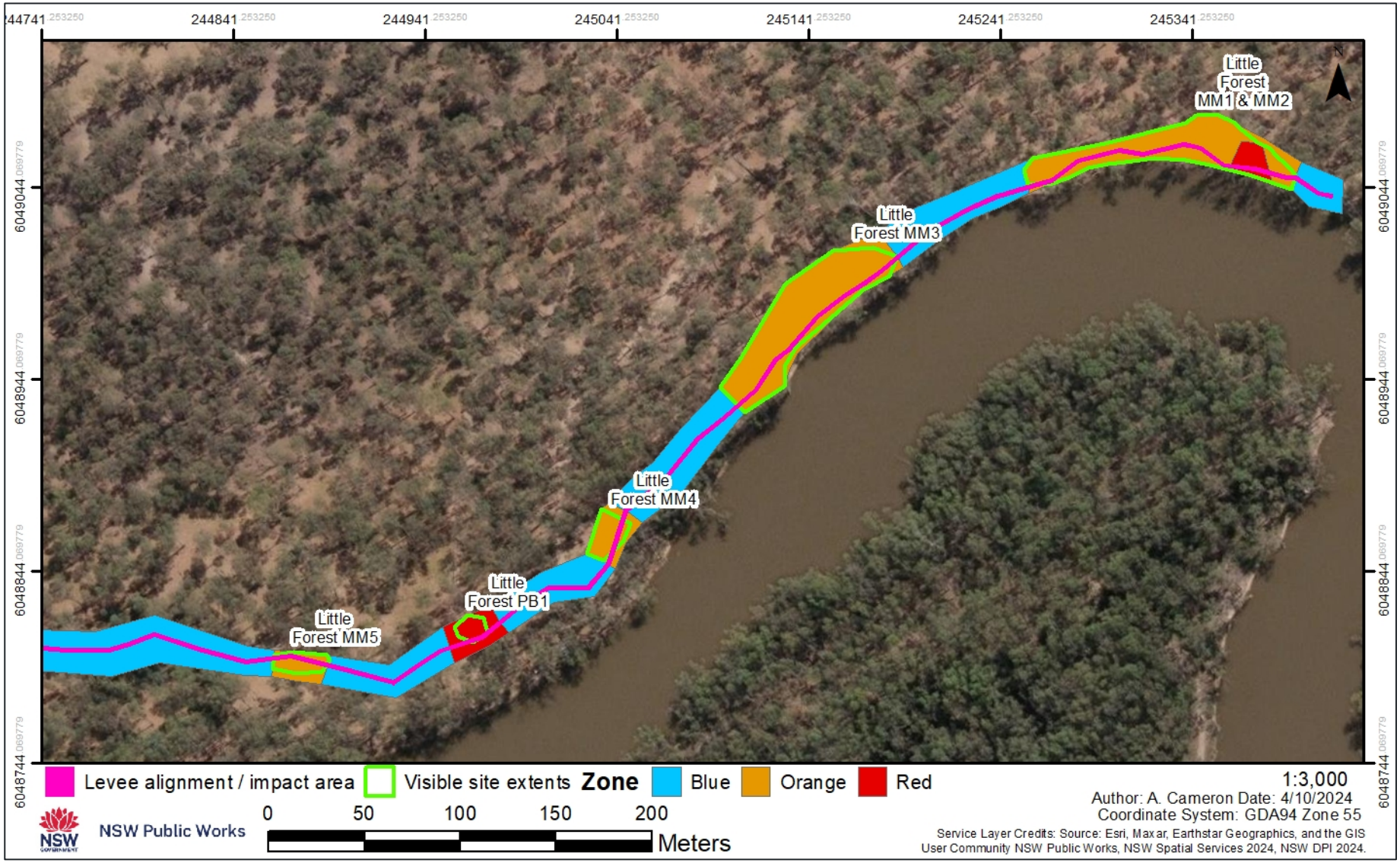
There may be further cultural materials which were disturbed during the construction of the levee that were obscured (covered by leaf litter or not visible on/in the levee) during the surveys.

Appendix Table A-1: ACH remediation zoning.

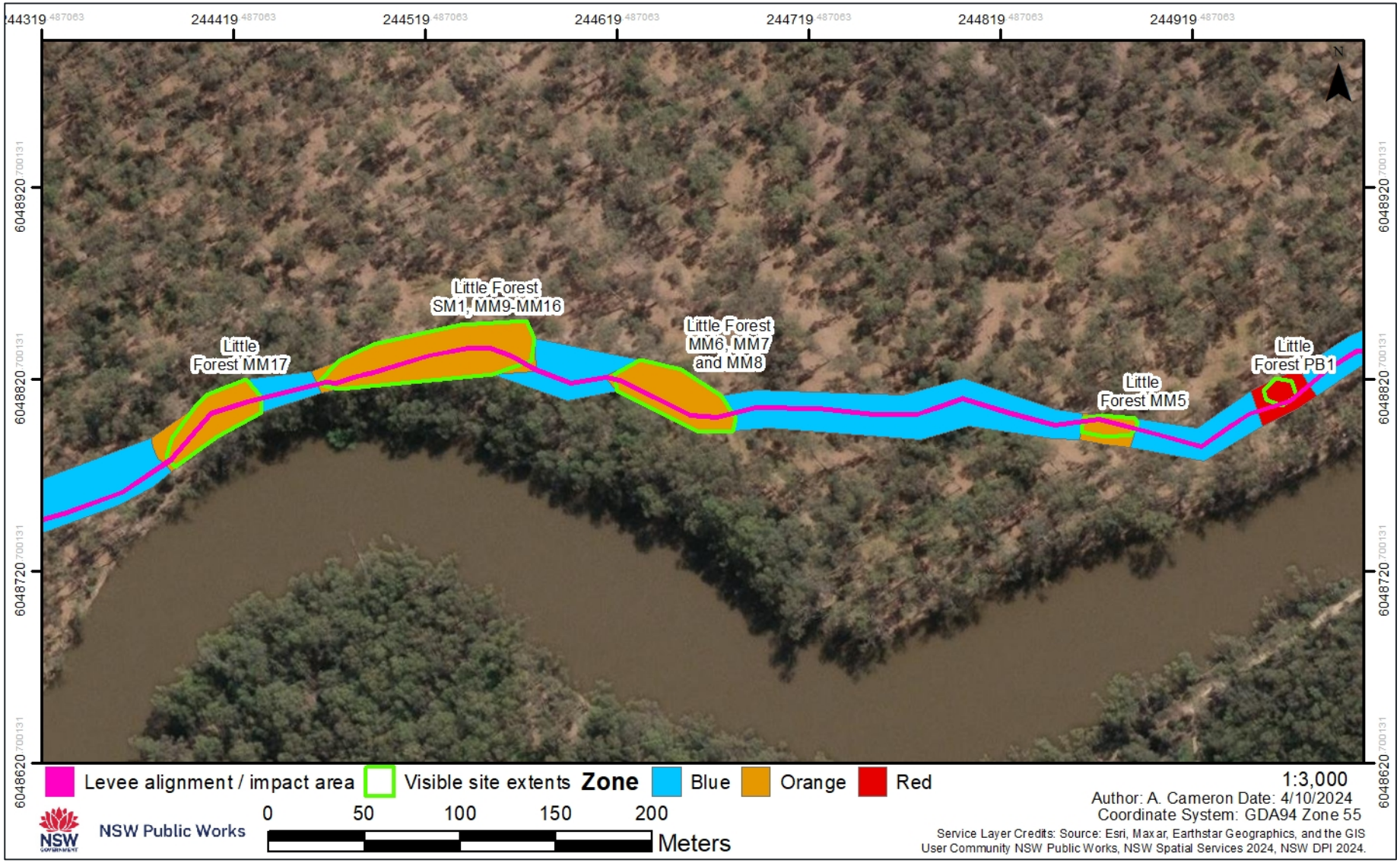
Zone	Definition / Sites	Method Number
Red	Ancestral burials are known to occur in the area, including inside Little Forest. Unless the burial appears to be of recent (forensic) age (in which case contact the NSW Police), any human skeletal remains encountered during the remediation will be treated as an ancestral burial. Cultural Protocols as developed and agreed on by TOs will be implemented.	Remediation in red zones, or if any additional potential ancestral burial locations are located during the works should follow **Method 1**. If cultural material such as concentrations of shell, heat retainers, artefacts, etc are identified during works, then **Method 2** should be implemented.
Orange	Locations where cultural materials such as shell, clay heat retainers, and charcoal deposits have been recorded in the levee or adjacent borrow pits.	**Method 2**
Blue	Locations where no cultural materials have yet to be recorded in/on the levee or in the adjacent borrow pits.	**Method 3**



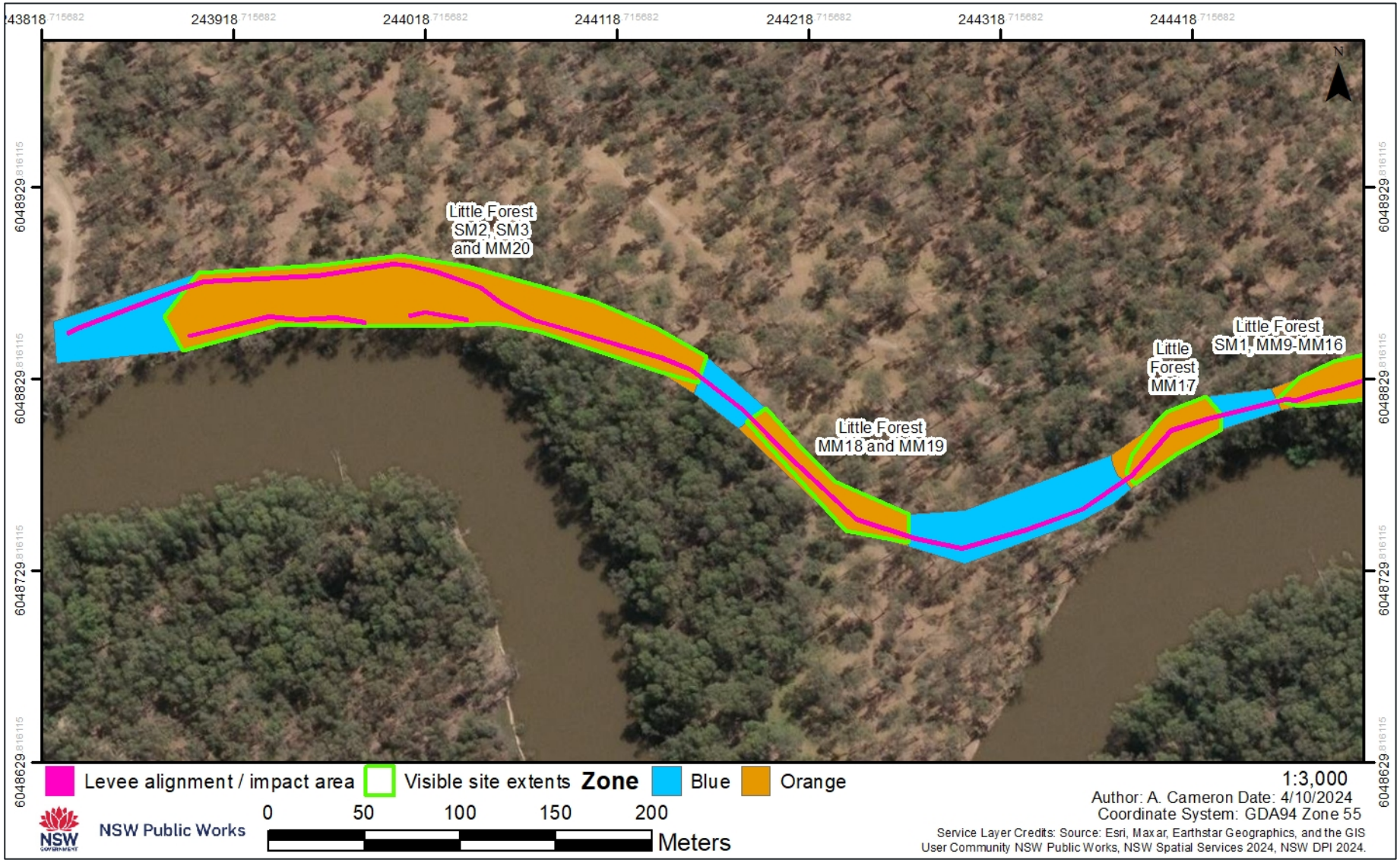
Appendix Figure A-1: Overview of ACH remediation zoning.



Appendix Figure A-2: Detail of eastern section of ACH remediation zoning.



Appendix Figure A-3: Detail of central section of ACH remediation zoning.



Appendix Figure A-4: Detail of western section of ACH remediation zoning.

A.3.1 Method 1

- Examination of the levee bank and borrow pit areas for any exposed bones.
- If there is an ancestral burial exposed on the levee bank, excavation is by hand tools only and Cultural Protocols followed.
- If there is an ancestral burial exposed in the borrow pits, placement of soil at the location should be done carefully and the location recorded via GPS, so Sites Officers have a record.
- If there are no ancestral burial/s exposed on the levee bank:
  - Careful removal of the levee bank soil can begin with mechanical excavation and oversight of an experienced Sites Officer. The levee should be examined carefully during the process in case the removal of levee soil exposes ancestral burial/s.
  - If cultural materials such as shell, heat retainers, artefacts, etc. are identified, then Method 2 should be followed.
- Soil from the levee is placed back into the adjacent borrow pit and lightly compacted.

A.3.2 Method 2

- Where visible Aboriginal Cultural Heritage materials are in the levee bank:
  - Sites Officer inspects the ACH materials.
  - Sites Officer records and collects the ACH materials visible:
    - Location (GPS point on iPad/phone)
    - Context of ACH materials
    - Whether inside an existing site extent or in close proximity to one.
    - Depth of feature (i.e., if in levee bank, a measurement either from where top of levee bank is or from bottom levee bank/natural ground surface level).
    - Whether the feature is a concentration of a particular cultural material (i.e., dense shell deposit, grouping of heat retainers, etc.) and if so the size of concentration/deposit.
    - Whether are multiple types of cultural materials at the same spot (i.e., heat retainers mixed in with shell, stone artefacts present with midden, presence of charcoal, etc.).
    - Type of materials (i.e., shell fragments, snail shells, baked clay heat retainers, animal bone, charcoal, etc.)

    - Details (i.e., approximate number of shell fragments, number of heat retainers, weight, type of shells [mussel, river snail, etc.]). Examples of the details which could be recorded by Sites Officers is summarised in Appendix Table A-2.
  - Sites Officer continues to excavate any visible materials in the levee bank using hand tools such as trowels, sieves, dustpans, shovels, etc, until the visible cultural materials have been fully collected.
  - Sites Officer decides whether to continue with hand tools or switch back to mechanical excavator (three-tonne excavator, skid steer bob cat).
  - The recorded and collected materials will be either:
    - Option A: immediately reburied with the remaining levee soil into the excavated areas.
    - Option B: collected for further analysis off-site by Sites Officers and reburied inside the visible site extent or at a different location at a later date. When collected the Aboriginal Cultural Heritage material/s should be bagged and labelled (location/site name/date/collector).
  - If reburied at a different location, then a new AHIMS site card will be required to be submitted for that location.
  - If all visible Aboriginal Cultural Heritage materials in the levee have been recorded/collected and no more are visible, the Sites Officer should decide whether to continue removing the levee bank with hand tools or switch to mechanical excavator.
  - Soil from the levee is placed back into the adjacent borrow pit and lightly compacted.
- Where inside an orange zone but there is not any visible cultural material in the levee bank:
  - Careful removal of the levee bank soil using a small three-tonne mechanical excavator while monitored by a Sites Officer.
  - The levee should be examined carefully during the process in case the removal of levee soil exposes further cultural material/s.
  - Soil from the levee is placed back into the adjacent borrow pit and lightly compacted.

Appendix Table A-2: Summary of feature details which could be recorded.

Feature type	Physical details of features
Stone artefact/s	• Tool type (i.e., flake, core, shatter, etc.). • Material type (i.e., silcrete, quartz, chert, etc.). • Dimensions (length, width, thickness). • Whether there are signs of retouch or use wear present. • Approximate amount of cortex (the outer surface of stone material) present. Usually done as a percentage. • Other details such as platform, termination type, level of reduction, or number of flake scars on cores, etc., will be up to the discretion of the recorder.
Shell	• The types of shell present (i.e., mussel, river snail, mud whelk, etc.). • Approximate number or a count of fragments / whole shells for each species present. • If whole shells are in the deposit, then a suitable sample number should have the dimensions (length, width) recorded.
Heat retainers	• What type of heat retainer/s are present (i.e., baked clay balls, etc.). • The condition of heat retainer/s (i.e., whole, broken, deteriorated, etc.). • Whether there charcoal also present.
Animal bone	• If bone is identified and is definitively not an ancestral burial, then it should be recorded. • Animal type (if possible to determine) and type of bone (i.e., skull, long bone, etc.). • Any damage (broken, cut, etc.). • Does the bone have a function or is a tool (i.e., fishhook).
Other	• If any other types of archaeological or cultural material is identified these should be recorded. • Type • Amount • Defining characteristics.

A.3.3 Method 3

- A small mechanical excavator (three to six tonne), and/or skid steer is used to start removing the levee material back into the adjacent borrow pit.

- This process should be monitored by a Sites Officer who will look for evidence of Aboriginal cultural heritage materials in the soil of the levee bank and in the excavator bucket.
  - No Aboriginal cultural heritage materials visible:
    - Continue with mechanical excavation.
  - If Aboriginal cultural heritage materials visible follow Method 2.
  - If suspected human skeletal remains visible follow Method 1.
- Soil from the levee is placed back into the adjacent borrow pit and lightly compacted.

A.4 Post-Remediation Works

A.4.1 If new sites have been recorded during the works

- A site card must be submitted to the Aboriginal Heritage Information Management System (AHIMS) for the site, as well as Aboriginal Site Impact Recording Form (ASIRF).

A.4.2 For known sites

- An Aboriginal Site Impact Recording Form (ASIRF) must be submitted to AHIMS for each known site when the works have been completed inside the visible site extent:
  - Little Forest MM1 and MM2 (AHIMS 57-4-1158)
  - Little Forest MM3 (AHIMS 57-4-1159)
  - Little Forest MM4 (AHIMS 57-4-1160)
  - Little Forest MM5 (AHIMS 57-4-1161)
  - Little Forest MM6, MM7 and MM8 (AHIMS 57-4-1162)
  - Little Forest SM1, MM9-MM16 (AHIMS 57-4-1163)
  - Little Forest MM17 (AHIMS 57-4-1164)
  - Little Forest MM18 and MM19 (AHIMS 57-4-1165)
  - Little Forest SM2, SM3 and MM20 (AHIMS 57-4-1166)
  - Little Forest PB1 (AHIMS 57-4-1167)
- ASIRFs can be done via the AHIMS Quarantine Station website (http://ahims.fexcon.com.au/index/home) using the “Impact Site” form. Sometimes the AHIP will require this be done within a set period of time following the impact.
- Sometimes Heritage NSW will require a brief report detailing what occurred in relation to Aboriginal Cultural Heritage sites during the works. If the AHIP has this as a condition, then a report is usually required within 2–6 months following the ends of the works.

Appendix B ACHCR documentation

B.1 Consultation log

Date	Organisation	Purpose	Method	Incoming/ outgoing
14/06/2024	HeritageNSW	AC sent Stage 1a letter requesting potential stakeholder details.	Email	Outgoing
14/06/2024	Registrar, Aboriginal Land Rights Act 1983	AC sent Stage 1a letter requesting potential stakeholder details.	Email	Outgoing
14/06/2024	National Native Title Tribunal	AC searched online register. No Native Title determinations or applications for study area	Online NT Vision	
14/06/2024	Native Title Services Corporation Limited (NTSCORP Limited)	AC sent Stage 1a letter requesting potential stakeholder details.	Email	Outgoing
14/06/2024	Local Land Service - Murray Region	AC sent Stage 1a letter requesting potential stakeholder details.	Email	Outgoing
14/06/2024	Local Land Service - Murray Region	Wendy Nethercote responded to Stage 1a letter. Can't share personal information but will pass on request to First Nations contacts in area. AC responded with thanks.	Email	Incoming & outgoing
14/06/2024	Registrar, Aboriginal Land Rights Act 1983	ORALA responded that there are no Registered Aboriginal Owners (RAO) for the project area and recommended contacting Moama LALC.	Email	Incoming

Date	Organisation	Purpose	Method	Incoming/ outgoing
14/06/2024	Moama LALC	AC received a phone call from CEO John Kerr. John explained that MLALC is part of JIG and have been involved at Little Forest since 1987 (1984?). Mentioned they have an archaeologist they usually work with (Colin Pardoe). The community have been the ones pushing for the remediation, and they've provided costing/plans to Council & Forestry Corporation NSW previously. AC said she'll try and chase that up and pass on John's query about what the budget is for the actual work to occur to her MRC contact.	Phone call	Incoming
14/06/2024	Moama LALC	AC sent Stage 1a letter requesting potential stakeholder details.	Email	Outgoing
14/06/2024	Forestry Corporation NSW (Andrew McCurdy)	AC sent Stage 1a letter requesting potential stakeholder details.	Email	Outgoing
14/06/2024	Forestry Corporation NSW (Vincent Kelly)	AC sent Stage 1a letter requesting potential stakeholder details.	Email	Outgoing
14/06/2024	NSW State Emergency Services	AC sent Stage 1a letter requesting potential stakeholder details.	Email	Outgoing
14/06/2024	Moama LALC	AC received email from John Kerr stating Moama LALC's interest and as the main contact for JIG for this project.	Email	Incoming
14/06/2024	Forestry Corporation NSW	AC received email reply from Andrew stating JIG as the stakeholders they have worked with for Little Forest.	Email	Incoming
18/06/2024	Forestry Corporation NSW	AC responded to Andrew thanking him for responding and letting them know that JIG through Moama LALC have already been contacted	Email	Outgoing

Date	Organisation	Purpose	Method	Incoming/ outgoing
18/06/2024	NSW State Emergency Services	Shane emailed AC list of potential stakeholders. AC responded to Shane thanking him for responding and the list of stakeholders.	Email	Incoming & Outgoing
18/06/2024	Heritage NSW	AC received stakeholder list from Barry Gunther. AC responded thanking him.	Email	Incoming & outgoing
26/06/2024	Moama LALC / JIG	AC emailed John Kerr informing that Stage 1b letters would be sent this week and that the public notice would be published mid next week. Mentioned that she is following up about the previously provided remediation work plan provided to Council & Forestry.	Email	Outgoing
26/06/2024	Bangerang Aboriginal Corporation	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Gary Pappin	AC posted Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Post	Outgoing
26/06/2024	John Jackson	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	A&K Cultural Heritage	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Pappin Family Aboriginal Corporation	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Patricia Winch	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Thomas Dahlstrom	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Wakool Indigenous Corporation	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing

Date	Organisation	Purpose	Method	Incoming/ outgoing
26/06/2024	Yarkuwa Indigenous Knowledge Centre	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Yorta Yorta Nation Aboriginal Corporation	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Girragirra Murun Aboriginal Corporation	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Wingarra Wilay Aboriginal Corporation	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Southern West Yiradyuri Clans, Land, Water and Sky Country Aboriginal Corporation	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	John Winch	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Kalthi Consultancy	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Uncle Hewitt Whyman	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Creator Spirits	AC emailed Stage 1b EOI letter. Closing date COB Tuesday 23 July 2024.	Email	Outgoing
26/06/2024	Moama LALC	AC emailed Stage 1b EOI letter in case MLALC wanted to pass it along to anybody. MLALC already registered as RAP. Closing date COB Tuesday 26 July 2024.	Email	Outgoing

Date	Organisation	Purpose	Method	Incoming/ outgoing
26/06/2024	Wakool Indigenous Corporation	AC received bounced back email notification. AC posted Stage 1b EOI letter instead.	Post	Outgoing
26/06/2024	Yarkuwa Indigenous Knowledge Centre	AC received bounced back email notification. AC posted Stage 1b EOI letter instead.	Post	Outgoing
26/06/2024	Southern West Yiradyuri Clans, Land, Water and Sky Country Aboriginal Corporation	AC received email from Will stating Barham is outside their area and they won't be registering.	Email	Incoming
26/06/2024	Moama LALC	AC received email from Kerry Ann with formal registration information.	Email	Incoming
27/06/2024	Southern West Yiradyuri Clans, Land, Water and Sky Country Aboriginal Corporation	AC responded thanking Will.	Email	Outgoing
27/06/2024	Moama LALC	AC responded thanking Kerry Ann.	Email	Outgoing
3/07/2024	Thomas Dahlstrom	Thomas emailed AC registering as RAP for project. AC responded confirming.	Email	Incoming & outgoing
10/07/2024	Bangerang Aboriginal Corporation	Kevin rang AC who missed call and left voice message. AC rang back. Kevin asked how much fieldwork would likely be required and AC replied that it would only be a day to expand on existing survey and site recordings. AC asked if Bangerang would like to register as RAP for project and receive the updates/documents, and Kevin said yes. Confirmed correct email address.	Phone call	Incoming & outgoing

Date	Organisation	Purpose	Method	Incoming/ outgoing
11/07/2024	Yorta Yorta Nation Aboriginal Corporation	Shannon Atkinson emailed AC registering as RAP for project. AC replied thanking Shannon and informing them that Project Information/methodology should be sent out at the end of July 2024.	Email	Incoming & outgoing
18/07/2024	Kalthi Consultancy	Derek emailed AC registering as RAP for project.	Email	Incoming
19/07/2024	Kalthi Consultancy	AC responded confirming registration.	Email	Outgoing
25/07/2024	Heritage NSW	AC emailed notification of RAPs for project to Heritage NSW	Email	Outgoing
25/07/2024	Moama LALC	AC emailed notification of RAPs for project to Moama LALC	Email	Outgoing
25/07/2024	Gary Pappin	Gary Pappin emailed AC registered as RAP for the project. AC responded confirming registration as RAP and informing that project info and ACHA methodology would be sent out later today.	Email	Incoming & outgoing
25/07/2024	Moama LALC	AC emailed Stage 2/3 project information and ACHA methodology. Requested comments back by COB Friday 26 August 2024.	Email	Outgoing
25/07/2024	Thomas Dahlstrom	AC emailed Stage 2/3 project information and ACHA methodology. Requested comments back by COB Friday 26 August 2024.	Email	Outgoing
25/07/2024	Bangerang Aboriginal Corporation	AC emailed Stage 2/3 project information and ACHA methodology. Requested comments back by COB Friday 26 August 2024.	Email	Outgoing
25/07/2024	Yorta Yorta Nation Aboriginal Corporation	AC emailed Stage 2/3 project information and ACHA methodology. Requested comments back by COB Friday 26 August 2024.	Email	Outgoing

Date	Organisation	Purpose	Method	Incoming/ outgoing
25/07/2024	Kalthi Consultancy	AC emailed Stage 2/3 project information and ACHA methodology. Requested comments back by COB Friday 26 August 2024.	Email	Outgoing
25/07/2024	Gary Pappin	AC emailed Stage 2/3 project information and ACHA methodology. Requested comments back by COB Friday 26 August 2024.	Email	Outgoing
28/07/2024	Michelle Francis	Michelle emailed AC registering as RAP for the project.	Email	Incoming
29/07/2024	Michelle Francis	AC responded to Michelle Francis confirming registration and sending Stage 2/3 project information and ACHA methodology.	Email	Outgoing
14/08/2024	Moama LALC	AC emailed John Kerr asking what dates (Thursday 5 Sept or Wednesday 11 Sept) would suit for site survey.	Email	Outgoing
20/08/2024	Gary Pappin	Stage 1b letter returned via Return to Sender. Gary Pappin already registered as RAP.	Post	Incoming
22/08/2024	Moama LALC	AC followed up re survey dates with Moama LALC and said would call tomorrow (23 August 2024). Latoya Morgan replied explaining that she is interim CEO and that she would be available for a call.	Email	Outgoing & incoming
23/08/2024	Moama LALC	AC rang Layota re survey dates. Layota said second week in September is better and that she would attend site with the sites officers. The 10 or 11 September was agreed on, with AC to check travel arrangements and email Layota the preferred date.	Phone call	Outgoing
23/08/2024	Moama LALC	AC emailed Layota confirming that 10 September would be terrific and to please send through any forms/paperwork/etc needed to schedule the site survey.	Email	Outgoing

Date	Organisation	Purpose	Method	Incoming/ outgoing
5/10/2024	Moama LALC	AC emailed LaToya regarding start time for survey on 10 September 2024. LaToya replied that 9:30am at Barham Bakery would work.	Email	Outgoing & incoming.
10/09/2024	Moama LALC	Three Site Officers attended the site survey.	In person	
13/09/2024	Moama LALC	AC sent through preliminary FW results.	Email	Outgoing
14/09/2024	John Kerr	AC received email from John Kerr in relation to Stage 2/3 methodology document.	Email	Incoming
20/09/2024	Moama LALC	AC received missed call and voice mail from LaToya CEO of Moama LALC	Phone call	Incoming
20/09/2024	Moama LALC	AC tried to ring LaToya back, no answer, left voice mail saying would try again this afternoon	Phone call	Outgoing
20/09/2024	Moama LALC	AC tried to ring LaToya back, no answer.	Phone call	Outgoing
20/09/2024	John Kerr	AC responded to John's email. Asked if he would like to be included as a RAP.	Email	Outgoing
20/09/2024	Moama LALC	AC missed call from LaToya.	Phone call	Incoming
20/09/2024	Moama LALC	AC tried to ring call LaToya back - no answer.	Phone call	Outgoing
20/09/2024	Moama LALC	AC sent text message, apologising for missing call. Asks if Monday 4pm is okay for a call.	Text message	Outgoing
23/09/2024	Moama LALC	AC tried to ring LaToya back - no answer. Return call from John Kerr, change of phone numbers.	Phone call	Outgoing & incoming.

