



**Premier
& Cabinet**

Review of Environmental Factors

Willandra Lakes Aboriginal Ancestors Reburial Project 2021

Contents

- 1 Brief description of the proposed activity6**
- 2 Proponent’s details9**
- 3 Permissibility11**
 - 3.1 Legal permissibility11
 - 3.2 Consistency with policy27
 - 3.3 Type of approval sought29
 - 3.3.1 NPWS proponents29
 - 3.3.2 External proponents.....29
- 4 Consultation – general.....30**
- 5 Consultation – Native Title32**
 - 5.1 Indigenous land use agreements32
 - 5.2 Has there been a determination of native title applicable to the land or is there a native title claim pending?32
 - 5.2.1 Has native title been **extinguished**?32
 - 5.2.2 If native title is not confirmed as extinguished, does the activity have a **high risk** of adversely affecting native title (e.g. major infrastructure works, new buildings or granting of leases).33
- 6 Proposed activity (or activities)34**
 - 6.1 Location of activity34
 - 6.2 Description of the proposed activity35
 - 6.3 Objectives of the proposal42
- 7 Reasons for the activity and consideration of alternatives.....43**
 - 7.1 Reasons for activity43
 - 7.2 Alternatives43
 - 7.3 Justification for preferred option44
- 8 Description of the existing environment.....46**
 - 8.1 Meteorological data46
 - 8.2 Topography47
 - 8.3 Surrounding land uses.....47
 - 8.4 Geology/geomorphology47
 - 8.5 Soil types and properties48
 - 8.6 Waterways including wild and scenic rivers.....48
 - 8.7 Catchment values48
 - 8.8 Coastal risk areas49

8.9	Ecological communities (threatened ecological communities and regionally significant communities)	50
8.9.1	Plant community types.....	51
8.9.2	Threatened ecological communities	52
8.10	Wetland communities including coastal wetlands under the Coastal Management SEPP	52
8.11	Littoral rainforest under the Coastal Management SEPP	52
8.12	Flora (including flora of conservation significance).....	53
8.13	Fauna (including fauna of conservation significance).....	54
8.14	Area of outstanding biodiversity value declared under the BC Act.....	56
8.15	SEPP (Koala Habitat Protection) 2019	56
8.16	Wilderness (either nominated or declared).....	56
8.17	Aboriginal cultural heritage	57
8.18	National/State/local natural or cultural heritage values.....	57
8.19	Vegetation of cultural landscape value (e.g. gardens and settings, introduced exotic species or evidence of broader remnant land uses)	57
8.20	Other cultural heritage values.....	58
8.21	Recreation values	58
8.22	Scenic and visually significant areas:	58
8.23	Education and scientific values	59
8.24	Interests of external stakeholders (e.g. adjoining landowners, leaseholders) 59	
8.25	Matter of National Environmental Significance under the EPBC Act.....	60
9	Impact assessment	64
9.1	Physical and chemical impacts during construction and operation	64
9.2	Biological impacts during construction and operation.....	67
9.3	Community impacts during construction and operation.....	72
9.4	Natural resource impacts during construction and operation	77
9.5	Aboriginal cultural heritage impacts during construction and operation	79
9.6	Other cultural heritage impacts during construction or operation	87
9.7	Matters of national environmental significance under the EPBC Act.....	88
10	Proposals requiring additional information.....	94
10.1	Lease or licence proposals under s.151 NPW Act	94
10.2	Telecommunications facilities (s.153D, NPW Act).....	94
10.3	Activities within the Sydney Drinking Water Catchment	94
11	NSW Threatened species assessment of significance (5-part test).....	95
11.1	Response	95
11.1.1	Species and Communities considered in 5-part test.....	96

12	Summary of impacts	99
13	Conclusions.....	101
14	Supporting documentation	103
15	Fees	104
16	Signature of proponent.....	104
	Next steps — for OEH use.....	105
17	References	106

List of Appendices

The following Appendices to this Review of Environmental Factors (REF) have been prepared.

Some of the information in Appendices 2, 3, and 7 is considered culturally sensitive and confidential and it is not in the public interest to make this information widely available.

These Appendices therefore form a confidential component to this REF

TITLE	Distribution
Appendix 1 Map of Assessment Sites	Attached
Appendix 2 Site Descriptions of 26 Assessment Sites	Confidential
Appendix 3 Summary Table of Site Descriptions	Confidential
Appendix 4 Site Assessment Team by Location	Attached
Appendix 5 Search of NSW Threatened Species, Mungo National Park	Attached
Appendix 6 Search of NSW Threatened Ecological Communities, Mungo National Park	Attached
Appendix 7 Willandra Lakes Aboriginal Ancestors Reburial Project Heritage Assessment	Confidential
Appendix 8 Willandra Lakes: Assessment of Impacts of reburial on Matters of Environmental Significance (MNES). Prepared for the Office of Environment and Heritage, NSW Government	Attached
Appendix 9 EPBC Act Protected Matters Report	Attached
Appendix 10 Willandra Lakes Aboriginal Ancestors Reburial Project Statement of Heritage Impact	Confidential
Appendix 11 Proposed Reburial Location Information	Confidential
Appendix 12 Response from Local Councils	Attached
Appendix 13 Response from Lease Holders	Attached
Appendix 14 Response from NSW National Parks & Wildlife Service	Attached
Appendix 15 Review of Submissions	Confidential
Appendix 16 History of Consultation	Attached
Appendix 17 Table of Proposed Works	Attached
Appendix 18 Response from Heritage NSW (Aboriginal Cultural Heritage Regulation)	Attached

Acronyms

3TTGs	3 Traditional Tribal Groups
AAG	Willandra Lakes Region Aboriginal Advisory Group
CMC	WLRWHA Community Management Council (now replaced by the WLRWHAC)
EP&A Act	NSW <i>Environmental Planning and Assessment Act 1979</i>
EP&A Regulation	Environmental Planning and Assessment Regulation 2000
EPBC Act	Federal <i>Environmental Protection and Biodiversity Conservation Act 1999</i>
Mungo NP	Mungo National Park
REF	Review of Environmental Factors
TSAC	WLRWHA Technical and Scientific Advisory (now replaced by the WLRWHAC)
WLRWHA	Willandra Lakes Region World Heritage Area
WLRWHAC	Willandra Lakes Region World Heritage Advisory Committee
NPW Act	NSW <i>National Parks and Wildlife Act 1974</i>

Review of Environmental Factors

This Review of Environmental Factors (REF) has been prepared for the Aboriginal Ancestors Reburial Project 2021 for the lands reserved as Mungo National Park (Mungo NP) under the *National Parks and Wildlife Act 1974* (NPW Act) and adjoining western lands leases (as private lands). These lands also make up part of the Willandra Lakes Region World Heritage Area (WLRWHA) and a National Heritage place listed under the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act).

This REF addresses the environmental impact assessment requirements for activities subject to Division 5.1 (Part 5) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

Government Department References

In July 2019, the Office of Environment and Heritage (OEH) was restructured by the NSW Government. As a result of that restructure, the National Parks and Wildlife Service (NPWS) now forms part of the Environment Energy and Science Group (EES) of the NSW Department of Planning, Industry and Environment (DPIE), and the OEH Heritage Division (Heritage NSW) was transferred to the NSW Department of Premier and Cabinet (DPC) under the Special Minister for State.

Heritage NSW now manages all matters relating to the *Heritage Act 1977* as part of DPC. Heritage NSW also has administrative functions and powers under NPW Act Division 3 of Part 3 and Parts 6 and 6A, jointly with the Minister for Energy and Environment. Part 6 of the NPW Act allows activities for the protection and conservation works associated with the repatriation of Aboriginal Ancestors.

NPWS is responsible for the care, control and management of Mungo NP as lands reserved under the NPW Act.

Both departments are public authorities for the purposes of the EP&A Act.

Government and Community Partnership Arrangements

NSW Heritage is the primary public authority and proponent for the purposes of the EP&A Act and will coordinate the Aboriginal Ancestors reburial project. For the delivery of components on both Mungo NP and the Western Lease lands, NSW Heritage has partnered with NPWS to access their expertise and assistance in the development and implementation of the project, and to facilitate access to, and works on, Mungo NP.

The project is being developed at the specific request of the Willandra Lakes Aboriginal Advisory Group (AAG), as described below in Section 1.

1 Brief description of the proposed activity

Description of proposed activity	<p>The proposed activity is a series of reburial ceremonies including the excavation of graves and the reburial of 108 Willandra Lakes Aboriginal Ancestors (also known as Aboriginal Ancestral remains or Aboriginal Remains) at 26 sites within the WLRWHA. Each reburial will be undertaken with a small private cultural ceremony as the remains are re-interred in the WLRWHA close to their point source of origin</p> <p>The reburial is being conducted by Heritage NSW and NPWS on behalf of the Barkindji/Paakantji, Mutthi Mutthi and Ngayampaa peoples (represented by the Willandra Lakes Region AAG). The reburial is the final stage in the return</p>
----------------------------------	---

	<p>of repatriated ancestral collection that are currently held in secure storage at Mungo NP. No markers will be installed to indicate the grave locations and the sites will be returned to existing conditions.</p> <p>The proposed activity will fulfil the long-term aspirations of the three Traditional Tribal groups and aligns with the Willandra Lakes World Heritage Property Plan of Management (Department of Environment, Sport & Territories, 1996) and Mungo NP Plan of Management (NSW National Parks and Wildlife Service, 2006)</p> <p>History of the proposed activity</p> <p>Between 1968 and the early 1980s some 105 Willandra Aboriginal Ancestors, including the internationally renowned remains of Mungo Woman and Mungo Man, were removed from Mungo National Park and the Willandra Lakes and taken to the Australian National University for study (Bowler, Jones, Allen, & Thorne, 1970; Mulvaney, 1972) – also see Webb (1989; 2018) for a detailed inventory of the collection. The discovery and subsequent recognition of the great age (now estimated at ca. 41,000 years) of Mungo Woman and Mungo Man were fundamental in establishing the cultural heritage significance of the Willandra Lakes. This recognition formed a part of the justification for the nomination of the Willandra Lakes to the World Heritage List (Australian Heritage Commission, 1980).</p> <p>Lobbying for the return and reburial of collected and removed ancestral Aboriginal remains gained intensity across Australia in the 1980s. At the first meeting of the Willandra Lakes World Heritage Area Consultative Committee in 1984, a request from Aboriginal Elders for the repatriation of removed Aboriginal Ancestors was tabled.</p> <p>Concurrently with this local approach, in 1984 the Australian Archaeological Association – without any consultation with Aboriginal people from the region – wrote to the Minister for Planning and Environment to propose an underground keeping place at Mungo for the Mungo skeletal remains. Some Aboriginal people were prepared to consider this vault idea because they thought special protection from theft and vandalism would be needed when the famous skeletal remains were brought back to Mungo (Western Heritage Group, 2017, p. 6.91).</p> <p>In 1992 Mungo Woman was returned to Mungo and her remains have been kept in safekeeping since then.</p> <p>The topic of repatriation has been discussed extensively between 1984 and 2016. Aboriginal community consultation on the specific topic of reburial vs. Keeping Place was undertaken and documented in detail in between 1985 and 1991 (Western Heritage Group, 2017). In 2014 the Willandra Repatriation Traditional Custodians group (WRTC) was formed by the Heritage Division what was then the Office of Environment and Heritage (OEH) (now Heritage NSW) to focus specifically on, and direct, the repatriation of the Willandra Aboriginal Ancestors.</p> <p>A repatriation Forum was held in February 2015 and brought together a wide range of scientists and traditional custodians (Williams & Associates, 2015). In November 2015, the Aboriginal Ancestors collection was repackaged and moved from the Australian National University to the Museum of Australia. At this time, the WRTC set a two-year time frame to complete the transfer from Canberra to Mungo, which set November 2017 as the deadline.</p> <p>In November 2016, a Second Forum was held and options for repatriation and reburial outlined (Williams & Associates, 2016).</p>
--	--

	<p>This was followed by a Third Forum in April 2017 that presented options for repatriation. Consensus was made to return all Aboriginal Ancestors to Mungo NP (Williams & Associates, 2017) and, on 17 November 2017, the Willandra Aboriginal Ancestors collection was returned to Mungo.</p> <p>The role and purpose of the WRTC was completed with the return of the Willandra Aboriginal Ancestors to Mungo in 2017 and this committee has ceased to meet.</p> <p>The motion to rebury the Willandra Aboriginal Ancestors collection</p> <p>The Willandra Lakes Region AAG is a community-elected group and the peak Aboriginal body for the WLRHWA. The purpose of the AAG is to provide advice to NPWS on Aboriginal Cultural Heritage matters within the World Heritage boundaries. It can also be consulted on matters within Mungo NP.</p> <p>At a meeting of the AAG on the 6 November 2018 the following motion was passed:</p> <p><i>In exercising our inalienable rights and as Traditional Owners the Willandra Lakes Region World Heritage Area Aboriginal Advisory Group as duly elected representatives of the 3TTGs unanimously resolves to rebury the Willandra Ancestral Remains collection. This resolution is consistent with past sentiments and views expressed by Elders and members of the various 3 Traditional Tribal Group representative bodies of the Willandra Lakes Region World Heritage Area over the last 40 years.</i></p>
Name of NPWS park or reserve	Mungo National Park and unreserved parts of the WLRWHA
Location of activity	Mungo NP, Gol Gol Station, Mulurulu Station and Top Hut Station, within the WLRWHA. Further details on the location and land tenure of the areas of the activity is presented in Section 6.1.

Estimated commencement date	1/01/2021
Estimated completion date	31/12/2021

2 Proponent's details

All correspondence and notices will be sent to the address of the primary proponent.

Proponent external to EES (primary)	
Organisation	Heritage NSW - Department of Premier and Cabinet
ACN/ABN (if applicable)	ABN: 34 945 244 274 - NSW Department of Premier and Cabinet

Contact name	Mr Harvey Johnston
Position	Senior Team Leader, Heritage NSW, Department of Premier and Cabinet
Street address	PO Box 318, BURONGA NSW 2739
Phone numbers	Business: (03) 5021 8914 Mobile: 0407 214 227
Email	Harvey.johnston@environment.nsw.gov.au

Proponent Contact	
Organisation	Heritage NSW - Department of Premier and Cabinet
Area or Section/Division	Heritage NSW, Department of Premier and Cabinet
Contact name	Mr Harvey Johnston
Position	Senior Team Leader, Heritage NSW, Department of Premier and Cabinet
Street address	Melaleuca St Buronga NSW 2739
Postal address (if different to above)	PO Box 318 Buronga NSW 2739
Phone numbers	Business: 03 5021 8914 Mobile: 0407 214 227
Email	Harvey.Johnston@environment.nsw.gov.au

Internal EES - NPWS Partnership Contact	
Organisation	NSW National Parks and Wildlife Service (Environment, Energy and Science Group) NSW Department of Planning, Industry and Environment
Area or Section/Division	Lower Darling Area
Contact name	Jo Gorman
Position	Area Manager
Street address	Melaleuca St, BURONGA NSW 2739
Postal address	PO Box 318 BURONGA NSW 2739
Phone numbers	Business: 03 5021 8903 Mobile: Click or tap here to enter text.

3 Permissibility

3.1 Legal permissibility

National Parks and Wildlife Act 1974 (NPW Act)

Justification (consider the following matters):

`Objects of the Act (s.2A)

In carrying out functions under this Act, the Minister, the Chief Executive and the Service are to give effect to the following:

- (a) the objects of this Act,
- (b) the public interest in the protection of the values for which land is reserved under this Act and the appropriate management of those lands.

The proposed activity is consistent with the broad objects of the *National Parks and Wildlife Act 1974*, including:

- (b) the conservation of objects, places or features (including biological biodiversity) of cultural value within the landscape, including:
 - (i) places, objects and features of significance to Aboriginal people,
 - (c) fostering public appreciation, understanding and enjoyment of nature and cultural heritage and their conservation,
 - (d) providing for the management of land reserved under this Act in accordance with the management principles applicable for each type of reservation.

The values and significance of the cultural landscape of the Willandra Lakes will be rehabilitated and recovered by the reburial of Aboriginal Ancestors. The proposed reburial will achieve a rehabilitation of values that are currently incomplete/reduced and would reunite the attributes of World Heritage value with the place with which they are associated (Context, 2014, p. 40). Therefore, the proposed activity may be considered to conserve and even enhance its cultural values and landscapes. Similarly, the Aboriginal objects (Aboriginal Ancestors), will be reunited with their original landscape. Both the Aboriginal Ancestors and the cultural landscape are of great significance to Aboriginal people.

The proposed reburial will also foster public appreciation and understanding of the association that the Aboriginal community have with the cultural heritage and cultural landscapes of the Willandra Lakes and the importance of their conservation.

The proposed reburial will take place on land reserved as National Park and Crown Land leased to private lessees. The proposed reburial is consistent with the management principles for national parks as discussed below.

The Aboriginal Ancestors have been returned to the Aboriginal community (represented by the AAG) by ANU and the NMA so that they can be treated with respect in accordance with their customs and beliefs rather than being available for scientific research. The AAG now wishes the Aboriginal Ancestors to be reburied at Willandra Lakes. The reburial of the Aboriginal Ancestors fulfils the wishes of the AAG and also gives effect to the public interest in the protection of the cultural heritage values of Mungo NP which are restored and enhanced by the reburial.

Reserve management principles (s.30E)

The proposed activity is consistent with the following management principles for national parks:

1. The purpose of reserving land as a national park is to identify, protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features for landscape or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor or tourist use and enjoyment so as to enable those areas to be managed in accordance with subsection (2)
2. A national park is to be managed in accordance with the following principles:
 - (b) The conservation of places, objects, features and landscapes of cultural value.