Date	Organisation	Purpose	Method	Incoming/ outgoing
1/10/2024	Moama LALC	AC and LaToya manage to get hold of each other. Arrange time for proper conversation the following day.	Phone call	Outgoing & incoming.
2/10/2024	Moama LALC	AC has phone discussion around remediation methodology with LaToya and John Kerr. Key points: ancestral burials should be handled by TOs onsite as per their Cultural Protocols; the levee is too extensive to use hand tools only; mechanical deconstruction of the levee should occur using a small bobcat which will not churn up ground where moving and a Sites Officer must be present to 'spot' during any deconstruction of the levee; a 'hot spot' or 'zoning' method would be acceptable around known sites; the TOs do not want to sieve the whole levee; the predicted timing of the remaining project (i.e., when would works be able to occur); the importance of Little Forest to the TOs as a highly significant cultural place; the urgency they feel in remediating the exposed cultural materials as soon as possible because it has been too long already; the lack of trust between the TOs towards NSW Forestry Corporation, and how this is exacerbating the situation; how the TOs would like Little Forest to be managed exclusively by them and that it should be closed from access due to the highly sensitive nature of the area. AC said would get initial draft of remediation methodology to them for preliminary review before it goes into ACHAR - make sure that it expressed how/what they envisioned/planned with the remediation. AC to provide GIS data from survey and an indicative timeframe for the remainder of the project.	Phone call	Outgoing & incoming.
4/10/2024	Moama LALC	AC sends initial draft of remediation methodology for feedback.	Email	Outgoing.
14/10/2024	Moama LALC	AC sends follow up email regarding feedback on initial remediation methodology. LaToya responds that she is happy with it but will run it past board members and John Kerr as well.	Email	Outgoing & incoming.

Date	Organisation	Purpose	Method	Incoming/ outgoing
7/11/2024	Moama LALC	AC sent draft ACHAR for Stage 4 consultation review. Comments requested by COB Friday 6 December 2024.	Email	Outgoing.
7/11/2024	Thomas Dahlstrom	AC sent draft ACHAR for Stage 4 consultation review. Comments requested by COB Friday 6 December 2024.	Email	Outgoing.
7/11/2024	Bangerang Aboriginal Corporation	AC sent draft ACHAR for Stage 4 consultation review. Comments requested by COB Friday 6 December 2024.	Email	Outgoing.
7/11/2024	Yorta Yorta Nation Aboriginal Corporation	AC sent draft ACHAR for Stage 4 consultation review. Comments requested by COB Friday 6 December 2024.	Email	Outgoing.
7/11/2024	Kalthi Consultancy	AC sent draft ACHAR for Stage 4 consultation review. Comments requested by COB Friday 6 December 2024.	Email	Outgoing.
7/11/2024	Gary Pappin	AC sent draft ACHAR for Stage 4 consultation review. Comments requested by COB Friday 6 December 2024.	Email	Outgoing.
7/11/2024	Michelle Francis	AC sent draft ACHAR for Stage 4 consultation review. Comments requested by COB Friday 6 December 2024.	Email	Outgoing.
7/11/2024	Moama LALC	AC received response from MLALC on draft ACHAR with a requesting wording change in executive summary and Section 1.1.	Email	Incoming.
18/11/2024	Moama LALC	AC responded thanking LaToya and confirming wording change for final ACHAR.	Email	Outgoing.
22/11/2024	Moama LALC	AC sent email to LaToya on her opinion whether a six-tonne excavator could be used in blue areas.	Email	Outgoing.

Date	Organisation	Purpose	Method	Incoming/ outgoing
4/12/2024	Moama LALC	AC sent email to LaToya following up previous questions re six-tonne excavator. Also provided brief update re REF/AHIP.	Email	Outgoing.
4/12/2024	Moama LALC	AC missed phone call from LaToya. Received text message asking to ring her back.	Phone call & text message.	Incoming.
5/12/2024	Moama LALC	AC rang LaToya back as requested. No answer, left voice message.	Phone call & voice message.	Outgoing.
10/12/2024	Moama LALC	AC tried to ring LaToya back again regarding missed call on 4/12/2024.	Phone call.	Outgoing.
11/12/2024	Moama LALC	LaToya sent text message saying would ring this morning.	Text message	Incoming
11/12/2024	Moama LALC	LaToya rang AC regarding the ACHAR. Mentioned ancestral remains being disturbed by scavengers (foxes?). AC said would add those concerns into the ACHAR before finalising today. AC apologised that the AHIP application couldn't be submitted this year since the cutoff date was COB Friday 6 December 2024, and that the REF needed the finalised ACHAR in order to be determined. Discussed that MLALC board would look over final ACHAR at meeting on Saturday. AC said just to let her know if there's any changes so can submit AHIP application when Heritage NSW are accepting applications again on the 6 January 2025. LaToya said that was not a bad thing that they have this extra time for a final review the board members. AC and LaToya agreed they would chat next week after the MLALC board meeting on Saturday.	Phonecall	Incoming

B.2 Stage 1 Public Notice

local classifieds

1300 660 886 | advertise@localclassies.com.au

CLASSIFIED INFORMATION

Classified Deadline
Monday Publication:
Semi Display: 11am Friday
Line Ads: 2pm Friday
Wednesday & Friday Publications:
Semi Display: 11am day prior to publication
Line Ads: 2pm day prior to publication

localclassies Hours
Our phone lines are open from:
Monday - Friday 8.30am - 5pm
Our Shepparton office is open from:
Monday to Friday 8.30am to 5pm
Phone: 1300 660 886
Fax: 1300 714453
Email: advertise@localclassies.com.au
Postal: PO Box 204, Shepparton, 3632
Office: Melbourne Road, Kialla

Payment
Payment for classified advertisements can be made over the phone using credit card or in person at the Echuca Riverine office:
28 Percy Street, Echuca, 3564.
Phone: (03) 5482 1111.
Open: Mon - Fri, 8.30am - 5pm .
For your convenience we accept Visa or MasterCard. Prepayment is required prior to publication. 30 day accounts are available to registered businesses upon credit approval.

Upgrading our software to serve you better
The News is incorporating the use of artificial intelligence (AI) software to assist with our processes in the newsroom. Our reporters and editors will be using this tool to help increase efficiency. This will allow our team to focus more on creating the community content which matters most to you.

Births / Birth Congratulations
Family members may place notices with the parents' consent.

Engagements
Family members may place notices with the couple or their parents' consent.

Packages
When booking a package, please note that the full cost of the advertisement will be charged on the first edition. Therefore we are unable to offer refunds on any portion of packages once the advertisement has begun running.

Please check your advertisement
It is important to check that your advertisement is correct on the first day it appears. While every care is taken to ensure your advertisement is correct, errors can occur. If this happens to your ad please contact us the first day your advertisement appears and we will be happy to correct it as soon as we can. Credits will only be issued for the first appearance date, and no further credits shall be issued for consecutive advertisements.

Conditions of Advertising
All advertisements are subject to the approval of McPherson Media Goup. McPherson Media Group may refuse to accept or publish any advertisement.
McPherson Media Group may refuse or alter any advertisements content, size, form, position and placement without prior notice. To the extent permitted by law, McPherson Media Group accepts no liability for any intentional or accidental omission or modification.
McPherson Media Group gives no guarantee regarding the positioning of advertisements and credits will NOT be given for advertisements appearing out of alphabetical sequence. McPherson Media Group accepts no responsibility for the content of any advertisement.

Copyright
McPherson Media Group, being the publisher of the Riverine Herald is the owner of the copyright in all advertisements (including artwork) prepared by the servants and/or agents of the newspaper on behalf of its advertisers. Neither the newspaper's advertisers nor any person on their behalf are authorised to publish, reproduce or copy in any manner, any of the said advertisements (including artwork) without the prior written licence of the newspaper.

Privacy Policy
Our Privacy Policy includes important information about our collection, use and disclosure of your personal information. The personal information we request from you enables us to provide you with the services you require. Our Privacy Policy also makes clear the ways in which you can access your personal information and how you can make a complaint if you believe a breach of the Australia Privacy Principles has occurred. Our Privacy Policy can be viewed at www.mmg.com.au

DEATH NOTICES

HUGHES, Edna May.
16.01.1933 ~ 27.06.2024.

Passed away quietly in her sleep at home (Bupa Echuca).

Much loved Mum to William, Stephen, Robyn, Diane (dec) and extended family and friends.

HARTSHORN, Dorothy Joan.
08.03.1933 ~ 02.07.2024.
Loving Wife of Brian (Charlie) (dec), formerly of Bunnaloo. Loved Mother of Gary, Jim, Ronald (dec), Margaret, Rosey, Jenny, Ted, Stephen, Cathy, Wendy and Richard and Families of 25 Grandchildren and 52 Great-Grandchildren and counting.

Funeral details later edition.

local classifieds

DEATH NOTICES

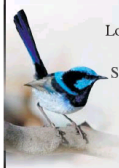
STEWART (Nee Tobias), June.
06.06.1924 ~ 29.06.2024.
Dearly Loved Wife of Jack (dec), Devoted Mother of Lynette and Heather, Loved and Respected Mother-In-Law to Trevor Thompson. Dearly Loved Mama to her grandchildren Simon (dec) and Sally Thompson, Claire and David Burrows, Nicole and Warren Wu, And Great-grandchildren Blake, Caitlin and Dylan, Lucas, Connor and Flynn, August and Willow.

So Very Dearly Loved Now In God's Care

The family would like to thank the Warramunda Staff for their love and support to Mum during the past 10 months, especially the last 2 weeks.

FUNERAL DIRECTORS

C & S Moody Funerals



Locally owned and operated by Colin and Susan Moody
Servicing Echuca, Moama and Rochester Districts
Phone 1300 661 108

Customised Funerals at an affordable price
Proudly supporting Echuca Veterans
Support Services Phone (03) 5482 2000

TOBIN BROTHERS FUNERALS
Celebrating Lives SINCE 1934

"Proud to be a local and a 4th generation family member."
Aaron Mulkearns

24 HOUR SERVICE
5480 1111
457 High Street, Echuca
www.tobinbrothers.com.au

Clive Coventry Funerals

INCORPORATING RICH RIVER FUNERALS
"Efficient and dignified service at lowest cost"
Financial Assistance is available to help you through this difficult time.
Echuca, Moama, Rochester, Elmore and Districts
Phone (03) 5480 1211 or (03) 5482 4033.
12 Blair Street, Moama
www.clivecoventry.com.au
LOCALLY OWNED AND OPERATED

BEREAVEMENT THANKS

Thank You

MONIGATTI.
Allison and The Monigatti Family would like to thank everyone for all the flowers, phone calls, cards and food etc. on the recent passing of John. Your thoughts and kindness have been very much appreciated. Please accept this as our personal thanks.

FUNERALS

HUGHES.
The Chapel Funeral of Edna May Hughes will be held at Tobin Brothers Bromley Chapel, 457 High Street, Echuca, on Friday, July 5, 2024, at 10am.

A Private Cremation will follow.

TOBIN BROTHERS FUNERALS
MEMBER AFDA
ECHUCA 5480 1111
WWW.TOBINBROTHERS.COM.AU

STEWART.
A Service to Celebrate the Life for Mrs June Stewart will be held the St Andrews Anglican Church, Church Street, Kyabram on Thursday, July 4, 2024, at 1pm.

This Service will be livestreamed, to view go to our website.

Privately Interred

CLIVE COVENTRY
Kyabram 5852 1619

MEETINGS

Murray River Western Performance Club

Notice of A.G.M.

Sunday, July 28, 2024, at clubrooms.

Murray Valley Highway, WYUNA.

Start time 12pm.

Election of officers etc.

Contact Wayne Baker 0410 316 722.

ECHUCA WHOLESALE BATTERIES
Phone: 03 5480 0222

UTES & 4WD

TOYOTA KLUGER
2005/06 MODEL
7 seater wagon, 256,000kms, Reg to Aug, 2024, Reg: BG4-1UW
$5,500 ONO.
Phone 0411 715 998.

CARS

FORD FALCON
2012 MODEL
FG G6 Mk11 Sedan, reg till July 2025, 197,000 kms, Reg: YXD-731, $12,000.
Phone: 0428 826 599.

WANTED TO BUY

OLDER CARAVANS & MOTORBIKES
Anything considered. up to $4,000.
Phone 0428 137 483.

ECHUCA WHOLESALE BATTERIES
26 Sturt St, Echuca
Phone: 03 5480 0222

LEGAL NOTICES

MARGARET MARY WILLS
LATE OF 1 PASCOE STREET, ROCHESTER, VICTORIA, RETIRED HAIRDRESSER, DECEASED.

Creditors, next-of-kin and others having claims in respect of the estate of the abovenamed deceased who died 28 April 2019, are required to send particulars of their claim to the executor, care of the undermentioned solicitors, by 31 August 2024, after which date the executor will convey or distribute the assets, having regard only to the claims of which the executor then has notice. Probate was granted on 23 August 2019.

MELVILLE & HICKS LAWYERS,
Solicitors, 201 Hare Street, Echuca 3564.

ECHUCA WHOLESALE BATTERIES Phone: 03 5480 0222

PUBLIC NOTICES

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) and undertake *Aboriginal community consultation as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010) for the Little Forest Levee Remediation (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area.

We are inviting Aboriginal groups or individuals who are interested in being consulted under the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* to register as Registered Aboriginal Parties for the project.

This consultation will assist the proponent in the preparation of an ACHAR and if required an Aboriginal Heritage Impact Permit (AHIP) application and to assist Heritage NSW in the consideration and determination of an AHIP.

If you hold cultural knowledge relevant to the project area and determining the cultural significance of Aboriginal objects or places in the project area, please register your interest.

Registrations can be made by contacting NSW Public Works by email (alyce.cameron@pwa.nsw.gov.au) or post (Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480).

For general enquiries regarding the project please contact the Project Manager John Hore (admin@murrayriver.nsw.gov.au or 1300 087 004). All registrations should be received no later than close of business 23 July 2024.

Please note that if you choose to register for this project, your details will be shared with the Local Aboriginal Land Council and Heritage NSW, unless you advise us that you do not want your details released.

131357

ECHUCA WHOLESALE BATTERIES
26 Sturt St, Echuca • Phone: 03 5480 0222

local classifieds advertise@localclssies.com.au

pressreader PRINTED AND DISTRIBUTED BY PRESSREADER PressReader.com +1 604 278 4604 COPYRIGHT AND PROTECTED BY APPLICABLE LAW

Classifieds

CLASSIFIEDS
advertising@thebridgenews.com.au
Ph: 5453 2057

Murray Haven Homes

98 Punt Road, Barham, NSW 2732

Registered Nurse

Murray Haven Homes is an Aged Care provider located on the banks of the Murray River in Barham NSW. We are currently seeking highly motivated Registered Nurses.

Full-time, part-time and casual positions available for immediate start.

- We offer attractive hourly rates + penalties.
- Salary range $70,00- $90,00
- Up to $5,000 sign on bonus if eligible
- Salary packaging of $15,000 + PA
- Short term accommodation available.

About You

- Relevant tertiary qualifications and AHPRA registrations as required for the role
- An effective listener with the ability to communicate at all levels both orally and in writing with excellent presentation skills
- Able to multitask, prioritise, delegate and manage the delegation process to ensure appropriate quality outcomes within expected timeframes
- A desire to join a team committed to the providing quality care.

Please contact our HRA Kerrie Pippin at **kerrie.pippin@mhh.org.au** to email your resume or to obtain a position description.

Applications close: Friday 5th July

eldersrealestate.com.au

FOR SALE

'Rotherwood' Deniliquin NSW – 914.2Ha* / 2,259Ac*

A Highly Versatile Niemur Riverfront Holding

Excellent mix of soil types ranging from red sandy loams running north into Niemur clay loams suitable for summer and winter cropping programs

3km* picturesque Niemur River frontage ensuring water security and endless recreational and lifestyle opportunities

120Ha/300Ac* laser levelled irrigation development with recycle system including an 110ML* equipped storage dam, secure water supply via MIL and a 10" river pump

Available Water Entitlements include 100ML MIL, 15ML NSW Zone 11 Murray, 149ML Supplementary, 8ML Stock & Domestic Entitlement

4Br, 2Bth home featuring split systems, slow combustion heating, double carport, cool room, set in an enclosed yard with low maintenance lawns and garden

Extensive shedding including 28x24m* high clearance machinery, 20x10m* vehicle shed, 15x9m* workshop, in addition to sundry shedding & campers accommodation

Exceptional standard of fencing with laneway systems, large set of steel cattle yards containing a force yard, race, crush and loading ramp, 4 stand shearing shed (req renovation) with adjoining steel yards

Situated 70km northwest of Deniliquin, 53km north of Barham, 43km southeast of Moulamein, 337km north of Melbourne, and offered for sale for the first time in 120 years

For Sale $1500 per acre

Matt Horne: 0409 355 733
Jason Telford: 0447 533 313
Elders Barham: 0354 533 377
Elders Web ID: 300P138901

*Denotes: Approximate

Elders

Funeral Notice

BENNETT - Peter Mark

Aged 60.

Loved son of Ken and Dawn.

Proud father of Daniel (dec), Mitchell (dec), Lachlan and Makayla.

Loved brother of Les, Julie and Fiona.

Grandfather to Sampson, Liv, Belle and Indie.

A.G. ADAMS Kerang 5452 1111

RUBBER STAMPS

The Bridge
Mellool Street, Barham
Ph: 5453 2057

School Holidays on the Inside

Ali Bohn

Love them or loathe them, the winter school holidays are here.

For many parents who still have to go to work, it means a lot of shuffling kids around to grandparents and calling on favours from friends, and for those staying at home with their kids, it's sleep-ins, non-existent routines and by the end of the second week, breaking up fights.

The winter school holidays can be the most challenging if it's a particularly wet winter when the kids spend most of their time inside and come down with a severe case of 'cabin fever'. Keeping idle hands busy becomes an understatement if parents are to survive indoor school holidays!

Coming from a household that was not computer games friendly meant that the technology my school holidays entailed were watching TV holiday programming such as Round the Twist, The Littlest Hobo, Huckleberry Finn and his Friends, Pugwall, Henderson Kids, Secret Valley among others. In between watching TV (in our pyjamas for the entire morning), we would make a mess in the kitchen doing some sort of baking, creating cubby houses made of blankets and kitchen chairs, writing letters to our pen pals, making mixed tapes, and using our imaginations in general to pass the time.

My parents never entertained the wining of "I'm bored" complaints, instead ignoring us until we found something to do. I remember telling Dad I was bored once, and the next minute he had me washing the walls in the kitchen in preparation for painting. I learned not to whinge at him again pretty quickly after that!

As much as it can be very annoying, it is a good thing for kids to experience boredom, and I am told that one of the worst things we can do as parents is to try to find things to entertain them rather than letting them use their initiative and imagination as it's so important for their development.

If, however, you don't have the patience to let them work it out for themselves, here are my handy hints to keep them occupied if they're stuck indoors these holidays:

Sorting of the dreaded bottom kitchen drawer.

Colour co-ordinate the clothes pegs.

Refold all the towels and colour-code them in the linen cupboard.

Alphabetise the herbs and spices on the shelf.

Untangle the necklaces in the jewellery box.

See how many pieces of Lego they can find behind shelves, under beds and stuck in carpet throughout the house.

Flick the fluff out of the window tracks.

In other words, utilise their lack of initiative to get things done around the house, which is the epitome of boredom. After all, that's why you haven't done them; they are the most mundane household jobs imaginable! You won't hear them complain again!

Murray River Council

Local Government Act 1993 - Sale of land for unpaid rates and charges

As required under section 715 of the *Local Government Act 1993*, notice is given that the Murray River Council has resolved, as authorised under section 713 of that Act, to sell the land at:

- Lot 4 DP 11185 - Ph Bungunyah PARISH PORTIONS NSW 2733
- Lot 20 DP 11185 - 91 Eagles Lane KORALEIGH NSW 2735
- Lot 1 Sec 8 DP758195 - 1261 Burraboi Road BURRABOI NSW 2732
- Lot 18 Sec 38 DP 758713 - 49 Carne Street MOULAMEIN NSW 2733
- Lot 1 DP 344959 - Ph Barham PARISH PORTIONS NSW 2733
- Lots 21, 22, 23, 24, 25, 27, 41, 42, 45, 46, & 47 DP 285882 - Perricoota Road MOAMA NSW 2731
- Lot 7,11 Sp 77246, Lots 21-22 Sp 81069,Lot 25 Sp 87611 - 56 Teddys Lane BARHAM NSW 2732
- Lot 52 DP 285882 - 52 Murray Rivers Edge Moama NSW 2731
- Lot 51 DP 285882 - 51 Murray Rivers Edge Moama NSW 2731
- Lot 50 DP 285882 - 50 Murray Rivers Edge MOAMA NSW 2731
- Lot 53 Dp 285882 - 53 Murray Rivers Edge MOAMA NSW 2731
- Lot 11 Dp 285882 - 11 Murray Rivers Edge MOAMA NSW 2731
- Lot 9 Dp 285882 - 9 Murray Rivers Edge MOAMA NSW 2731
- Lot 17 Dp 285882 - 17 Murray Rivers Edge MOAMA NSW 2731
- Lot 15 Dp 285882 - 15 Murray Rivers Edge MOAMA NSW 2731
- Lot 13 Dp 285882 - 13 Murray Rivers Edge MOAMA NSW 2731
- Lot 3 DP 285882 - 3 Murray Rivers Edge MOAMA NSW 2731
- Lot 7 DP 285882 - 7 Murray Rivers Edge MOAMA NSW 2731
- Lot 5 Dp 285882 - 5 Murray Rivers Edge MOAMA NSW 2731
- Lots 1, 2 & 3 DP 251804 - Parish of Burrawang PARISH PORTIONS NSW 2733
- Lot 4 DP 329011 - Ph Bungunyah PARISH PORTIONS NSW 2733
- Lot 1 DP 113741 - Fitzroy Street, BUNNALOO NSW 2731
- Lot 19 Sec 1 DP 15133 - 3 McKenzie Lane Koraleigh NSW 2735
- Lot 2 Dp 315700 - Parish of Wongal, PARISH PORTIONS NSW 2733
- Lot: 1 DP: 721983 - Ph Moulamein South PARISH PORTIONS NSW 2733
- Lot 1 DP 652091 - Ph Wetuppa PARISH PORTIONS NSW 2733
- Lot 1 DP 254431 - Ph Nunnagoyt PARISH PORTIONS NSW 2733
- Lot: 9 DP: 252176 - Ph Gnuie PARISH PORTIONS NSW 2733
- Lot: 2 DP: 251066 - Ph Burbagadah PARISH PORTIONS NSW 2733
- Lot 13 Sec 1 DP 15133 - Ph Bungunyah PARISH PORTIONS NSW 2733
- Lot 9 DP 111764 - Ph Barham PARISH PORTIONS NSW 2733
- Lot 27 DP 113380 - Warbreccan PARISH PORTIONS NSW 2731
- Lot: 1 DP: 528296 - Ph Cunninyeuk PARISH PORTIONS NSW 2733
- Lot 7 DP 111270 - Moira PARISH PORTIONS NSW 2731
- Lot: 8 DP: 256972 - Ph Yadchow PARISH PORTIONS NSW 2733
- Lot 8 Dp 628963 - 30 Deniliquin Road MOAMA NSW 2731
- Lot A;B DP 384214 - 70 Tulla Road TULLAKOOL NSW 2732
- Lot 6 Sec 7 DP 759033 - 25 Cook Street WAKOOL NSW 2710
- Lot 4-5 DP 46273 - Ph Nunnagoyt PARISH PORTIONS NSW 2733
- Lot 1 DP 342182 - Parish of Niemur
- Lot 4 DP 722075 - Ph Bookit PARISH PORTIONS NSW 2733
- Lot 4 Sec 38 DP 758713 - 41 Tallow Street MOULAMEIN NSW 2733
- Lot 4 DP 189016 - Ph Caldwell Parish Portions

The land described above will be offered for sale by public auction at 'The Venue' Moama Bowling Club, 6 Shaw Street, Moama NSW 2731 on Saturday, 13th July 2024 and first auction to commence at 1.00pm if the rateable person(s)/entity(s)—

(a) does not pay the Murray River Council the amount outstanding plus any other rates and charges (including extra charges) becoming due and payable after publication of this notice, or

(b) does not make arrangements satisfactory to the council for payment of all overdue rates and charges.

Interested parties are to contact the below for more information:

Karl Balian, Solicitor
Executive Collections Legal Services Pty Ltd
karl@ecls.net.au (02) 9890 2788
Level 1, 410 Church Street, North Parramatta NSW 2151

EXPRESSION OF INTEREST | murray river council

ABORIGINAL CULTURAL HERITAGE ASSESSMENT

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) and undertake Aboriginal community consultation as per the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (DECCW 2010) for the Little Forest Levee Remediation (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area.

We are inviting Aboriginal groups or individuals who are interested in being consulted under the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 to register as Registered Aboriginal Parties for the project.

This consultation will assist the proponent in the preparation of an ACHAR and if required an Aboriginal Heritage Impact Permit (AHIP) application and to assist Heritage NSW in the consideration and determination of an AHIP.

If you hold cultural knowledge relevant to the project area and determining the cultural significance of Aboriginal objects or places in the project area, please register your interest. Registrations can be made by contacting NSW Public Works by email **(alyce.cameron@pwa.nsw.gov.au) or post (Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480).**

For general enquiries regarding the project please contact the Project Manager John Hore **(admin@murrayriver.nsw.gov.au or 1300 087 004).**

All registrations should be received no later than close of business 23 July 2024.

Please note that if you choose to register for this project, your details will be shared with the Local Aboriginal Land Council and Heritage NSW, unless you advise us that you do not want your details released.

For further information contact council on 1300 087 004 or visit www.murrayriver.nsw.gov.au

Catherine Continues Success at State Level

Kirstin Nicholson

The Victorian Agricultural Shows 2024 State Convention was held in Kaniva on the weekend. Delegates from agricultural shows across the state attended the convention, taking part in workshops and tours held throughout the weekend.

Winners of several competitions held at district level across Victoria competed at state level, including Northern District Agricultural Shows' Catherine Rosewall representing Kerang Show in the Carrot Cake Competition and Paige O'Connell representing the Cohuna Show in the Junior Show Ambassador.

Catherine took out second place with her carrot cake, which had to follow a set recipe, while Paige was interviewed by a judging panel and spoke to the convention audience but did not get a place.

Other state finalists in the Victorian Agricultural Shows competitions from the Northern District Agricultural Shows finals held in May will compete at the Melbourne Royal Show later this year.

Catherine Rosewall was awarded second prize in the carrot cake state final. Photo: Victorian Agricultural Shows Facebook page.

B.3 Stage 1 Letter to government agencies

NSW Public Works

14 June 2024

Andrew McCurdy
District Manager - Deniliquin
Forestry Corporation of NSW - Western Division
andrew.mccurdy@fcnsw.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Andrew,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

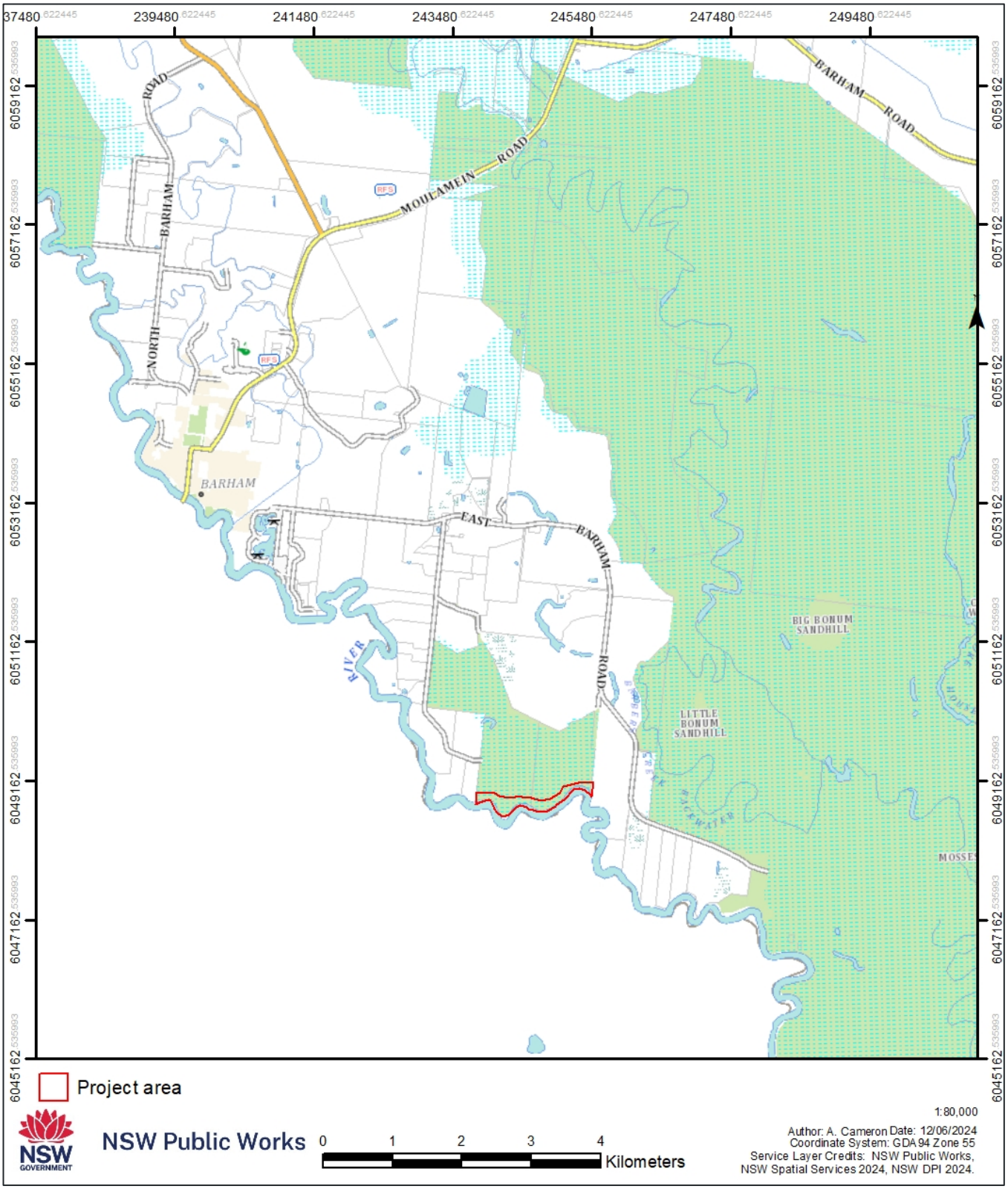


Figure 1: Location of project area.

NSW Public Works

14 June 2024

Vincent Kelly
TLM Program Manager
Forestry Corporation of NSW - Western Division
Vincent.kelly@fcnsw.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Vincent,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

14 June 2024

Heritage NSW
heritagemailbox@environment.nsw.gov.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

To whom it may concern,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

14 June 2024

John Kerr
CEO
Moama Local Aboriginal Land Council
ceo@moamalalc.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear John,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

14 June 2024

John Hore
Project Manager, Murray River Council
jhore@murrayriver.nsw.gov.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear John,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

14 June 2024

Murray Local Land Services
admin.murray@lls.nsw.gov.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

To whom it may concern,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

14 June 2024

Native Title Services Corporation Limited
information@ntscorp.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

To whom it may concern,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

14 June 2024

Office of the Registrar
Aboriginal Land Rights Act 1983
aboriginalowners@oralra.nsw.gov.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

To whom it may concern,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

14 June 2024

Superintendent Shane Hargrave
Deputy Zone Commander
Eastern Riverina
NSW State Emergency Services
shane.gauci1@ses.nsw.gov.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Superintendent Hargrave,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometre in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.2 of the ACHCRs to request the contact details for any known Aboriginal groups or individuals who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places for the project. We would appreciate if you could please provide any contact details for Aboriginal stakeholder groups or individuals no later than close of business 28 June 2024.

NSW Public Works will use the contact details provided to invite Aboriginal groups and individuals to register an interest in the project and participate in the consultation process as a Registered Aboriginal Party (RAP).

Please contact me on 0488 316 037 or at alyce.cameron@pwa.nsw.gov.au for further information or if you wish to discuss the proposal.

The Project Manager, John Hore, is also available for general project information (jhore@murrayriver.nsw.gov.au).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

B.4 Stage 1 responses from government agencies

OFFICE OF THE REGISTRAR
ABORIGINAL LAND RIGHTS ACT 1983 (NSW)

14 June 2024

By email: alyce.cameron@pwa.nsw.gov.au

Dr Alyce Cameron
Public Works Advisory
Heritage, Environment & Planning
359 Harbour Drive
COFFS HARBOUR NSW 2450

Dear Alyce,

Request - Search for Registered Aboriginal Owners – Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

We refer to your email dated 14 June 2024 seeking the identification of Aboriginal organisations and people who may have an interest in the proposed Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Under Section 170 of the Aboriginal Land Rights Act 1983 (NSW), the Office of the Registrar is required to maintain the Register of Aboriginal Owners (RAO) for New South Wales. A search of the RAO has shown that there are currently no Registered Aboriginal Owners in the project area.

We suggest you contact the Moama Local Aboriginal Land Council on (03) 5482 6071 or via email ceo@moamalalc.com.au as they may wish to participate.

Yours sincerely

Rachel Rewiri
Project Officer
Office of the Registrar, Aboriginal Land Rights Act 1983

Address: Level 3, 2 – 10 Wentworth Street, PARRAMATTA NSW 2150
Post: P.O Box 5068, PARRAMATTA NSW 2124
Phone: 02 8633 1266

From:	Andrew McCurdy
To:	Alyce Cameron
Subject:	RE: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area
Date:	Friday, 14 June 2024 3:47:31 PM
Attachments:	image003.png image004.png

Hi Alyce, thankyou for your email. The Joint Indigenous group (JIG) is represented by members of the traditional owners and local land councils that covers the Koondrook, Perricoota state forests and Forestry has been consulting with this group for many years over issues related to these Forests. The Moama Local Aboriginal Land Council CEO John Kerr is the main contact for the JIG – 0497 129 490 ceo@moamalalc.com.au.

Cheers

Andrew McCurdy | District Manager - Deniliquin
Forestry Corporation of NSW | Western Division

315 | Victoria Street | Deniliquin NSW 2710
PO Box 610 | Deniliquin NSW 2710
M: 0428 288 618 | E: andrew.mccurdy@fcnsw.com.au
W: www.forestrycorporation.com.au

I acknowledge and respect the traditional custodians and ancestors of the lands I work across

---

From: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Sent: Friday, June 14, 2024 3:13 PM
To: Andrew McCurdy <andrew.mccurdy@fcnsw.com.au>
Subject: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Good afternoon Andrew,

I'm the archaeologist who will be undertaking the Aboriginal Cultural Heritage Assessment (ACHA) for the Little Forest Levee Remediation Project. John Hore (Murray River Council) suggested that I include the Forestry Corporation of NSW into the notification of an ACHA and request to government agencies for details of any potential Aboriginal stakeholders who may be interested in the project. Please find attached a letter outlining the details of this request.

If you have questions, or require further information, please don't hesitate to contact me.

Sincerely,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au

From:	Wendy Nethercote
To:	Alyce Cameron
Subject:	RE: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area
Date:	Friday, 14 June 2024 11:22:18 AM
Attachments:	image001.png image002.png image005.png image006.png

Thank you Alyce will do.

Wendy Nethercote
A/Executive Assistant
DRNSW Local Land Services Agency | Murray
Local Land Services

P 03 5881 9906 E wendy.nethercote@lls.nsw.gov.au

lls.nsw.gov.au

449 Charlotte St
Deniliquin NSW 2710

Working Hours: Mon-Fri 8:30 am - 4:30 pm

NSW GOVERNMENT Local Land Services

Your opinion is valuable and will help us improve our service

Stay up-to-date with advice, information, events and project updates from Murray Local Land Services by signing up to our e-newsletters and/or liking us on Facebook.

We stand on Country that always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for Elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work.

From: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Sent: Friday, June 14, 2024 11:17 AM

To: Wendy Nethercote <wendy.nethercote@lls.nsw.gov.au>
Subject: RE: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Hi Wendy,

Thank you for the reply. I am in the process of the contacting the LALC for the area and will be sending out individual EOI's to individuals/groups in the next couple of weeks. If any of your First Nations contacts may be interested in contacting me prior to that, please pass on my contact details (as below).

Sincerely,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au

From: Wendy Nethercote <wendy.nethercote@lls.nsw.gov.au>
Sent: Friday, 14 June 2024 11:01 AM
To: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Subject: RE: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Hello Alyce,

We have received your request for contact details of local First Nations People who may have an interest in your study area.

Due to privacy restrictions around sharing of personal information, we cannot provide contact details for any individuals in our region, however the contact details for Local Aboriginal Land Councils are available on https://alc.org.au/.

We have forwarded your request on to key First Nations contacts within our region.

Kind Regards

Wendy Nethercote
A/Executive Assistant
DRNSW Local Land Services Agency | Murray
Local Land Services

P 03 5881 9906 E wendy.nethercote@lls.nsw.gov.au

lls.nsw.gov.au

449 Charlotte St

Deniliquin NSW 2710

Working Hours: Mon-Fri 8:30 am - 4:30 pm

Local Land Services

Your opinion is valuable and will help us improve our service

Stay up-to-date with advice, information, events and project updates from Murray Local Land Services by signing up to our e-newsletters and/or liking us on Facebook.

We stand on Country that always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for Elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work.

From: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Sent: Friday, June 14, 2024 10:40 AM
To: LLS Admin Murray Mailbox <admin.murray@lls.nsw.gov.au>
Subject: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Good morning,

Please find attached a request for any known Aboriginal stakeholders who may be interested in participating in consultation for the Aboriginal Cultural Heritage Assessment for the Little Forest Lee Remediation Project, Barham in the Murray River LGA.

If you have any questions or require further information, please don't hesitate to contact me.

Sincerely,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
359 Harbour Drive, Coffs Harbour, NSW 2450
On **Gumbaynggirr Land**

From:	John - Moama Local Aboriginal Land Council
To:	Alyce Cameron
Subject:	Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area
Date:	Friday, 14 June 2024 3:40:31 PM
Attachments:	image003.png image004.png

Thank you for your email and information.

The key contact for this area and or any scope of works would initially be myself MR john Patrick Kerr
CEO Moama Local Aboriginal Land council.

All information in relation to this issue can be filtered through the Moama Land Council and then through the community also we are partners in the JIG in which we are the Traditional custodians of the Koondrook-Pericotta Forest,

we are the keepers of knowledge and the custodians and protectors of our many sites within the KP Little Forest being a significant part of that History passed down through generations of oral History.

We have an extensive history working in the little forest reaching back many years.
We look forward to working with you on this ongoing issue and putting it to rest.

We are pleased to offer our services we have a full team of TO,s who are ready and willing to get there traditional sites back the way they was before they were destroyed.

Please don't hesitate to call me at any time to discuss this matter moving forward.

Regurds

John Kerr
CEO Moama Local Aboriginal Land Council
PH 0354826071
MLALC recognises the Yorta Yorta BarapaBarapa and Wamba Wamba as the traditional owners of the land of which we service and recognise all elders passed present and emerging --

---

From: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Date: Friday, 14 June 2024 at 2:29 pm
To: John - Moama Local Aboriginal Land Council <ceo@moamalalc.com.au>
Subject: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Good afternoon John,

Thank you for your call this afternoon in relation to the Little Forest Levee Remediation Project. I look forward to working with Moama LALC and JIG on the project going forward.

Please find attached a letter requesting Aboriginal community stakeholder details for the Little Forest Levee Remediation Project. As I mentioned, this is just the initial letter (Stage 1a of the ACHCRs) and EOI letters will be sent out in about two weeks time. If you know of any other individuals/groups who may want to register as Registered Aboriginal Parties (RAPs) for the project prior to then, please pass on my contact details.

Thanks,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
359 Harbour Drive, Coffs Harbour, NSW 2450
On **Gumbaynggirr Land**

NSW GOVERNMENT

NSW Public Works

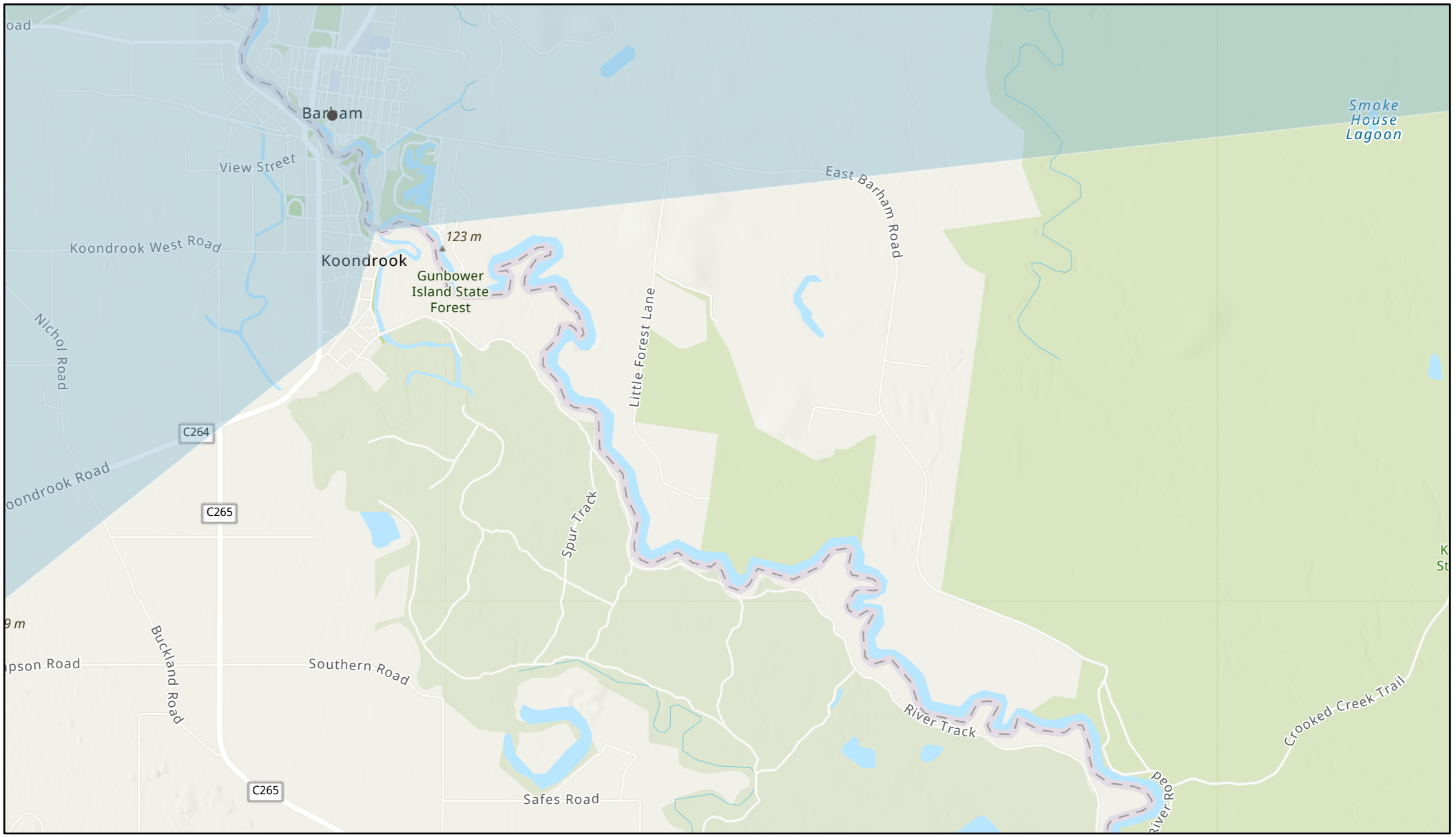
Planning and building a NSW that works, together

Visit our website →

publicworks.nsw.gov.au | regional.nsw.gov.au

The Department of Regional NSW acknowledges that it stands on Country which always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work

Native TitleVision Web Map



14/06/2024, 08:42:08

Applications (Schedule)

1:66,092

0 0.45 0.9 1.8 mi

0 0.75 1.5 3 km

© State of New South Wales, Esri, Geoscience Australia, NASA, NGA, USGS, Vicmap, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS

Esri, Geoscience Australia, NASA, NGA, USGS | Esri Community Maps Contributors, Vicmap, Esri, TomTom, Garmin, Foursquare, METI/NASA, USGS | © State of New South Wales | National Native Title Tribunal, © Commonwealth of Australia |

From:	Shane Hargrave
To:	Alyce Cameron
Cc:	Benjamin Pickup
Subject:	RE: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area
Date:	Tuesday, 18 June 2024 1:32:25 PM
Attachments:	image013.png image014.png image001.png

Hi Alyce,

Thank you for your email, the below are the two gentleman we have worked with in the past:

CEO: **John Patrick Kerr**

Moama Local Aboriginal Land Council

Location: 52 Chanter Street, Moama NSW 2731
Post Address: PO Box 354, Moama NSW 2731
P: 0354 826 071
M:0497129490
E: ceo@moamalalc.com.au
E: admin@moamalalc.com.au

Dan Hutton
dohutton@westnet.com.au

I don't recall properly but I don't believe that John Kerr is with Moama Land Council any longer. I also have Dan Hutton's phone number but will need to find his business card.

Vince Kelly (vincent.kelly@fcnsw.com.au) or Andrew McCurdy (andrew.mccurdy@fcnsw.com.au) at Forestry would be the best contact to get you further details as they have a relationship with the relevant community members.

Kind regards,

SES

Superintendent Shane Hargrave
Deputy Zone Commander | Eastern Riverina
NSW State Emergency Service - Southern Zone
M 0419 466 019 E shane.gauci1@ses.nsw.gov.au

208 Fernleigh Road, Wirdajuri, Wagga Wagga, NSW 2650
www.ses.nsw.gov.au

OUR MISSION: SAVING LIVES AND CREATING SAFER COMMUNITIES.

OUR VISION: A TRUSTED VOLUNTEER-BASED EMERGENCY SERVICE, WORKING TOGETHER TO DELIVER EXCELLENCE IN COMMUNITY PREPAREDNESS AND EMERGENCY RESPONSE.

FOR EMERGENCY HELP IN FLOODS, STORMS AND TSUNAMI CALL THE NSW SES ON 132 500

The NSW SES acknowledges the traditional custodians of the lands on which we walk, work and live. We recognise their continuing connection to land, waters and culture and pay respect to Elders, past and present.

This message is intended for the addressee named and may contain confidential information. If you are not the intended recipient, please delete it and notify the sender. Views expressed in this message are those of the individual sender, and are not necessarily the views of the NSW State Emergency Service.

From: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Sent: Friday, June 14, 2024 3:14 PM
To: Shane Hargrave <shane.gauci1@one.ses.nsw.gov.au>
Subject: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

EXTERNAL EMAIL: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Good afternoon Shane,

I'm the archaeologist who will be undertaking the Aboriginal Cultural Heritage Assessment (ACHA) for the Little Forest Levee Remediation Project. John Hore (Murray River Council) suggested that I include the NSW State Emergency Services into the notification of an ACHA and request to government agencies for details of any potential Aboriginal stakeholders who may be interested in the project. Please find attached a letter outlining the details of this request.

If you have questions, or require further information, please don't hesitate to contact me.

Sincerely,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
359 Harbour Drive, Coffs Harbour, NSW 2450
On **Gumbaynggirr Land**

B.5 Stage 1 Letters sent to Aboriginal stakeholders.

NSW Public Works

26/06/2024

A&K Cultural Heritage
Ali Maher
67 Semaphore Road
Berkeley
NSW 2506
aandkculturalheritage@gmail.com

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Ali,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

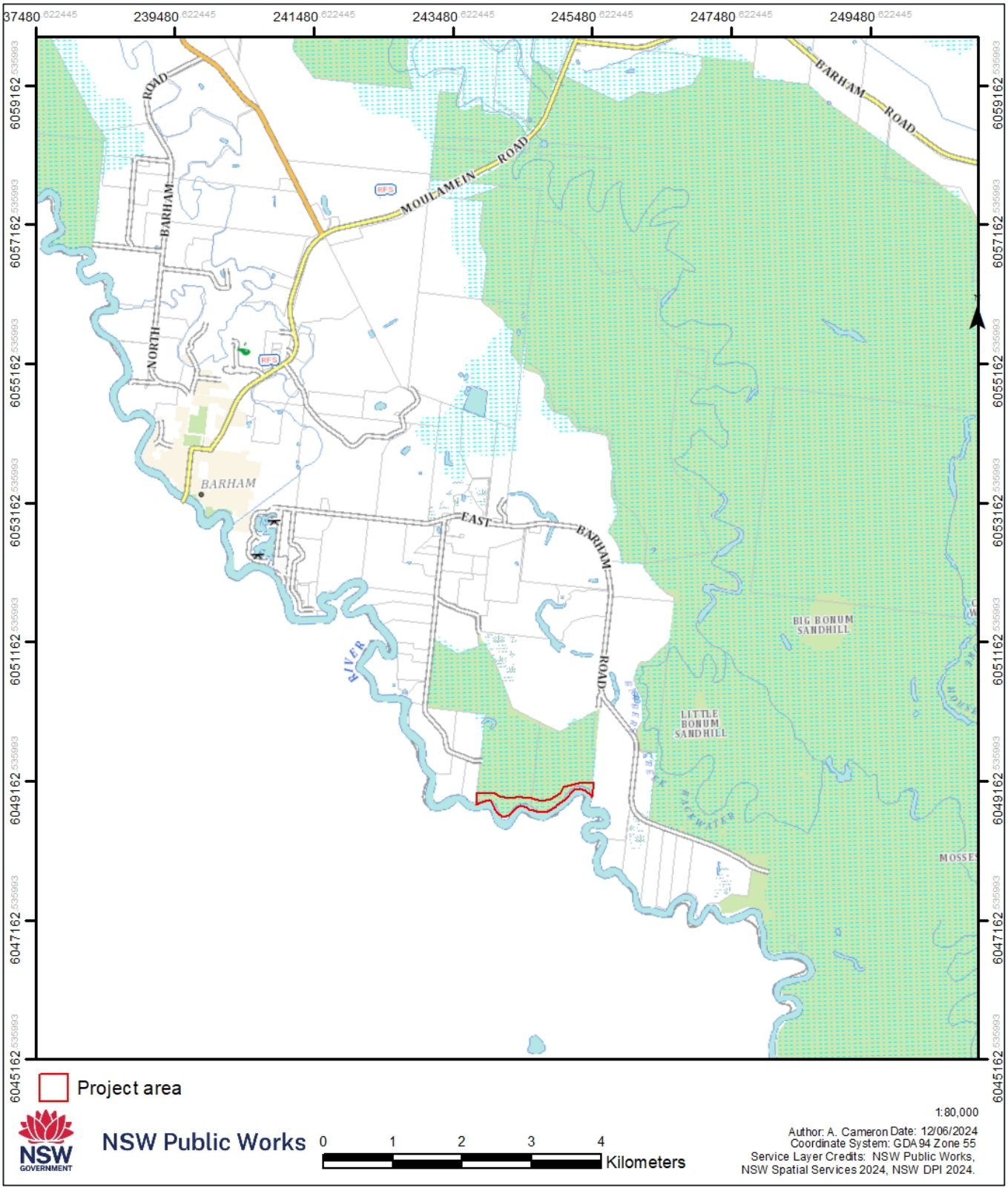


Figure 1: Location of project area.

NSW Public Works

26/06/2024

Bangerang Aboriginal Corporation
Kevin Atkinson
PO Box 989, Shepparton, VIC, 3630
moiradu57@gmail.com & admin@bacch.org.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Kevin,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Creator Spirits
Nicole Lihou
Nicole.lihou1976@gmail.com

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Nicole,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037

- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Girragirra Murun Aboriginal Corporation
Diana Astin
girragirramurun@yahoo.com

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Diana,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037

- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

John Winch
107 Bellandella Street
Balranald NSW 2715
kulinenvironments@outlook.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear John,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Kalthi Consultancy
Derek Hardman
barkandjiwarrior@yahoo.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Derek,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037

- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Gary Pappin
PO Box 243
BALRANALD
NSW 2715

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Gary,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

John Jackson
PO Box 132
BALRANALD
NSW 2715
John.Jackson@health.nsw.gov.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear John,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Moama Local Aboriginal Land Council
John Patrick Kerr
CEO
ceo@moamalalc.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear John,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Pappin Family Aboriginal Corporation
2 Alfred Close
MILDURA
VIC 3500
pfac1@outlook.com

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Mary, Jason and Daryl,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Patricia Winch
93 Yuranigh Street
Balranald
NSW 2715
pltwinch@hotmail.com

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Patricia,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Southern West Yiradyuri Clans, Land, Water and Sky Country Aboriginal Corporation
Will Carter
admin@yiradyuri.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Will,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037

- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Thomas Dahlstrom
1-122 Glebe Point Road
Glebe
NSW 2037
gamila_roi@yahoo.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Thomas,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Uncle Hewitt Whyman
hewittwhyman@bigpond.com

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Uncle Hewitt,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037

- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Wakool Indigenous Corporation
295 Fountain Road
Mellool
NSW 2734

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Cynthia and Gary,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Wingarra Wilay Aboriginal Corporation
Raymond Moon
wingarrawilay@yahoo.com

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Raymond,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037

- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

NSW Public Works

26/06/2024

Yarkuwa Indigenous Knowledge Centre
Jeanette Crew
Chairperson
PO Box 276
DENILIQUIN NSW 2710

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Jeanette,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

26/06/2024

Yorta Yorta Nation Aboriginal Corporation
Neville Atkinson
Chairperson
Shier St
BARMAH VIC 3639
reception@yynac.com.au

Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.

Dear Neville,

NSW Public Works has been engaged by Murray River Council (the proponent) to prepare an Aboriginal Cultural Heritage Assessment (ACHA) and undertake Aboriginal community consultation as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs, DECCW 2010) for the Little Forest Levee Remediation Project (the project).

The project area is in Lot 929 DP1207721 and Lot 134 DP756508 and the project will include remediation of an emergency flood levee approximately 1.5 kilometres in length. The study area is in the Murray River Local Government Area. Figure 1 shows the location of the project.

We are contacting you in accordance with Section 4.1.3 of the ACHCRs as your details were provided upon a request to government agencies for known stakeholders. This was done in accordance with Section 4.1.2 of the ACHCRs and we invite you register as a Registered Aboriginal Party (RAP) to consult with for the Project.

The consultation will help NSW Public Works and the proponent in preparing an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Project. The ACHAR may be used to support an Aboriginal Heritage Impact Permit (AHIP) application if one is required, as well as assisting Heritage NSW in their consideration and determination of any AHIP application.

Please note that we are required to forward the list of RAPs for the project to Heritage NSW and Moama Local Aboriginal Land Council as per Section 4.1.5 of the ACHCRs unless you specify otherwise.

If you are interested in registering as a RAP for this project, please contact me by phone, email, or mail by close of business Tuesday 23 July 2024:

- 0488 316 037
- alyce.cameron@pwa.nsw.gov.au
- Alyce Cameron, NSW Public Works, PO Box 73, Shop 9/21-27, Conway Street, Lismore, NSW 2480.

When registering, please provide the organisation name (if relevant), and the name and contact details of a nominated contact person.