As discussed above, the proposed activity will conserve and even enhance its cultural values and landscapes.

Title and relevant sections of plan of management or statement of management intent

The proposed activity is consistent with the following plans of management:

Mungo National Park Plan of Management (2006)

Twenty-two of the proposed activity locations are within Mungo National Park. The Plan of Management states that Mungo National Park, because of its status under the NPW Act, has a special role within the World Heritage Area, the balance of which is leasehold land used for commercial grazing. The Plan identifies International, Regional and Local values. The historic features are described as of Local value; the only statement being 'the Park contains structures and relics of early pastoral history'.

The proposed activity are a non-standard national park use. The proposed activity is permissible under the *Mungo National Park Plan of Management (2006)*, as it is an activity that is a ceremony, as defined under the 'Other Uses' heading:

- ceremonial and hunting and gathering rights for members of the three traditionally affiliated tribal groups will be recognised and facilitated (NSW National Parks and Wildlife Service, 2006, p. 37).

The proposed activity is also consistent with and are important to the delivery of the following Strategies, Outcomes and Actions of *Mungo National Park Plan of Management (2006)*:

Aboriginal Heritage and Archaeology:

- archaeological and Aboriginal cultural material will be protected from damage and inappropriate use and/presentation (NSW National Parks and Wildlife Service, 2006, p. 15).
- the NPWS and others will assist the 3 Traditional Tribal Groups (3TTGs) in promoting and presenting the Aboriginal cultural heritage values on the area in accordance with the wishes of the 3TTGs (NSW National Parks and Wildlife Service, 2006, p. 16).

Historic Heritage:

- That the key structural indicators of the history of the area be preserved and adapted where necessary to facilitate ongoing use.

Aboriginal Ancestors (cultural heritage material) were previously removed from their resting places and removed from country. The remains will be protected from damage and inappropriate use/presentation by being securely returned to their original landscape. The proposed activity also will fulfil the long-term aspirations and wishes of the Aboriginal community or 3TTGs, including Barkindji/Paakantji, Mutthi Mutthi and Ngiyampaa peoples.

No relics of early pastoral history or key structural indicators of the history of the area will be impacted by the proposed activity.

Sustaining the Willandra: Willandra Lakes Region World Heritage Property Plan of Management (1996)

The Sustaining the Willandra: Willandra Lakes Region World Heritage Property Plan of Management (Department of Environment, Sport & Territories, 1996) identified values, other than the World Heritage values, including cultural heritage, economic and social values. The cultural heritage values listed include the following:

- The Willandra Lakes Region was part of the history of inland exploration (Burke and Wills expedition) and of the development of the pastoral industry in western New South Wales.
- The Aboriginal history of the area is integral to that of south-eastern Australia, illuminating a process of cross-cultural interaction and Aboriginal dispossession. It reflects Aboriginal involvement in the pastoral industry, and the lives of local communities in the late nineteenth century and in more recent times.

- The area's historical archaeology (e.g. the 1860s Mungo Woolshed) provides a material record of the social, technological and economic history of pastoral settlement in western New South Wales.
- Archaeological sites of the nineteenth century provide valuable evidence of the interaction between Aboriginal people and European settlers in the period of first contact.

The social values identified include:

- The Willandra's traditionally affiliated Aboriginal people proudly identify themselves by this land. Their ancestors lived on this land for tens of thousands of years.
- The Willandra's primary producer landholder families have links with the European settlement of the region. They possess proud land management skills resulting from experience passed down from generation to generation.
- The remoteness of the area creates neighbourly support and a sense of community, particularly in times of need, for example during fire, flood and drought. At the same time the isolation promotes family self-sufficiency.

The economic values identified include:

- The region has increasing importance as a tourism destination, with tourists attracted to Lake Mungo, the World Heritage sites and pastoral environments close to Mildura and other parts of the Sunraysia tourist complex. Farm stays and guided tours provide an alternative income for regional communities.
- The region has value as a centre for research. Study tours and student work add to the regional economy and offer opportunities for regional tourism ventures based on research and education.
- The unique aesthetics of the Willandra landscape offer excellent visual and recreational opportunities that assist education and interpretation of its natural and cultural heritage within a regional, national and international context.

The proposed work is consistent with the Willandra Lakes Region World Heritage Area Plan of Management (Department of Environment, Sport & Territories, 1996) which also clearly articulates the long-term aspiration of the Aboriginal community that the rest of the Willandra Lakes Aboriginal Ancestors should also be returned. This plan requires the development of strategies and associated actions to:

- Locate and manage all Aboriginal human remains and other archaeological material to the satisfaction of the 3TTGs.

Willandra Lakes Region World Heritage Area Plan of Management Draft Report (2014)

The proposed work is consistent with the following Strategy of the Draft Willandra Lakes Region World Heritage Area Plan of Management (Context, 2014):

Rehabilitation and Protection of Heritage Values

- The repatriation of Mungo Man and other Aboriginal Ancestors to WLRWHA, specifically identifies the repatriation of Mungo Man and other Aboriginal Ancestors to WLRWHA (18.2) and the identification of a permanent culturally appropriate resting place for Mungo Man and other Aboriginal Ancestors (18.3) as a very powerful conservation action associated with the concepts of restoration and recovery of significance that is strongly in accordance with item (c) of the Australian Heritage Management principles to 'where appropriate, the rehabilitation of heritage values'.

- The proposed activity is consistent with the following management powers and responsibilities

Under the management powers and responsibilities held by the NPWS under s.8(3)(b) of the NPW Act the Chief Executive can in the case of Mungo NP arrange for the carrying out of works necessary for the management and maintenance of the park. The return and reburial of Aboriginal Ancestors is part of the appropriate management of the park's cultural values.

Under the management powers and responsibilities under s.8(4A), the Chief Executive can promote and engage in partnerships with Aboriginal people and landowners in relation to places, objects and features of significance to Aboriginal people (whether on land reserved or acquired under this Act or not). This is linked to the responsibilities of the Chief Executive under s.85 of this Act – for the proper care, preservation and protection of any Aboriginal object or Aboriginal place on any land reserved under this Act. The Chief Executive under s.85A of the NPW Act may, in dealing with Aboriginal objects, follow any reasonable directions of the Aboriginal owners in returning the Aboriginal objects in accordance with Aboriginal tradition. This proposal complies with direction received from Barkindji/Paakantji, Mutthi Mutthi and Ngiyampaa peoples and is being carried out in partnership with Barkindji/Paakantji, Mutthi Mutthi and Ngiyampaa peoples in relation to the Aboriginal Ancestors.

Under the powers and functions of the service as presented in s.12(d) and 12(h) of the NPW Act, NPWS is to carry out such works and activities as directed (supported) by the Minister in the conservation and protection of, and the prevention of damage to Aboriginal objects and their monitoring (see Appendix 18 for a response from Heritage NSW Aboriginal Cultural Heritage Regulation). The ceremonial reburial of repatriated Aboriginal Ancestors is an activity which are consistent with management of a Mungo NP as per the Plan of Management adopted by the Minister for the Environment.

The project constitutes an activity that is, under s.87B of the NPW Act, as a traditional cultural ceremony for the Aboriginal people of the Willandra Lakes Region, therefore the act of reburial is considered to be an exempt activity for the purposes of the NPW Act.

The project will be administered under s.87A(a) of the NPW Act by an officer of the service (meaning both Heritage NSW and NPWS under s.12) and the activity is for the purpose of conservation and protection of an Aboriginal object (which includes Aboriginal Remains), therefore the excavation of graves and the reburial of Aboriginal ancestors will not constitute harm or desecration under s.86 of the Act. Support for the use of an exemption for the activity from Heritage NSW (Aboriginal Cultural Heritage Regulation) under s.87A(a) is provided in Appendix 18.

Leasing, licensing and easement provisions of Part 12

Not applicable

[Wilderness Act 1987](#) (for activities in wilderness areas)

Justification (consider the following matters):

Objects of the Act (s.3)

Not applicable, the proposed activity is not in a wilderness area

Wilderness management principles (s.9)

Not applicable

Restrictions on leasing, licensing and easement (see s.153A NPW Act)

Not applicable

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

Justification (indicate any or all of the following that are relevant):

- The activity may be undertaken without development consent as it is
 - on reserved land** and is:
 - for a purpose authorised under the NPW Act (cl.65 Infrastructure SEPP)
- The activity component **not on land reserved or acquired under the NPW Act** may be undertaken without development consent:
 - it is on land zoned RU1 under both the Wentworth Local Environmental Plan (2001) and Balranald Local Environmental Plan (2010).

The proposed activity areas occur on both Mungo NP and on Western Lands Leases i.e. on park and off park on Mulurulu, Gol Gol and Top Hut Stations. The following sections refer to the application of the NSW planning framework over the:

- a) the Whole proposed activity area
- b) Proposed activities on Mungo NP
- c) Proposed activities off park

a) Whole proposed activity area

The proposed activity is recognised as an activity for the purpose of Division 5.1 (Part 5) of *Environment Planning and Assessment Act 1979* follow planning framework applies.

Environmental Planning and Assessment Regulation 2000

Under Part 5 of the EP&A Act, the project must take into account the factors listed in clause 228(2) of the Regulations. Relevant factors that have been considered include:

- (e) any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations,

Comment

The effect of reburial of the Willandra Lakes Aboriginal Ancestors on the values of the World, National, State and Local level values have been considered. The impact assessment presented in Section 9 and Appendices 7, 8 and 10 conclude that the proposed reburial will not have any adverse impact on the values of the place.

State Environmental Planning Policy (Infrastructure) 2007 (ISEPP)

Under Part 2, Division 1 (Clause 14) of the ISEPP, consultation with councils must take place for development with impacts on local heritage.

- (1) This clause applies to development carried out by or on behalf of a public authority if the development—
 - (a) is likely to affect the heritage significance of a local heritage item, or of a heritage conservation area, that is not also a State heritage item, in a way that is more than minor or inconsequential, and
 - (b) is development that this Policy provides may be carried out without consent.

- (2) A public authority, or a person acting on behalf of a public authority, must not carry out development to which this clause applies unless the authority or the person has—
 - (a) had an assessment of the impact prepared, and
 - (b) given written notice of the intention to carry out the development, with a copy of the assessment and a scope of works, to the council for the area in which the heritage item or heritage conservation area (or the relevant part of such an area) is located, and
 - (c) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given.

Under Part 2, Division 1 (Clause 16) of this SEPP, consultation with public authorities other than councils is also required.

- (1) A public authority, or a person acting on behalf of a public authority, must not carry out specified development that this Policy provides may be carried out without consent unless the authority or person has—
 - (a) given written notice of the intention to carry out the development (together with a scope of works) to the specified authority in relation to the development, and
 - (b) taken into consideration any response to the notice that is received from that authority within 21 days after the notice is given.
- (2) For the purposes of subclause (1), the following development is specified development and the following authorities are specified authorities in relation to that development—
 - (a) development adjacent to land reserved under the *National Parks and Wildlife Act 1974* or to land acquired under Part 11 of that Act—the Office of Environment and Heritage,
 - (b) development on land in Zone E1 National Parks and Nature Reserves or in a land use zone that is equivalent to that zone—the Office of Environment and Heritage.

Under Part 3, Division 12 (Clause 65(1)(a)) of this SEPP, development for any purpose may be carried out without consent on land reserved under the *National Parks and Wildlife Act 1974*, or acquired under Part 11 of that Act, if the development is for a use authorised under that Act.

Comment

The SoHI in Appendix 10 constitutes an assessment of the impact of the proposed activity. Balranald and Wentworth Shire Councils have been given written notice of the intention to carry out the reburial of the Willandra Lakes Aboriginal Ancestors, including a copy of this assessment and a scope of works. Responses from the councils are provided in Appendix 12.

NSW National Parks and Wildlife Service have been given written notice of the intention to carry out the reburial of the Willandra Lakes Aboriginal Ancestors, including a copy of this assessment and a scope of works. The response from NPWS is provided in Appendix 14.

As discussed above, the proposed activity is conservation works and will not constitute harm or desecration under the NPW Act (Section 87A(a)) provided an officer from NSW Heritage is principally involved in the supervision of the works under the NPW Act. The burying ancestors is a traditional Aboriginal activity. Conducting traditional Aboriginal cultural activities (but not commercial activities) will not constitute harm or desecration under Section 87B of the NPW Act.

Willandra Lakes Regional Environmental Plan No 1 - World Heritage Property 2010

From 1 July 2009 this Regional Environment Plan (REP) is taken to be a State Environmental Planning Policy (SEPP) (see clause 120 of Schedule 6 to the *Environmental Planning and Assessment Act 1979*).

The objectives of this REP are:

- to protect, conserve and manage the World Heritage Property in accordance with any strategic plan of management and any operational plans prepared for the Property, and
- to set up a consultation method for making decisions on conservation and development within the World Heritage Property.

Part 2 (Planning considerations and consultation) of this REP applies when:

- (a) a council prepares a local environmental plan, or
- (b) a consent authority determines a development application, or
- (c) a public authority or person proposes to carry out an activity as defined by Part 5 of the Act, or
- (d) a person prepares an individual property plan.

Under Part 2 Clause 10 if this REP the council, authority or person concerned is to take into account:

- (a) the aims and objectives of this plan, and
- (b) if relevant, the Mungo National Park Management Plan, and
- (c) any relevant strategic plan of management, and
- (d) any relevant operational plan, and
- (e) any relevant individual property plan.

Part 2 Clause 11 of this REP sets out the requirements for consultation:

- (1) Consultation under this clause is to be carried out before the relevant plan is made, application determined or activity carried out.
- (2) The council, authority or person concerned is to consult the Community Management Council about the impact of the plan, development or activity on the world heritage values identified in the strategic plan of management by:
 - (a) writing to the Community Management Council, giving a copy of the proposed plan or a description of the proposed development or activity, and
 - (b) requesting the Council to comment on the proposed plan, development or activity within 60 days of the Council receiving the request.
- (3) The council, authority or person is:
 - (a) as far as is practicable, to give effect to any requirements of the Community Management Council made within those 60 days about the proposed plan, development or activity, and
 - (b) to consider any comments of the Community Management Council about the proposed plan, development or activity made within those 60 days.
- (4) The Community Management Council may extend the 60-day period by up to 60 days by advising the council, authority or person in writing of the extension.
- (5) The Community Management Council may refer a proposed plan, development or activity to the Technical and Scientific Advisory Committee if the Council considers that the proposed plan, development or activity may have a significant impact on the world heritage values identified in the strategic plan of management.
- (6) The Community Management Council is to refer a proposed plan, development or activity to the Elders Council.
- (7) The Community Management Council must consider advice given by the Technical and Scientific Advisory Committee, and the Elders Council, in response to a referral if the advice is received within 28 days after the referral was made.

- (8) The Community Management Council may determine that consultation is not necessary in a particular case or class of case.

Comment

The proposed activity is in accordance with the aim of the REP to protect, conserve and manage the World Heritage Property. The proposed activity is also in accordance with:

- *Mungo National Park Management Plan (2006)*
- *Sustaining the Willandra: Willandra Lakes Region World Heritage Property Plan of Management (1996)*
- *Willandra Lakes Region World Heritage Area Plan of Management (2014)*
- *Mungo National Park Historic Heritage Conservation Management and Cultural Tourism Plan (2003)*
- *Top Hut Station: Individual Property Plan (1996)*
- *Mulurulu Station: Individual Property Plan (1996)*
- *Gol Gol Station: Individual Property Plan (1996)*

The requirements under Clause 11 of the REP have been met by the provision of a copy of the draft REF (which included a proposed scope of works) and a request for comments to members of the Willandra Lakes World Heritage Property Advisory Council (formerly the Community Management Council) in August 2019 including details about the proposed reburial. Comments received are tabled in Appendix 15.

Local Environmental Plans

The proposed activity areas are:

- included within the curtilage of *Willandra Lakes*, a heritage item listed in the Heritage Schedule of Wentworth Local Environmental Plan (LEP) 2011 and Balranald LEP 2010
- encompassed by the *Willandra Lakes World Heritage Area Heritage Conservation Area* listed in the Heritage Schedule of Wentworth Local Environmental Plan 2011.

The Wentworth and Balranald LEPs, set out the objectives for heritage conservation in Clause 5.10(1), which states:

The objectives of this clause are as follows:

- (a) to conserve the environmental heritage of Wentworth,*
- (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.*

Under the LEPs Part 5, Clause 5.10(3) consent is not required if:

- (a) the applicant has notified the consent authority of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development:*
 - (i) is of a minor nature, or is for the maintenance of the heritage item, archaeological site, or a building, work, relic, tree or place within a heritage conservation area, and*

- (ii) *would not adversely affect the significance of the heritage item, archaeological site or heritage conservation area, or*
- (b) *the development is in a cemetery or burial ground and the proposed development:*
 - (i) *is the creation of a new grave or monument, or excavation or disturbance of land for the purpose of conserving or repairing monuments or grave markers, and*
 - (ii) *would not cause disturbance to human remains, relics, Aboriginal objects in the form of grave goods, or to a place of Aboriginal heritage significance...*

According to the Wentworth Development Control Plan 2011:

A Heritage Impact Statement prepared by a suitably qualified heritage architect must be submitted to Council where the land, building or site is an identified heritage item, in the vicinity of a heritage item or within a heritage conservation area.

Comment

The proposed activity is in accordance with the objectives of Part 5 Clause 5.10(1) of the Wentworth and Balranald LEPs.

Formal consent is not required under Clause 5.10(3) as Wentworth and Balranald Shire Councils have been notified of the proposed activity and a request made for them to provide written advice that they are satisfied that the proposed activity are a minor nature and would not adversely affect the significance of the heritage item, archaeological site or heritage conservation area. The responses are provided in Appendix 12.

The Statement of Heritage Impact in Appendix 10 meets the requirements of the Wentworth Development Control Plan 2011 in relation to the *Willandra Lakes World Heritage Area Heritage Conservation Area*.

b) Proposed activities on park (Mungo NP)

Mungo National Park Plan of Management (2006)

Twenty-two (22) of the assessment sites are within lands reserved under Part 4 of the NPW Act, known as Mungo NP.

Mungo NP is zoned under both the Wentworth and Balranald LEPs as E1 - National Parks and Nature Reserves. Under the LEP activities which are authorised under the NPW Act are permitted under the LEP and do not require consent under Part 4 of the EP&A Act.

The activity is authorised under the NPW Act (as outlined in Section 3.1 of this REF) as the reburial of the Aboriginal Ancestors by the recognised Aboriginal owners is a traditional cultural ceremony for the purposes of the Act and PoM. Under the POM, the project implements the '*ceremonial and hunting and gathering rights for members of the three traditionally affiliated tribal groups will be recognised and facilitated*' (NSW National Parks and Wildlife Service, 2006, p. 37).

c) Proposed activities off park

Four (4) of the proposed activity areas are on private western lands leases; Mulurulu Station (2 locations), Gol Gol Station (1 location) and Top Hut Station (1 location).

The stations are subject to either the Wentworth Local Environment Plan (2011) or Balranald Local Environment Plan (2010). Under both LEPs the stations are zoned RU1 Primary Production. The proposed activity is in accordance with the objectives of Part 5 Clause 5.10(1) of the Wentworth and Balranald LEPs. Formal consent is not required under Clause 5.10(3) as Wentworth and Balranald Shire Councils have been notified of the proposed activity and a

request made for them to provide written advice that they are satisfied that the proposed activity are a minor nature and would not adversely affect the significance of the heritage item, archaeological site or heritage conservation area. The responses are provided in Appendix 12.

The Statement of Heritage Impact in Appendix 10 meets the requirements of the Wentworth Development Control Plan 2011 in relation to the *Willandra Lakes World Heritage Area Heritage Conservation Area*.

Four of the proposed activity areas are on private western lands leases; Mulurulu Station (2 locations), Gol Gol Station (1 location) and Top Hut Station (1 location). Heritage NSW applied for use and occupation licences under the *Crown Land Management Act 2016* for the reburial locations on private western lands leases on 13 October 2020. These licences will provide formal certainty of access to the locations whenever needed.

Access to the sites will rely on informal permission from the lease holders. Written approval from each of the lease holders has been received and is provided in Appendix 13.

For the purposes of Section 60 of the *Heritage Act 1977*, the four areas within the private western land leases are not within the gazetted State Heritage area.

Individual Property Plans

Individual Property Plans for the three Western Land Lease properties within the WLRWHA were developed in 1996 as practical tools for management of each property that are consistent with the Sustaining the Willandra: Willandra Lakes Region World Heritage Property Plan of Management (1996):

- *Top Hut Station: Individual Property Plan (1996)*
- *Mulurulu Station: Individual Property Plan (1996)*
- *Gol Gol Station: Individual Property Plan (1996)*

The Individual Property Plans form part of the Operational Plan and, together with the Mungo National Park Plan of Management (2006), prescribe detailed measures for on-ground management of each property. These plans were developed with the landholder family and are tailored to their skills, vision and aspirations. The plans seek to balance the protection and conservation of World Heritage values with practical and sustainable property management. As such they seek to find and establish the middle ground where both goals are attainable, without compromising World Heritage values.

The proposed works are consistent with the Individual Property Plans and do not conflict with the landholder's visions and aspirations.

Overall significance of the impacts associated with this proposal

This REF describes the impacts of the proposed activity and, as detailed in Section 9 of this REF, concludes that the activity proposal will have no significant or adverse impacts on:

- environmental matters as described under Clause 228 of the EP&A Regulation including:
 - (a) any environmental impact on a community,
 - (b) any transformation of a locality,
 - (c) any environmental impact on the ecosystems of the locality,
 - (d) any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality,
 - (e) any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations,
 - (f) any impact on the habitat of protected animals (within the meaning of the *Biodiversity Conservation Act 2016*),

<p>(g) any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air,</p> <p>(h) any long-term effects on the environment,</p> <p>(i) any degradation of the quality of the environment,</p> <p>(j) any risk to the safety of the environment,</p> <p>(k) any reduction in the range of beneficial uses of the environment,</p> <p>(l) any pollution of the environment,</p> <p>(m) any environmental problems associated with the disposal of waste,</p> <p>(n) any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply,</p> <p>(o) any cumulative environmental effect with other existing or likely future activities.</p> <p>(p) any impact on coastal processes and coastal hazards, including those under projected climate change conditions.</p> <ul style="list-style-type: none"> • threatened species, populations, ecological communities or their habitats as listed under the <i>Biodiversity Conservation Act 2016</i> • matters of national environmental significance listed under the Commonwealth Environment Protection and Biodiversity Conservation Act.
<p><input type="checkbox"/> The activity is on land that contains coastal wetlands, littoral rainforest or koala habitat and the relevant aims, objectives, principles and provisions of the relevant SEPPs.</p>
<p>Not applicable</p> <p>Explanatory note: these SEPPs do not apply to land reserved under the NPW Act. However, it is NPWS policy that the objectives and principles of these SEPPs are applied to the assessment of on-park activities.</p>
<p><input checked="" type="checkbox"/> <i>Heritage Act 1977</i> (for activities likely to affect items or places listed on the State Heritage Register or of historic cultural heritage value)</p>
<p>Justification:</p> <p>The activity is on land that contains:</p>
<p><input checked="" type="checkbox"/> an item listed on the State Heritage Register (SHR)</p> <p><input type="checkbox"/> an item not listed on the SHR but identified by Heritage NSW as being of state significance</p> <p><input type="checkbox"/> an item listed on the Heritage NSW Heritage and Conservation Register (contained in the Historic Heritage Information Management System)</p> <p><input type="checkbox"/> a place, building landscape feature or moveable heritage item older than 25 years</p>
<p>The WLRWHA is listed on the State Heritage Register (SHR No 01010), Gazette Date 2/4/1999, Local Government Area: Balranald. However, the identified SHR area is not as extensive as the World Heritage boundary and takes in only 19 of the 26 identified activity locations. The 19 locations in the SHR are in very remote locations within Mungo NP. When a place is listed on the State Heritage Register (SHR), any major work requires a Section 60 approval under the NSW Heritage Act. The Heritage Council works to ensure that any changes or additions or new buildings on the site of a SHR item do not detract from the heritage significance of the place.</p>

<p>The Heritage Act also affords automatic statutory protection to relics (or land known or likely to contain relics), unless there is a relevant gazetted exception. The Act defines a ‘relic’ as:</p> <p style="padding-left: 40px;"><i>any deposit, object or material evidence relating to the settlement of the area that comprises NSW, not being an Aboriginal settlement, and which is 50 or more years old.</i></p> <p>A Section 60 application for the proposed activity was submitted on the 23rd October 2020 to Heritage NSW together with a Statement of Heritage Impacts (Appendix 10).</p> <p>There is no built heritage, relics or areas likely to contain relics within the proposed activity areas. Monuments and grave markers will not be placed on the site and the works will not conflict with the character of the place.</p> <p>An exemption under Section 57(2) does not apply as landscape features and a place of Aboriginal heritage significance as described in the SHR Statement of Significance above will be disturbed.</p> <p>For further details on the Aboriginal and historic impact assessment please see Sections 9.5 and 9.6 of this REF.</p>
<p><input checked="" type="checkbox"/> <i>Biodiversity Conservation Act 2016 (BC Act)</i></p>
<p>Justification: Is the activity consistent with the biodiversity conservation objectives of the Act?</p> <p>Yes, a detailed site assessment of each or the 26 assessment sites has indicated that impacts on threatened flora and fauna and threatened plant communities will be avoided and there will be no clearing of native vegetation.</p>
<p><input checked="" type="checkbox"/> <i>Rural Fires Act 1997</i></p>
<p>Justification: Is the activity consistent with the objectives of protecting life and property and protection of the environment? Is it consistent with bush fire management plans?</p> <p>Yes, the likelihood of causing fire or increasing fire risk due to the activity is low.</p> <p>The activity may include a smoking ceremony and/or ceremonial burning of packing boxes. Any burning will be conducted under the direction of the NPWS Area Office with a fire unit on site.</p> <p>The reburials will not occur on days of total fire ban and are unlikely to occur in summer. The activity will not increase fuel load. The activity is likely to occur in Spring or Autumn (2021) when the risks are low, i.e. windy days are fewer and daily maximum and minimum temperatures are lower and the fuel load likely to be lower and less desiccated due to overnight dew. Furthermore, all sites have a Chenopod dominant shrub layer and little or no over-storey or groundcover with some sites almost bare during the site assessment. Chenopods are fire resistant plants with little or no possibility of carrying a fire.</p>
<p><input type="checkbox"/> <i>Fisheries Management Act 1994</i></p>
<p>Justification: Will the activity affect fish, fish habitat or marine vegetation, including threatened species? Is approval required under the Act?</p> <p>Not applicable, as no waterbodies and/or fish habitat are involved in this activity.</p>
<p><input checked="" type="checkbox"/> Other relevant NSW Acts</p>

Coroners Act 2009

To dispose of Aboriginal Ancestors under 100 years in NSW, an appropriate authorisation for the disposal of the Aboriginal Ancestors needs to be obtained. This can be an order made by a coroner under Section 100 and 101 of the *Coroners Act 2009* authorising the disposal of the Aboriginal Ancestors. However, under Chapter 3, Part 3.1 (Section 19) of the *Coroners Act 2009*, a coroner does not have jurisdiction to hold an inquest concerning a death or suspected death unless it appears to the coroner that (or that there is reasonable cause to suspect that) the death or suspected death occurred within the last 100 years.

It is NSW government policy (*OEH Repatriation of Aboriginal Ancestors and cultural material Policy*, 2018, p. viii) that re-burial of Aboriginal Ancestors older than 100 years do not require authorisation from the Coroner (ss 19, 100 and 101 of the *Coroners Act*). The archaeological context, extent of mineralization, and results from a wider variety of absolute dating samples indicates that all the Willandra Lakes Aboriginal Ancestors to be reburied are substantially more than 100 years old.

Public Health Act 2010 & Public Health Regulation 2012

The *Public Health Act 2010* regulates burials in NSW. Clause 66 of the *Public Health Regulation 2012* states that:

- (1) A person must not place a body in any grave or vault unless that grave or vault is located—
 - (a) in a public cemetery, or
 - (b) in a private cemetery or other place approved for that purpose by a local government authority, or
 - (c) on private land, where the area of landholding is 5 hectares or more and the location has been approved for that purpose by a local government authority, or
 - (d) on land reserved under the *National Parks and Wildlife Act 1974* or acquired under Part 11 of that Act, where the location has been approved for that purpose by—
 - (i) a person or body (including a local council, trust board or board of management within the meaning of that Act) in which the care, control and management of the land is vested, or
 - (ii) if no such person or body has been vested with the care, control and management of the land—the Secretary of the Department of Premier and Cabinet.
- (2) A person must not bury a body in or on any land if to do so would make likely the contamination of a drinking water supply or a domestic water supply.

Comment

The Heritage NSW *Repatriation of Aboriginal Ancestors and Cultural Material Policy* (2018) *Repatriation Policy* sets out the requirements in order to comply with the *Public Health Regulation 2012*:

If, at the Aboriginal community's request, [Heritage NSW] is assisting in the burial of Aboriginal Ancestors on private or Crown land, then approval from the local council and the landowner consent must be obtained and cl. 66 of the *Public Health Regulation 2012* must be complied with.

Consent from local councils, land owners and the lease holders are provided in Appendices 12, 13 and 14. Approval for the proposed activity from NSW National Parks & Wildlife Service as the land manager of Mungo NP is provided in Appendix 14.



Commonwealth legislation (*Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*)

Justification:

The activity is on land that contains the following, or the activity may affect:

- World Heritage or National Heritage values of a place on the World Heritage List or National Heritage List
- the ecology of a Ramsar wetland
- nationally listed threatened species and ecological communities, or migratory species
- the Commonwealth marine environment.

Matter of National Environmental Significance

This REF is prepared in conjunction with an EPBC Act Referral Application for the same activity and will be submitted with that referral to the Australian Department of the Environment and Energy.

An independent assessment of impacts of reburial on Matters of Environmental Significance (MNES) has been prepared (Smith, Travers, & James, 2019) and is attached to this report as Appendix 8. This assessment has determined that the proposed action of reburial of the Willandra Aboriginal Ancestors in WLR will not be a significant impact on:

- a World Heritage property, including its:
 - historic heritage values, and
 - cultural heritage values including Indigenous heritage values; and
- a National Heritage place, including its:
 - historic heritage values, and
 - Indigenous heritage values.

The assessment concluded that the proposed reburial of the Willandra Aboriginal Ancestors will not result in one or more of the National Heritage or World Heritage values of the WLR being lost, degraded or damaged, or notably altered, modified, obscured or diminished. The above being the case, it is concluded that the proposed activity will not have significant impacts on matters of national environmental significance.

Previously an EPBC Act Referral (2017/8040) was assessed by the Department of the Environment and Energy on 31/10/2017 for the repatriation of the Willandra Aboriginal Ancestors from the National Museum of Australia to Mungo NP, and the storage and keeping of the Willandra Aboriginal Ancestors at the Mungo Keeping Place. That activity was assessed as 'not a controlled action'.

Australian Government Policy

Australian Government Policy on Indigenous Repatriation (2016)

The proposed activity is consistent with this Policy which states in part:

Communities of origin are the rightful custodians of their ancestral remains and should be consulted prior to any return. They should determine when and how repatriation should be undertaken. Accordingly, except where otherwise determined by the local community, the Australia Government will seek the unconditional return of ancestral remains and associated notes and data.

This policy further states:

Aboriginal and Torres Strait Islander peoples have a responsibility to their ancestors to bring them back to country according to the Traditional Owners' customs and laws' and that 'ancestral remains should be treated with respect and dignity at all times by all involved (Department of Communications and the Arts, 2016, p. 5)

For more details please see Appendix 8 (Smith, 2019).

UN Declaration on the Rights of Indigenous Peoples (UNDRIP)

The Australia Government endorsed the Declaration in 2009. UNDRIP confirms the application of existing human rights instruments to Indigenous peoples, including freedom from discrimination, and the right to self-determination and to pursue their cultural development.

The proposed activity is consistent with this declaration. For more details please see Appendix 8 (Smith, 2019).

3.2 Consistency with policy

Policy name	How proposal is consistent
Events, functions and venues policy	<p><i>Appropriate to the natural and cultural settings and meet environmental standards. The NPWS will allow events and functions in parks if the criteria in this policy are met (consistent with management principles for the reserve; be permissible and consistent with the park plan of management and relevant park policies; minimise environmental impacts at the site and on the surrounding area;)</i></p> <p>The events which form part of the activity will involve a small contingent of representatives from the 3 Traditional Tribal Groups (3TTGs), Heritage NSW officers and NPWS staff. They will not be public events. The total impact on park values will be extremely small and a one-off event at each site for a short time involving a small number of people, noting that several sites have multiple reburials which will take longer than those with fewer reburials.</p>
Memorials in parks policy	<p><i>Written consent from a park manager is required to install a memorial. Memorials will be allowed subject to this policy.</i></p> <p><i>Memorials will be sympathetic with cultural landscape and minimal impact on natural values and visual amenity. Aboriginal connection of Country must be recognised when considering appropriateness of a memorial. Aboriginal communities must be consulted about how Aboriginal cultural heritage is publicly presented at the site</i></p> <p>As there will be no above-ground markings indicating the location of the reburials, and extensive consultation with the Aboriginal community has occurred, the activity is clearly consistent with the policy.</p>

<p>Vehicle access policy</p>	<p><i>Vehicle access and associated infrastructure should not cause unacceptable impacts on nature and cultural heritage. Park visitors and other parties may be allowed to use vehicles on management trails in the following circumstances:</i></p> <ul style="list-style-type: none"> • <i>as part of an approved registered and supervised volunteer activity</i> • <i>to enable Aboriginal people to access sites for cultural purposes in accordance with an approved partnership agreement</i> • <i>vehicle access may be restricted to protect vulnerable park assets such as the nesting sites of threatened species or an Aboriginal site</i> <p>Vehicle access will be confined to existing tracks, there will be a minimal number of vehicles used during the reburial(s) at any one-hectare site and visitation will only occur once. Vehicles will not be used within each site. The activity is clearly consistent with this policy.</p>
<p>Repatriation of Aboriginal Ancestors and Cultural Material Policy (2018)</p>	<p>The repatriation and reburial of Aboriginal Ancestors is consistent with this Policy, which states in part:</p> <p><i>The repatriation of Aboriginal cultural material by a Heritage Division officer or under the direction of a Heritage Division officer is considered to be ‘conservation works’. This work will not constitute harm or desecration under the NPW Act (s 87A(a)) provided that the Heritage Division officer is principally involved in the administration of the NPW Act (page viii).</i></p> <p>[Heritage NSW] may, at the community’s request and subject to cl. 66 of the <i>Public Health Regulation 2012</i>, choose to assist with the burial of Aboriginal Ancestors on or off land reserved under the NPW Act.</p> <p>If, at the Aboriginal community’s request, [Heritage NSW] is assisting in the burial of Aboriginal Ancestors on private or Crown land, then approval from the local council and the landowner consent must be obtained and cl. 66 of the <i>Public Health Regulation 2012</i> must be complied with.</p> <p>While this Policy does indicate that Heritage NSW may seek to establish a conservation agreement under Division 12, Part 4 of the NPW Act to ensure the long-term protection of the burial locations on private lands, this approach will not be taken as the locations are in very remote areas, and are very unlikely to be impacted by any change of land use. The areas are also within the WLRWHA and all the Aboriginal cultural heritage on the private lands, including the reburial sites, are subject to management and monitoring as a result of that listing.</p> <p>Consent from local councils, the landowners and the lease holders are provided in Appendices 12, 13 and 14. Approval for the proposed activity from NSW National Parks & Wildlife Service as the land manager of Mungo NP is provided in Appendix 14.</p>

* Identify and provide details of those OEH policies which are relevant to the proposal

3.3 Type of approval sought

3.3.1 NPWS proponents

<input checked="" type="checkbox"/>	Internal NPWS approval* or authorisation, including expenditure
-------------------------------------	---

* NPWS does not grant park approvals (e.g. leases, licences, consents etc.) to itself but has a range of general powers to undertake activities on-park, for example, s.8 and s.12 NPW Act.