Please do not hesitate to contact me for further information or if you wish to discuss the Project.

The Project Manager, John Hore, is also available for general project information (admin@murrayriver.nsw.gov.au or 1300 087 004).

Sincerely,

Dr Alyce Cameron

Archaeologist

Heritage, Environment & Planning | NSW Public Works

B.6 Responses from Aboriginal stakeholders registering as RAPs.

From:	Gary Pappin
To:	Alyce Cameron
Subject:	Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
Date:	Thursday, 25 July 2024 11:22:52 AM
Attachments:	image003.png image004.png

Hi Alice.

Please list Gary Pappin as a RAP for this project.

Thankyou,

-Gary

On 26/06/2024 3:15 pm, Alyce Cameron wrote:

> Hi Cynthia and Gary,
>
> Please find attached an expression of interest to participate in an Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
>
> Sincerely,
>
> Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
120 Dalley Street, Lismore, NSW 2480
On **Bundjalung Land**

NSW GOVERNMENT NSW Public Works

publicworks.nsw.gov.au

NSW Public Works acknowledges that it stands on Country which always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for elders past, present and emerging. We are committed to

From:	derek hardman
To:	Alyce Cameron
Subject:	Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
Date:	Thursday, 18 July 2024 8:43:59 PM
Attachments:	image004.png image003.png

Hi Alyce
Please register Kalthi Consultancy as a RAP for this project
Thanks
Derek Hardman
Mobile 0458 684 592

Yahoo Mail: Search, organise, conquer

On Wed, 26 Jun 2024 at 3:15 pm, Alyce Cameron <alyce.cameron@pwa.nsw.gov.au> wrote:

> Hi Derek,
>
> Please find attached an expression of interest to participate in an Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
>
> Sincerely,
>
> Alyce
>
> **Alyce Cameron** *(she/her)*
>
> Archaeologist, Heritage, Environment and Planning
> **NSW Public Works**
>
> **M** 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
>
> 120 Dalley Street, Lismore, NSW 2480
>
> On **Bundjalung Land**
>
> NSW GOVERNMENT NSW Public Works

From:	Ngarigo Nation
To:	Alyce Cameron
Cc:	Paula Andy
Subject:	The project area is in Lot 929 DP1207721 and Lot 134 DP756508
Date:	Sunday, 28 July 2024 4:04:56 PM

Dear Alyce

Never too late as I have had family with COVID. Back on board. I would like to be part of ACHAR and if required an Aboriginal Heritage Impact Permit (AHIP) application and to assist Heritage NSW in the consideration and determination of an AHIP.

Kind regards

Michelle Francis

Ngarigo / Girai Wurrung
Mobile: 0419 129 007

From:	Kerry Ann - Moama Local Aboriginal Land Council
To:	Alyce Cameron
Cc:	CEO Moamalalc
Subject:	Moama LALC -: Expression of Interest - Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area
Date:	Wednesday, 26 June 2024 4:26:56 PM
Attachments:	image003.png image004.png image005.png

Hi Alyce
Moama Local Aboriginal Land Council is applying for your *Expression of Interest* for **"Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area"**

Organization Name: Moama Local Aboriginal Land Council
Address: 52 Chanter Street, Moama NSW 2731 – PO Box 354 Moama NSW 2731
Phone: 03 5482 6071
Mobile: 0497 129 490
CEO: Mr John Patrick Kerr
Interim CEO: Ms LaToya Morgan
Email: ceo@moamalalc.com.au
ABN: 95 659 710 168
Registered for GST: YES

Moama LALC has experienced Cultural Heritage Officers and Knowledge Holders within our organization.

If you require further information please contact our offices.
Kind regards
Administration / Kerry Ann

Moama Local Aboriginal Land Council
Location: 52 Chanter Street, Moama NSW 2731
Post Address: PO Box 354, Moama NSW 2731
P: 0354 826 071
E: ceo@momalalc.com.au
E: admin@moamalalc.com.au

"We respectfully acknowledge the Yorta Yorta Nation, Barapa Barapa and Wamba Wamba as the traditional Owners of the Land of the communities that the Moama Local Aboriginal Land Council service."

From: John - Moama Local Aboriginal Land Council <ceo@moamalalc.com.au>
Sent: Wednesday, June 26, 2024 4:10 PM
To: Kerry Ann - Moama Local Aboriginal Land Council <admin@moamalalc.com.au>
Subject: FW: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Kerry can you please fill this EOI out for CH works
Thanks john

From: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Date: Wednesday, 26 June 2024 at 3:16 pm
To: John - Moama Local Aboriginal Land Council <ceo@moamalalc.com.au>
Subject: RE: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Hi John,

Thanks for the chat earlier. Moama LALC is already a RAP for the project, but in case you wanted to forward it on or have for your recorded, please find attached an EOI letter for the Little Forest Levee Remediation Project.

Thanks,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au

From: Alyce Cameron
Sent: Wednesday, 26 June 2024 1:52 PM
To: CEO Moamalalc <ceo@moamalalc.com.au>
Subject: RE: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Hi John,

I hope you are well.

A quick update to keep the LALC and JIG informed – I'll be sending out the Stage 1 EOI letters this week as part of the ACHCRs for the Little Forest Levee Remediation Project. The required public notice will be published mid next week. I've already got Moama LALC and JIG on the RAP list for the project with yourself as the contact person as requested.

We are also following up with Council about a copy of the remediation work plan you mentioned during our phone conversation that JIG previously provided to them and Forestry.

Thanks,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au

From: John - Moama Local Aboriginal Land Council <ceo@moamalalc.com.au>
Sent: Friday, 14 June 2024 3:40 PM
To: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Subject: Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Thank you for your email and information.

The key contact for this area and or any scope of works would initially be myself MR john Patrick Kerr
CEO Moama Local Aboriginal Land council.

All information in relation to this issue can be filtered through the Moama Land Council and then through the community also we are partners in the JIG in which we are the Traditional custodians of the Koondrook-Pericotta Forest,

we are the keepers of knowledge and the custodians and protectors of our many sites within the KP Little Forest being a significant part of that History passed down through generations of oral History.

We have an extensive history working in the little forest reaching back many years.
We look forward to working with you on this ongoing issue and putting it to rest.

We are pleased to offer our services we have a full team of TO,s who are ready and willing to get there traditional sites back the way they was before they were destroyed.

Please don’t hesitate to call me at any time to discuss this matter moving forward.

Regurds

John Kerr
CEO Moama Local Aboriginal Land Council

PH 0354826071
MLALC recognises the Yorta Yorta BarapaBarapa and Wamba Wamba as the traditional owners of the land of which we service and recognise all elders passed present and emerging --

---

From: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Date: Friday, 14 June 2024 at 2:29 pm
To: John - Moama Local Aboriginal Land Council <ceo@moamalalc.com.au>
Subject: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area

Good afternoon John,

Thank you for your call this afternoon in relation to the Little Forest Levee Remediation Project. I look forward to working with Moama LALC and JIG on the project going forward.

Please find attached a letter requesting Aboriginal community stakeholder details for the Little Forest Levee Remediation Project. As I mentioned, this is just the initial letter (Stage 1a of the ACHCRs) and EOI letters will be sent out in about two weeks time. If you know of any other individuals/groups who may want to register as Registered Aboriginal Parties (RAPs) for the project prior to then, please pass on my contact details.

Thanks,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
359 Harbour Drive, Coffs Harbour, NSW 2450
On **Gumbaynggirr Land**

NSW GOVERNMENT NSW Public Works

From:	Thomas Dahlstrom
To:	Alyce Cameron
Subject:	Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
Date:	Wednesday, 3 July 2024 1:10:03 PM

Good day

Can you please register me as a RAP for this project.

Kind regards

Thomas Dahlstrom

> On 26 Jun 2024, at 3:15 pm, Alyce Cameron <alyce.cameron@pwa.nsw.gov.au> wrote:
>
> Hi Thomas,
>
> Please find attached an expression of interest to participate in an Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
>
> Sincerely,
>
> Alyce
>
> **Alyce Cameron** *(she/her)*
> Archaeologist, Heritage, Environment and Planning
> **NSW Public Works**
>
> **M** 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
> 120 Dalley Street, Lismore, NSW 2480
> On **Bundjalung Land**
>
> <image001.jpg>
>
> <image002.gif>
>
> **publicworks.nsw.gov.au**
>
> <image003.png>
>
> <image004.png>
>
> NSW Public Works acknowledges that it stands on Country which always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work
>
> <LittleForestLevee_ACHCR_Stage1b_ThomasDahlstrom.pdf>

From:	Shannon Atkinson
To:	Alyce Cameron
Subject:	Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation
Date:	Thursday, 11 July 2024 8:55:36 AM
Attachments:	image001.png

Hi Alyce,

I am writing to let you know that Yorta Yorta Nation Aboriginal Corporation (YYNAC) is interested in participating in the Cultural Heritage Assessment for the Little Forest Levee Remediation project. If you have any information regarding the project can you please send it to me.

I will be the nominated contact person for YYNAC you can contact me on 0419 119 247 or email shannon.a@yynac.com.au

Regards,

Shannon Atkinson – Cultural Heritage Unit - Assistant Manager
Yorta Yorta Nation Aboriginal Corporation
Head Office | 35 Schier Street BARMAH VIC 3639
| PO Box 1363 Shepparton VIC 3632 | Ph: 03 5832 0222 | Mob: 0419 119 247

"Gaka yawal Ngulla -Yenbena Yorta Yorta Woka"
Come walk with us, the people on Yorta Yorta Country.

Notice: This email (and any attachment) is confidential and is intended for the use of the addressee(s) only. If you are not the intended recipient of this email, you must not copy, distribute, take any action in reliance on it or disclose it to anyone. Any confidentiality is not waived or lost by reason of mistaken delivery. Email should be checked for viruses and defects before opening. Yorta Yorta Nation Aboriginal Corporation (YYNAC) does not accept liability for viruses or any consequence which arise as a result of this email transmission. Email communications with YYNAC may be subject to automated email filtering, which could result in the delay or deletion of a legitimate email before it is read at YYNAC. Please consider the environment before printing this.

From:	Will Carter
To:	Alyce Cameron
Subject:	Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
Date:	Thursday, 27 June 2024 8:14:12 AM
Attachments:	image003.png image004.png

Thanks, and you too.

On Thu, 27 June 2024, 8:13 am Alyce Cameron, <alyce.cameron@pwa.nsw.gov.au> wrote:

> Hi Will,
>
> Thank you for letting me know. I hope you have a good rest of the week.
>
> Sincerely,
>
> Alyce
>
> **Alyce Cameron** *(she/her)*
>
> Archaeologist, Heritage, Environment and Planning
> **NSW Public Works**
>
> **M** 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
>
> ---
>
> **From:** Will Carter <will.carter@yiradyuri.au>
> **Sent:** Wednesday, 26 June 2024 4:24 PM
> **To:** Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
> **Subject:** Re: Notification of Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
>
> Hi Alyce,
>
> This project in Barham is outside of Southern West Yiradyuri Clans Country and therefore we will not be registering interest. Thank you, Will.

Yalgirri dhunyal (speak soon),

Will Carter

Southern West Yiradyuri Clans, Land, Water and Sky Country Aboriginal Corporation

M: 0478 263 611

E: will.carter@yiradyuri.au

W: www.yiradyuri.au

I acknowledge Southern West Yiradyuri People as the Traditional Owners of Southern West Yiradyuri Country and pay respect to our unbroken connection to Land, Water and Sky Country, Culture and Community. I also acknowledge and pay my respect to Elders past and present.

On Wed, Jun 26, 2024 at 3:16 PM Alyce Cameron <alyce.cameron@pwa.nsw.gov.au> wrote:

> Hi Will,
>
> Please find attached an expression of interest to participate in an Aboriginal Cultural Heritage Assessment for the Little Forest Levee Remediation Project, Barham, Murray River Local Government Area.
>
> Sincerely,
>
> Alyce
>
>
> **Alyce Cameron** *(she/her)*
>
> Archaeologist, Heritage, Environment and Planning
> **NSW Public Works**
>
> **M** 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
>
> 120 Dalley Street, Lismore, NSW 2480
>
> On **Bundjalung Land**
>

B.7 Notification of RAPs for Heritage NSW and Moama LALC

NSW Public Works

25 July 2024

Heritage NSW
heritagemailbox@environment.nsw.gov.au

Re: Little Forest Levee Remediation Project Aboriginal Cultural Heritage Assessment – list of Registered Aboriginal Parties

To whom it may concern,

As per section 4.1.6 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs) we are informing you that the following organisations and individuals have nominated themselves as Registered Aboriginal Parities (RAPs) for the Little Forest Levee Remediation Project Aboriginal Cultural Heritage Assessment (ACHA):

- Moama Local Aboriginal Land Council (LALC)
- Thomas Dahlstrom
- Yorta Yorta Nation Aboriginal Corporation
- Bangerang Aboriginal Corporation
- Kalthi Consultancy

The same list has been sent to Heritage NSW.

If you have any questions, please don't hesitate to contact me at alyce.cameron@pwa.nsw.gov.au or on 0488 316 037.

Sincerely,

Dr Alyce Cameron

Archaeologist, Heritage, Environment & Planning

NSW Public Works

NSW Public Works

25 July 2024

Mr John Kerr
CEO
Moama Local Aboriginal Land Council
ceo@moamalalc.com.au

Re: Little Forest Levee Remediation Project Aboriginal Cultural Heritage Assessment – list of Registered Aboriginal Parties

Dear John,

As per section 4.1.6 of the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs) we are informing you that the following organisations and individuals have nominated themselves as Registered Aboriginal Parities (RAPs) for the Little Forest Levee Remediation Project Aboriginal Cultural Heritage Assessment (ACHA):

- Moama Local Aboriginal Land Council (LALC)
- Thomas Dahlstrom
- Yorta Yorta Nation Aboriginal Corporation
- Bangerang Aboriginal Corporation
- Kalthi Consultancy

The same list has been sent to Heritage NSW.

If you have any questions, please don't hesitate to contact me at alyce.cameron@pwa.nsw.gov.au or on 0488 316 037.

Sincerely,

Dr Alyce Cameron

Archaeologist, Heritage, Environment & Planning

NSW Public Works

B.8 Stage 2/3 Letters sent to RAPs.

From:	Alyce Cameron
Cc:	Liz Mathieson
Bcc:	CEO Moamalalc; Thomas Dahlstrom; "Shannon Atkinson"; "moiradu57@gmail.com"; derek hardman; Gary Pappin
Subject:	Little Forest Levee Remediation Project - Stage 2/3 project information & ACHA methodology
Date:	Thursday, 25 July 2024 3:55:50 PM
Attachments:	P-FY20242778-PWO-ENV-RP-001-A2_LittleForestLevee_ACHAMethdology.pdf image003.png image004.png

Good afternoon,

Please find attached a document detailing the project information and assessment methodology for the Aboriginal Cultural Heritage Assessment (ACHA) for the Little Forest Levee Remediation Project. If you have any trouble accessing the document, please let me know as soon as possible and an alternative can be organised.

As per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*, it would be great to have any comments/feedback by close of business Friday 23 August 2024.

I'm available via phone or email if you have any questions regarding the project. If you require additional time to review the document, please contact me as soon as possible to arrange.

I hope you have a nice rest of the week.

Sincerely,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
120 Dalley Street, Lismore, NSW 2480
On **Bundjalung Land**

NSW GOVERNMENT NSW Public Works

From: Alyce Cameron
To: "Ngarigo Nation"
Cc: Paula Andy
Subject: RE: The project area is in Lot 929 DP1207721 and Lot 134 DP756508
Date: Monday, 29 July 2024 8:31:41 AM
Attachments: P-FY20242778-PWO-ENV-RP-001-A2_LittleForestLevee_ACHAMethdology.pdf

---

Hi Michelle,

I hope your family members are feeling better! I've registered you as RAP for the Little Forest Levee Remediation Project. Just confirming for my records whether you were registering as an individual or as a contact person for a group/organisation?

Please find attached the Stage 2/3 Project Information & ACHA methodology for review and comment as per the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. I sent out the document to the other RAPs last week on Thursday 25 July, but if you need additional time past Friday 23 August 2024 to review it, then please let me know. (Also – I haven't updated the RAP list in the document to include yourself yet – but will prior to finalising the methodology after 23 August 2024).

If you have any questions about the project, please don't hesitate to contact me.

Thanks,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au

From: Ngarigo Nation <ngarigonation@gmail.com>
Sent: Sunday, July 28, 2024 4:04 PM
To: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Cc: Paula Andy <paulaandy774@gmail.com>
Subject: The project area is in Lot 929 DP1207721 and Lot 134 DP756508

Dear Alyce

Never too late as I have had family with COVID. Back on board. I would like to be part of ACHAR and if required an Aboriginal Heritage Impact Permit (AHIP) application and to assist Heritage NSW in the consideration and determination of an AHIP.

Kind regards

Michelle Francis

Ngarigo / Girai Wurrung
Mobile: 0419 129 007

B.9 Stage 2/3 Methodology document and project information sent to RAPs.

NSW Public Works

Little Forest Levee Remediation

Aboriginal Cultural Heritage Assessment

Stage 2/3 Methodology & Project Information

Report Number: P-FY20242778-PWO-ENV-RP-001-A2

July 2024

Prepared for:

murray river council

Report Number: P-FY20242778-PWO-ENV-RP-001-A2

P-FY20242778-PWO-ENV-RP-002-A0_LittleForestMethdology_DRAFT.docx

Template Rev 6 Feb 2023

Document control

Version	Author(s)	Reviewer	Approved for issue	
			Name	Date
0 (preliminary)	A Cameron	L Mathieson	L Mathieson	18/07/2024
1 (draft)	A Cameron	J Hore	L Mathieson	22/07/2024
2 (final)	A Cameron	RAPs		

Dr Alyce Cameron

Archaeologist

NSW Public Works, 4PSQ, 12 Darcy Street, Parramatta NSW 2150

Locked Bag 5022, Parramatta NSW 2124

M 0488 316 037

E alyce.cameron@pwa.nsw.gov.au | **W** www.publicworks.nsw.gov.au

Cover photo: Aerial imagery of the study area.

Source: Near Maps 2024.

© Crown in right of the State of NSW through the Department of Primary Industries & Regional Development 2024.

This publication is copyright and may incorporate material to which an individual maintains moral rights. Other than for the purposes of and subject to the conditions prescribed under the Copyright Act 1968, no part of it may, in any form or by any means, be reproduced, altered, manipulated, stored in a retrieval system, or transmitted without prior written consent of the copyright owner or owner of moral rights. Any enquiries relating to consents and use of this publication, including by NSW Government agencies, must be addressed to NSW Public Works.

While this document has been formulated with all due care, the State of New South Wales does not warrant or represent that the document is free from errors or omissions, or that it is exhaustive. The State of NSW disclaims, to the extent permitted by law, all warranties, representations, or endorsements, express or implied, with regard to this document including but not limited to, all implied warranties of merchantability, fitness for a particular purpose, or non-infringement. The State of NSW further does not warrant or accept any liability in relation to the quality or accuracy of this document and no responsibility is accepted by the State of NSW for the accuracy, currency, reliability, and correctness of any information in this document provided by the client or third parties.

All references to NSW Public Works are taken to be references to NSW Department of Primary Industries & Regional Development for and on behalf of the State of New South Wales.

Contents

Glossary v

Abbreviations and Notations viii

1. Introduction 1
1.1 Purpose of the proposal 1
1.2 The study area 1
1.3 The proposed works 1

2. Environmental context 4
2.1 Topography and hydrology 4
2.2 Geology and soils 4
2.3 Vegetation 4
2.4 Past Land use 5
2.5 Climate 5
2.6 Conclusion 5

3. Archaeological context 12
3.1 Ethnohistory 12
3.2 Database searches 13
3.3 Previous Assessments 15
3.3.1 Regional context 15
3.3.2 Local context 15
3.3.3 Little Forest 17
3.4 Predictive model 18

4. Assessment methodology 19
4.1 Survey 19
4.2 Consultation 19
4.2.1 Stage 1 ACHCRs 19
4.2.2 Stage 2/3 ACHCRs 21
4.3 Milestones 21
4.4 Contact details 21

5. References 22

Appendix A Extensive AHIMS search

Tables

Table 3-1: AHIMS site types 13

Figures

Figure 1-1: Location of study area 2
Figure 1-2: Aerial of study area 3

Figure 2-1: Mitchell's landscape (2002) and the study area. 6
Figure 2-2: Topography and hydrology of the study area. 7
Figure 2-3: Soil landscapes and the study area. 8
Figure 2-4: Historical aerial from 1961 9
Figure 2-5: Historical aerial from 1975 10
Figure 2-6: Historical aerial from 1991 11
Figure 3-1: AHIMS results and the study area. 14

Glossary

Term	Definition
Aeolian	Soils produced or carried by the wind.
A Horizon	Surface mineral horizon(s) with some organic accumulation; either darker in colour than underlying horizons, or lighter in colour but with a lower silicate clay/sesquioxide content.
Aboriginal object/s	Aboriginal object/s are any deposit, object, or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains. Defined by the *National Parks and Wildlife Act 1974* (NPW Act).
Aboriginal Place	An Aboriginal Place is a location declared to be an Aboriginal Place under Section 84 of the *National Parks and Wildlife Act* by the Minister administering the NPW Act and by order published in the Gazette. The Aboriginal Place is of special significance with respect to Aboriginal culture and may or may not contain Aboriginal objects.
Aboriginal site	The location of one or more Aboriginal objects and material traces of past Aboriginal land use.
Alluvial landscape	Soil landscapes formed by deposition along rivers and streams. Soil parent material is usually deep, sorted and often stratified or previously stratified alluvium Alluvial soil landscapes include current floodplains and alluvial deposits. Typical landform elements include those found on meander plains including bars, back plains, scrolls, scroll plains, flood-outs, oxbows, levees, lower terraces, prior and current stream channels.
Alluvium	Alluvium is a loose clay, silt, sand, or gravel that has been deposited by running water. Alluvium is typically geologically young and not consolidated into solid rock.
Artefact scatter	An artefact scatter consists of two or more stone artefacts located within 50 metres of each other. Artefact scatters can be located on the ground surface or as subsurface deposits. Sometimes recorded in association with other archaeological features such as hearths, modified trees or PADs.
B Horizon	A Subsoil horizon(s) characterised by one or more of the following: concentration of silicate clay, iron, aluminium, and/or organic material; different structure and/or consistency to adjacent horizons; and/or stronger colours than adjacent horizons.

Term	Definition
Colluvial landscape	Soil landscapes affected by mass movement. Soil parent material consists mostly of colluvial mass movement debris including scree and talus along with other landslide, mudflow, and creep deposits. Colluvial soil landscapes usually include alcoves, cliffs, cliff-foot slopes, scarps, landslides, talus, some moderately inclined to precipitous hillslopes, and areas with commonplace evidence of mass movement. Slope wash processes are considered less dominant.
Colluvium	Colluvium is a general term for loose unconsolidated sediments that have been deposited at the base of hill slopes by rain wash, sheetwash, downslope creep or a combination of these processes.
Devonian	A geological period between 419.2 to 358.8 million years ago between the end of Silurian and the beginning of the Carboniferous. Part of the Palaeozoic Era.
Earth mounds (ovens)	Earth mounds are often a circular or oval shape with lumps of burnt clay or stone present as well as sometimes small fragments of charcoal. Sometimes shells, animal bones, stone tools and human burials will also be present. Earth mounds used as ovens were formed through the repeated use of the mound for cooking purposes.
Erosional landscape	Soil landscapes that have been sculpted primarily by the erosive action of running water. Erosional soil landscapes usually consist of steep to undulating hillslopes and may include tors, benches, and areas of rock outcrop. Evidence of mass movement is rare.
Isolated find	A stone artefact located by itself, usually at least 50 metres from any other Aboriginal archaeological feature (i.e., an artefact scatter, modified tree, quarry location, etc.).
Lacustrine	Relating to, formed in, living in, or growing in lakes.
Modified tree	A modified tree has been culturally modified through scarring, carving or the deliberate removal by traditional methods of the bark or wood from a tree, or the deliberate modification by traditional methods of the wood of the tree.
National Parks and Wildlife Act (NPW Act):	The NSW legislation which covers the conservation of the natural and cultural heritage of the state of New South Wales; fostering public appreciation, understanding and enjoyment of its natural and cultural heritage; and managing any lands reserved for the purposes of conserving and fostering public appreciation and enjoyment of its natural and/or cultural heritage.

Term	Definition
Ordovician	A geological period between 485.4 to 443.8 million years ago between the Cambrian Period and the Silurian Period. Part of the Palaeozoic Era.
Palaeozoic	The Palaeozoic Era is the earliest of three geologic eras of the Phanerozoic Eon. It is subdivided into six geologic periods of the Cambrian, Ordovician, Silurian, Devonian, Carboniferous, and Permian.
Potential archaeological deposit (PAD)	An area where subsurface stone artefacts and/or other cultural features are likely to occur.
Quaternary	The current and most recent geologic era which began 2.58 million years ago. It is one of three periods of the Cenozoic Era and follows on from the Neogene Period.
Shell midden	Shell middens are found near the coast. and estuaries and near inland lakes and rivers where freshwater shellfish occur. They are the remains of Aboriginal meals and camps. They can vary in size and depth of deposits and contain artefacts such as stone tools. Middens are sometimes associated with burials.

Abbreviations and Notations

Item	Description
ACHA	Aboriginal Cultural Heritage Assessment
ACHAR	Aboriginal Cultural Heritage Assessment Report
ACHCRs	Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
BCD	Biodiversity Conservation Division. Formerly OEH, now HNSW.
DECCW	NSW Department of Environment, Climate Change and Water
DPIRD	NSW Department of Primary Industries and Regional Development
EP&A Act	Environmental Planning and Assessment Act 1979
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
HNSW	Heritage NSW. Formerly OEH and BCD.
LALC	Local Aboriginal Land Council
LEP	Local Environmental Plan
LGA	Local Government Area
NPW Act	National Parks and Wildlife Act 1974
NSW	New South Wales
NSW PW	NSW Public Works
OEH	Office of Environment and Heritage. Was BCD, now HNSW.
RAPs	Registered Aboriginal Parties
REF	Review of Environmental Factors

1. Introduction

1.1 Purpose of the proposal

During a peak flood event in 2022, an emergency levee was constructed adjacent to the Murray River riverbank within Little Forest (part of Koondrook State Forest), Barham, NSW. The purpose of the emergency levee was to prevent floodwaters entering Little Forest in response to a neighbouring landholder identifying potential floodwater threats. The emergency levee measures approximately 1.5 kilometres (km) in length and is approximately 1 metre (m) in height and 1.5 m in width. The levee was authorised under the emergency flood powers of the State Emergency Services (SES) and the Murray River Council.

In March 2023 the Joint Indigenous Group (JIG) were informed Aboriginal heritage may have been disturbed during the construction of the emergency levee and were requested to undertake an initial ground survey to determine if any Aboriginal heritage had been disturbed. An initial ground survey of the levee and associated excavated/disturbed area was conducted by JIG heritage officers from Moama & Deniliquin Local Aboriginal Land Councils (LALCs). Twenty-three locations were identified where Aboriginal heritage had been disturbed.

At the request of JIG, Murray River Council is proposing to remove the Little Forest emergency levee and remediate the Aboriginal Cultural Heritage sites which were disturbed during the levee's construction.

The purpose of this Aboriginal Cultural Heritage Assessment (ACHA) is to help facilitate the remediation of the Aboriginal Cultural Heritage sites which were disturbed during the construction of the emergency flood levee. In May 2024, Heritage NSW advised that in order to remediate the sites an Aboriginal Heritage Impact Permit (AHIP) would be required.

1.2 The study area

The study area is in the Murray River Local Government Area (LGA) and extends along the southern boundary of Little Forest approximately 6 km southeast of the town centre of Barham. The location of the study area is shown in Figure 1-1.

The study area consists of the emergency flood levee and locations where Aboriginal Cultural Heritage sites were disturbed from its construction. An aerial of the study area is provided in Figure 1-2.

1.3 The proposed works

The proposed works for the remediation of the emergency flood levee and Aboriginal Cultural Heritage sites is part of this ACHA. In order to remediate the sites an AHIP is required. Formulating a methodology for these remediation works in consultation with the Registered Aboriginal Parties (RAPs) and other stakeholders is a key part of this ACHA.