3.3.2 External proponents

Provide a brief description of the type of approval sought	This application is a partnership application between HNSW and NPWS.
--	--

<input type="checkbox"/>	Section/clause Click or tap here to enter text. of Click or tap here to enter text. Act/Regulation
--------------------------	--

Are there any existing approvals, such as permits, leases, licences or easements, which apply to part of or all of the activity?

<input checked="" type="checkbox"/>	No
<input type="checkbox"/>	Yes

4 Consultation – general

<p>Provide details of consultation :</p>	<p>Preparation of the Draft REF and engagement with the Aboriginal people of the Willandra Lakes</p> <p>The AAG discussed the process of reburial in more detail at their March 2019 meeting, and from 1-5 April 2019, representatives of the AAG/3TTGs were part of the field assessment team which fine-tuned the location of assessment sites selected for reburials (the list of Elders and other persons involved in the field for the site assessment and their duration of involvement and sites assessed by each person is appended – Appendix 4, Table 1 Composition of Assessment Team Present for Field Work; Table 2 Site Numbers Assessed by Date).</p> <p>Consultation on the Draft REF by Heritage NSW</p> <p>In August 2019, a Draft REF was made available to a wide range of more than 200 individual Willandra stakeholders. Four weeks was allowed for comment. These stakeholders included a wide range of interest groups such as former Community Management Council (CMC) and Technical and Scientific Advisory (TSAC) members and former Executive Officers, universities, museums, academics, AAG members, Dareton and Balranald Local Aboriginal Land Councils, Aboriginal organisations, native title holders (Barkandji Native Title Prescribed Body Corporate), Elders, community members and NPWS Regional Advisory Committee members. Researchers from universities and institutions in Australia, New Zealand and the United States were also included, see Submissions Report in Appendix 15.</p> <p>Four of the proposed activity areas are on private lands (Top Hut, Mulurulu and Gol Gol Stations). In September 2019, meetings were held with these private landholders and they agreed to the proposed reburials. Further written approval has been provided and is included in Appendix 13.</p> <p>The Draft REF was also made available to the new WLRWHA Advisory Committee. This Committee held its first meeting in April 2019 and the committee received a briefing on this project at this first meeting and all members have been kept informed of the draft REF and were provided opportunity to comment.</p> <p>See Submissions Report Appendix 15 for the submissions received and amendments to the REF that have been made in response to those submissions.</p> <p>A general history of consultation around the return and reburial of the Willandra Aboriginal Ancestors is contained in Appendix 16.</p>
Statutory consultations	
Local Government: Consult under clause 13 and 14 of Infrastructure SEPP	
<p><input type="checkbox"/> local council infrastructure or services (such as stormwater, sewer, roads)</p> <p><input checked="" type="checkbox"/> heritage items listed under the local environmental plan (LEP)</p> <p><input type="checkbox"/> flood liable land</p>	

<p>Marine Park Authority (marine parks) or Department of Primary Industries – Fisheries (aquatic reserves): Consult with the under clause 16, Infrastructure SEPP</p> <p>Not applicable for this project</p>
<p><input type="checkbox"/> adjacent to a marine park declared under the <i>Marine Parks Act 1997</i></p> <p><input type="checkbox"/> adjacent to an aquatic reserve declared under the <i>Fisheries Management Act 1994</i></p>
<p><input type="checkbox"/> works affecting submerged land such as creeks, streams and rivers (and including intermittently submerged areas, such as wetlands and non-perennial creeks) that involve excavation, removing material, depositing material or draining water under s.199 of the Fisheries Management Act</p>
<p>Roads and Maritime Services: Consult under clause 16 or Schedule 3 Infrastructure SEPP</p> <p>Not applicable for this project</p>
<p><input type="checkbox"/> navigable waters</p> <p><input type="checkbox"/> traffic generating development</p>
<p>NSW Coastal Panel: Consult the under clause 129, Infrastructure SEPP</p> <p>Not applicable for this project</p>
<p><input type="checkbox"/> new coastal protection works on the open coast or entrance to a coastal lake</p>
<p>Place Management NSW: Consult under clause 16, Infrastructure SEPP</p> <p>Not applicable for this project</p>
<p><input type="checkbox"/> in the foreshore area (of Sydney Harbour) within the meaning of the <i>Place Management NSW Act 1998</i></p>
<p>Siding Spring Observatory (Director): Consult the under clause 16, Infrastructure SEPP</p> <p>Not applicable for this project</p>
<p><input type="checkbox"/> increasing the amount of artificial light in the dark night sky within 200km of the Siding Spring Observatory.</p>
<p>Leases or licences under the NPW Act: If the activity requires a lease of licence under s.151A NPW Act does it require notification and consultation under s.151F and/or s.151G?</p> <p>Not applicable for this project</p>
<p><input type="checkbox"/> Yes</p> <p><input checked="" type="checkbox"/> No</p>

5 Consultation – Native Title

5.1 Indigenous land use agreements

Is the land subject to an Indigenous Land Use Agreement (ILUA)?

No (go to Question 2)

Yes

If yes, check any relevant provisions of the ILUA including any notification procedures that must be followed.

The NPWS Native Title & Joint Management team have confirmed that the land is not subject to current ILUA negotiations or an agreed ILUA.

5.2 Has there been a determination of native title applicable to the land or is there a native title claim pending?

No (go to Question 3)

Yes

If relevant, provide details	<p>In 2015, the native title rights of the Barkandji Aboriginal People in the Australian State of New South Wales (NSW) were recognised. The Barkandji Traditional Owners #8 decision recognises native title across a wide area of south west NSW. The area of the proposed activity falls within the outer boundary of the Barkandji Traditional Owners #8 (Part A) native title determination. The determination area includes various Excluded Areas, which are land or waters within the Claim Area in respect of which the parties have agreed that no determination of native title is to be made at present, and these areas are excluded from the Determination Area. Mungo NP is one of the identified Excluded Areas.</p> <p>The Barkandji Native Title Prescribed Body Corporate (BNTPBC) have a member on the AAG. The BNTPBC have been included in community forums leading up to this application (2015, 2016, 2017), were provided with an opportunity to comment on the Draft REF and were briefed in detail on the progress and contents of this REF in June 2020 and November 2020.</p> <p>At the latter meeting the BNTPBC demanded the immediate repatriation of the Willandra ancestors.</p>
------------------------------	--

5.2.1 Has native title been extinguished?

No or unclear (go to Question 4)

Yes (Note: Clear evidence will be needed to demonstrate extinguishment).

If relevant, provide details	The determination area includes various Excluded Areas, which are land or waters within the Claim Area in respect of which the parties have agreed that no determination of native title is to be made at present, and these areas are excluded from the Determination Area. Mungo NP is one of the identified Excluded Areas. Four of the proposed reburial locations are on private western lands leases (Gol Gol Station, Mulurulu Station, and Top Hut Station). Native title has been extinguished on these areas.
------------------------------	---

5.2.2 If native title is not confirmed as extinguished, does the activity have a high risk of adversely affecting native title (e.g. major infrastructure works, new buildings or granting of leases).

No
No further consideration required

Yes
If yes, proponents should discuss with OEH the need to notify and consult Native Title Services Corp or any native title claimants.

6 Proposed activity (or activities)

6.1 Location of activity

<p>Description of location</p>	<p>Twenty-two (22) proposed activity locations are on Mungo NP (situated in the rangelands of south western NSW and part of the WLRWHA). A map is appended that shows the general location of the activity areas (Appendix 1). Mungo NP is 110 km north east of the Victorian/NSW border towns of Mildura and Wentworth and 140 km north west of the NSW town of Balranald.</p> <p>Four (4) of the proposed reburial locations are on private western lands leases (Gol Gol Station, Mulurulu Station, and Top Hut Station) nearby to Mungo NP.</p> <p>An on-site assessment of each proposed activity area has been conducted. The assessment included landscape, soil, vegetation, and cultural heritage values within an area (circular sites) of approximately 113m diameter (1ha) with eight sites being half of this area (semi-circular) around or near a specific co-ordinate (the latter supplied by Heritage NSW based on Aboriginal Heritage Information Management System (AHIMS) site data) and included appropriate mapping, descriptions and images.</p> <p>The site assessment team included one ecologist, one archaeologist, four Aboriginal rangers and three Elders representing the AAG. The team was on each site for approximately one hour, while undertaking the field work on foot, after arriving at or near each site by vehicle.</p> <p>The sites were selected to be close to historic records of the find locations of the remains (where records existed) but avoided unstable land and areas of high cultural significance. If the physical site assessment revealed Aboriginal cultural heritage objects or sensitive biodiversity features, or soil instability, the site assessors had the delegation to move the circular site a short distance to avoid the sensitive feature or attribute or note their presence when shifting the entire site was not an option. The new position of the centre point was captured on GPS and physically marked on the ground with a stake/flagging tape to clearly identify the final assessed area and give certainty that the reburials would occur on precisely the same land as the site assessment.</p> <p>The precise locations are included in Appendices 2, 3 and 11 (see Section 14 of this REF, Supporting Documentation). These appendices show a high level of detail on the reburial locations.</p> <p>This information is considered culturally sensitive and confidential and it is not in the public interest, or in best interests of providing safety and security for the remains, to make this information widely available.</p> <p>These Appendices therefore form a confidential component to this REF and are not provided for the wider public.</p>
<p>Site commonly known as</p>	<p>Mungo National Park, Gol Gol Station, Mulurulu Station, and Top Hut Station & Willandra Lakes World Heritage Property</p>
<p>Street address</p>	<p>Arumpo Road Suburb: Buronga Postcode: 2739</p>

Site reference	The Mungo National Park office etc, is at: Easting: 687,760 Northing: 6,266,720
	AMG zone:54 Reference system: GDA94 Refer to appended site descriptions (Appendix 2) for the location of each site.
Council (Local Government)	Wentworth Shire Council and Balranald Shire Council
Title reference	The activity will occur across multiple Lot and DP numbers. Lot and DP numbers are provided in Appendix 11.
	Registered deed number (if Old Land System) Click or tap here to enter text.
NSW State electorate	Murray

6.2 Description of the proposed activity

Overview of the activity

This project involves the reburial of 108 partial Aboriginal Ancestors (also known as Ancestral Aboriginal remains) that were removed from the region in the 1960s to 1980s. The reburial is being conducted by Heritage NSW and NPWS on behalf of the Barkindji/Paakantji, Mutthi Mutthi and Ngiyampaa peoples (represented by the Willandra Lakes Region AAG).

Aboriginal Remains are defined by the NPW Act as the body or the remains of the body of a deceased Aboriginal person, but does not include the remains of a body buried in a cemetery in which non-Aboriginal persons are also buried, or remains of a body that must be dealt with in accordance with a law of the State relating to medical treatment or the examination, for forensic or other purposes, of the bodies of deceased persons (see Section 5 of the NPW Act).

These 108 partial Aboriginal Ancestors are currently held in storage at Mungo NP. The 'proposed activity' is the reburial of each of the 108 Ancestors in individual graves in close proximity to their original find localities. The precise location of each grave has not been determined however the general locations (assessment sites) are known. This REF assessment considers the impacts on each of the 26 locations and develops appropriate mitigating strategies and controls for the reburials for each location.

The only materials involved will be the Aboriginal Ancestors. These will be transported in boxes in a minimum number of vehicles to convey them from the Mungo Keeping Place to respective sites on the day each reburial occurs. The boxes may be taken offsite on completion, or the Elders may choose to burn them on site. Vehicles will be parked away from reburial site and remain on existing tracks where possible.

A small party of Aboriginal Elders representing the AAG will be present for the reburials. The works will be directed by Heritage Officers from Heritage NSW (Department of Premier & Cabinet) and the work will not constitute harm or desecration under the NPW Act (Section

87A(a)) as the Officers will be principally involved in the administration of the NPW Act. The individual reburial sites will not be marked or identified on-site in any way.

The steps involved in the works will be:

- select a suitable grave site for the reburial which is not within the dripline of trees or close to shrubs; targeting the most stable areas away from Aboriginal objects and as close to the previously assessed grid co-ordinate as possible
- rake off any surface mulch/seed (if present) to one side from an area approximately 1 metres diameter
- remove topsoil from the area to be excavated using a shovel and rake
- for small bundles of Aboriginal Ancestors, a hole will be excavated with surface dimensions approximately 30cm square and at least 60cm deep, using shovel and crowbar, ensuring subsoil is separated from the heaped topsoil and the mulch (if present)
- for larger bundles of Aboriginal Ancestors, including three near complete skeletons in the collection, larger burial pits (approximately 50cm by 1m) will be excavated using a small backhoe.
- place the remains in the hole and cover with subsoil
- compact the upper fill material sufficiently to prevent subsequent settlement
- respread topsoil over the disturbed area.

In instances where the remains to be reburied consist of only a fragment or two, a soil auger instead of a shovel may be used.

See Appendix 17 for a table of proposed works at each reburial location.

The size of the proposed activity footprint:

The total area assessed was approximately 22ha, which consists of 18 assessment sites each up to 1ha and eight sites of approximately 0.5ha. The latter are situated against near-vertical sand walls so only a semicircle with the centre point against the base of the wall was assessed. All sites are isolated and remote from one another. Twenty-two assessment sites (101 reburials) will be in Mungo NP while four sites (4 reburials) will be on grazing lands on three Western Lands Lease properties near the park.

The activity footprint (or impact area) will be a fraction of the total assessment area as the excavations will only disturb a very small part of the total area. The total impact area of the proposed works will be approximately 28.5 square metres. This assumes each grave disturbs an area 50 centimetres by 1 metre for small bundles and 1 metre by 2 metres for larger bundles, which allows for the temporary placement of soil and vegetation (if present) for backfilling.

The individual impact areas at each grave will vary considerably: many remains consist only of a single bone fragment and will require a very small hole that will be dug with an auger. Several remains (2) are of more complete skeletons and will require a larger pit. Most of the 26 assessment sites will contain between one and three individuals. However, there are four locations that have 10, 9, 14 and 29 sets of Aboriginal Ancestors respectively to be reburied.

For small bundles of Aboriginal Ancestors, small burial pits will be excavated with surface dimensions approximately 30cm square and at least 60cm deep, using shovel and crowbar, ensuring subsoil is separated from the heaped topsoil and the mulch (if present).

For larger bundles of Aboriginal Ancestors, including two near complete skeletons in the collection, larger burial pits (approximately 50cm by 1m) will be excavated using a small backhoe.

See Appendix 17 for a table of proposed works at each reburial location.

Ancillary activities, such as advertising or other signage (including any temporary signs, banners or structures promoting an event or sponsorship arrangements), roads, infrastructure and/or bush fire hazard reduction:

Not applicable

Proposed construction methods, materials and equipment:

The activity will involve manual excavation of a small hole for each reburial. This will involve use of a shovel, rake and a crowbar. Several complete skeletons in the collection will require larger burial pits and a small backhoe will be used to excavate these holes. The backhoe will be transported on a trailer pulled by a 4WD or on a small light truck. All vehicles will be parked away from reburial site and remain on existing tracks where possible. Diesel powered vehicles will be used for transport and carry sufficient fuel to avoid the need to refuel from jerry cans while in the field. Vehicles used on site will be fitted with a fire extinguisher.

The steps are described in detail the previous section of this REF (above). See Appendix 17 for a table of proposed works at each reburial location.

Receival, storage and on-site management for materials used in construction:

The only materials involved will be the Aboriginal Ancestors. These will be transported in boxes in a vehicle to convey them from the *Mungo Keeping Place* to respective sites on the day each lot of the reburials occurs. The boxes may be taken offsite on completion, or the Elders may choose to burn them on site. Any burning will be conducted under the direction of the NPWS Area Office with a fire unit on site.

Earthworks or site clearing including extent of vegetation to be removed:

There will be no clearing of, or impact on native vegetation at any of the 26 assessment sites, as all sites have ample bare ground that is stable or near stable and does not have any visible Aboriginal objects. In instances where sites have visible artefacts these will be flagged in advance of the reburials and avoided. Trees, shrubs and native groundcover will be avoided in the micro-selection of reburial locations within each site. Bare non-eroding areas 20m away from the dripline of trees (few trees occur on the assessment areas and they are only on three sites) will be targeted for reburial locations. The activity will involve manual excavation of a small hole for each reburial. This will involve use of a shovel, rake and a crowbar. Several complete skeletons in the collection will require larger burial pits and a small backhoe will be used to excavate these holes.

Works will involve removal of organic layer with a rake over of no larger than 50cm x 1m (1m x 2m for larger burials) area around the reburial point, then scraping of topsoil and storing it to one side of the hole.

Removal of spoil from a hole of surface dimensions less than 50cm x 1m (1m x 2m for larger burials) to a depth of at least 60cm and storing the soil on the opposite side of the hole to the topsoil.

After placement of the Aboriginal Ancestors in the excavated hole, it will be filled with spoil, with the upper section being well compacted and finally addition of topsoil and saved surface mulch over the disturbed area.

See Appendix 17 for a table of proposed works at each reburial location.

Environmental safeguards and mitigation measures:

The environmental and Aboriginal cultural heritage controls and mitigation measures are summarised below, with most of the controls applying to all sites.

Pre-commencement and access measures

1. Coarse selection (from the desk) of the 26 assessment sites of one hectare to ensure that eroding areas have been avoided (completed by Heritage NSW prior to site assessment).
2. Coarse selection (from the desk) of the 26 assessment sites of one hectare to ensure that where possible previously documented Aboriginal cultural heritage rich areas have been avoided (completed by Heritage NSW prior to site assessment).
3. Micro-selection of the centre points of the 26 assessment sites occurred during the site assessment to avoid any significant ecological features or severe erosion risk (determined during the site assessment), noting that some sites assessed were reduced to a semi-circle.

4. Micro-selection of the centre points of the 26 assessment sites occurred during the site assessment to avoid existing or document any new Aboriginal cultural heritage artefacts (identified during the site assessment) noting that some sites assessed were reduced to a semi-circle.
5. The centre point of each assessment site has been temporarily identified with a metal stake/coloured ribbon to ensure the assessed area coincides exactly with the targeted reburial area and to provide a visible reference point for the field assessment team. The stake was relocated to the final position of the centre point (decided during the site assessment) and will remain in position until the reburials at that site are completed. All reburials must be located within the 58m radius of the one-hectare site or a lesser area (semi-circle of 0.5ha) for eight sites as indicated in the field data sheets and summary table.
6. Locate and flag out Aboriginal objects prior to reburial. The reburial party will travel to each site in a minimum number of vehicles.
7. Park vehicles away from reburial site and remain on existing tracks where possible.
8. Bare or weedy ground should be the preferred route where there is a justifiable need to travel away from an existing access track.
9. Diesel powered vehicles must be used for transport and carry sufficient fuel to avoid the need to refuel from jerry cans while in the field.
10. Vehicles used on site must be fitted with a fire extinguisher.

Burial Location Selection

11. Conduct reburial/s near central grid coordinate (see Appendix 11) to avoid impacts to recorded or observed Aboriginal objects.
12. Where reburials are to be located at the toe of an advancing sand wall (the 0.5ha sites) the reburial locations should be close to the centre point as the assessment area.
13. Selection of the reburial sites in assessment area must be done on foot, ensuring that each reburial location is on bare or weedy ground and avoids established shrubs and outside the dripline of trees and avoids areas of severe wind or water erosion.
14. At sites where the soil is sandy throughout the profile, reburials should be at a greater depth than sites with finer soil texture.
15. Reburials should not be located within 10 metres of rabbit warrens as these areas could become unstable due to soil erosion or subject to further burrowing.

Reburial

16. Most of the remains are very small fragments and only a small hole will be required. Wherever possible hand tools are to be used to excavate reburial sites. Several complete skeletons will require larger holes and a small backhoe will be used to excavate the holes.
17. Topsoil and surface mulch/seed will be saved prior to excavation of the reburial hole, ensuring that these resources are not cross contaminated with subsoil. Topsoil is to be respread over the disturbed area after the hole is refilled. Then the area must be lightly raked, and the stored organic matter spread on the raked area to assist in natural regeneration.
18. The surface area of each hole will be minimised according to the volume of Aboriginal Ancestors to be buried, with the lower limit based on the minimum diameter possible that can be excavated with a shovel (or manual soil auger if used).
19. The upper fill material in the hole should be well compacted to avoid soil subsidence and thus avoid erosion or enable the burial site to be identified easily; special care must

be taken during compaction to avoid damaging any unexpected Aboriginal objects or Aboriginal Ancestors below.

20. In the event that unexpected discoveries of Aboriginal objects or Aboriginal Ancestors occurs during the proposed works:
 - a. works will cease immediately
 - b. the objects or Aboriginal Ancestors will be recorded and photographed
 - c. an AHIMS record card will be completed
 - d. the excavation will be refilled
 - e. a new grave site will be chosen elsewhere from within the previously assessed area.
21. Excavated holes must not be left open overnight to avoid entrapment of wildlife.
22. It is preferable that reburials not be undertaken in Spring to minimise the potential of disturbance of breeding/nesting wildlife.
23. It is preferable that reburials occur in Autumn to optimise natural regeneration while the soil is freshly disturbed, and to minimise the time period the ground at each reburial location remains bare and disturbed to avoid erosion.
24. It is preferable that reburials occur in Autumn to avoid fire risk days/hot days in Summer.
25. Reburials must avoid the period after heavy rainfall to ensure wheel tracks are not created in soft soil and vehicles don't become bogged.
26. Special care must be taken during smoking ceremonies or any other use of naked flame (if such activities occur) to avoid starting a fire.
27. Each site must be checked on completion of reburials to ensure that no items are left on the site (e.g. storage cartons, hand tools, drink bottles, food wrappers, cigarette butts and centre point reference stake).

Post Reburial Remediation

28. After spreading topsoil, the disturbed area will be lightly raked by hand to restore the surface to a smooth surface and even profile similar to the original.
29. Any mulch/seed that was set aside earlier must be respread. As the timing of the reburials is likely to occur in early Autumn, this is an ideal time to allow natural regeneration of grasses, forbs and shrubs on the disturbed areas when the seasonal "break of season" occurs (i.e. when annual native and exotic plant species naturally germinate from seed).
30. The stake marking the centre point of each site will be removed on the same day as the reburials. No further action or remediation is planned.
31. No fencing or marking of the locations are proposed, as this would draw attention to the location, and this project aims to obscure the location in the long term.

Post Reburial Security

32. Providing safe, secure and long-term reburial locations is an issue that has repeatedly been raised since the 1980s. A series of mitigation measures have been outlined below. Specifically, detailed measures have been proposed to:
 - a. limit the environmental impact of the works and therefore minimise the potential for the locations to be relocated and disturbed

- b. limit the physical visibility of the reburial locations, in both the short term and long term
- c. minimise the potential for the locations to be subject to erosion (and therefore re-exposure) in the short and long term.

33. These measures are relevant at the time of the reburials. Longer term, the location of each reburial location will be kept confidential. The location of each reburial will only be available to the project and monitoring team within a secure GIS platform. Each of the locations will be monitored at four monthly intervals in years one and two following the reburials. Where possible monitoring will be done via photography taken from a drone. This method will:

- a. eliminate the need for vehicle tracks to each location
- b. minimise the environmental impact
- c. reduce the visual impacts of site visits.

Long Term Management

34. After 2 years have elapsed it is anticipated that the reburial locations will be revegetated and will not be visible. Regular scheduled monitoring will then change to yearly monitoring for 2 years. After this time regular scheduled monitoring will cease, though unscheduled monitoring may still occur.

35. If unexpected change is observed at any location during monitoring e.g. erosion, disturbance or visitation, appropriate site conservation or access constraint and monitoring will be implemented.

36. The above monitoring, reporting and follow up actions (if needed) are the responsibility of Heritage NSW and will be led by Heritage Operations Officers from Heritage NSW. Willandra Lakes WHA staff, AAG members and NPWS staff will also be involved.

Sustainability measures – including choice of materials (such as recycled content) and water and energy efficiency:

The use of manual labour rather than machinery avoids the use of fossil fuels during the reburials and therefore minimises carbon emissions. There are no materials involved in the reburials. The boxes containing the Aboriginal Ancestors will be burned on site on completion of the reburial. Water will not be required for the activity apart for human consumption.

Construction timetable and staging and hours of operation:

The reburials are likely to occur in 2021. The heat of summer is likely to be avoided. It is expected that most reburials will occur between 1 April 2021 and 31 October 2021.

The hours of operation on site are likely to be between 10.30am and 3pm. The trip from the Heritage NSW office at Buronga to the Mungo NP office takes approximately one and a half hours. Some sites are more than one hour's travel from the Mungo NP office. The activity on sites with multiple reburials may occur over several days in which case the reburial party may reside at Mungo NP overnight.

6.3 Objectives of the proposal

<p>Provide details of objectives of the proposal</p>	<p><i>The proposal is the reburial of ancestral Aboriginal remains from the Keeping Place at Mungo to 22 selected sites in Mungo NP and 4 other sites on nearby stations.</i></p> <p>The proposed activity will fulfil the long-term aspirations of the Aboriginal community. It is also in line with the <i>Sustaining the Willandra: Willandra Lakes Region World Heritage Property Plan of Management</i> (Department of Environment, Sport and Territories 1996) and <i>Mungo National Park Plan of Management</i> (NPWS 2006). While neither plan states 'reburial', both plans clearly articulate that the aspirations of the three Traditional tribal Groups will be facilitated:</p> <ul style="list-style-type: none"> • locate and manage all human remains and other archaeological material to the satisfaction of the three Traditional Tribal Groups (Strategy 33.1 in <i>Sustaining the Willandra</i>) • ceremonial and hunting and gathering rights for members of the three traditionally affiliated tribal groups will be recognised and facilitated (Mungo NP plan, p. 37).
--	--

7 Reasons for the activity and consideration of alternatives

7.1 Reasons for activity

The Willandra AAG is a community elected Group and the peak Aboriginal body for the Willandra. At a meeting of the AAG on the 6 November 2018 the following motion was passed:

In exercising our inalienable rights and as Traditional Owners the WLRWHA AAG as duly elected representatives of the 3TTGs unanimously resolves to rebury the Willandra Ancestral Remains collection. This resolution is consistent with past sentiments and views expressed by Elders and members of the various 3TTG representative bodies of the WLRWHA over the last 40 years.

The full background to this motion spans the period from 1984 to the present. This background has been summarised in Appendix 16.

Further background information is presented in Williams & Associates (2016), Williams & Associates (2017), Williams (2016) and Western Heritage Group (2017).

7.2 Alternatives

Proposals for the alternative management of the Willandra Aboriginal Ancestors began in 1984 when the Australian Archaeological Association wrote to the Minister for Planning and Environment to propose an underground keeping place at Mungo for the Mungo skeletal remains.

In 2003, a study and plan were developed by the 3TTG Elders Council. This plan, *Keeping Place, Education and Research Centre (KPERC)* (Australian Archaeological Survey Consultants Ltd, 2004) outlined details of a KPERC. On this basis six alternatives, involving placing the Willandra Aboriginal Ancestors permanently in storage, were developed between 2003 and 2015. Some of the alternatives were accompanied by concept designs, costings and detailed design briefs, others were more conceptual.

A sample of one alternative view that formed part of these discussions, and as presented by the late John Mulvaney, is repeated below:

I'd just like to say that Mungo Man and Mungo Woman are among the world's earliest proof that human kind conducted a level of complex burials, one was a complex cremation, the other was a complex burial of a corpse that was covered with ochre and carried in from remote places over 40k years ago. There is just so much of significance to the history to Aboriginal people and globally humankind to those remains.

Finally, I wonder if indigenous people have considered what is the nature of a Keeping Place? I understood the Keeping Place was underground and was totally locked and could only be entered through permission of Aboriginal people.

If it was associated with this building we are talking about [i.e. Mungo Centre 2010] it could be underground, I think perhaps incorporating a sandy floor and so on symbolically reproducing the past but only reached through a passageway, an underground passageway of some length and in fact perhaps wide enough to have a doorway into the cellar where a particular ceremony could be performed. So that it really is reproducing burial, it is satisfying the isolation of these burials from outside contact and yet preserving them for future.

I just hope that some of those thoughts might be kept in mind because by reburying them just out in the open at some chosen spot, in a number of decades from now they're going to be eroded all over again. This way keeps them in perpetuity.

Emeritus Professor John Mulvaney, Mungo
Centre planning workshop, La Trobe University
Mildura Campus, 27th November, 2010.

A detailed review of these previous alternatives for the construction of a Keeping Place was commissioned in 2016 (Williams 2016). These alternatives were explored in detail in, and at length, in community forums (Michael Williams and Associates 2016, 2017). In these discussions a Keeping Place was considered along the lines of the structure referred to by John Mulvaney, with the favoured sites being at Joulni and/or Leaghur.

The option for the construction of a Keeping Place has not been pursued by the AAG and has not been adopted as the AAG preferred course of action. Reburial of the Willandra Aboriginal Ancestors is the preferred option as this is consistent with past sentiments and views expressed by many Elders and members of the various 3TTG representative bodies of the WLRWHA over the last 40 years (Western Heritage Group, 2017).

7.3 Justification for preferred option

A recurring point raised by the Willandra Aboriginal community since 1984 (Western Heritage Group 2017; Williams 2016) has been the desire to return the Willandra Aboriginal Ancestors to the region. Discussions focussed on development of a Keeping Place between 2004 and 2015 but the preferred option for the AAG, who have agency of Aboriginal Cultural Heritage in the WLRWHA, is to rebury the Aboriginal Ancestors as close as practicable to their original find site, while ensuring that reburial is on land of low erosion hazard to avoid re-exposure in the long term.

The overall governance or decision-making process of the proposed activity is directly linked to the First repatriation workshop (Michael Williams & Associates 2015) where the following outcome was recorded

We the Willandra Repatriation Traditional Custodians and 3TTG should make all the decisions on the repatriation process. We want the ancestral remains brought home as soon as possible and in a culturally appropriate manner.

In support of this view the following points are emphasised:

- The activity is consistent with the WLRWHA Plan of Management (1996) which clearly articulated the long-term aspiration of the Aboriginal community that the rest of the Willandra Aboriginal Ancestors should also be returned. This plan requires the development of strategies and associated actions to... 'locate and manage all human remains and other archaeological material to the satisfaction of the three Traditional Tribal Groups' (Strategy 33.1) (Department of Environment, 1996).
- The proposed activity is consistent with the Australian Government Policy on Indigenous Repatriation (2011) which states in part:

Communities of origin are the rightful custodians of their ancestral remains and should be consulted prior to any return. They should determine when and how repatriation should be undertaken. Accordingly, except where otherwise determined by the local community, the Australia Government will seek the unconditional return of ancestral remains and associated notes and data. (2011, 5)

This policy further states:

Aboriginal and Torres Strait Islander peoples have a responsibility to their ancestors to bring them back to country according to the Traditional Owners' customs and laws' and that 'ancestral remains should be treated with respect and dignity at all times by all involved (2011, 5).

- The proposed activity is consistent with the UN Declaration on the rights of Indigenous peoples (UNDRIP). The Australia Government endorsed this Declaration in 2009. UNDRIP confirms the application of existing human rights instruments to Indigenous peoples, including freedom from discrimination, and the right to self-determination and to pursue their cultural development.
- Furthermore, whilst not directly undertaken or proposed by an archaeologist, the activity is consistent with the Australian Archaeological Association Code of Ethics, specifically:
 - *3.1 Members acknowledge the importance of cultural heritage to Indigenous communities.*
 - *3.2 Members acknowledge the special importance to Indigenous peoples of ancestral remains and objects and sites associated with such remains. Members will treat such remains with respect.*
 - *3.3 Members acknowledge Indigenous approaches to the interpretation of cultural heritage and to its conservation.*

8 Description of the existing environment

Description of the existing environment:

The study area sits wholly in the Murray Darling Depression Biogeographic Region (IBRA) in south western NSW, this bioregion extends into South Australia and Victoria. In NSW the bioregion contains few towns with Ivanhoe the “largest” population centre and the balance being families residing on the large rangeland properties.

The Murray Darling Depression Bioregion contains two sub regions – South Olary Plain and Darling Depression. The study area is wholly within the South Olary Plain which is characterised by Quaternary aeolian sands and lake sediments with characteristic landforms of dune fields, sandplains, dry lakes, lunettes and groundwater basins.

Each of the 26 assessment sites is described in Appendix 2, which covers landform, soil, topography, ecosystem, flora species and condition, habitat values, weeds, pest animals, erosion hazard, and Aboriginal archaeological values. Photos of each site and maps are also provided with the site descriptions. A summary of the site descriptions is in Appendix 3.

8.1 Meteorological data

Monthly climate statistics from the Bureau of Meteorology (Pooncarie Mail Agency, BOM 047029, elevation 53m AHD), the nearest official weather station (approx. 80km due west of Mungo NP) is as follows:

- Mean annual rainfall is 268.0mm.
- The highest annual rainfall was 630 mm in 1973 while the lowest was 71.8mm in 1967.
- The highest monthly rainfall total was 200.6mm in Dec 1962.
- Every month has had a lowest rainfall total of 0 mm.
- Mean wettest month is May - 25.8mm.
- Mean driest month is April - 17.7mm.
- Mean number of wet days/annum greater than 1mm is 35.2.
- Mean monthly maximum temperature is 26.6 deg C.
- Mean monthly minimum temperature is 11.4 deg C.
- Highest mean daily maximum temperature for any month is January: 36.1 deg C.
- Lowest mean daily minimum temperature for any month is July: 4.4 deg C.
- Mean annual evaporation is approximately 2,100mm.

Note: Rainfall data is from 1882, while temperature data is from 2001.