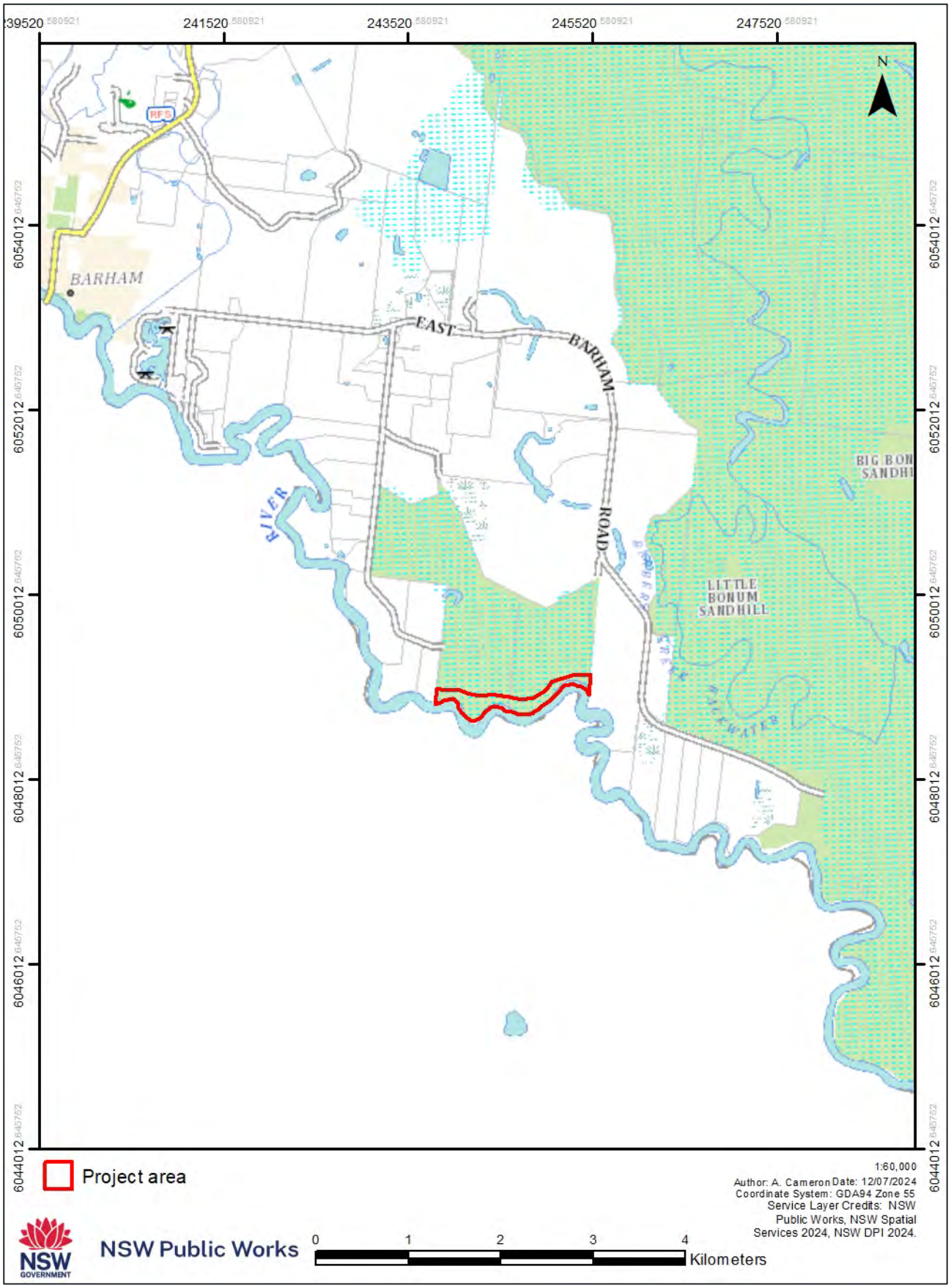


Figure 1-1: Location of study area

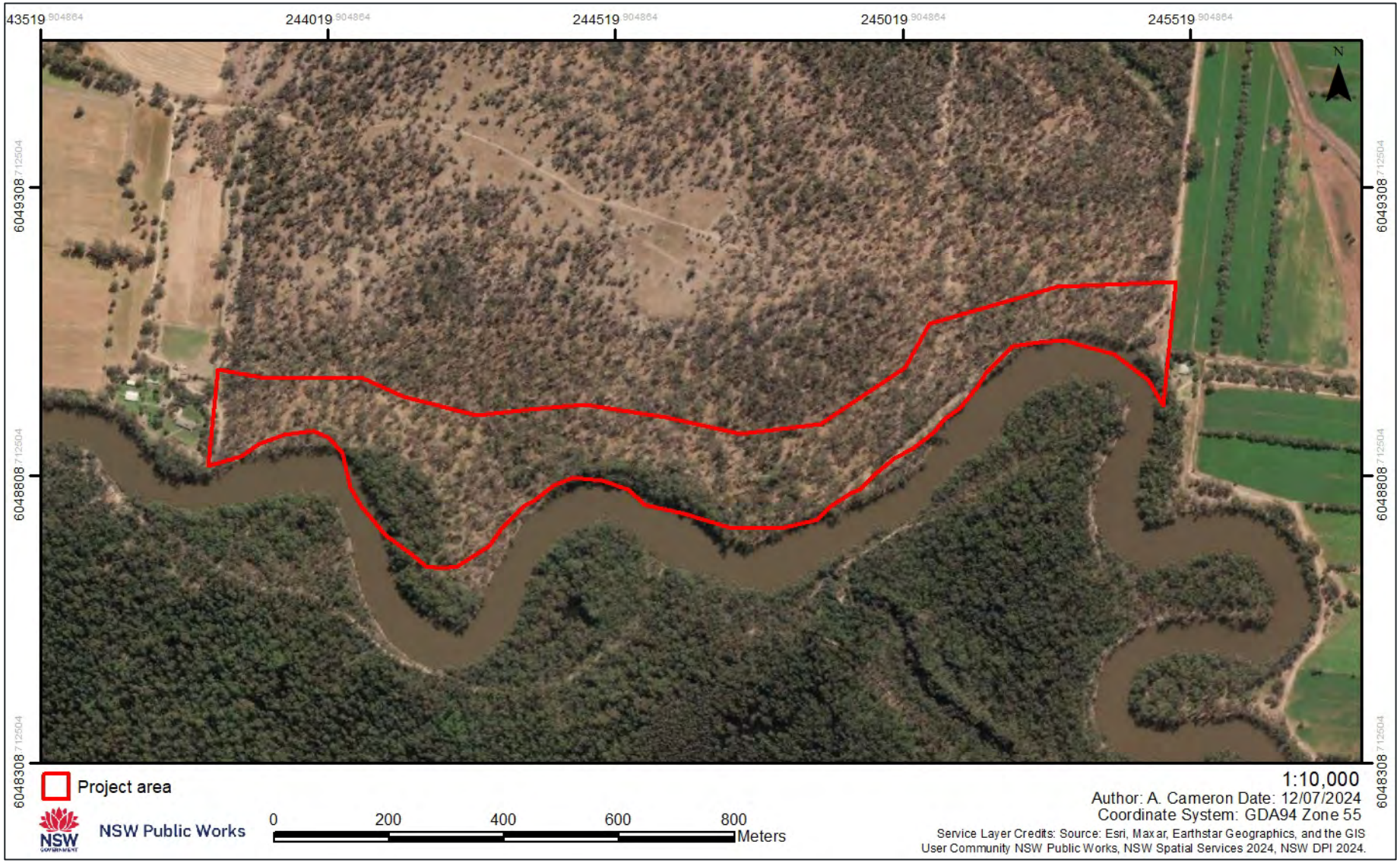


Figure 1-2: Aerial of study area

2. Environmental context

Understanding the landscape is essential to the interpretation of Aboriginal land use across an area. It helps provide context and is required for any archaeological investigation as an understanding of the landscape of a study area guides survey strategies and the detection of archaeological sites. It also allows archaeologists to better understand natural geomorphic processes such as erosion or deposition of soils, which, in turn affects the preservation of archaeological sites and the degree to which past Aboriginal occupation may be preserved and detected (DEECW 2010: 8).

2.1 Topography and hydrology

Little Forest is part of the Koondrook-Perricoota Forests which are also part of the NSW Central Murray State Forests Ramsar site (DCCEEW 2023).

The study area is in the Mitchell landscape of Murray Channels and Floodplains which is characterised by active channels and seasonally inundated floodplains of Murray River streams in Quaternary alluvium (Mitchell 2002: 103; see Figure 2-1). Often billabongs, swamps, channels, levees, and source bordering dunes are included in this landscape, as well as scalded alluvial flats, broad elevated floodplains, and isolated sandy rises.

The study area is located adjacent to the bank of the Murray River. The topography is naturally flat. The closest permanent watercourse is the Murray River adjacent to the south side of the study area boundary. Barbers Creek is located 1 km east of the study area in the Koondrook Forest. There is also an unnamed and unmapped watercourse which intersects through the centre of Little Forest but is visible on aerials. Figure 2-2 shows the topography and hydrology of the study area and surrounds.

2.2 Geology and soils

The underlying geological unit of the study area and its surrounds is Cenozoic regolith which consists of poorly consolidated alluvial, colluvial, aeolian, lacustrine and coastal deposits (Geoscience Australia 2024).

The study is inside the soil landscape Wakool River Variant A and consists of an alluvial back plain of the Murray River (Figure 2-3). Typical soils include cracking grey clays along the floodplains, with brown clays on the margins (OEH 2010).

2.3 Vegetation

Vegetation in the study area consists of open forested wetlands, dominated by River Red Gums. Grasses such as Warrego Grass, wheatgrass, blown grass and wallaby grasses may be present (DPE 2021). The Koondrook-Perricoota Forests, including Little Forest, are a designated Ramsar Wetlands and as part of the NSW Central Murray State Forests Ramsar site depends on flows in the Murray River to maintain a healthy ecosystem. Koondrook-Perricoota Forests are the dominant River Red Gum forests between Deniliquin and Swan Hill in NSW.

2.4 Past Land use

The study area is part of the Koondrook State Forest. Historical aerials from 1961 (Figure 2-4), 1975 (Figure 2-5) and 1991 (Figure 2-6) show there has not been large scale changes at Little Forest since the early 1960s. Known disturbances inside the forest include tracks , a levee, and use of the area previously for logging purposes. Several archaeological studies have shown that the environment and landscape of the region has significantly changed through agricultural and irrigation practices implemented since the 1880s. Further discussion of this is provided in Section 3.3.

2.5 Climate

The closest weather station to the study area is at Kerang approximately 23 km southwest (BOM 2024). The maximum average temperature for the region is 31.8 degree Celsius in January, with the minimum average temperature is in July at 4.0 degree Celsius. October has the highest mean rainfall (37.3 millimetres), while February has the lowest mean rainfall (23.2 millimetres).

2.6 Conclusion

The regional environment would have provided ample resources for the Aboriginal groups occupying and utilising the area. The Murray River region would have provided resources such as freshwater creeks and rivers, including freshwater fish and aquatic resources. Land resources would have included edible vegetations such as yams and roots/tubers, as well as terrestrial animals such as kangaroos, possums, birds, snakes, and lizards, and riverine animals such as fish, eels, shellfish, crayfish, platypus, turtles, and aquatic birds (River Country 2024). The climate of the area is generally temperate which would have allowed year-round occupation. Many of the food resources would have been available year-round, while others would be seasonal (i.e., certain types of freshwater fish and waterbirds). The Murray River region would have provided enough resources to maintain a large population and network of Aboriginal groups.

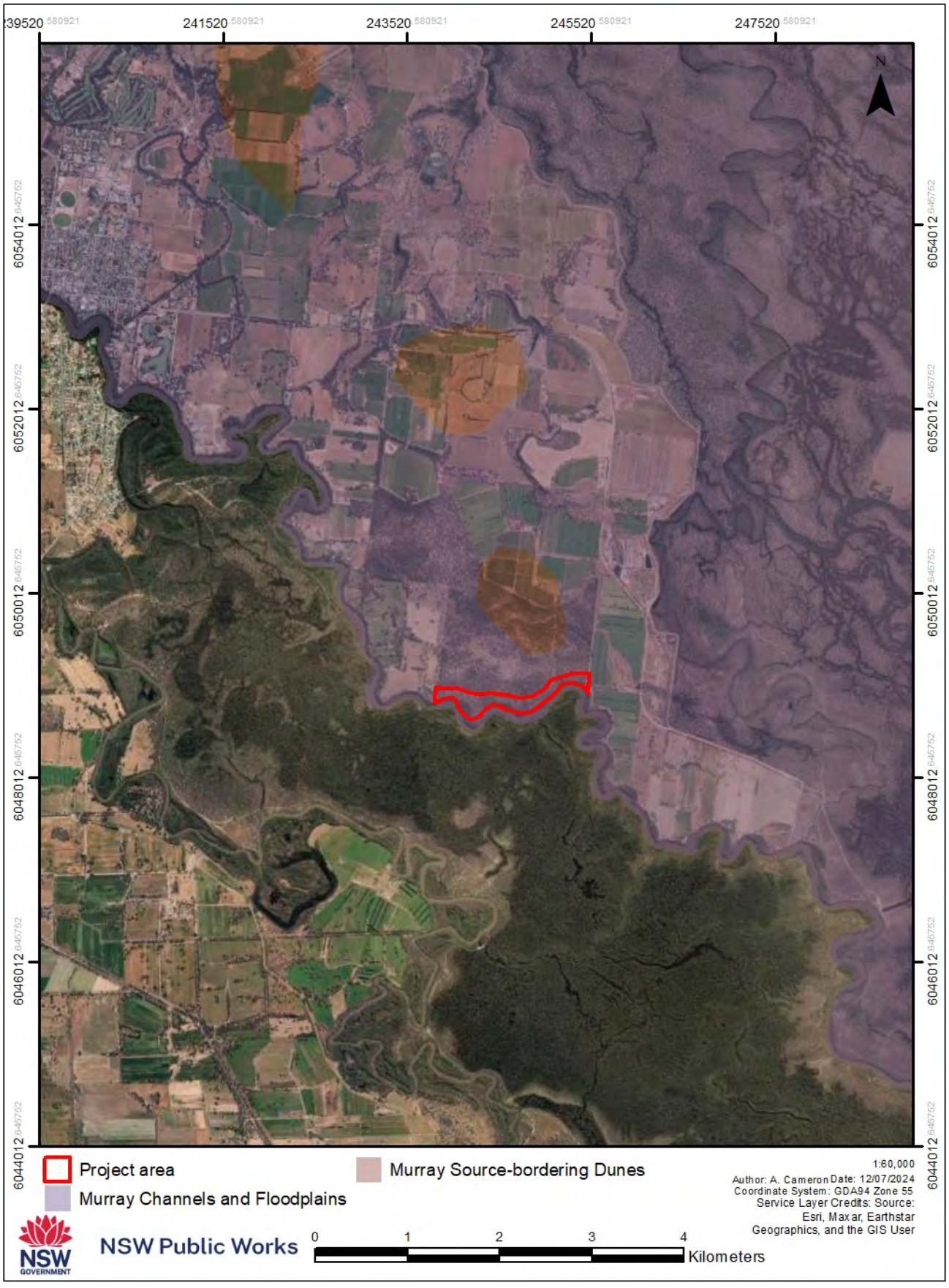


Figure 2-1: Mitchell's landscape (2002) and the study area.

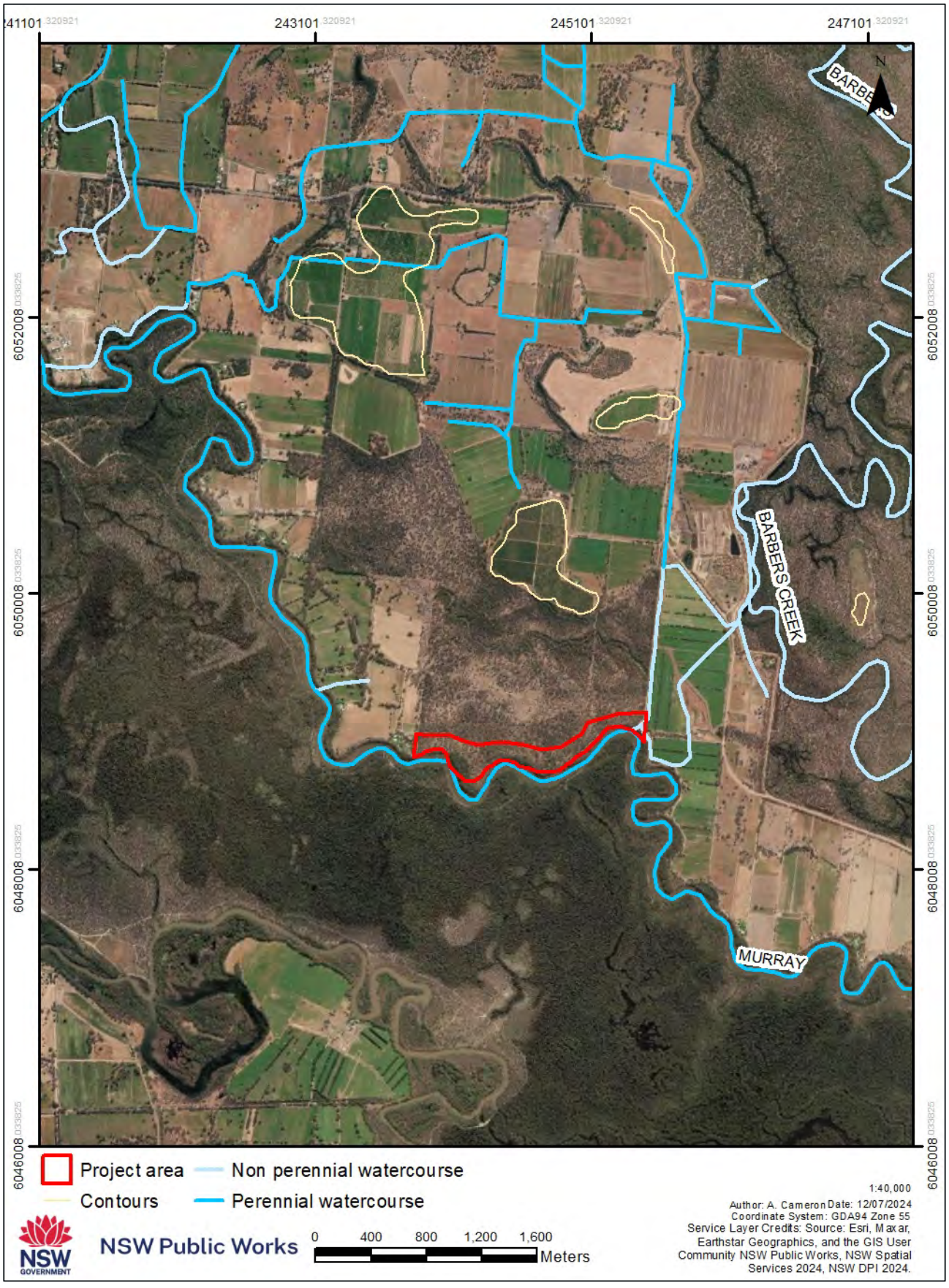


Figure 2-2: Topography and hydrology of the study area.

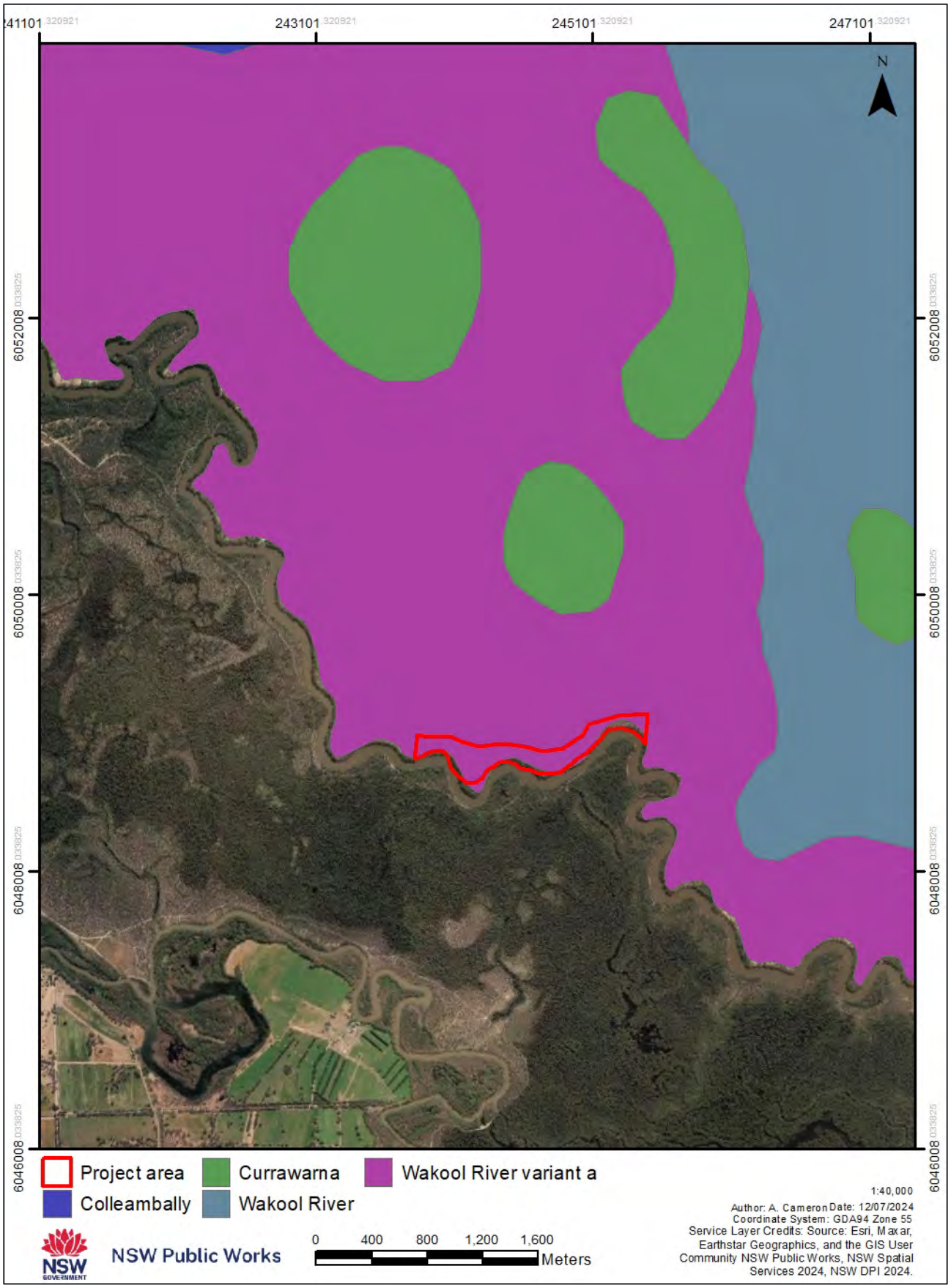


Figure 2-3: Soil landscapes and the study area.

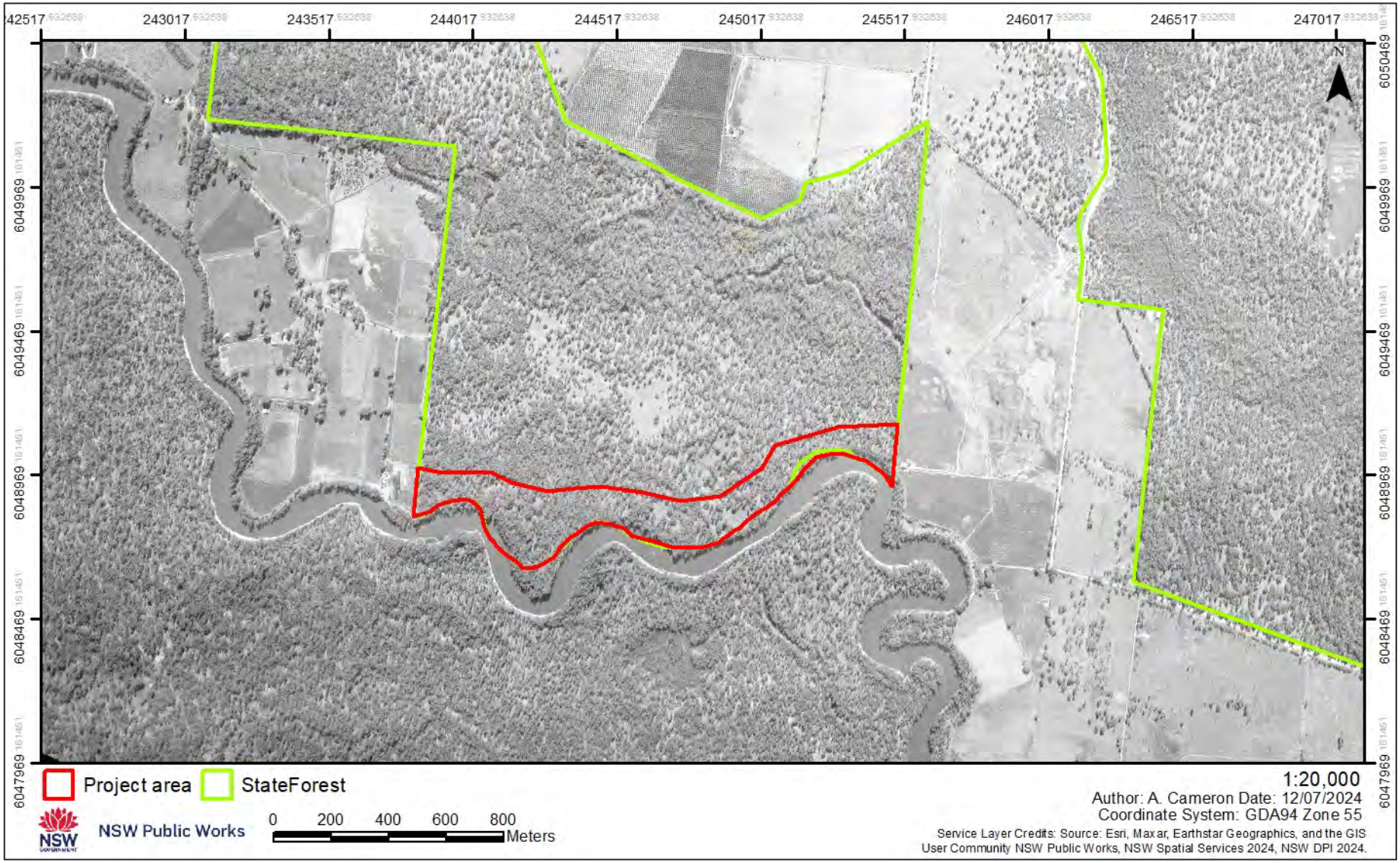


Figure 2-4: Historical aerial from 1961.