In summary the climate is classified as semi-arid with hot summers and cool winters. On average rainfall is evenly spread over the year although summer rainfall is limited in effectiveness by high evaporation rates. However, in practice monthly rainfall in any year is highly variable. The autumn break is unreliable and may occur as late as July or in drought years not at all. The growing season generally runs from early May to September and spring is often cut short by hot dry winds from the north.

Frosts are common between June and September. The predominant wind direction is from the south west, west and north west.

Summer rain is usually caused by local thunderstorms or the occasional tropical low that may stray south, as occurred in the wet period in February 2011. Thunderstorms may result in water runoff, particularly on heavier soils on slopes, such as occurs on lunettes. Sandy soils are less prone to runoff and less likely to experience water erosion.

Regional dust storms occur after long dry periods at any time during the year, particularly when domestic livestock, native animals or other forms of soil disturbance, have created bare

ground. Cold fronts from the west pick up the loosened bare topsoil with coarse particles rolling or bouncing locally and fine material becoming airborne, creating regional dust storms.

BOM Monthly rainfall at Pooncarie over last 13 months are:

2018 - Apr 0mm, May 7.0mm, Jun 12.3mm, Jul 2.4mm, Aug 6.3mm, Sept 0.2mm, Oct 26.6mm, Nov 29.1mm, Dec 24.2mm

2019 - Jan 4.2mm, Feb 1.3mm, Mar 5.4mm, Apr 3.2mm, May (to 15/5) 32.2mm

Total 122.2mm in 14 months, i.e. to end of April 2019 (compare this with long term mean 268mm)

8.2 Topography

The land is generally of low relief, varying between 60m to 100m AHD. The highest point in the local area are the crests of some of the lunettes. The slope on the sites is gently undulating to flat, although some parts of the lunettes have much greater slopes.

Refer to Appendix 2 and Appendix 3 for details for each site.

8.3 Surrounding land uses

For most of the 26 assessment sites (22), the surrounding land use is national park, i.e. used for conservation and protection of natural and Aboriginal cultural heritage assets, landscapes and tourism.

For four of the sites, the surrounding land use is rangeland grazing of domestic livestock predominantly sheep (mainly the Dorper variety) with some graziers running commercial goats. Land use and management for these properties is regulated under *Western Lands Leases*.

8.4 Geology/geomorphology

Key landscape heritage values (NPWS 2006) include:

- relict Pleistocene lake system
- record of past climate change and interactions between human societies and a
- changing natural environment
- example of salinity in landscape evolution
- paleontological evidence - the Mungo Geomagnetic Excursion – evidence of significant changes in the earth's magnetic field.

The WLRWHA, including the MNP is a landscape that has slowly but steadily evolved over the past two million years. The region lies in the Lower Murray Darling Basin, which is an extensive area of Tertiary marine sediments overlain by the Pleistocene aeolian deposits of mud and sand with elevation ranging from 60m to 100m AHD.

It is a semi-arid landscape with the only relief being low red sandy ridges (east west dunes or jumbled dunes) and crescent shaped dunes (lunettes) rising to 40 m above the plain on the easterly shore of the relict lakes, which dried out progressively in the period 25,000 to 12,000 years ago.

As the region has been unaffected by changes in sea level, glaciation and major tectonic movement, it presents a remarkable record of Pleistocene changes and human response to that change. The sediments of the lunettes provide a 50,000-year record of these changes. Refer to Appendix 2 for details for each site.

8.5 Soil types and properties

A large proportion of the Willandra consists of playas and basins of the relict lakebeds and associated lunettes, surrounded by undulating sandplain and dune fields.

The lakebed soils are a mosaic of grey and red heavy clays and relatively stable except they may suffer wind erosion when disturbed and are impassable to vehicles when wet. The lunettes are mostly loosely cemented whitish sands and well consolidated clays, sometimes exhibiting severe gully erosion (by water).

The undulating sandplains consist of calcareous loamy to sandy loam soils (red and brown) with isolated depressions of grey clays. The sandplains consist of soils that are generally alkaline and not susceptible to water erosion but are prone to wind erosion when surface cover is removed or the surface crust (if present) is disturbed.

The dune fields vary including parallel dunes of deep loamy sand with narrow swales of calcareous loamy red alkaline earths, dune fields of parabolic and unaligned dunes with deep sandy red soil swales, high unstable dunes of deep white sand interspersed with flats of calcareous loamy brown soils. The white sands have extremely low fertility and water holding capacity. The dune fields are not susceptible to water erosion but are prone to wind erosion when surface cover is removed, or the surface is heavily disturbed.

Refer to Appendix 2 and Appendix 3 for details for each site.

8.6 Waterways including wild and scenic rivers

The WLRWHA, including the Mungo NP contains an interconnected system of dry lakes (Willandra Lakes) which were once fed by the Willandra Creek, a tributary of the Lachlan River on its way to the lower Murrumbidgee River during periods of greater water flow between 45,000 and 25,000 years ago. Declining flows during the period 25,000 to 12,000 years ago left a relict lake system which remains dry, and the Willandra Creek which is now an ephemeral stream that rarely runs water. Even in the extremely wet year of 2011, this creek did not run a significant continuous flow.

On the rare occasions when there is heavy and prolonged rainfall and the local catchments to the Creek become saturated, some sections may flow for a short time, but the flow has not been as a continuous stream for significant reaches of the Creek.

8.7 Catchment values

Although the sites are in the Murray Darling Basin, the local catchments are closed, i.e. the catchments are small, flowlines are short, ending at a relict lakebed, with catchment being in parallel rather than in series, i.e. independent of one another.

8.8 Coastal risk areas

Not applicable

8.9 Ecological communities (threatened ecological communities and regionally significant communities)

8.9.1 Plant community types

A study of natural vegetation of the Pooncarie 1:250 000 map sheet was undertaken by Porteners *et al.* (1997). In this REF, the plant communities as described and mapped by Porteners *et al.* is adopted for consistency as it covers all sites in the WLRWHA both on- and off-park estate and provides more detailed and precise descriptions than the state-wide Plant Community Type mapping. The equivalent NSW Plant Community Type (PCT) (DPIE, 2019) is listed in italics below for clarity.

The following vegetation communities were identified at the assessment sites:

1. Black bluebush chenopod shrubland – sparse chenopod shrubland (PCT = 153 *Black Bluebush low open shrubland of the alluvial plains and sandplains of the arid and semi-arid zones*) was identified at 12 sites. The majority of assessment sites occur in this vegetation type. The dominant species is black bluebush *Maireana pyramidata*, with other species including dillon bush *Nitraria billardierei*, thorny saltbush *Rhagodia spinescens*, pop saltbush *Atriplex holocarpa*, ruby saltbush *Enchylaena tomentosa*, and cannonball *Dissocarpus paradoxus*. Grass tussocks, probably of rough speargrass *Austrostipa scabra* or other perennial native grasses were present at most sites.
2. Black bluebush chenopod shrubland with scattered western rosewood *Alectryon oleifolius* was identified at 1 site (PCT = 153 *Black Bluebush low open shrubland of the alluvial plains and sandplains of the arid and semi-arid zones*). Similar to the above community but with a scattered tree overstory layer.
3. Lunette shrubland was identified at 5 sites (PCT = 152 *Lunette Chenopod shrubland mainly of the Murray Darling Depression*). Usually disturbed communities with a variable plant composition according to soil type. Typical species include narrow-leave hopbush *Dodonea viscosa*, black blue bush and butterbush *Pittosporum angustifolium*. At one site the mallee eucalypt *Eucalyptus incrassata* is present. Pimelia daisybush *Olearia pimelioides* is also present at one site.
4. Callitris woodland at 2 sites (PCT= 28 *White Cypress Pine open woodland of sand plains, prior streams and dunes mainly of the semi-arid (warm) climate zone*). Scattered Murray pine *Callitris gracilis* with a disturbed understorey community dominated by black bluebush. At these sites, while cypress pines were not found at the immediate location of the site, pines were growing in close proximity, with the slope and soil type is consistent with the assessment sites being within this community.
5. Irregular Dune mallee with Triodia mallee (PCT = 171 *Spinifex linear dune mallee mainly of the Murray Darling Depression Bioregion*) at 1 site. Pituri *Duboisia hopwoodii* and spinifex *Triodia scariosa* were present at one site, with mallee eucalypts *Eucalyptus dumosa* and *E. gracilis* nearby (but not on the assessment site).
6. Disturbed Shrubland – sparse shrubland – dominated by the perennial dillon bush and the annual chenopods such as cannonball burr at 5 sites (PCT = 166 *Disturbed annual saltbush forbland on clay plains and inundation zones*). The community occurs in heavily disturbed sites (subject to past or current heavy grazing pressure) on low lying alluvial plains. In some areas the assessment sites are being encroached by unstable sand dunes.

8.9.2 Threatened ecological communities

A Bionet search indicates the following threatened ecological communities occur within the project site (Appendix 6):

- *Acacia loderi* shrublands;
- *Acacia melvillei* Shrubland in the Riverina and Murray-Darling Depression bioregions;
- *Halosarcia lylei* low open shrubland in the Murray Darling Depression Bioregion;
- Sandhill Pine woodland in the Riverina, Murray Darling Depression and NSW South Western Slopes Bioregions.

Acacia loderi reaches its southern limit of distribution in the area (Porteners *et al* 1997). It occurs in small, scattered remnant populations within Black Oak – Rosewood communities (Porteners *et al.* 1997), often in association with *Acacia melvillei*.

Acacia melvillei shrublands also occur as small populations on red-brown sandy loam soils and heavier soils on loam flats; sometimes close to where ground tanks have been constructed; as a result, these sites are subject to high, localised grazing pressures (Westbrooke and Miller 1995).

Ground inspections indicate no sites are in the vicinity of *Acacia loderi* or *Acacia melvillei* communities (> 500 metres away), so will not be affected by the proposal.

Sandhill Pine woodland occurs on raised sandy areas, such as low linear dunes, sandhills and ridges. It is the dominant community on isolated sandy ridges to the east and west of Lake Mungo. Two sites are located on lunette sites in proximity to *Callitris gracilis*; the community composition is consistent with the vegetation community being TEC Sandhill Pine woodland (DEC 2010 Identification Guidelines for Endangered Ecological Communities).

All three communities have been severely affected/modified since European occupation, with historical topsoil loss and ongoing grazing by introduced herbivores such as rabbits limiting regeneration of these species.

It is questionable that *Halosarcia lylei* (now *Tecticornia lylei*) occurs in the Willandra lake region. *T. lylei* has a very limited distribution in NSW, with most locations occurring on, or in the vicinity of Nanya Station in far western NSW. This community has a specialised association with salt lakes and saline depressions (Westbrooke, Miller, & Kerr, 1998). *T. lylei* has not been recorded as occurring in the WLRWHA according to both NSW Bionet and Atlas of Living Australia (accessed 28/08/2020). Furthermore, as none of the sites have any characteristics of saline depressions, this community is not considered for further assessment.

8.10 Wetland communities including coastal wetlands under the Coastal Management SEPP

Not applicable, there are no wetlands recorded in or near the 26 assessment sites.

8.11 Littoral rainforest under the Coastal Management SEPP

Not applicable

8.12 Flora (including flora of conservation significance)

Native plants

Detailed descriptions of the plant community types within the assessment area are presented above in Section 8.9.1. The dominant flora observed during the fieldwork was Black Bluebush *Maireana pyramidata* which was present at almost all sites and for many, the only visible live (or dead) plant species. There were several other common chenopods observed at some sites including Dillon Bush *Nitraria billardiarei*, Hedge Saltbush *Rhagodia spinescens*, Pop Saltbush *Atriplex holocarpa*, Ruby Saltbush *Enchylaena tomentosa*, Cannonball *Dissocarpus paradoxus* and Copperburr *Sclerolaena obliquicuspis*.

A few sites had other shrub species present (non-Chenopod) in low numbers including Weeping Pittosporum *Pittosporum angustifolium*, Rosewood *Alectryon oleifolius*, or Narrow-leaf Hopbush *Dodonaea viscosa*. One site had Pituri *Duboisia hopwoodii* and Spinifex *Triodia scariosa* in large numbers, while another site had many Pimelia Daisybush *Olearia pimelioides* present.

A small number of sites had a few trees present (sometimes dead) including Slender Cypress Pine *Callitris gracilis* or Yellow Mallee *Eucalyptus incrassata*.

It is likely that native grasses were common at most sites but could not be identified as they had been browsed almost to ground level, leaving a tiny tussock (desiccated) a few centimetres in diameter, probably of Rough Speargrass *Austrostipa scabra* or other perennial native grasses. About 50% of the sites had a variable cover of moss with some sites also having a surface crust and lichen present.

Priority threatened plants

Search results for the Mungo NP of the NSW Threatened Species (NSW Bionet Atlas) is in Appendix 5 and a NSW threatened species assessment of significance (5-part test) is included in Section 11.

The species as listed on the BioNet (Appendix 5) likely to occur within the assessment sites are silky swainson-pea *Swainsona sericea* and Mossgiel daisy *Brachyscome papillosa*.

Silky swainson-pea has a wide distribution in NSW, and grows in grassland, eucalypt woodland (sometimes with cypress pine) and on sandhills (Porteners & Roberston, 2003). The distribution of silky swainson-pea is poorly known on the park. It has been recorded west of Lake Leaghur and more recently on 'sand dunes' in several locations, including Garnpung Soak, Lake Mungo and Zanci area where over 200 plants were recorded (Mungo National Park New South Wales: A Bush Blitz Survey Report, 2017). This suggests the species may be potentially be present in areas of sandy loams.

Mossgiel daisy grows in south-western NSW, usually within bladder saltbush communities, although has also been collected in other plant communities growing on clay soils, including cottonbush *Maireana aphylla* low shrubland, grasslands and black box *E. largiflorens*, woodland (Porteners and Robertson 2003). Populations are small and localised (Porteners and Robinson 2003). At Mungo NP, plants have been recorded within the lakebed chenopod communities, especially Lake Leaghur (NSW Bionet records).

No threatened flora was observed during the site assessment. However, due to the dry conditions during field surveys, detection of either species would have been low.

The mitigation measures that can be applied to avoid threatened flora if they are detected or present during the burial process are included in Section 6.2 (selection of sites) and Section 9. This includes the retention of topsoil and raking back over excavation areas, which should ensure retention of the soil seed bank.

Search results for the Mungo NP of the NSW Threatened Species (NSW Bionet Atlas) is appended – Appendix 5. Search results for the Mungo NP of the NSW Threatened Ecological Communities (NSW Bionet Atlas) is appended – Appendix 6.

No threatened flora was observed during the site assessment. None of the flora species observed during the site assessment were of conservation significance and it is unlikely many other species occur.

The species as listed on the BioNet (Appendix 5) or other datasets or other local study information that are likely to occur within the assessment sites are Silky Swainson-pea and Mossgiel Daisy.

Weeds

No other groundcover plants were present apart from a few common weeds such as wild sage *Salvia verbenaca*, common heliotrope *Heliotropium europaeum*, onion weed *Asphodelus fistulosus* and burr medic *Medicago polymorpha*. The latter being an annual species was present only as burrs on the surface at most sites. Caltrop *Tribulus terrestris* burrs were also present in most areas.

Wild sage and heliotrope were usually at low density and drought affected. Barley Grass *Hordeum leporinum* was observed at several sites but only as desiccated, fragmented debris. This widespread grass along with other annual grasses - Brome Grass *Bromus* spp., Wild Oat *Avena fatua* and Wimmera Ryegrass *Lolium rigidum* are likely to be widespread, depending on the soil type, however due to low rainfall these annual exotic species were not observed at the time of the field work.

None of the weeds observed are listed as *Priority Weeds* in the Western Region of NSW or are listed as *Weeds of National Significance*.

8.13 Fauna (including fauna of conservation significance)

Native and threatened animals

The semi-arid landscape of the Mungo NP is home to a diverse range of mammals, reptiles and birds. However, populations have been heavily impacted by the introduction of domestic livestock and other exotic animal species, particularly the European Rabbit, Red Fox, Feral Goats and Domestic Cats.

Many fauna present at the time of European settlement have become locally extinct (NPWS, NSW *Mungo National Park Plan of Management, 2006*).

Mammals include Red Kangaroo *Macropus rufus*, Western Grey Kangaroo *M. fuliginis*, Eastern Grey Kangaroo *M. giganteus*, Echidna *Tachyglossus aculeata*, Common Dunnart *Sminthopsis murina*, Fat-tailed Dunnart *S. crassicaudata*, Southern Ningau *Ningau yvonneae*, and nine bat species.

Threatened species include Little Pied Bat *Chalinolobus picatus*, Boloms Mouse *Pseudomys bolami*, and Giles Planigale *Planigale gilesi*.

Locally extinct species include Northern Hairy-nosed Wombat *Lasiorhinus krefftii*, Bridled Nailtail Wallaby *Onychogalea fraenata*, Eastern Hare-wallaby *Lagorchestes leporides*, Brush-tailed Bettong *Bettongia penicillata*, Burrowing Bettong *B. lesueur*, Western Barred Bandicoot *Perameles bougainville*, Bilby *Macrotis lagotis*, and Numbat *Myrmecobius fasciatus*.

Reptiles and Amphibians that have been recorded number more than 40 species including: Shingleback *Tiliqua rugosa*, Bearded Dragon *Pogona vitticeps*, Mallee Dragon *Amphibolurus*

fordi, Gould's Goanna *Varanus gouldii*, Eastern Brown Snake *Pseudonaja textilis*, Western Brown Snake *P. nuchalis*, and King Brown Snake *Pseudechis australis*.

Threatened species include Western Blue-tongue Lizard *Tiliqua occipitalis*, and the Spinifex Slender Blue-tongue Lizard *Cyclodomorphus melanops*, and Jewelled Gecko, *Strophurus elderi*.

There are ten Gecko species and sixteen species of skink. Amphibians include Common Spade-foot Toad *Neobatrachus sudelli*, Long-thumbed Frog *Limnodynastes fletcheri* and Spotted Grass-frog *Limnodynastes tasmaniensis*.

Birds Approximately 150 species of birds have been recorded in Mungo NP including Emu *Dromaius novaehollandiae*, Mallee Ringneck Parrot *Barnardius zonarius barnardi*, Blue Bonnet Parrot *Northiella haematogaster*, Singing Honeyeater *Lichenostomus virescens*, Richard's Pipit *Anthus richardi*, Variegated Fairywren *Malurus lamberti*, Blue-winged Wren *Malurus leucopterus*, Apostlebird *Struthidea cinerea*, and Australian Kestrel *Falco cenchroides*.

Threatened species recorded include Australian Bustard *Ardeotis australis*, Chestnut Quail Thrush *Cinclosoma castanotum*, Gilbert's Whistler *Pachycephala inornata*, Pink Cockatoo *Cacatua leadbeateri*, and Malleefowl *Leipoa ocellata*.

Other potential species identified in the Mungo NP Plan of Management that are very unlikely to occur within the park include Hooded Robin *Melanodryas cucullata*, Southern Scrub Robin *Drymodes brunneopygia*, Striated Grass Wren *Amytornis striatus*, and Red-lored Whistler *Pachycephala rufogularis*.

Fauna observed during the field work included: Red Kangaroo, Western Grey Kangaroo, Eastern Grey Kangaroo, Emu, Shingleback and Wedge-tailed Eagle *Aquila audax*. Tracks of two Echidna were also observed near one site.

Search results for the Mungo NP of the NSW Threatened Species (NSW Bionet Atlas) is appended – Appendix 5. No threatened fauna was observed during the site assessment.

Priority threatened animals

Search results for the Mungo NP of the NSW Threatened Species (NSW Bionet Atlas) is in Appendix 5 and a NSW threatened species assessment of significance (5-part test) is included in Section 11. No threatened fauna was observed during the site assessment. Species that could potentially occur in the area, habitat/ecological preferences and mitigation measures are listed below.

Mallee Slender Blue-tongue *Cyclodomorphus branchialis* is known to occur within Mungo NP where it inhabits mallee/spinifex communities or mixed sand/gravel substrate on plains, ridges and hillslopes. It is known to shelter in spinifex clumps and amongst fallen timber and leaf litter. Mitigation measures will include avoiding the use of machinery to travel through or over spinifex vegetation, fallen timber and leaf litter beds. Any excavations should also avoid impacts to the above.

Jewelled Gecko *Strophurus elderi* has been recorded frequently within Mallee/spinifex vegetation communities within Mungo NP. Removal or disturbance to spinifex clumps will be avoided.

Southern Ningau *Ningau yvonneae* occurs frequently within mallee/spinifex vegetation communities within Mungo NP. It is occasionally found in other communities such as belah woodlands. It is known to shelter within spinifex clumps, fallen timber and may also reside in burrows. The use of machinery/excavations in and adjacent to spinifex areas will be avoided.

Western Pygmy Possum *Cercartetus concinnus* is known to inhabit mallee shrubland and belah woodland vegetation communities where it shelters in tree hollows, under fallen timber, within spinifex clumps. Disturbance to areas that contain these attributes will be avoided.

Corben's Long-eared Bat *Nyctophilus corbeni*, Little Pied Bat *Chalinolobus picatus* and Inland Forest Bat *Vespadelus baverstocki* are known to utilise tree hollows from mallee and

belah/pine woodland areas within Mungo NP. Damage to standing vegetation, particularly those containing tree hollows, crevices or loose bark will be avoided.

Mungo NP contains numerous records of the White-fronted Chat *Epthianura albifrons*. This species is known to frequent chenopod vegetation communities which are common within Mungo NP. Nesting occurs in low vegetation and is often below 50 cm in height from ground level. All care will be taken to ensure machinery does not damage chenopod shrublands during transport and excavation.

Chestnut Quail-thrush *Cinlosoma punctatum* is relatively common in suitable habitat within Mungo NP. It forages at ground level and nests in a depression on the ground, often adjacent to fallen timber or low vegetation. The use of machinery in such areas will be avoided.

Malleefowl *Leipoa ocellata* are known to occur within Mungo NP. Malleefowl frequently build breeding mounds in mallee/spinifex vegetation communities although may forage more widely. It is unlikely this proposal will have a significant impact on this species as identified repatriation sites are not within mallee/spinifex areas. Disturbance to areas adjacent to Malleefowl breeding mounds will be avoided.

The Pink Cockatoo *Cacatua leadbeateri* has been regularly recorded within Mungo NP. It is known to nest in mature pine and belah trees and forages frequently across many vegetation types within the park. Damage to standing vegetation will be avoided.

Anecdotal records suggest that the Western Blue-tongue Lizard *Tiliqua occipitalis* occurs within Mungo NP and available literature identifies black bluebush low open shrublands as one of the vegetation types that it is associated with. This species is known to use old rabbit burrows and dense low vegetation for shelter. Disturbance to low dense vegetation will be avoided.

The mitigation measures outlined in Section 6.2 will avoid any significant impacts to threatened animal species, especially by avoiding the removal of any perennial vegetation and not having excavations to be left open overnight (to reduce trapping of animals).

Pests

Evidence of the European Rabbit was universal in the MNP and rangelands, although the population at the time of the assessment was low, due the prevailing drought conditions and the consequent absence of forage and water.

Feral Goats were observed as well as several Red Foxes and flocks of stray sheep (Dorper) in the northern end of the MNP.

8.14 Area of outstanding biodiversity value declared under the BC Act

Not applicable

8.15 SEPP (Koala Habitat Protection) 2019

Not applicable, habitat is unsuitable

8.16 Wilderness (either nominated or declared)

Not applicable, no wilderness present

8.17 Aboriginal cultural heritage

Key Aboriginal cultural heritage values of the broader Willandra Lakes landscape (NPWS 2006) include:

- continuous Aboriginal occupation for at least 40,000 years from the Pleistocene to present day
- contains evidence of traditional Aboriginal culture
- involvement of traditionally affiliated tribal groups in management
- great spiritual significance for Paakantyi, Mutthi Mutthi and Ngiyampaa peoples.

A site assessment of Aboriginal cultural heritage values of the 26 sites is appended (Appendix 7). Some of the proposed reburial locations are Aboriginal sites and are registered on AHIMS. An assessment of the impact on Aboriginal cultural heritage is appended (Appendix 10). The Aboriginal Ancestors are also considered to be Aboriginal objects for the purposes of the NPW Act.

8.18 National/State/local natural or cultural heritage values

The Willandra Lakes region including Mungo NP is an area of outstanding international and national significance for its landscape and cultural heritage values, its archaeological, geomorphological and palaeontological features. The proposed works areas are:

- included within the boundary of the Willandra Lakes Region inscribed on the World Heritage List
- contained within the boundary of Willandra Lakes Region which is included on the National Heritage List
- encompassed by the curtilage of Willandra Lakes, a heritage item listed on the NSW State Heritage Register (19 locations only)
- included within the curtilage of Willandra Lakes, a heritage item listed in the Heritage Schedule of Wentworth Local Environmental Plan (LEP) 2011 and Balranald LEP 2010
- encompassed by the Willandra Lakes World Heritage Area Heritage Conservation Area listed in the Heritage Schedule of Wentworth Local Environmental Plan 2011.

See Appendices 7 and 10 for further details about the values of the proposed works areas.

8.19 Vegetation of cultural landscape value (e.g. gardens and settings, introduced exotic species or evidence of broader remnant land uses)

Not applicable

8.20 Other cultural heritage values

Key cultural heritage values of the broader Willandra Lakes landscape (NPWS 2006) include:

- contains significant pastoral heritage values in the form of 19th century buildings and other infrastructure developed by early European settlers
- strong links from the pioneering pastoral era to present day lessees of surrounding properties.

However, there were no pastoral or pioneering heritage values identified during the site assessment at any of the activity locations.

8.21 Recreation values

Major recreation and tourism values (NPWS 2006) include:

- camping and nature-based tourism opportunities for private parties and commercial tour groups.
- outstanding opportunities for educational tourism centred on unique world heritage values
- opportunities for contemplation and spiritual experience

8.22 Scenic and visually significant areas:

Major recreation and tourism values (NPWS 2006) include:

- regionally significant landscape values such as the Mungo lakebed and the Walls of China

8.23 Education and scientific values

Research and educational values of the broader Willandra Lakes landscape (NPWS 2006) include:

- remarkable evidence of the way early people interacted with their environment
- outstanding evidence for the economic life of Homo sapiens sapiens
- shows a remarkable adaptation to local resources and a fascinating interaction between human culture and the changing natural environment
- exceptional testimony to human development during the Pleistocene period
- Willandra Lakes provides excellent conditions to document life in the Pleistocene epoch, the period when humans evolved into their present form
- some of the earliest evidence of Homo sapiens sapiens outside Africa
- evidence establishing humans had dispersed as far as Australia by 42,000 years ago
- sites also illustrate human burials that are of great antiquity
- traces of complex plant-food gathering systems that date back before 18,000 years BP at much the same time as their use in the Middle East
- evidence has allowed the typology of early Australian stone tools to be defined.

The Willandra Ancestral Remains, notably Mungo Man and Mungo Woman, were recovered from burial contexts, recorded and analysed using scientific methods, that demonstrated the antiquity of the burials and human presence in the landscape. This provided essential supporting evidence for the Outstanding Universal Values (OUV) of the property at the time of inscription. However, as discussed in Section 2 of Appendix 8, the ancestral remains are not specifically referred to in the Retrospective Statement of OUV. The Retrospective Statement makes clear that it is the place, the landscape itself, that holds the OUV of WLR in undisturbed stratigraphic deposits that contain occupation deposits of various kinds of cultural material including stone tools, grindstones, middens, trackways and burials, that evidence nearly 50,000 years of Aboriginal social, cultural and economic life.

See Appendix 8 (Table 1) for further information.

8.24 Interests of external stakeholders (e.g. adjoining landowners, leaseholders)

Four of the 26 assessment sites are located on surrounding leasehold rangeland grazing properties which are in the Willandra Lakes Region World Heritage Area. Each landholder where reburials are proposed has been consulted and is aware of the proposed activity on their property.

The activity will not change or restrict current use of the land for grazing of domestic livestock.

The wider interests of stakeholders, including scientists, is presented in Sections 4 & 5 and the Submissions Report in Appendix 15.

Landowner and lease holder consent is provided in Appendices 13 and 14.

8.25 Matter of National Environmental Significance under the EPBC Act

An independent assessment of the heritage impacts of reburial on Matters of National Environmental Significance (MNES) has been prepared (Smith, 2019) and is attached (Appendix 8). This assessment has determined that the proposed action of reburial of the Willandra Aboriginal Ancestors in WLR **will not** be a significant impact on:

- a World Heritage property, including its:
 - historic heritage values, and
 - cultural heritage values including Indigenous heritage values; and
- a National Heritage place, including its:
 - historic heritage values, and
 - Indigenous heritage values.

The assessment concludes that the proposed reburial of the Willandra Aboriginal Ancestors will not result in one or more of the National Heritage or World Heritage values of the WLR being lost, degraded or damaged, or notably altered, modified, obscured or diminished. The above being the case, it is concluded that the proposed action will not have significant impacts on matters of national environmental significance.

Search results of the EPBC Protected Matters are also appended (see Appendix 9) and an annotated checklist of threatened communities and species is tabulated below.

The EPBC protected matters report listed a number of threatened ecological communities, threatened species, and migratory species (Appendix 9). The entities listed with the potential to occur within the area will not be affected by the proposal (tabulated below) either because no suitable habitat exists for those species, the activity will occur outside of times these species are likely to be present, or the impacts will be mitigated, local or transient in nature.

The full results of this assessment and Matters of National Environmental Significance under the *EPBC Act 1999* are addressed in a separate Referral Application to the Commonwealth.

Listed Ecological Communities		
Name	EPBC Status	Comment
Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregion	Endangered	Does not occur within the project area (Westbrooke & Miller, Vegetation of Mungo National Park, western New South Wales, 1995; Porteners, Ashby, & Benson, 1997).
Weeping Myall Woodlands	Endangered	Does not occur within the project area (Westbrooke & Miller, Vegetation of Mungo National Park, western New South Wales, 1995; Porteners, Ashby, & Benson, 1997).
Listed Threatened Species		
Name	EPBC Status	Comment
Birds		
Curlew sandpiper <i>Calidris ferruginea</i>	Critically Endangered	A migratory shorebird to wetland areas; no suitable habitat for this species within the project area.
Painted honeyeater <i>Grantiella picta</i>	Vulnerable	A migratory or nomadic honeyeater, typically associated with mistletoe (Higgins, Peter, & Steel, 2001); no resources will be affected by the proposed activity and not considered further.
Malleefowl	Vulnerable	A large, ground dwelling bird restricted to extensive areas of mallee shrubland; no suitable habitat is

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors Reburial Project 2021

<i>Leipoa ocellata</i>		present at the sites and will not be affected by the proposed activity.
Eastern curlew <i>Numenius madagascariensis</i>	Critically Endangered	A migratory shorebird to wetland areas; no suitable habitat for this species within the project area.
Plains-wanderer <i>Pedionomus torquatus</i>	Critically Endangered	A cryptic, ground-dwelling bird occurring in open grasslands (Marchant & Higgins, 1993). Potentially occurs at Mungo NP, though suitable habitat appears limited (M Ballestrin, Ranger <i>pers obs.</i>). No potential habitat is present at the sites and will not be affected by the proposed activity.
Night Parrot <i>Pezoporus occidentalis</i>	Endangered	Extinct within the area.
Regent parrot <i>Polytelis anthopeplus monarchoides</i>	Vulnerable	Species is an occasional non-breeding visitor to the area. The activity will have no effect on this species.
Australian painted snipe <i>Rostratula australis</i>	Endangered	A nomadic freshwater wader (Marchant and Higgins 1993). No suitable habitat is present at the sites and will not be affected by the proposed activity.
Fish		
Murray cod <i>Maccullocha peelii</i>	Vulnerable	No suitable habitat within the project area.
Mammals		
Corben's long-eared bat <i>Nyctophilus corbeni</i>	Vulnerable	Present within the area. Considered in 5-part test.
Koala <i>Phascolartos cinereus</i>	Vulnerable	Not recorded within project area and activity will have no effect on this species if it were present.
Plants		
Mossgiel daisy <i>Brachycome papillosa</i>	Vulnerable	Known to occur in the area. Considered in 5-part test.
Winged peppergrass <i>Lepidium monoplacoides</i>	Endangered	Recorded outside the project area to the east of Mungo National Park. An annual plant that grows in seasonally waterlogged sites, on heavy fertile soils with an overstorey of bull oak <i>Allocasuarina leuhmanni</i> , black box <i>E. largiflorens</i> or poplar box <i>E. populnea</i> (Robertson and Porteners 2003). These characteristics are not found at any on the survey sites and not considered to have the potential to occur at any sites.
Menindee nightshade <i>Solanum karsense</i>	Vulnerable	Found in flooded depression with heavy soils, often on lakebeds and floodplains. Occurs to the west of the study area and not considered for further threat assessment.
Slender darling-pea <i>Swainsona murrayana</i>	Vulnerable	Not recorded in the study area (typically found further east and on heavy clay soils).

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors Reburial Project 2021

Yellow swainson-pea <i>Swainsona pyrophila</i>	Vulnerable	Not recorded from the study area. Found in mallee on sandy soils, usually after fire (occasionally from other disturbance) (Robertson and Porteners 2003). Unlikely to occur at any sites and not considered further.
---	------------	---

9 Impact assessment

This part of the REF provides an analysis of **all possible impacts** from the proposed activity and a description of **any proposed mitigation measures**.