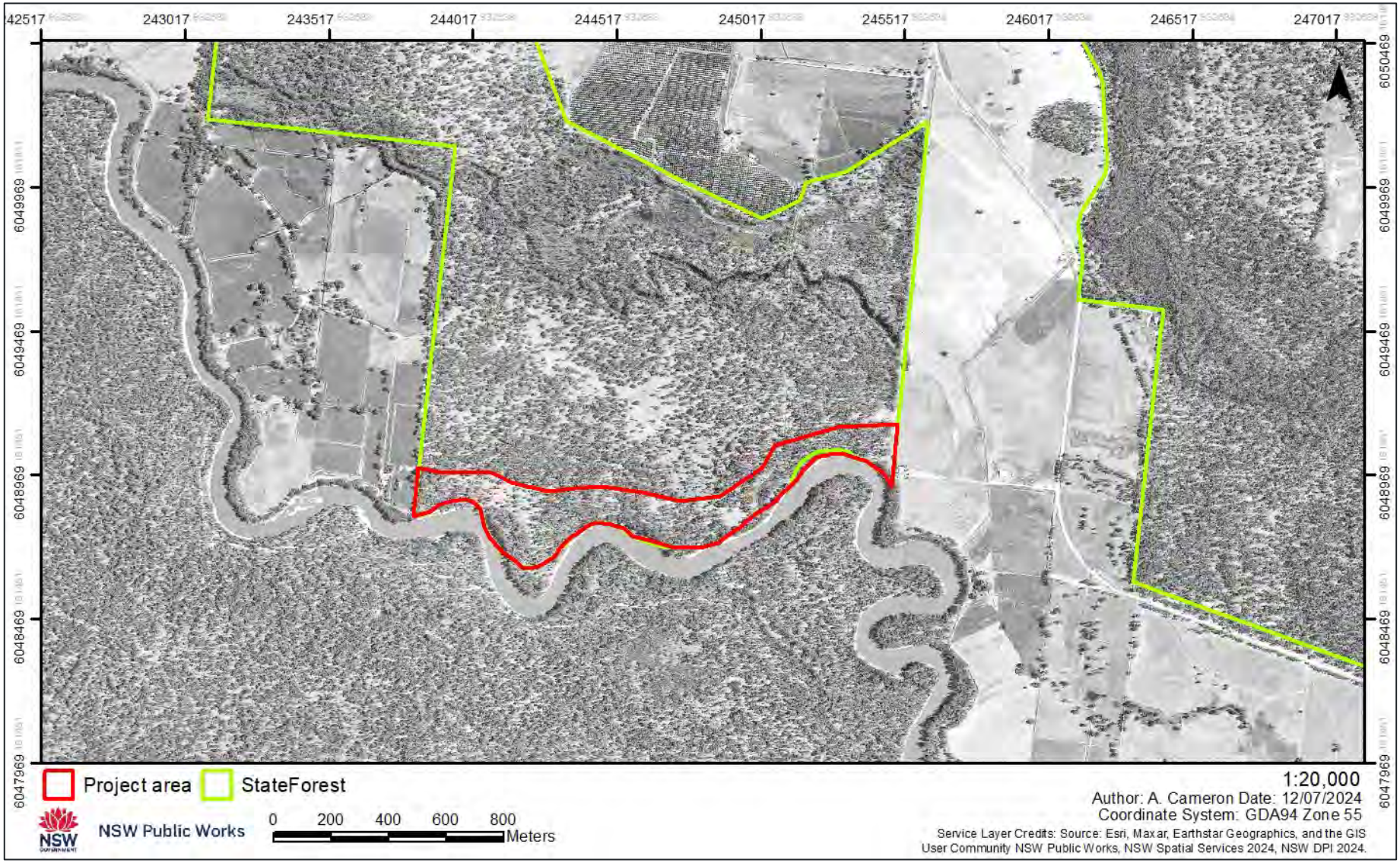


Figure 2-5: Historical aerial from 1975.

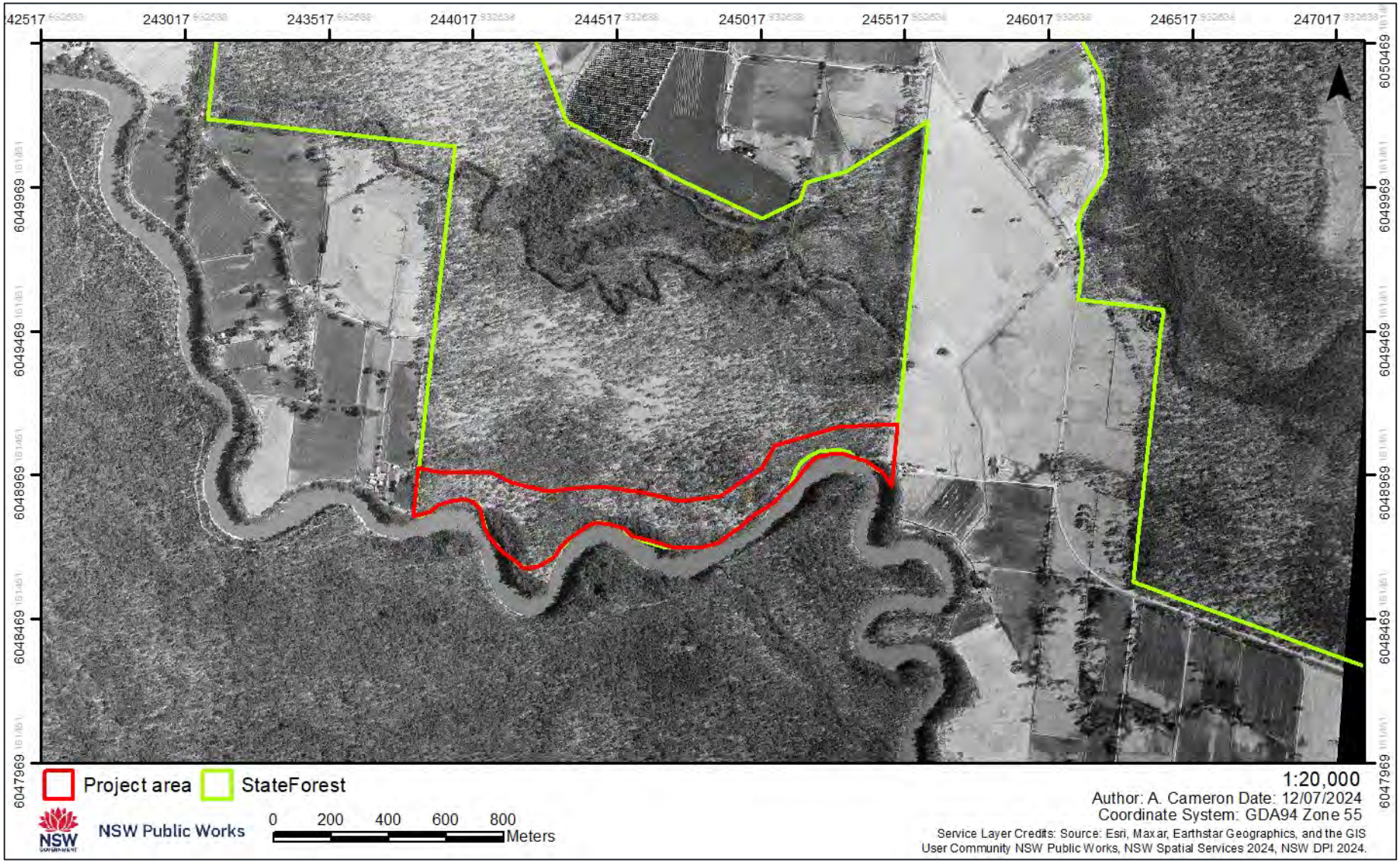


Figure 2-6: Historical aerial from 1991.

3. Archaeological context

3.1 Ethnohistory

The study area is located in Barapa Barapa Country. Barapa Barapa Country covers a region from the southern tributaries of the Murrumbidgee River near Hay in NSW, into Victoria, including Gannawarra, Loddon, Campaspe, and Kerang. Neighbours of the Barapa Barapa include the Wamba-Wenba, the Yorta Yorta and the Dja Dja Wurrung.

Key waterways in Victoria include Gunbower Forest and Creek, Kerang Lakes, Guttrum Forest, Loddon River, Sheepwash Creek, Little Murray and Murray River. In New South Wales the Edwards and Wakool Rivers are important to the Barapa Barapa Nation.

The Barapa People used the complex and seasonally changing environment of Barapa Country to their advantage. The Mile or Mirri (Murray River) is a key feature within the landscape as activities and movement through Barapa Country were partially governed by the flood and dry seasons. There is substantial evidence of ongoing Barapa occupation and resource use in the landscape, including fish traps and larders at the edges of lagoons and waterways, earth mounds situated above the normal flood height, utilisation of local stone outcrops where available and evidence of trading for natural resources not readily available in Barapa Country (McConachie et al 2020).

For the majority of the year during warmer months, the Barapa people could rely on resources that the wetlands and river provided, and they used a variety of methods for collection of food resources including netting, spearing, and trapping with wooden weirs along drainage channels. Cooking of meat and roots were with on an open fire or in earthen ovens formed from a hole in the ground which held the fire and baked clay balls or clay lumps to retain heat. Repeated use of earthen ovens results in the formation of large oven and hearth mounds.

European arrival in Barapa Country began in the 1830s with expeditions from Major Thomas Mitchell, Edward Eyre, and Captain Charles Sturt. Settlement by Europeans followed soon after. Ethnographic and archaeological sources indicate that the area was a densely populated part of Aboriginal Australia prior to European colonisation (Mitchell 1838, Clark 2000, Littleton et al 2021, Pardoe and Hutton 2020).

The Barapa People and other Aboriginal Nations along the Murray River refused to submit to outsiders coming into their Country, resulting in conflict (McConachie et al 2020, Burke et al 2016). The rapid European colonisation of the region resulted in substantial changes to the local environment, transformed the landscape, and ended the Aboriginal land management practices and firestick farming (Pardoe and Hutton 2020: 4). River Red Gums were logged along the Murray River, the flow of the river was altered by irrigation diversion and dams and clearing for farming of agricultural crops and grazing occurred. There was also forced removal of many Barapa people to missions or reserves such as the Moonacullah Mission approximately 100 km east.

Many Barapa people remain involved with their Country today, and many people in the community are involved in caring for country by providing resources and knowledge for the management of Country, including the water, land, culture, and heritage.

3.2 Database searches

An extensive search of the Aboriginal Heritage Information Management System (AHIMS) was conducted on 14 June 2024 covering an approximate 2 km zone around the study area:

- Eastings 241795–247516
- Northings 6046688–6051121

The search returned 109 Aboriginal sites inside the search area. Appendix A provides a copy of the extensive search. The most frequent site type in the area are earth mounds (88.1%), followed by burial/s (3.7%) and then either modified trees (2.8%) or complex sites with hearths, PADs, shell & non-human bone, and organic matter (2.8%). Table 3-1 summarises the full details of AHIMS site type frequencies and Figure 3-1 shows the location of AHIMS sites in relation to the study area.

There is one AHIMS site located inside the study area. This is 54-4-0986, a burial which was recorded in 2020 by Dr Colin Pardoe. The site card states the burial is located near the centre of an earth mound approximately 300 mm below present surface and that it was complete and undisturbed. The site card also mentioned that the preservation and placement of the burial was consistent with "antiquity of several hundred to more than 1,000 years" (AHIMS 54-4-0986: 2).

There were an additional 152 Aboriginal sites recorded inside Little Forest during a survey in 2021, however, these have not yet been registered on AHIMS (see Section 3.3.3). There were also twenty-three Aboriginal sites consisting of either midden or earth mound materials recorded during a preliminary survey of the emergency levee and study area (Hutton 2023). These particular sites will be registered on AHIMS following the pedestrian survey and detailed recorded of these sites for this ACHA.

Table 3-1: AHIMS site types.

Site Type	Number	Frequency (%)
Earth mound	96	88.1
Burial/s	4	3.7
Hearth, PAD, shell & non-human bone, and organic matter	3	2.8
Modified tree	3	2.8
Burial/s & shell	1	0.9
Habitation structure, PAD, shell & non-human bone, and organic matter	1	0.9
Mound (oven)	1	0.9
Total	**109**	**100**

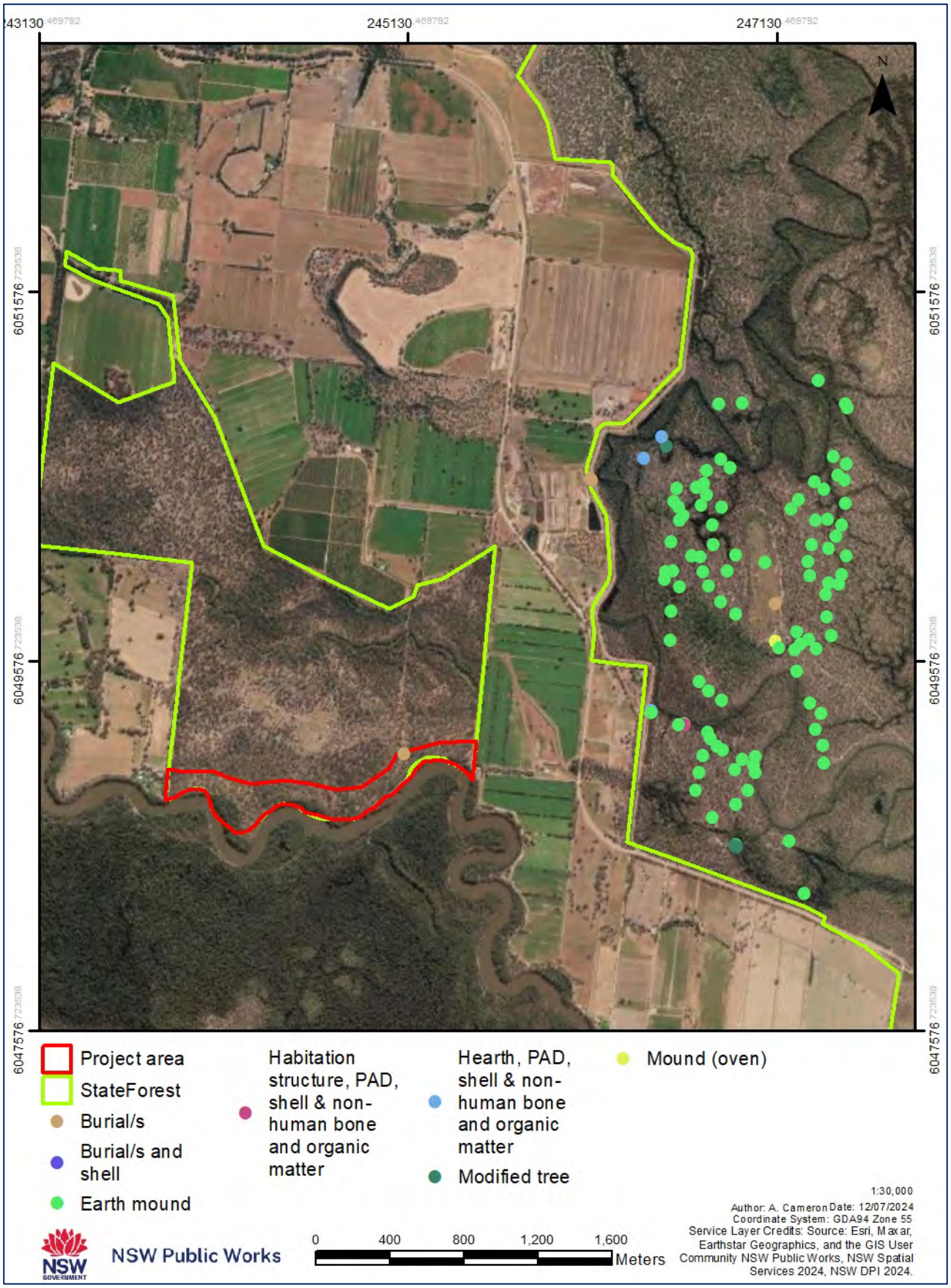


Figure 3-1: AHIMS results and the study area.

3.3 Previous Assessments

3.3.1 Regional context

Investigations in the Riverina region began as early as the 1930s, when Dow reported on carvings and mounds (Navin Officer 2009). Archaeological investigations began more predominately in the late 1960s and 1970s at Lake Mungo and Kow Swamp (i.e., Bowler et al 1970, Thorne 1971, Thorne 1975).

A regional archaeological survey of the Murray Valley was started by Buchan (1974) which aimed to establish a register of sites in the area. Work on this continued during the 1980s with more specific studies on mounds by Simmons (1980), Berryman and Frankel (1984), and Klaver (1987). The specific archaeology of the Murray and Darling River corridors were also investigated by Kefous (1983 and 1988), Webb (1984) and Pardoe (1988).

Development-driven assessments also became more prevalent in the region from the 1990s onwards. Relevant development-driven assessments or research projects are summarised below in Section 3.3.2.

3.3.2 Local context

In 1984, Berryman and Frankel completed an archaeological survey of 250 hectares of floodplain along the Wakool River, north and northeast of Barham. During the survey, ninety-five earth mounds and eleven scarred trees were recorded. Test excavations on three earth mounds resulted in charcoal samples being taken for radiocarbon dating. Unfortunately, the results of the dating came back with discrepancies. The study of the mounds allowed details of cook practices and mound formation to be better understood (Berryman and Frankel 1984).

Bonhomme undertook an archaeological survey at Lake Victoria and Koondrook State Forest in 1993. During the survey, 89 sites were recorded at Koondrook State Forest, including earth mounds, burials, and scarred trees (Bonhomme 1993: 5–6). The assessment indicated that the site numbers should be considered a minimum, and that actual numbers of sites at both locations are likely to be higher.

In 2009, Navin Officer Heritage Consultants (NOHC) undertook an assessment for the Koondrook-Perricoota Forest flood enhancement works, focusing on the proposed work locations. Five Aboriginal sites were recorded during the survey: one burial and four scarred trees. In addition, nine historical sites were also identified consisting of six surveyor-marked trees, a rifle range with associated structures, stockyards and associated structures, sawmill house and one scarred tree of indeterminate origin. NOHC recommended that all Aboriginal sites are avoided during the proposed works.

In 2011, Landskape Nature and Cultural Heritage Management reported on two burial sites (54-4-0046 and 54-4-0047) in the Koondrook-Perricoota Forest. Both burial locations were exposed during earthworks for the Koondrook-Perricoota Forest Flood Enhancement Works. The burials were recovered by hand and revegetated with the works realigned in order to avoid further disturbance (Cupper 2011).

Colin Pardoe undertook a study of two burial sites (54-4-0069 and 54-4-0070) that were excavated as a result of the Koondrook-Perricoota Forest Flood Enhancement Works. (Pardoe

2012 and 2013). The 2012 reports detail the location and condition of four burials located along a levee bank above a creek, as well as the results of the excavation of the burials. Radiocarbon dating was undertaken which provided an age of 1510–1570 Before Present (BP) for 54-4-0069) and 1375–1530 BP for 54-4-0070. In total, the study included an analysis of skeletal remains from eleven burials. The 2013 report provides the results of isotopic analysis on these burials in order to assess the diet. The analysis identified grass grains were an important component of the diet of these ancestors (Pardoe 2013).

In 2020, Pardoe and Hutton published an academic paper exploring managed water flows against the archaeological record. The purpose of the paper was to try and reconstruct seasonal residential patterns and economic activities of large populations using archaeological, environmental, and hydrological information to provide evidence of how people lived at the Murray River floodplain wetlands before European colonisation. The study focused on Pollack Swamp, a 220-hectare swamp inside a flora reserve at Koondrook State Forest located approximately 11 km north of the study area. During flooding events water enters the swamp via Pollack Creek which is feed from Barbers Creeks via a small channel from Barbers Overflow. Detailed pedestrian surveys were conducted at Pollack Swamp in 2014 and 2015, during which 153 earth mounds were recorded. When the location of the earth mounds was mapped against LiDAR the relationship between mounds and water became more apparent. The distribution of mounds in Pollock Swamp were able to be grouped in thirteen clusters and analysed in terms of proximity to water and potential resources, resulting in the identification of locations inside the area which were of highest value to Aboriginal people.

> *The number, size and density of earth mounds in the study area, and their distribution in clusters raised above low lying ground that would have been subject to inundation, supported a hypothesis that large numbers of Barapa Aboriginal people lived for many months of the year in permanent residences in the red beds of the Mid Murray. In exploiting the resources of the wetland ecology, they had practised a form of aquaculture over thousands of years (Pardoe and Hutton 2020: 9).*

The study concluded that:

> *Pollack Swamp until 1845 was a population centre of the Barapa Aboriginal nation. There are 153 earth mounds around the swamp, grouped according to minor topographic features of flood channels and higher ground. The distribution of these mounds is a distillation of 3000 years of Barapa traditional knowledge and land management practices… Large numbers of people, perhaps hundreds in a place like Pollack Swamp, require a lot of food. It is reasonable to infer that people chose their larger centres – villages and hamlets – with food availability as a major criterion. (Pardoe and Hutton 2020: 14).*

In 2022, Austral Archaeology prepared an Aboriginal Cultural Heritage Assessment Report for eight locations in the Koondrook-Perricoota Forest as part of the Sustainable Diversion Limit Adjustment Mechanism Acceleration (SDLAM) Program. Test excavations were conducted at three of the locations, which resulted in the conclusion that the works at these locations would not impact subsurface archaeological deposits. The pedestrian survey resulted in the recording of seventeen sites consisting of earth mounds, scarred trees, PADs, a burial, and an isolated artefact (Austral Archaeology 2022 in Austral Archaeology 2023).

3.3.3 Little Forest

Part of Little Forest was surveyed in 2021. The survey targeted areas likely to be inundated during watering events. The location of the emergency levee had not been surveyed during this assessment (Hutton 2021 as reported in Hutton 2023: 4). There were 152 Aboriginal sites recorded during this survey including burial/s, earth mounds, scarred trees, birthing trees, and Aboriginal ponds.

> *The heritage survey recorded considerable evidence of sustained, seasonal Aboriginal occupation over thousands of years prior to colonisation. The size and number of mounds is consistent with other findings and these are likely to date within the same rough time period of about 3,500 years. The sites types are consistent with those recorded within other areas of Koondrook Forest and the nearby Pollack. In general, the heritage sites are in reasonable condition although many do show evidence of historical disturbance by forestry roading, harvesting and other activities.*
>
> *The topography and interconnections between the recorded sites add to this interpretation. As a whole, this area is of importance representing what could only have been a named entity – such as a village – in the archaeological record. Local Aboriginal people see this as the social history of their ancestors over thousands of years. The cultural values of this area are considered highly significant by the local Aboriginal communities, offering connection to ancestral social, cultural and economic traditional practices.*
>
> *It is worth noting additional Aboriginal heritage sites were identified but not recorded outside the surveyed areas (Hutton 2021 as in Hutton 2023: 5).*

It is important to note that the Aboriginal sites recorded during the 2021 survey of Little Forest areas have not been registered on AHIMS as of July 2024. As such, these are not included in Section 3.2 analyses. However, it is stated that the quantity, types, and patterning of the Aboriginal heritage sites in Little Forest are consistent with other locations within Koondrook-Perricoota Forest that have been identified as residential settlements or villages, such as reported on by Pardoe and Hutton (2020).

A brief report on the Little Forest Emergency Flood Levee Aboriginal Heritage Disturbance and Recommendations was produced by Hutton in 2023. This report details an initial pedestrian survey undertaken to determine if Aboriginal heritage had been disturbed by the emergency levee. The survey identified twenty-three locations where Aboriginal heritage had been disturbed, including heritage material and deposit that was exposed an in situ, as well as heritage material deposit that had been moved during construction. The heritage material identified included earth mound and midden deposits of baked clay, charcoal, fragments of native fauna bone, freshwater mussel, and snail shell. Detailed information of each site was not provided in the report, however, GPS coordinates and a basic description of whether each site is a shell midden or earth mound material is provided.

The report concluded with recommendations including:

- a detailed survey be undertaken to determine type and extent of individual sites, as well as the remaining unsurveyed area adjacent to the Murray River bank.

- That the detailed survey be documented, and summaries shared with interested parties and the broader general public.
- Opportunities for training and public education, including the opportunity to improve and formalise communication between organisations so Aboriginal heritage is considered in similar future situations.
- Rehabilitation of the heritage materials in the emergency levee returned to their original locations.
- Protection of the rehabilitated areas from further disturbances such as vehicle access.
- That adequate funding be sourced by organisations involved in constructing the emergency levee to resource the above recommendations.

3.4 Predictive model

Known Aboriginal Cultural Heritage sites inside the study area include earth mound and midden deposits, as well as one burial location. Other site types in the broader area include modified trees, hearths, and potential archaeological deposits. Based on known sites in the area and previous assessments and research, the following predictive statements regarding Aboriginal Cultural Heritage sites can be made for the general area:

- Earth mounds are often located in the Murray Channels and Floodplains Mitchell's landscape. In some locations there are high densities of earth mounds indicating use of these locations for prolonged periods of times and providing evidence of Aboriginal villages in the landscape.
- Modified trees are present in the region and have been recorded up to 1.5 km from an existing water source. Modified trees may be present where mature remnant vegetation exists, in particular River Red Gums or Black Box.
- Shell middens consisting of local shellfish are most likely to be located in proximity to a current or former water source.
- Burials are predominately located in earth mounds, natural or man-made levees, floodplains related to residential areas or sand rises within 500 m of water. Burials can range from single individuals to larger clustering or as cemeteries.
- Stone artefact scatters are relatively rare, though sometimes stone artefacts are recorded in conjunction with earth mounds, shell middens or burials. Most have been formerly recorded on natural levee scalds, and sometimes on lunettes or dune margins in the wider region. Dominant raw material types are silcrete and fine-grained siliceous materials, with lesser quantities of chert, quartz and volcanic stone being present. However, ground stone, usually fragmented is more common than flaked stone artefacts.
- Aboriginal Cultural Heritage sites are most likely to be located in relative proximity to existing or former watercourses, especially slightly higher locations which are out of the flood zone on the plains.

4. Assessment methodology

4.1 Survey

The survey will be undertaken by Dr Alyce Cameron (archaeologist, NSW Public Works) and representatives from the Registered Aboriginal Parties (RAPs). It is anticipated that three surveyors will be required (including the archaeologist) to cover the study area and ensure all previously identified sites have been sufficiently recorded in detail. The survey will follow standard archaeological field survey and recording methods as outlined in Burke and Smith (2004) and the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW 2010).

During the survey, the archaeologist will record general information including:

- Ground surface visibility
- Ground surface exposure
- Any disturbances to the ground surface and the extent of each
- General condition of the study area
- Landform types present inside the study area
- Limitations to the survey
- Photographs of each area to show the study area as it currently is.

If Aboriginal objects are located during the survey, then the archaeologist will:

- Record the location using a handheld GPS device.
- Record the feature and its context:
  - To the standard necessary for AHIMS site cards (i.e., for an artefact scatter then a sample of artefacts will be recorded in full [type, material, length, width, thickness, platform type, termination type, etc.] including photographs and GPS information for each one recorded).
  - This will be done using GPS, handwritten/electronic notes, and photographs.

4.2 Consultation

The consultation for this assessment has and will continue to adhere to the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (ACHCRs; DECCW 2010). A brief overview of the ACHCRs consultation to date is provided below.

4.2.1 Stage 1 ACHCRs

Letters to the following government agencies and other organisations requesting details of local Aboriginal stakeholders who may be interested in being consulted about the project were sent out on 14 June 2024:

- Heritage NSW
- Murray River Council

- The Office of the Registrar Aboriginal Land Rights Acts 1983
- NTSCORP Limited
- Murray Local Land Services
- Moama Local Aboriginal Land Council (LALC)
- Forestry Corporation of NSW
- NSW State Emergency Services

A search of the National Native Title Vision was conducted 14 June 2024 in lieu of directly contacting the National Native Title Tribunal as per this organisation's directions on their website. There are no Native Title applications or determinations for the study area.

The responses received from government agencies consist of:

- Heritage NSW (received 18 June 2024)
- The Office of the Registrar Aboriginal Land Rights Acts 1983 (received 14 June 2024)
- Moama LALC (received 14 June 2024)
- Forestry Corporation of NSW (received 14 June 2024
- NSW State Emergency Services (received 18 June 2024)
- Murray Region Local Land Services (Received 14 June 2024)

Letters to Aboriginal stakeholders identified by the government agencies were sent out on 26 June 2024, inviting individuals and organisations to register as Registered Aboriginal Parties (RAPs) for the project by close of business 26 July 2024.

A public notice inviting local Aboriginal stakeholders were published in the Riverine Herald (3 July 2024) and the Koondrook-Barham Bridge (4 July 2024), inviting individuals and organisations to register as RAPs for the project by close of business 23 July 2023.

The following individuals or organisations are registered as RAPs for the project:

- Moama LALC (registered 14 June 2024)
- Thomas Dahlstrom (registered 3 July 2024)
- Yorta Yorta Nation Aboriginal Corporation (registered 11 July 2024)
- Bangerang Aboriginal Corporation (registered 10 July 2024)
- Kalthi Consultancy (registered 18 July 2024)
- Gary Pappin (registered 25 July 2024)

A copy of the list of RAPs for the project was sent to Moama LALC and Heritage NSW on Thursday 25 July 2024.

4.2.2 Stage 2/3 ACHCRs

A copy of this methodology and an email requesting any information pertinent to the study area was sent out to RAPs on Thursday 25 July 2024.

Comments on the methodology are requested by close of business Friday 23 August 2024. If additional time is required, please contact Alyce Cameron as soon as possible.

One of the aims of this assessment is to help protect intangible cultural values as well as tangible values, by identifying cultural values in the landscape the project is located in. The purpose of doing this is so that values can be recognised and incorporated into any management recommendations.

Any cultural information provided by members of the Aboriginal community during this assessment remains the property of the provider. If any cultural information is provided, please note that such information would be included in the ACHA report with provisions made for classified or restricted information based on the wants of the provider. This means any information provided by the Aboriginal community will be treated in accordance with their instructions. This includes that if information is confidential or culturally sensitive it will not be detailed in the public report, except in agreed upon broad terms if appropriate.

4.3 Milestones

The anticipated milestones for this assessment are:

- Review of the Project Information and ACHA methodology by RAPs (25 July to 23 August 2024)
- Field survey and recording of sites (one day in late August or early September 2024)
- Preparation of the ACHAR (September 2024)
- Review of ACHAR by client and RAPs (October / November 2024)
- Finalising ACHAR (November 2024)

4.4 Contact details

If anybody would like further information concerning confidential information, to discuss the cultural values of the area, or to discuss the project, please do not hesitate to contact Alyce Cameron (phone: 0488 316 037 or email: alyce.cameron@pwa.nsw.gov.au).

5. References

Austral Archaeology. 2022. Koondrook-Perricoota Flow Enabling Works Koondrook-Perricoota Forest, NSW.

Austral Archaeology. 2023. Barham Sewerage Upgrades Scheme, Barham, New South Wales: Aboriginal Cultural Heritage Due Diligence Assessment. Report to Green Edge Environmental.

Berryman, A. and Frankel, D. 1984. Archaeological Investigations of Mounds on the Wakool River, near Barham, New South Wales: A preliminary Account. *Australian Archaeology* 19: 21-30.

Bonhomme, T. 1993. State Forests of NSW Murray Valley Archaeology Study: Lake Victoria and Koondrook State Forests. Report to NSW Forestry Commission.

Bowler, J.M., Jones, R., Allen, H., and Polach, H.A. 1970. Pleistocene man in Australia: Age and significance of the Mungo skeleton. *Nature* 240:48–50.

Buchan, R.A. 1974. Report on an Archaeological Survey in the Murray Valley, New South Wales. Report to NSW National Parks and Wildlife Service.

Burke, H. and Smith, C. 2004. The Archaeologist's Field Handbook, Blackwell, Oxford.

Burke, H., Roberts, A., Morrison, M., Sullivan, V., and the River Murray and Mallee Aboriginal Corporation (RMMAC). 2016. The space of conflict: Aboriginal/European interactions and frontier violence on the western Central Murray, South Australia, 1830-41. *Aboriginal History*, Volume 40: 145–179.

Bureau of Meteorology (BOM). 2024. Climate Statistics for Australian locations: Kerang. Online resource: http://www.bom.gov.au/climate/averages/tables/cw_080023.shtml

Department of Environment, Climate Change & Water (DECCW). 2010. Code of Practice for Archaeological Investigation of Aboriginal Objects.

Department of Climate Change, Energy, the Environment and Water (DCCEEW). 2023. The Ramsar Convention on Wetlands. Australian Government. Online resource: https://www.dcceew.gov.au/water/wetlands/ramsar.

Geoscience Australia. 2024. Stratigraphic Unit Details: Cenozoic regolith 76541. Online resource: https://asud.ga.gov.au/search-stratigraphic-units/results/76541.

Kefous K.C. 1983. Riverain: Water availability and Aboriginal prehistory of the Murray River, Lake Victoria area, western New South Wales. MA thesis. Australian National University, Canberra.

Kefous K.C. 1988. Butlin's Bootstraps: Aboriginal population in pre-contact Murray-Darlin region. In: Meehan, B. and Jones, R. (eds) *Archaeology with Ethnography: An Australian Perspective*, Australian National University: Canberra.

Klaver, J. 1987. Old Ovens are Soon Hot: A study of Function and Location of Aboriginal Mounds in the Upper Murrumbidgee Region. BA (hons) Thesis. Australian National University, Canberra.

Landskape Nature and Cultural Heritage Management (Cupper, M). 2011. Cultural Heritage Report: Burials BUR-006 and BUR-007. Report to Barapa Barapa Nation, Joint Indigenous Group and NSW State Water Corporation.

McConachie, F., Jenny, B., Reinke, K., and Arrowsmith C. 2016. Barapa Country through Barapa eyes: cultural mapping of Gunbower Island, Australia. *Journal of Maps*, 16(1): 13-20.

Mitchell, P. 2002. Descriptions for NSW (Mitchell) Landscapes Version 2. NSW Department of Environment and Climate Change.

Navin Officer Heritage Consultants (NOHC). 2009. Koondrook-Perricoota Forest Flood Enhancement Works: Cultural Heritage Assessment Indigenous and Non-Indigenous Heritage.

NSW Department of Planning and Environment. 2021. Trees Near Me. Online resource: https://treesnearme.app/explore.

NSW Parks and Wildlife Services (NPWS). 2003. The Bioregions of New South Wales – their biodiversity, conservation and history. Chapter 16: The South Eastern Highlands Bioregion.

NSW Spatial Services. 2024. Historical Imagery. Online resource: https://portal.spatial.nsw.gov.au/portal/apps/webappviewer/index.html?id=f7c215b873864d44bccddda8075238cb

Office of Environment and Heritage (OEH). 2010. Reconnaissance Soil and Land Resources of the Murray Catchment. NSW Office of Environment and Heritage, Sydney.

Pardoe, C. 1988. The cemetery as a symbol: the distribution of Aboriginal burial grounds in southeastern Australia. *Archaeology in Oceania* 23: 1–16.

Pardoe, C. 2012. Burials from Barber Overflow Koondrook State Forest, NSW.

Pardoe, C. 2013. Burials through the ages among the Barapa Barapa.

Pardoe, C and Hutton, D. 2020. Aboriginal heritage as ecological proxy in south-eastern Australia: A Barapa wetland village. *Australasian Journal of Environmental Management*, DOI: 10.1080/14486563.2020.1821400.

River Country. 2024. Indigenous Culture. Online resource: https://www.visitthemurray.com.au/places-to-go/central/rivercountry/things-to-do/art-and-culture/indigenous-culture

Simmons, S. 1980. Site Surveys on the Floodplain between the Murray and Wakool Rivers, New South Wales. *Records of the Victorian Archaeological Survey* 10.

Thorne, A.G. 1971. Mungo and Kow Swamp: Morphological Variation in Pleistocene Australians. *Mankind* 8:85–9.

Thorne, A.G. 1975. Kow Swamp and Lake Mungo. PhD Thesis. University of Sydney, Sydney.

Webb, S.G. 1984. Intensification, Population and Social Change in Southeastern Australia: the skeletal evidence. *Aboriginal History* 8: 154–172.

B.10 Responses from RAPs on Stage 2/3 information

From: Alyce Cameron
To: "john kerr"
Subject: RE: Little Forest
Date: Friday, 20 September 2024 2:48:29 PM

Hi John,

Thank you for sharing that information about Little Forest with me. The document you mentioned was only preliminary and I am working on the full report which I hope will capture and impart the importance of Little Forest to the TO Community.

In terms of the remediation of the sites and removal of the emergency levee – I'm being guided by the Community on how it should be done. At the moment, I have some preliminary ideas as to how it can be achieved based on discussions held with representatives from Moama LALC while we did the site survey/recording. If you have any ideas, then I would be happy to incorporate them into a draft remediation methodology which then can be used for further discussion and fine-tuning as to the process itself. It's my aim that this remediation methodology and the subsequent works under the AHIP can be managed by the Community with support from either an archaeologist of their choice and/or Council when specific help is requested.

Would you like me to add you as an individual RAP for the project? That way you would receive updates, documents, etc as they are sent out directly.

Thanks,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au

From: john kerr <kerrjohn76@gmail.com>
Sent: Saturday, September 14, 2024 10:31 AM
To: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Subject: Little Forest

Hi Alyce

It's John kerr I spoken to you a while back I was the CEO of the MLALC

I have just read your report and I would like to have a discussion with you regarding this report.

Little Forest is a significant site for CH it has many sites within its boundaries including but not limited to ancestral burials,scare trees, birthing trees just to name a few.
We have been working in there for the past 15 years and I do not think that your report captures the essence of LF
I know it only preliminary at this staige and you as the regulator have to stick with in the act.

The Murray Shire have got this all wrong we had a preposal where we as traditional owners would under take
These works operating with in the act of course but we where totally dismissed buy the shire buy a man who knows nuthing of CH or not care about the out come.
It is very disappointing that we as TO are still being undermined buy so called experts in our culture to the point where we still play second or even 3rd fiddle to LGA,s
We are very concerned with the remains that we know are there and we will put our recommendations to you as to how we want this to look
We need to have control of our CH an how it is repatriated back to the dreaming, our ancestors are lost and heave been for the past 20
Months with no regards for our culture at all.
We want FC an the persons
Who done this to be held accountable for there actions
FC NSW have refused at every turn to
Work with us to come to a just resolution to this issue dispite many efforts to resolve this issue with local TO,s in particular Andrew Mcurdy

Thanks john.

B.11 Stage 4 Letter and draft report sent to RAPs.

From:	Alyce Cameron
Bcc:	CEO Moamalalc; Thomas Dahlstrom; "Shannon Atkinson"; "moiradu57@gmail.com"; derek hardman; Gary Pappin; "Ngarigo Nation"; john kerr
Subject:	Little Forest Levee Remediation ACHAR - Stage 4 review
Date:	Thursday, 7 November 2024 3:24:07 PM
Attachments:	P-FY20242778-PWO-ENV-RP-002-A2_LittleForestACHAR_DRAFT_all_reduced.pdf image003.png image004.png

Good afternoon,

I hope everybody is well and staying cool in this heat (there has also been some spectacular lightning storms this week where I live – so I hope everybody is staying safe as well!).

Please find attached for your review and comment the draft Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Little Forest Levee Remediation Project.

If any comments or feedback could please be provided by close of business Friday 6 December, that would be terrific. If you think you'll need additional time to review the report or have trouble opening/accessing the attached document, please contact me as soon as possible to arrange an alternative close date or document access.

I hope you have a great rest of the week.

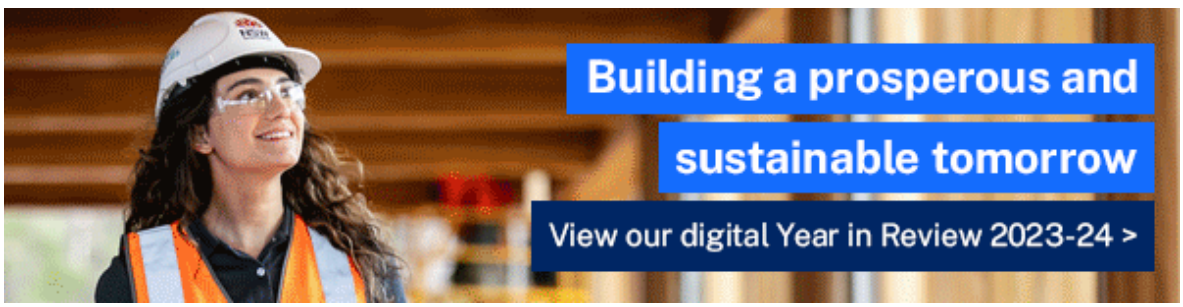
Thanks,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
120 Dalley Street, Lismore, NSW 2480
On **Bundjalung Land**

NSW GOVERNMENT NSW Public Works



publicworks.nsw.gov.au

NSW Public Works acknowledges that it stands on Country which always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work

B.12 Responses from RAPs on Stage 4 draft ACHAR

From: CEO - Moama Local Aboriginal Land Council
To: Alyce Cameron
Subject: Re: Little Forest Levee Remediation ACHAR - Stage 4 review
Date: Thursday, 7 November 2024 4:35:11 PM
Attachments: image003.png
image004.png

Hi Alyce.

WE have read the document and we are happy with it the only thing we want you to change is in the first paragraph of the report where it states
At the request of the JIG
It should state at the request of the Moama Local Aboriginal Land council and its members in consultation with the JIG.
Please change that and we will be happy to sign of on it.

Reguards

Latoya Morgan
CEO Moama Local Aboriginal Land Council
PH 0354826071 Mob-0436320733
MLALC recognises the Yorta Yorta BarapaBarapa and Wamba Wamba as the traditional owners of the land of which we service and recognise all elders passed present and emerging --

---

From: Alyce Cameron <alyce.cameron@pwa.nsw.gov.au>
Date: Thursday, 7 November 2024 at 3:25 pm
To:
Subject: [WARNING: UNSCANNABLE EXTRACTION FAILED]Little Forest Levee Remediation ACHAR - Stage 4 review

Good afternoon,

I hope everybody is well and staying cool in this heat (there has also been some spectacular lightning storms this week where I live – so I hope everybody is staying safe as well!).

Please find attached for your review and comment the draft Aboriginal Cultural Heritage Assessment Report (ACHAR) for the Little Forest Levee Remediation Project.

If any comments or feedback could please be provided by close of business Friday 6 December, that would be terrific. If you think you'll need additional time to review the report or have trouble opening/accessing the attached document, please contact me as soon as possible to arrange an alternative close date or document access.

I hope you have a great rest of the week.

Thanks,

Alyce

Alyce Cameron *(she/her)*
Archaeologist, Heritage, Environment and Planning
NSW Public Works

M 0488 316 037 **E** alyce.cameron@pwa.nsw.gov.au
120 Dalley Street, Lismore, NSW 2480
On **Bundjalung Land**

NSW Public Works

publicworks.nsw.gov.au

NSW Public Works acknowledges that it stands on Country which always was and always will be Aboriginal land. We acknowledge the Traditional Custodians of the land and waters, and we show our respect for elders past, present and emerging. We are committed to providing places in which Aboriginal people are included socially, culturally and economically through thoughtful and collaborative approaches to our work

Appendix C Extensive AHIMS search

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Little Forest Levee

Client Service ID : 900828

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
54-4-0454	Koondrook_C37_LittleBonumRd_ETM221	GDA	55	246755	6049417	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0458	Koondrook_C37_LittleBonumRd_ETM189	GDA	55	247009	6049058	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0459	Koondrook_C37_LittleBonumRoad_ETM188	GDA	55	247001	6049013	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0066	BST-001	GDA	55	246525	6050739	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Barapa Barapa Nation					**Permits**		
54-4-0464	Koondrook_C37_BonumSandhillRd_ETM282	GDA	55	247457	6050582	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0474	Koondrook_C37_LittleBonumRd_ETM272	GDA	55	247408	6050188	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0476	Koondrook_C37_LittleBonumRd_ETM270	GDA	55	247302	6050039	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0486	Koondrook_C37_LittleBonumRd_ETM260	GDA	55	246873	6050622	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0491	Koondrook_C37_LittleBonumRd_ETM257	GDA	55	246619	6050366	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0492	Koondrook_C37_LittleBonumRd_ETM256	GDA	55	246591	6050412	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0499	Koondrook_C37_LittleBonumRd_ETM249	GDA	55	246596	6050340	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0505	Koondrook_C37_LittleBonumRd_ETM243	GDA	55	246561	6050064	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0513	Koondrook_C37_LittleBonumRd_ETM235	GDA	55	246821	6049899	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0517	Koondrook_C37_LittleBonumRoad_ETM183	GDA	55	246685	6048876	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0434	Koondrook_C37_LittleBonumRd_ETM201	GDA	55	246904	6048581	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0526	Koondrook_C37_LittleBonumRd_ETM293	GDA	55	247254	6049668	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0527	Koondrook_C37_LittleBonumRd_ETM292	GDA	55	247342	6049645	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0456	Koondrook_C37_LittleBonumRd_ETM191	GDA	55	246707	6048973	Open site	Valid	Earth Mound : -		

Report generated by AHIMS Web Service on 14/06/2024 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 241795.0 - 247516.0, Northings : 6046688.0 - 6051121.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 109

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Little Forest Levee

Client Service ID : 900828

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0548	Koondrook_C37_LittleBonumRd_ETM298	GDA	55	246937	6050971	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0110	MID-003	GDA	55	246446	6049310	Open site	Valid	Hearth : -, Non-Human Bone and Organic Material : -, Potential Archaeological Deposit (PAD) : -, Shell : -		
	Contact	Recorders	Barapa Barapa Nation					Permits		
54-4-0075	BURIAL-006B	GDA	55	246122	6050557	Open site	Valid	Burial : -, Shell : -		
	Contact	Recorders	Barapa Barapa Nation					Permits		
54-4-0468	Koondrook_C37_LittleBonumRd_ETM278	GDA	55	247494	6050558	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0478	Koondrook_C37_LittleBonumRd_ETM268	GDA	55	247313	6050206	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0485	Koondrook_C37_LittleBonumRd_ETM261	GDA	55	246745	6050607	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0489	Koondrook_C37_LittleBonumRd_ETM259	GDA	55	246823	6050671	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0503	Koondrook_C37_LittleBonumRd_ETM245	GDA	55	246664	6050144	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0443	Koondrook_C37_LittleBonumRd_ETM232	GDA	55	246901	6049833	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0448	Koondrook_C37_LittleBonumRd_ETM227	GDA	55	247336	6049205	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0449	Koondrook_C37_LittleBonumRd_ETM226	GDA	55	247305	6049348	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0524	Koondrook_C37_LittleBonumRd_ETM295	GDA	55	247297	6049696	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0450	Koondrook_C37_LittleBonumRd_ETM225	GDA	55	247363	6049294	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0460	koondrook_C37_LittleBonumRoad_ETM187	GDA	55	247009	6048973	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0462	Koondrook_C37_LittleBonumRoad_ETM185	GDA	55	246802	6049115	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		

Report generated by AHIMS Web Service on 14/06/2024 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 241795.0 - 247516.0, Northings : 6046688.0 - 6051121.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 109

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Little Forest Levee

Client Service ID : 900828

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
54-4-0047	Koondrook Forest Burial 6	GDA	55	246116	6050561	Open site	Valid	Burial : 1		102972
Contact		Recorders	Doctor.Matt Cupper,LandSkape - Natural & Cultural Heritage Management					Permits		
54-4-0477	Koondrook_C37_LittleBonumRd_ETM269	GDA	55	247058	6050112	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0479	Koondrook_C37_BonumSandhillRd_ETM267	GDA	55	247337	6050338	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0493	Koondrook_C37_LittleBonumRd_ETM255	GDA	55	246569	6050442	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0507	Koondrook_C37_LittleBonumRd_ETM241	GDA	55	246596	6049976	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0509	Koondrook_C37_LittleBonumRd_ETM239	GDA	55	246904	6050153	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0435	Koondrook_C37_LittleBonumRd_ETM202	GDA	55	246774	6048729	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
59-4-0059	G LB1 Little Bonum Sandhill	AGD	55	247000	6049500	Open site	Valid	Earth Mound : -, Hearth : -	Mound (Oven)	
Contact		Recorders	Bonhomme Craib & Associates					Permits		
54-4-0986	Little Forest LFS-BURIAL-01	GDA	55	245107	6049073	Open site	Valid	Burial : -		
Contact		Recorders	Doctor.Colin Pardoe,Colin Pardoe Bio-Athropology & Archaeology					Permits		
54-4-0453	Koondrook_C37_LittleBonumRd_ETM222	GDA	55	246826	6049362	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0550	Koondrook_C37_BonumSandhillRd_ETM300	GDA	55	247509	6050950	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0463	Koondrook_C37_LittleBonumRd_ETM283	GDA	55	247379	6050504	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0484	Koondrook_C37_LittleBonumRd_ETM262	GDA	55	246547	6049689	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0494	Koondrook_C37_LittleBonumRd_ETM254	GDA	55	246583	6050509	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0500	Koondrook_C37_LittleBonumRd_ETM248	GDA	55	246778	6050312	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0506	Koondrook_C37_LittleBonumRd_ETM242	GDA	55	246516	6050017	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0429	Koondrook_C37_LittleBonumRd_ETM196	GDA	55	246625	6049237	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0431	Koondrook_C37_LittleBonumRd_ETM198	GDA	55	246903	6048798	Open site	Valid	Earth Mound : -		
Contact		Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		

Report generated by AHIMS Web Service on 14/06/2024 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 241795.0 - 247516.0, Northings : 6046688.0 - 6051121.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 109

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Little Forest Levee

Client Service ID : 900828

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
54-4-0446	Koondrook_C37_LittleBonumRd_ETM229	GDA	55	247378	6049026	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0525	Koondrook_C37_LittleBonumRd_ETM294	GDA	55	247235	6049733	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0532	Koondrook_C37_LittleBonumRd_ETM287	GDA	55	247408	6050001	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0134	ST-003	GDA	55	246906	6048570	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Barapa Barapa Nation					**Permits**		
54-4-0452	Koondrook_C37_LittleBonumRd_ETM223	GDA	55	247137	6049649	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0455	Koondrook_C37_LittleBonumRd_ETM192	GDA	55	246726	6049062	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0457	Koondrook_C37_LittleBonumRd_ETM190	GDA	55	246896	6048986	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0549	Koondrook_C37_BonumSandhill Rd_ETM299	GDA	55	247496	6050968	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0561	Koondrook_C37_LittleBonumRd_ETM311	GDA	55	246810	6050970	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0111	MID-004	GDA	55	246626	6049231	Open site	Valid	Habitation Structure : -, Non-Human Bone and Organic Material : -, Potential Archaeological Deposit (PAD) : -, Shell : -		
	Contact	**Recorders**	Barapa Barapa Nation					**Permits**		
54-4-0112	MID-005	GDA	55	246501	6050789	Open site	Valid	Hearth : -, Non-Human Bone and Organic Material : -, Potential Archaeological Deposit (PAD) : -, Shell : -		
	Contact	**Recorders**	Barapa Barapa Nation					**Permits**		
54-4-0074	BURIAL-006A	GDA	55	246123	6050559	Open site	Valid	Burial : -		
	Contact	**Recorders**	Barapa Barapa Nation					**Permits**		
54-4-0465	Koondrook_C37_BonumSandhillRd_ETM281	GDA	55	247433	6050686	Open site	Valid	Earth Mound : -		

Report generated by AHIMS Web Service on 14/06/2024 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 241795.0 - 247516.0, Northings : 6046688.0 - 6051121.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 109

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Little Forest Levee

Client Service ID : 900828

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0466	Koondrook_C37_BonumSandhillRd_ETM280	GDA	55	247504	6050643	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0482	Koondrook_C37_LittleBonumRd_ETM264	GDA	55	246706	6049465	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0483	Koondrook_C37_LittleBonumRd_ETM263	GDA	55	246555	6049845	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0516	Koondrook_C37_LittleBonumRoad_ETM184	GDA	55	246937	6049043	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0529	Koondrook_C37_LittleBonumRd_ETM290	GDA	55	247502	6050146	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
59-4-0061	LB2 Little Bonum burials	AGD	55	247000	6049700	Open site	Valid	Burial : -	Burial/s	
	Contact	Recorders	Bonhomme Craib & Associates					Permits		
54-4-0472	Koondrook_C37_LittleBonumRd_ETM274	GDA	55	247476	6050312	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0473	Koondrook_C37_LittleBonumRd_ETM273	GDA	55	247446	6050251	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0480	Koondrook_C37_BonumSandhillRd_ETM266	GDA	55	247204	6050402	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0497	Koondrook_C37_LittleBonumRd_ETM251	GDA	55	246747	6050477	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0502	Koondrook_C37_LittleBonumRd_ETM246	GDA	55	246782	6050206	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0504	Koondrook_C37_LittleBonumRd_ETM244	GDA	55	246521	6050061	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0511	Koondrook_C37_LittleBonumRd_ETM237	GDA	55	246727	6050057	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0427	Koondrook_C37_LittleBonumRd_ETM194	GDA	55	246749	6049189	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0428	Koondrook_C37_LittleBonumRd_ETM195	GDA	55	246765	6049158	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0432	Koondrook_C37_LittleBonumRd_ETM199	GDA	55	247272	6048319	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0445	Koondrook_C37_LittlebonumRoad_ETM230	GDA	55	246447	6049299	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0447	Koondrook_C37_LittleBonumRd_ETM228	GDA	55	247376	6049118	Open site	Valid	Earth Mound : -		

Report generated by AHIMS Web Service on 14/06/2024 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 241795.0 - 247516.0, Northings : 6046688.0 - 6051121.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 109

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Little Forest Levee

Client Service ID : 900828

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0531	Koondrook_C37_LittleBonumRd_ETM288	GDA	55	247462	6049994	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0534	Koondrook_C37_LittleBonumRd_ETM285	GDA	55	247396	6049818	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0535	Koondrook_C37_LittleBonumRd_ETM284	GDA	55	247331	6050546	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0461	Koondrook_C37_LittleBonumRoad_ETM186	GDA	55	246834	6049094	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0470	Koondrook_C37_LittleBonumRd_ETM276	GDA	55	247496	6050428	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0471	Koondrook_C37_LittleBonumRd_ETM275	GDA	55	247401	6050345	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0490	Koondrook_C37_LittleBonumRd_ETM258	GDA	55	246555	6050224	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0495	Koondrook_C37_LittleBonumRd_ETM253	GDA	55	246690	6050516	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0501	Koondrook_C37_LittleBonumRd_ETM247	GDA	55	246827	6050411	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0512	Koondrook_C37_LittleBonumRd_ETM236	GDA	55	246756	6049985	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0426	Koondrook_C37_LittleBonumRd_ETM193	GDA	55	246595	6049234	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0430	Koondrook_C37_LittleBonumRd_ETM197	GDA	55	246969	6048875	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0433	Koondrook_C37_LittleBonumRd_ETM200	GDA	55	247192	6048604	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0444	Koondrook_C37_LittleBonumRd_ETM231	GDA	55	247222	6049640	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0528	Koondrook_C37_LittleBonumRd_ETM291	GDA	55	247423	6049716	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0530	Koondrook_C37_LittleBonumRd_ETM289	GDA	55	247475	6050043	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0451	Koondrook_C37_LittleBonumRd_ETM224	GDA	55	247234	6049520	Open site	Valid	Earth Mound : -		
	Contact	Recorders	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					Permits		
54-4-0575	Koondrook_C37_BonumSandhillRd_ETM312	GDA	55	247351	6051097	Open site	Valid	Earth Mound : -		

Report generated by AHIMS Web Service on 14/06/2024 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 241795.0 - 247516.0, Northings : 6046688.0 - 6051121.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 109

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : Little Forest Levee

Client Service ID : 900828

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status **	SiteFeatures	SiteTypes	Reports
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0113	MID-006	GDA	55	246407	6050676	Open site	Valid	Hearth : -, Non-Human Bone and Organic Material : -, Potential Archaeological Deposit (PAD) : -, Shell : -		
	Contact	**Recorders**	Barapa Barapa Nation					**Permits**		
54-4-0132	ST-001a	GDA	55	246900	6048578	Open site	Valid	Modified Tree (Carved or Scarred) : -		
	Contact	**Recorders**	Barapa Barapa Nation					**Permits**		
54-4-0475	Koondrook_C37_LittleBonumRd_ETM271	GDA	55	247296	6050113	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0481	Koondrook_C37_BonumSandhillRd_ETM265	GDA	55	247242	6050453	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0496	Koondrook_C37_LittleBonumRd_ETM252	GDA	55	246731	6050535	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0498	Koondrook_C37_LittleBonumRd_ETM250	GDA	55	246715	6050422	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0508	Koondrook_C37_LittleBonumRd_ETM240	GDA	55	246711	6050140	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0510	Koondrook_C37_LittleBonumRd_ETM238	GDA	55	246856	6050064	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		
54-4-0533	Koondrook_C37_LittleBonumRd_ETM286	GDA	55	247390	6049937	Open site	Valid	Earth Mound : -		
	Contact	**Recorders**	Ms.Xiying Zhao,Forestry Corporation of NSW - bathurst					**Permits**		

**** Site Status**

Valid - The site has been recorded and accepted onto the system as valid

Destroyed - The site has been completely impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There is nothing left of the site on the ground but proponents should proceed with caution.

Partially Destroyed - The site has been only partially impacted or harmed usually as consequence of permit activity but sometimes also after natural events. There might be parts or sections of the original site still present on the ground

Not a site - The site has been originally entered and accepted onto AHIMS as a valid site but after further investigations it was decided it is NOT an aboriginal site. Impact of this type of site does not require permit but Heritage NSW should be notified

Report generated by AHIMS Web Service on 14/06/2024 for Alyce Cameron for the following area at Datum :GDA, Zone : 55, Eastings : 241795.0 - 247516.0, Northings : 6046688.0 - 6051121.0 with a Buffer of 0 meters.. Number of Aboriginal sites and Aboriginal objects found is 109

This information is not guaranteed to be free from error omission. Heritage NSW and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

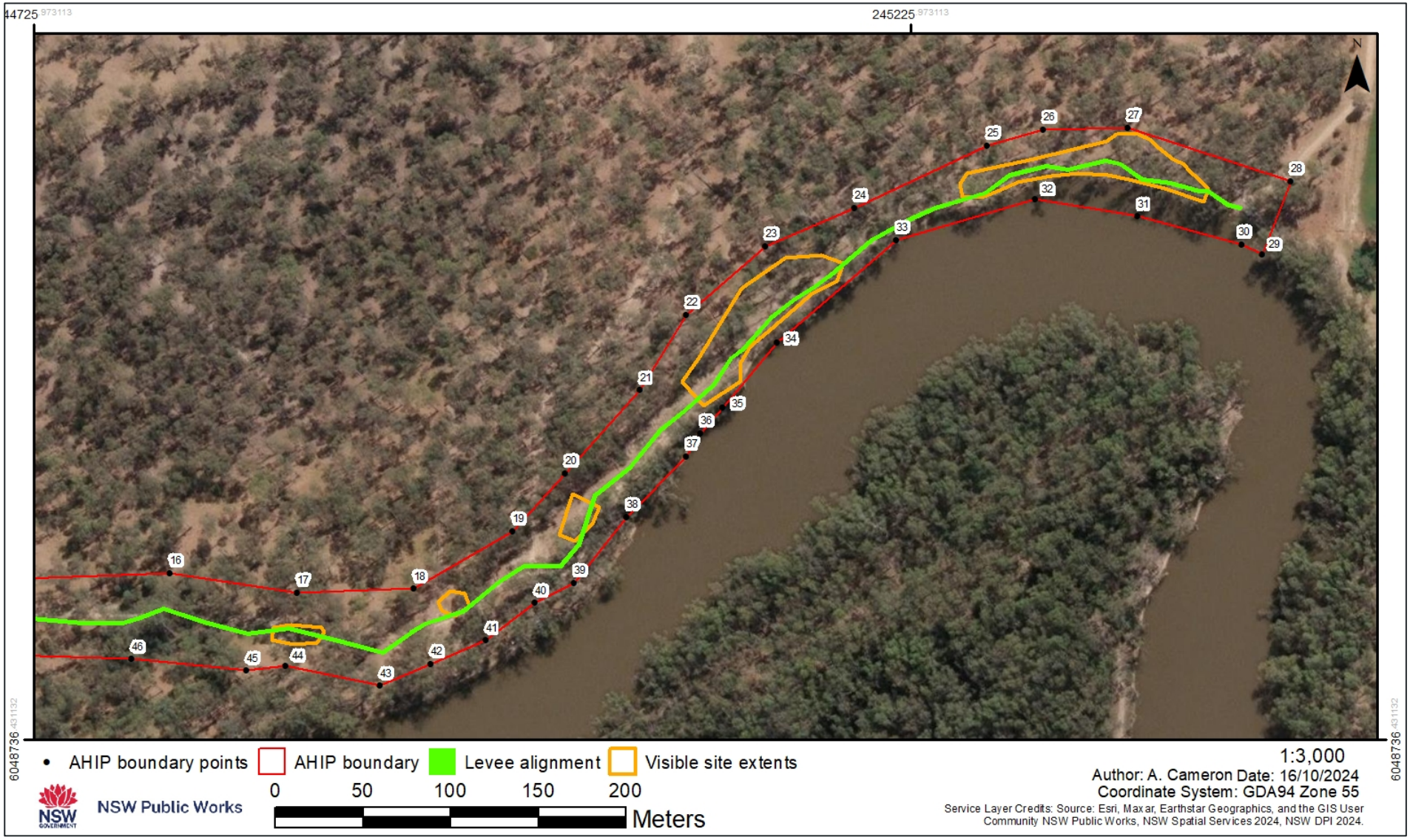
Appendix D AHIP application detailed maps & GPS coordinates

Appendix Table D-1: AHIP boundary GPS coordinates

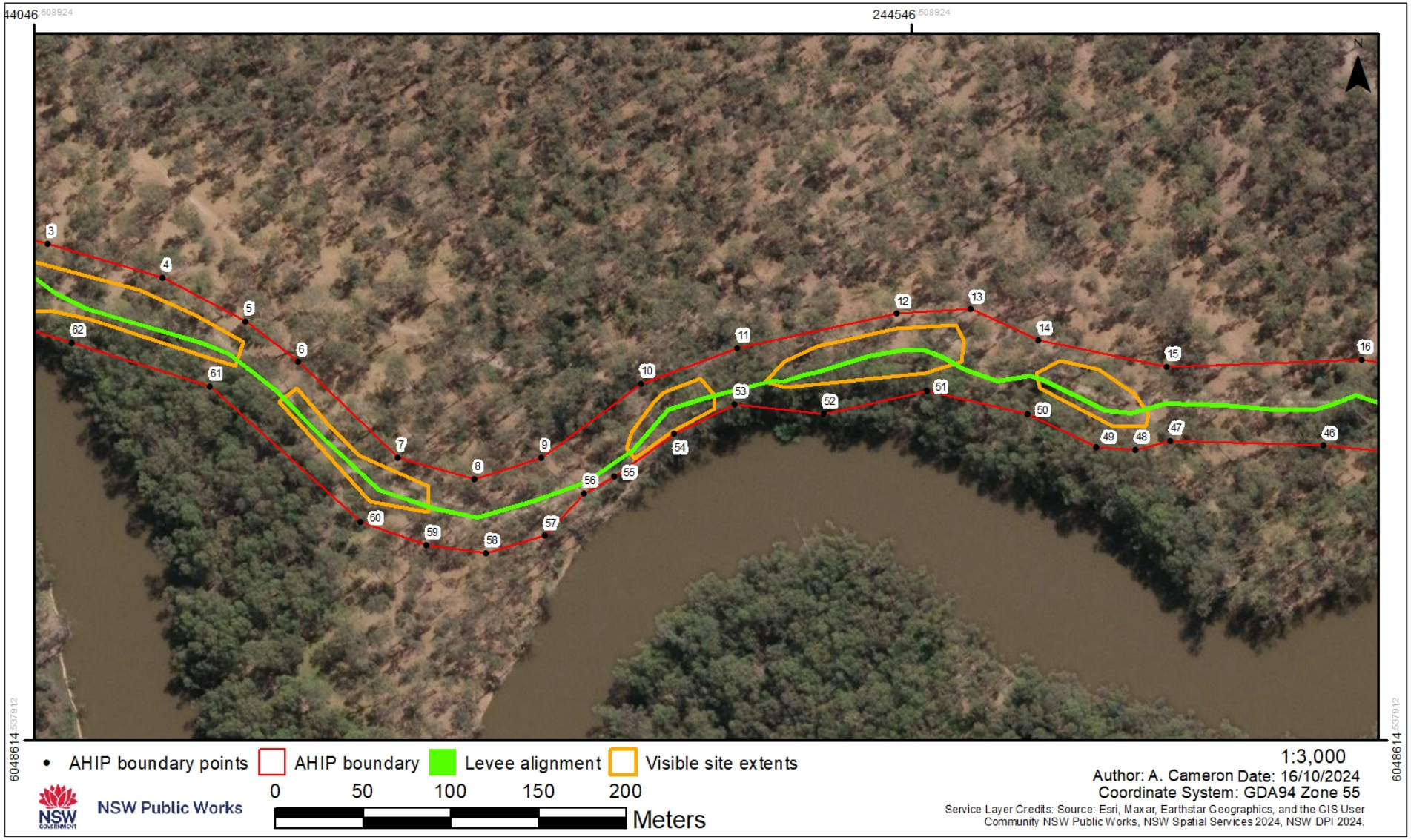
Point ID	Easting	Northing
0	243817	6048874
1	243899	6048902
2	244000	6048911
3	244055	6048898
4	244120	6048878
5	244168	6048853
6	244197	6048830
7	244254	6048775
8	244298	6048763
9	244336	6048776
10	244393	6048818
11	244448	6048838
12	244538	6048858
13	244581	6048860
14	244619	6048842
15	244692	6048827
16	244804	6048832
17	244876	6048820
18	244943	6048823
19	244999	6048856
20	245029	6048888
21	245072	6048936
22	245098	6048979

Point ID	Easting	Northing
23	245143	6049018
24	245194	6049040
25	245270	6049075
26	245302	6049084
27	245350	6049085
28	245443	6049055
29	245427	6049013
30	245415	6049019
31	245356	6049035
32	245297	6049045
33	245218	6049021
34	245150	6048963
35	245119	6048926
36	245106	6048911
37	245098	6048898
38	245064	6048863
39	245034	6048826
40	245012	6048814
41	244984	6048793
42	244953	6048780
43	244923	6048767
44	244870	6048778
45	244847	6048776
46	244782	6048782

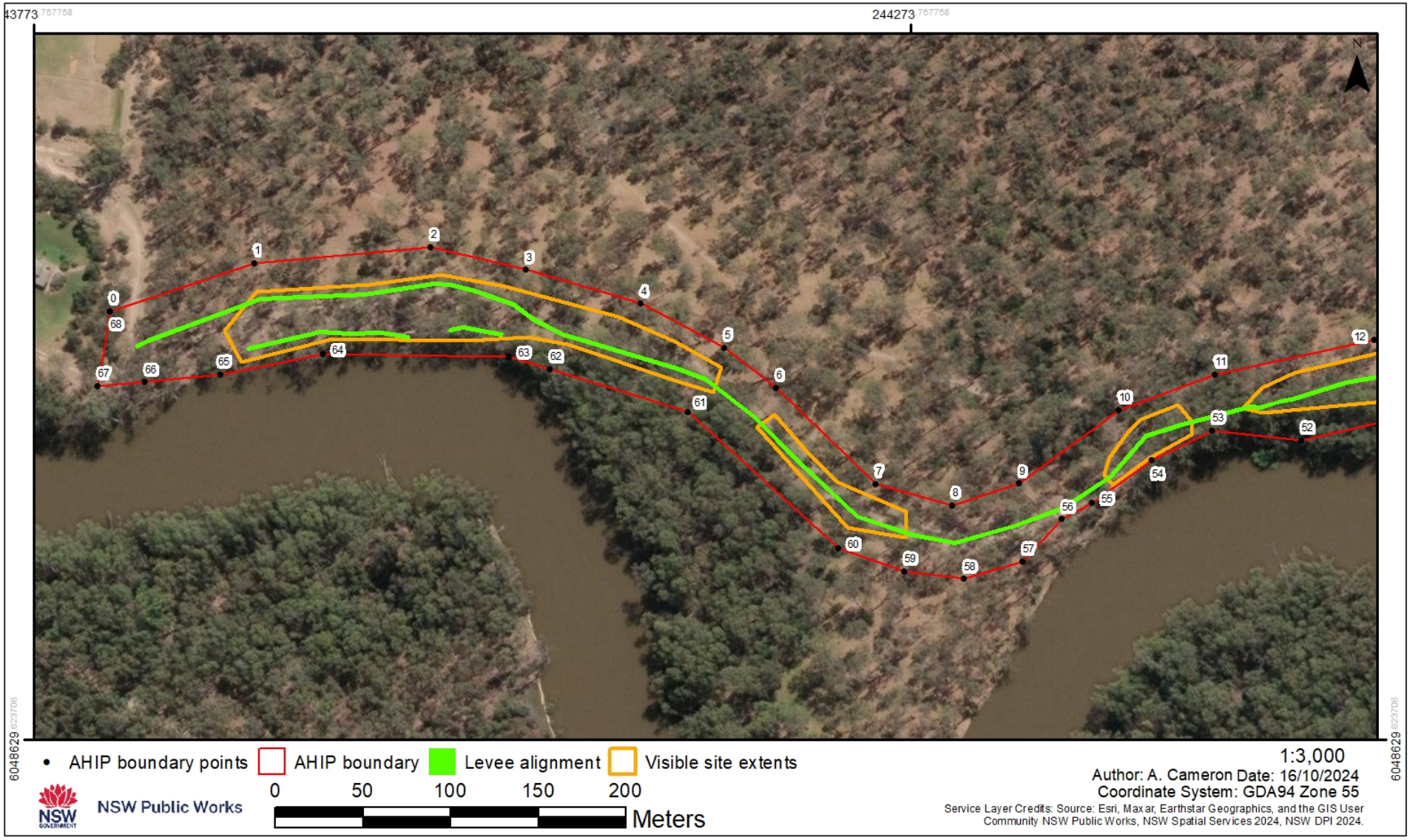
Point ID	Easting	Northing
47	244694	6048785
48	244675	6048780
49	244652	6048782
50	244613	6048801
51	244556	6048814
52	244497	6048800
53	244446	6048806
54	244412	6048789
55	244378	6048765
56	244360	6048755
57	244338	6048731
58	244305	6048721
59	244271	6048726
60	244233	6048739
61	244147	6048816
62	244068	6048841
63	244045	6048848
64	243939	6048849
65	243881	6048838
66	243837	6048834
67	243810	6048831
68	243817	6048874



Appendix Figure D-1: Detail AHIP application boundary – eastern section.



Appendix Figure D-2: Detail AHIP application boundary – central section.



Appendix Figure D-3: Detail AHIP application boundary – western section.

Appendix C Consultation

Our Ref: ID2536
Your Ref:

25 July 2024

Des Andersen
Environmental Scientist
NSW Public Works
122-132 Mossman Street
Armidale NSW 2480

Via email
email: derryn.andersen@pwa.nsw.gov.au
CC: joshua.stanbury@ses.nsw.gov.au

Dear Des,

Notification under section 2.13 of the State Environmental Planning Policy (Transport and Infrastructure) 2021 in relation to the proposed Little Forrest Flood Levee Removal Barham Replacement

Thank you for the notification under section 2.13 of the *State Environmental Planning Policy (Transport and Infrastructure) 2021* in relation to the proposed removal of the Little Forest flood levee, Barham NSW to remediate disturbed aboriginal sites. It is understood that the proposed works will involve the removal of the entire levee bank measuring approximately 1 metre high, 1.5 metres wide and 1800 metres long and is likely to involve heavy machinery, earthmoving equipment and handheld equipment.

The NSW State Emergency Service (NSW SES) is the agency responsible for dealing with floods, storms and tsunami in NSW. This role includes, planning for, responding to and coordinating the initial recovery from floods. As such, the NSW SES has an interest in the public safety aspects of the development of flood prone land, particularly the potential for changes to land use to either exacerbate existing flood risk or create new flood risk for communities in NSW.

We have reviewed the proposed upgrade and the flood risk information available to the NSW SES (e.g. Murray River Council Flood Emergency Sub Plan 2023, Barham Floodplain Risk Management Study and Plan 2017 etc.). Historic flood mapping shows floods to have inundated the work site area during the Murray River 1956 and 1975 floods and the Wakool River 1975 flood. It is understood that the Little Forest flood levee was constructed in response to flooding during 2022. Accordingly, although there is limited up to date flood mapping for the area, it is evident that flooding presents a significant risk in the location of the site works.

Flood mapping for the area was undertaken prior to the installation of Little Forest flood levee and shows that in the absence of the levee the area is inundated in a 1% AEP to a depth of up to 0.5 metres[1]. Access roads may become inundated during a Probable Maximum Flood (PMF) although the extent is not clear from the flood mapping available. It is likely that there will be

[1] *GHD*, Barham Flood Study 2014, Figure A1

sufficient time to evacuate workers during riverine flooding as Murray River flow times from Echuca to Barham is 7 days, although it should be noted that this is a guide only and can vary greatly, particularly in the more massive events, when flow times can be shorter[2].

Based on this review, we provide the following advice:

- **Consider** the impact of flooding and flood risks on the infrastructure and workers at the site up to and including the Probable Maximum Flood (PMF).
- **Carefully consider** the impacts of riverine flooding in your emergency management planning on the workers and the ability to quickly and safely evacuate them from the site, particularly those working in vulnerable situations near the Murray River.
- **Pursue**, if relevant, site design and stormwater management that reduces the impact of flooding and minimises any risk to workers and the community.
- **Ensure** workers and people in the site area during and after the works are aware of the flood risk, for example through site inductions and by using signage.
- **Consider** closing the worksite and securing all materials and equipment prior to the start of the working day if there is a risk of riverine flooding, on receipt of advice from the Bureau of Meteorology (BoM), or when other evidence leads to an expectation of flooding. During site works, check the BoM website prior to start of the workday for any Flood Warnings or Severe Weather Warnings.
- **Ensure** that material removed from the site temporarily stockpiled at any laydown is appropriately secured during a weather event.
- **Consider** the impact on flood behaviour and downstream communities by the removal of the temporary levee and any change to emergency management risks.

To provide additional support in doing the above, we direct you to the online resources which are available to the community on the www.ses.nsw.gov.au website which include helpful pages such as:

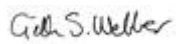
- Local Plans and Guides
- Flood Storm and Tsunami Plans which includes locally endorsed NSW SES Flood Emergency Sub Plans
- Emergency Plan online tool which steps you through the process of developing your own Emergency Plan.
- The Hazards Near Me app (a tool to receive flood warnings as part of the Australian Warning System) and the NSW SES website which contains comprehensive information for the general community about what to do before, during and after floods as well as in-language resources and HazardWatch (NSW SES interactive information and warnings site).

In addition, if the construction phase of the upgrades causes disruption to the operation of local roads, this may impact the ability for emergency vehicles to use these routes. The NSW SES requests that notification be provided where there are likely to be significant delays in the operation of the roads affected by the upgrades.

[2] *NSW SES*, Wentworth Shire Flood Emergency Sub Plan 2023 Volume 2 p.19

Please feel free to contact Suede Stanton-Drudy via email at rra@ses.nsw.gov.au should you wish to discuss any of the matters raised in this correspondence. The NSW SES would also be interested in receiving future correspondence regarding the outcome of this referral via this email address.

Yours sincerely,



Gillian Webber

Coordinator Emergency Risk Assessment
NSW State Emergency Service

Department of Primary Industries (Fisheries)
Department of Regional NSW

FE24/772 C24/551

27/06/2024

NSW Public Works
Old Teachers' College, 122-132 Mossman St,
Armidale NSW 2350

Attention: Des Andersen
Environmental Scientist - Heritage, Environment and Planning
<derryn.andersen@pwa.nsw.gov.au>

Re: Murray River Council LGA – Murray River – Little Forest Flood Levee material removal – Barham NSW

Dear Des,

Thank you for referring the above proposal to DPI Fisheries for comment. It is understood that Murray River Council has engaged NSW Public Works to provide a REF for proposed works at the above location.

DPI Fisheries is responsible for ensuring that fish populations including threatened species are conserved and that there is "no net loss" of key fish habitats upon which they depend. To achieve this, the Department ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act respectively) and the associated *Policy and Guidelines for fish habitat conservation and management (2013)*. In addition, the Department is responsible for ensuring the sustainable management of commercial and recreational fishing and aquaculture within NSW.

DPI Fisheries provides the following initial advice relating to environmental assessment requirements including threatened fish species assessment, and approvals required under Part 7 of the *Fisheries Management Act 1994*.

Environmental Assessment Requirements
DPI Fisheries requirements for the preparation of environmental planning and assessment documents are outlined in the *Policy and Guidelines for Aquatic Habitat Management and Fish Conservation 2013* pp 26-32. Of primary concern to Fisheries are the disturbance and/or destruction of aquatic habitats and any adverse impacts

on aquatic species. Disturbance can be in the form of siltation from excessive sediment runoff, blockages to fish passage such as the construction of causeways, culverts and temporary crossings and direct impacts on aquatic habitat such as the removal of aquatic vegetation and de-snagging activities.

Environmental assessment documents should include the following information as a minimum to allow assessment staff to make an informed decision about the potential impacts that any proposed works may have on aquatic species and their habitats.

- Location of works
- Name of adjacent watercourse(s)
- Description of works to be undertaken
- Method/s of construction
- Timing and duration of works
- Obstructions to fish passage (temporary and permanent) identified
- Aquatic habitat conditions at the site – particularly riparian and aquatic vegetation, water depth, permanence of water flow and snags in the vicinity of the proposed works.
- Potential impacts upon aquatic and riparian habitats (both temporary and permanent)
- Proposals to mitigate impacts upon riparian and aquatic vegetation and aquatic habitats.
- Potential impacts upon water quality of the proposed works.
- Proposals to mitigate impacts upon water quality.
- An assessment of the potential impact that proposed works may have on aquatic threatened species, populations and ecological communities.

Threatened fish species

The Murray River at this location is considered TYPE 1 CLASS 1 key fish habitat and is also known and/or potential habitat for several threatened fish species and an Endangered Ecological Community under provisions of the *Fisheries Management Act 1994* and the *Environment Protection and Biodiversity Conservation Act 1999* (Cwth). These include Murray cod, Silver perch, Murray crayfish, Murray Hardyhead, Flathead galaxias and the Lower Murray Endangered Aquatic Ecological Community.

The proposal should include a threatened aquatic species assessment (as per part 7A *Fisheries Management Act* 1994) to address whether there are likely to be any significant impacts on listed threatened species, populations or ecological communities listed under the *Fisheries Management Act 1994*. Further information can be found here.

Approval under Part 7 of The *Fisheries Management Act 1994*

As Murray River Council (Local Government) is the proponent, if there are to be any dredging and reclamation works (i.e. excavation within, or filling or draining of, water land or the removal of large woody debris, snags, rocks or freshwater native aquatic vegetation or the removal of any other material from water land that disturbs, moves or harms these instream habitats), a permit under section 201 of the *Fisheries Management Act 1994* will be required. Further information regarding Part 7 Fisheries permits can be found here.

The matters raised by DPI Fisheries relate to the Department's responsibilities for ensuring fish stocks are conserved and that there is "no net loss" of key fish habitats upon which they depend. I can be contacted on 0484 907 343 or via email Alison.McLean@dpi.nsw.gov.au if you require any further information.

Sincerely

Alison McLean
Fisheries Manager, Murray Darling
Freshwater Environment Branch

From: Andrew McCurdy
To: Des Andersen; rachel@geenvironmental.com.au
Cc: Vincent Kelly
Subject: RE: Quick follow up query re. permits required for Little forest flood levee Removal - REF
Date: Friday, 16 August 2024 12:40:32 PM
Attachments: TR Application Form - Forest Permit (Activity) 10.6.20.docx

---

Hi Des and Rachel, sorry for the delay in responding to your request regarding the need for a permit from Forestry Corporation to remove the little forest levy. I have been advised that a permit will be necessary issued to the agency or council responsible for the removal.
I've attached a permit application form, this will need to be completed and returned to me.
If you have any questions please call.
Cheers

Andrew McCurdy | District Manager - Deniliquin
Forestry Corporation of NSW | Western Division

315 | Victoria Street | Deniliquin NSW 2710
PO Box 610 | Deniliquin NSW 2710
M: 0428 288 618 | E: andrew.mccurdy@fcnsw.com.au
W: www.forestrycorporation.com.au

I acknowledge and respect the traditional custodians and ancestors of the lands I work across

---

From: Des Andersen <derryn.andersen@pwa.nsw.gov.au>
Sent: Friday, August 9, 2024 12:15 PM
To: Andrew McCurdy <Andrew.McCurdy@fcnsw.com.au>
Subject: RE: Quick follow up query re. permits required for Little forest flood levee Removal - REF

Hi Andrew,
Thanks again. I'll look forward to confirmation once you have a chance.

Kind regards

Des Andersen *(He)*
Environmental Scientist, Heritage, Environment and Planning
NSW Public Works

E derryn.andersen@pwa.nsw.gov.au

From: Andrew McCurdy <Andrew.McCurdy@fcnsw.com.au>
Sent: Friday, August 9, 2024 11:54 AM
To: Des Andersen <derryn.andersen@pwa.nsw.gov.au>
Cc: Liz Mathieson <liz.mathieson@pwa.nsw.gov.au>
Subject: RE: Quick follow up query re. permits required for Little forest flood levee Removal - REF

Sorry Des I haven't had a chance to finalise this request, I've been swamped doing 2 jobs at the moment. I will respond as soon as possible.
My initial take is that it is not a forestry activity and should not require a permit as we are not approving or undertaking the activity but I need to get this verified. I understand you need this advise and I'll get it to you as soon as I can. I'm sorry for the delay
Cheers

Andrew McCurdy | District Manager - Deniliquin
Forestry Corporation of NSW | Western Division

315 | Victoria Street | Deniliquin NSW 2710
PO Box 610 | Deniliquin NSW 2710

M: 0428 288 618 | E: andrew.mccurdy@fcnsw.com.au
W: www.forestrycorporation.com.au
I acknowledge and respect the traditional custodians and ancestors of the lands I work across

From: Des Andersen <derryn.andersen@pwa.nsw.gov.au>
Sent: Friday, August 9, 2024 11:34 AM
To: Andrew McCurdy <Andrew.McCurdy@fcnsw.com.au>
Cc: Liz Mathieson <liz.mathieson@pwa.nsw.gov.au>
Subject: RE: Quick follow up query re. permits required for Little forest flood levee Removal - REF

Hi Andrew,
Thanks for your reply.
Just a quick follow up – I was wondering if, as the proposed works are not in relation to a forestry activity, a permit is required by the land manager, which in this case is the NSW Forestry Corporation?

Kind regards

Des Andersen *(He)*
Environmental Scientist, Heritage, Environment and Planning
NSW Public Works

E derryn.andersen@pwa.nsw.gov.au

From: Andrew McCurdy <Andrew.McCurdy@fcnsw.com.au>
Sent: Monday, July 1, 2024 3:28 PM
To: Des Andersen <derryn.andersen@pwa.nsw.gov.au>
Cc: Vincent Kelly <Vincent.Kelly@fcnsw.com.au>; John Hore <jhore@murrayriver.nsw.gov.au>; Jack Bond <JBond@murrayriver.nsw.gov.au>
Subject: Little forest flood levee Removal - REF

Hi Derryn, FCNSW has received a letter from NSW public works regarding the Little Forest Levee removal and the REF. Forestry Corporation supports the remediation of the cultural heritage sites in the proposal however it seems that only the cultural heritage sites are being remediated and other areas of the levee are to remain in tack. Forestry Corporation has been advocating that the whole levee be removed not only for cultural heritage protection but also to reduce environmental impact. Leaving parts of the levee in tack will cause water to be redirected in ways that would otherwise not have occurred and highly likely to create scouring during overbank events, this scouring could also further impact cultural heritage sites. In addition the safety to the public with leaving holes where the material for the levee was taken from needs to be resolved.
I have also raised these concerns with Murray River Council.
Forestry Corporation recommends that the JIG be involved every step of the way in the decision making on how to remediate their heritage.
Cheers

Andrew McCurdy | District Manager - Deniliquin
Forestry Corporation of NSW | Western Division

315 | Victoria Street | Deniliquin NSW 2710
PO Box 610 | Deniliquin NSW 2710

M: 0428 288 618 | E: andrew.mccurdy@fcnsw.com.au

W: www.forestrycorporation.com.au

I acknowledge and respect the traditional custodians and ancestors of the lands I work across

Disclaimer

The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by **Mimecast Ltd**, an innovator in Software as a Service (SaaS) for business. Providing a **safer** and **more useful** place for your human generated data. Specializing in; Security, archiving and compliance. To find out more Click Here.

From:	Andrew McCurdy
To:	Des Andersen
Cc:	Vincent Kelly; John Hore; Jack Bond
Subject:	Little forest flood levee Removal - REF
Date:	Monday, 1 July 2024 3:28:33 PM

Hi Derryn, FCNSW has received a letter from NSW public works regarding the Little Forest Levee removal and the REF. Forestry Corporation supports the remediation of the cultural heritage sites in the proposal however it seems that only the cultural heritage sites are being remediated and other areas of the levee are to remain in tack. Forestry Corporation has been advocating that the whole levee be removed not only for cultural heritage protection but also to reduce environmental impact. Leaving parts of the levee in tack will cause water to be redirected in ways that would otherwise not have occurred and highly likely to create scouring during overbank events, this scouring could also further impact cultural heritage sites. In addition the safety to the public with leaving holes where the material for the levee was taken from needs to be resolved.

I have also raised these concerns with Murray River Council.

Forestry Corporation recommends that the JIG be involved every step of the way in the decision making on how to remediate their heritage.

Cheers

Andrew McCurdy | District Manager - Deniliquin
Forestry Corporation of NSW | Western Division

315 | Victoria Street | Deniliquin NSW 2710
PO Box 610 | Deniliquin NSW 2710
M: 0428 288 618 | E: andrew.mccurdy@fcnsw.com.au
W: www.forestrycorporation.com.au

I acknowledge and respect the traditional custodians and ancestors of the lands I work across

Disclaimer
The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by **Mimecast Ltd**, an innovator in Software as a Service (SaaS) for business. Providing a **safer** and **more useful** place for your human generated data. Specializing in; Security, archiving and compliance. To find out more Click Here.