9.1 Physical and chemical impacts during construction and operation

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. Is the proposal likely to impact on soil quality or land stability?	<input checked="" type="checkbox"/>	Negligible	<p>The initial selection of sites from the desk may not have picked up local erosion or erosion hazard, including sheet eroded areas.</p> <p>Vehicles may leave wheel tracks or become bogged if the ground is wet and soft, creating channels for water runoff and the potential for erosion. Excessive vehicle traffic at a reburial site may result in compaction and wheel tracks damaging vegetation.</p> <p>Excavation of reburial holes may be in a depression which is a water runoff area with potential to cause erosion.</p> <p>Soil subsidence of backfill in the excavated area may cause erosion.</p> <p>Not saving or poor handling of topsoil may result in poor regeneration of groundcover, creating the potential for soil erosion.</p> <p>Timing the activity in Autumn is preferred to lead into the winter growing season which will minimise the time period between</p>	<p>Relevant controls and mitigation measures from Section 6.2: (Environmental safeguards and mitigation measures):</p> <p>1, 3, 5, 7, 8, 9, 13, 14, 16, 17, 18, 19, 21, 24, 27</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p>soil disturbance and natural regeneration of ground cover plants.</p> <p>There is no evidence of salinity or acid sulphate soils at or near any of the sites and no evidence of degraded or contaminated soil or water.</p> <p>There is pest animal activity at most sites and in the surrounding area, so rabbit warrens are widespread.</p>	
2. Is the activity likely to affect a waterbody, watercourse, wetland or natural drainage system?	<input type="checkbox"/>	NA	There will be no impacts on the lakebed system.	
3. Is the activity likely to change flood or tidal regimes, or be affected by flooding?	<input type="checkbox"/>	NA	NA	
4. Is the activity likely to affect coastal processes and coastal hazards, including those projected by climate change (e.g. sea level rise)?	<input type="checkbox"/>	NA	NA	

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
5. Does the activity involve the use, storage, or transport of hazardous substances or the use or generation of chemicals, which may build up residues in the environment?	<input type="checkbox"/>	NA	NA	
6. Does the activity involve the generation or disposal of gaseous, liquid or solid wastes or emissions?	<input type="checkbox"/>	NA	NA	
7. Will the activity involve the emission of dust, odours, noise, vibration or radiation in the proximity of residential or urban areas or other sensitive locations?	<input type="checkbox"/>	NA	NA	

9.2 Biological impacts during construction and operation

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. Is any vegetation to be cleared or modified? (includes vegetation of conservation significance or cultural landscape value)	☒	Negligible	<p>The excavation of the reburial sites within each assessment site has a no potential to damage native vegetation. Vehicles bringing the people to the reburials have a small potential to damage vegetation and compact the soil. Traffic within the assessment site has potential to damage native vegetation. However, selection of reburial sites on foot will avoid impacts and use of hand tools and manual labour will avoid damage to native vegetation.</p> <p>Careful placement of vehicles and restriction of their use on site will avoid impacts.</p> <p>There will be no clearing or modification of native vegetation for this activity. Native trees, shrubs will be avoided by vehicles, people and excavation of reburial sites. Areas of bare ground or annual weed growth will be selected for reburials.</p>	<p>Relevant controls and mitigation measures from Section 6.2: (Environmental safeguards and mitigation measures):</p> <p>1, 3, 5, 7, 8, 11, 13, 15, 16, 17, 17, 19, 21, 23.</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
2. Is the activity likely to have a significant effect on threatened flora species, populations, or their habitats, or area of outstanding biodiversity value (refer to threatened species assessment of significance (5 part test))?	<input checked="" type="checkbox"/>	Nil	The areas involved in this activity are minute in the overall landscape and the duration of each activity at each site is extremely short. No trees or shrubs will be adversely impacted and therefore no plant communities, habitat trees with hollows or nests or threatened flora and fauna will be adversely impacted.	Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures): 1, 3, 5, 7, 8, 11, 12, 14, 16, 17, 17, 19, 27.
3. Does the activity have the potential to endanger, displace or disturb fauna (including fauna of conservation significance) or create a barrier to their movement?	<input checked="" type="checkbox"/>	Negligible	<u>No</u> trees or shrubs will be adversely impacted and therefore habitat trees with hollows or nests or threatened fauna will not be adversely impacted. Excavated holes left open overnight or for long periods uncovered have the potential to entrap nocturnal fauna. This can be easily overcome by ensuring that holes are covered if being left for long periods or excavations are not left open overnight. As the activity employs manual labour most likely in autumn there is virtually no possibility of disturbing nesting/breeding fauna. There will be no barrier to the movement of fauna caused by this activity. The activity will not occur at night and covers a minute area at each site. At no time during or after the activity will fauna be prevented from using the site for feeding, residing or passing through a	Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures): 7, 8, 10, 11, 14, 16, 17, 22, 23, 25.

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			site. The activity will not cause any change to exotic/introduced fauna such as rabbits, foxes or feral goats.	
4. Is the activity likely to have a significant effect on threatened fauna species, or their habitats, or areas of outstanding biodiversity value (refer to threatened species assessment of significance (5 part test))?	<input type="checkbox"/>	Negligible	<p>This activity will have a negligible effect on threatened species and their habitats. The impact at any individual site will be very low and disturbance will be transient in nature. The sites are widely dispersed across the landscape and generally in common vegetation types, so the overall impact will not have a cumulative effect.</p> <p>The use of machinery will be avoided where possible as most of the proposed sites will be excavated by hand tools. In the small number of sites where machinery is required no standing vegetation will be impacted and the movement of the machine will be directed to ensure that spinifex clumps, fallen timber and leaf litter beds are avoided. The impacts of this proposal will not lead to habitat fragmentation or isolation of any threatened fauna species.</p>	<p>Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):</p> <p>7, 8, 10, 11, 14, 16, 17, 22, 23, 25.</p>
5. Is the activity likely to impact on an ecological community of conservation significance?	<input type="checkbox"/>	Negligible	The activity will have no impact on communities of conservation significance.	<p>Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):</p> <p>7, 8, 10, 11, 14, 16, 17, 22, 23, 25.</p>
6. Is the activity likely to have a significant effect on an	<input type="checkbox"/>	Negligible	<p>Most sites occur in non-threatened vegetation communities. Two sites have characteristics consistent with the Sandhill Pine Woodland in the Riverine, Murray-Darling Depression</p>	<p>Relevant controls and mitigation measures from Section</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
endangered ecological community or its habitat (refer to threatened species assessment of significance (5 part test))?			and NSW South-western Slopes Bioregions. The activity will have a negligible effect on endangered ecological communities known from the area provided environmental safeguards outlined in section 6.2 and the 5-part test are implemented.	6.2:(Environmental safeguards and mitigation measures): 7, 8, 10, 11, 14, 16, 17, 22, 23, 25.
7. Is the activity likely to cause a threat to the biological diversity or ecological integrity of an ecological community?	<input type="checkbox"/>	Negligible	This activity will have a negligible effect on biological diversity or ecological integrity.	Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures): 7, 8, 10, 11, 14, 16, 17, 22, 23, 25.
8. Is the activity likely to introduce noxious weeds, vermin, feral species or genetically modified organisms into an area?	<input type="checkbox"/>	Negligible	A number of widespread weed species were observed during field inspections. The activity is not likely to introduce or spread weeds provided basic hygiene protocols are followed	All vehicles and equipment will be inspected to ensure they are clean and free of burr and mud prior to travelling to the area. Tyres and vehicles will be checked for any burrs and remove prior to moving to new sites.
9. Is the activity likely to affect any declared area of	<input type="checkbox"/>	NA	No declared Areas of Outstanding Biodiversity are present.	Not applicable

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
outstanding biodiversity value?				
11. Is the activity likely to affect any joint management agreement under the BC Act?	<input type="checkbox"/>	No	There is no joint management agreement under the BC Act.	Not applicable

9.3 Community impacts during construction and operation

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. Is the activity likely to affect community services or infrastructure?	<input type="checkbox"/>	NA	NA	
2. Does the activity affect sites of importance to local or the broader community for their recreational or other values or access to these sites?	<input checked="" type="checkbox"/>	Negligible	<p>Concerns from the scientific community over the reburial of the Willandra Aboriginal Ancestors, and the adverse impact this would have on knowledge about human history, have frequently been raised in Willandra meetings and workshops. For example, by John Mulvaney (quoted in Section 7.2 of this REF) stated</p> <p><i>...there is just so much of significance to the history to Aboriginal people and globally humankind to those remains.</i></p> <p>One of clearest statements on this concern comes from Steve Webb</p> <p><i>If the Willandra collection is buried or scientific enquiry about them denied, it will be a great tragedy not only for understanding our origins but also Australia's Aboriginal community. Future generations will question why scientific research into that story and their heritage could not continue: moreover it will be the destruction of an important stage in Australia's history that can never be replaced. Aboriginal people themselves will not have the opportunity that I have had to study the collection and that is why the data need to be put on the record as evidence of the final stages of</i></p>	<p>This activity will not impact on tourism revenue or revenue or employment derived from scientific research.</p> <p>There will be ongoing scientific research in the WLRWHA on ancient Aboriginal remains, provided the appropriate research protocols are followed.</p> <p>Proposals are received each year to carry out research, including that on <i>in situ</i> Aboriginal Ancestors.</p> <p>These proposals are a testament to the ongoing interest of scientific institutions as well as the future research potential of the area.</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p><i>exploration and travel of our ancestors and who crossed the planet as far as their ingenuity could take them. (Webb, 2018, p. xv)</i></p> <p>A repatriation Forum was held in February 2015 that brought together a wide range of scientists and traditional custodians (Michael Williams and Associates, 2015) . Concerns such as these were presented and debated, however one of the consensus outcomes of this forum was that</p> <p><i>We recognise that learning and education are important opportunities for the future. In partnership with museums and universities, we should be able to tell our story and present our culture to visitors.</i></p> <p>In this context further opportunities for research on Aboriginal Ancestors in the Willandra Lakes are likely, provided the appropriate research protocols are followed. There are numerous <i>in situ</i> burials in region, and two examples from Webb and Westaway are cited to support the view that the reburial of the Willandra Aboriginal Ancestors will not limit all future study.</p> <p>Webb (2016) outlines the following future potential research of the Willandra</p> <p><i>The continued exposure of human remains across the 3000 km² region will inevitably bring forth those of world scientific significance. The focus of modern human evolutionary study focuses on places across the world and the Willandra is one of those. So far Lake Mungo has the oldest dates for humans in Australia and they represent people at the end of the</i></p>	

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p><i>longest of human journeys. That story is not at an end but just beginning. Future study of human remains from the region is a vital addition to the world story of humanity...</i></p> <p>This point has also been acknowledged by Westaway (2006, p. 127)...<i>many burials are still eroding from the Willandra, and present an opportunity to learn more about the region.</i> Westaway further noted that there were more than 50 other in situ within the Willandra Lakes system (2006, p. 129). That number has since risen to more than 60 individual burials and newly exposed remains are regularly located.</p> <p>For example, Westaway (2016) recently located two graves containing child burials. These burials, still <i>in situ</i>, are indicative of the research potential that exists in the Willandra. Westaway concluded;</p> <p><i>These findings are potentially very important. If they are children and they do date to the Last Ice Age, as the exposed evidence suggests, then these burials expand our understanding of behavioural complexity in ancient Aboriginal Australia as reflected in sophisticated burial rituals for children living in the Ice Age. In terms of our understanding of human complexity at this early stage, there really are no other sites like this in the world.</i></p> <p>This would indicate that scientific research in the Willandra Lakes has a future. Indeed, the protocols that can lead this have already been developed by the AAG, including principles such as,</p> <p>All research must be developed in partnership;</p>	

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p>No research project or question is to be developed on Aboriginal Ancestors without the AAG;</p> <p>No remains are to be off country or out of the ground for an indefinite period;</p> <p>A date must be set by which time remains are to be reburied (Willandra Lakes Region World Heritage Area Aboriginal Advisory Group, 2019).</p>	
3. Is the activity likely to affect economic factors, including employment, industry and property value?	<input type="checkbox"/>	NA	This activity will not impact on tourism revenue or revenue or employment derived from scientific research.	Not applicable
4. Is the activity likely to have an impact on the safety of the community?	<input type="checkbox"/>	NA	The activity will have a positive impact on the cultural safety of the Aboriginal community. The removal and study of ancestors has caused long standing concern for the Aboriginal community and the reburial of the ancestors will resolve this concern.	Not applicable
5. Is the activity likely to cause a bushfire risk?	<input checked="" type="checkbox"/>	Negligible	Human presence in a fire prone environment may cause a fire, however specific controls can minimise the likelihood. Timing of reburials is flexible and can avoid days of high fire risk due to high temperatures and/or strong wind. The boxes may be taken offsite on completion, or the Elders may choose to burn them on site. Any burning will be conducted under the direction of the NPWS Area Office with a fire unit on site. As	Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):7, 8, 10, 25, 26, 27.

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			there are no buildings or other constructions near any of the sites there is no requirement for an asset protection zone.	
6. Will the activity affect the visual or scenic landscape?	<input type="checkbox"/>	NA	No, there will be no visual impact from the activity	Not applicable
7. Is the activity likely to cause noise, pollution, visual impact, loss of privacy, glare or overshadowing to members of the community, particularly adjoining landowners?	<input type="checkbox"/>	NA	No. there will be no impacts from noise, pollution, visual impact, loss of privacy, glare or overshadowing to members of the community, particularly adjoining landowners or lease holders.	Not applicable

9.4 Natural resource impacts during construction and operation

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. Is the activity likely to result in the degradation of the park or any other area reserved for conservation purposes?	<input checked="" type="checkbox"/>	Negligible	<p>There is a possibility that items out of keeping with conservation could be inadvertently left on site, causing minor degradation of Mungo NP.</p> <p>Wet ground conditions following rainfall will result in wheel tracks or even bogged vehicle in the park causing degradation of Mungo NP.</p> <p>These potential adverse impacts are small as the areas involved are small and dispersed. The impacts can be avoided by adoption of controls.</p>	<p>Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):</p> <p>9, 17, 27, 26</p>
2. Is the activity likely to affect the use of, or the community's ability to use, natural resources?	<input type="checkbox"/>	NA	No, the activity will not affect the use of, or the community's ability to use, natural resources.	Not applicable
3. Is the activity likely to involve the use, wastage, destruction or depletion of natural resources including water, fuels, timber or extractive materials?	<input type="checkbox"/>	NA	No, the activity will not involve the use, wastage, destruction or depletion of natural resources including water, fuels, timber or extractive materials.	Not applicable

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
4. Does the activity provide for the sustainable and efficient use of water and energy?	<input type="checkbox"/>	NA	The activity will not require ongoing use of water and energy.	Not applicable

9.5 Aboriginal cultural heritage impacts during construction and operation

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
1. Will the activity disturb the ground surface or any culturally modified trees?	<input checked="" type="checkbox"/>	Low	<p>It is unlikely that previously unidentified archaeologically significant deposits will occur subsurface at the proposed reburial locations. Therefore, it is unlikely that the proposed reburials will have any adverse impact on the significant archaeological record of the WLRWHA.</p> <p>Aboriginal cultural heritage including Aboriginal sites and objects are under the jurisdiction of the <i>National Parks and Wildlife Act 1974</i>. The proposed works are exempt under Sections 87A and 87B of the NPW Act. The proposed works are conservation works and will not constitute harm or desecration under the NPW Act (Section 87A(a)) as an officer from NSW Heritage is principally involved in the supervision of the works under the NPW Act. The burying ancestors is a traditional Aboriginal activity. Conducting traditional Aboriginal cultural activities (but not commercial activities) will not constitute harm or desecration under Section 87B of the NPW Act. Therefore, an Aboriginal heritage impact permit (AHIP) is not required for the proposed works.</p> <p>There are a few trees on two sites and a handful of large shrubs on a few other sites, but all of these will be avoided in micro selection of reburial sites.</p>	<p>All 26 assessment sites were assessed by a team including combinations of one ecologist, one archaeologist, four Aboriginal rangers and three Elders representing the AAG.</p> <p>Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):</p> <p>2, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			No trees were identified during the site assessments as having been culturally modified.	
<p>2. Does the activity affect known Aboriginal objects or Aboriginal places?</p> <p>Include all known sources of information on the likely presence of Aboriginal objects or places, including AHIMS search results.</p>	☒	Low	<p>All of the proposed activity areas have been assessed in the field. The full details on the field methods and assessment are presented above in Section 6.2 and Appendix 7. Several of the locations assessed during the site assessment contained isolated or surface scatters of Aboriginal objects (e.g. flaked stone tools) and several locations are within the site extents of previously recorded AHIMS Aboriginal sites (see Appendix 7). The potential for Aboriginal archaeological deposits is generally low to moderate and the potential scientific significance of any deposits is low.</p> <p>Where a recorded Aboriginal site will be impacted by ground disturbance, the degree of harm or impact will be partial at all proposed reburial locations, particularly given the small size of the proposed burial pits and the nature of the sparse 'background scatter' of flaked stone artefacts across the WLRWHA. The consequence of harm/impact, where there is recorded Aboriginal sites, will be that the natural stratigraphy of the discrete reburial locations will be disturbed and any Aboriginal objects that are present will not be in situ once they are reinterred along with the Aboriginal Ancestors and excavated soils. This consequence will result in no loss of overall value. A summary of the impacts to Aboriginal sites is provided in Appendix 10.</p>	<p>Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):</p> <p>2, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p>The proposed activity will have a low or no impact on <i>in situ</i> Aboriginal objects provided the mitigation measures are followed.</p> <p>The Willandra Aboriginal Ancestors collection consists of mineralised ancient human skeletal materials. The mineralization process has hardened the bone and also removed almost all organic component left in the bone. This process is described in detail by Webb (1989) <i>'The percolation of ground and rainwater over thousands of years through soils containing carbonates and silicates promotes silification throughout the whole bone and carbonate deposition on external surfaces. Organic components of the bone in particular are changed. Apatite, for example, takes up fluorine to produce the inorganic fluor-apatite. The strength of these processes in the Willandra were exemplified when 56 samples of unburnt bone were analysed to determine their nitrogen content, as an indicator of the organic content of the bone and therefore its suitability for radiocarbon dating. Only two of the samples, WLH 15 and 55...had more than the minimum 0.2% nitrogen required so that, as noted in Chapter I, radiocarbon dating could not be pursued. Thus, ironically, the mineralization which had the effect of strengthening the bone and ensuring its preservation, at the same time rendered it unsuitable for dating, (Webb 1989, p. 8).</i></p> <p>The remains that have been cremated have also had the organic components of the bone removed (Webb 1989, p. 10-11). The removal of almost all organic components through</p>	

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p>either mineralization or cremation of the remains has preserved and hardened the bone.</p> <p>The Willandra skeletal material will be placed back into soils from which they have been removed. Given the chemical alteration, process of mineralisation and removal of organic components (above) the Willandra skeletal material could be argued to have reached 'equilibrium' with its environment, and further decay or deterioration can be expected to be slow.</p> <p>Furthermore, the repatriation and reburial of Aboriginal Ancestors is consistent with the <i>Repatriation of Aboriginal Ancestors and cultural material Policy (2018)</i> that has been developed under the National Parks and Wildlife Act (1974) which states in part:</p> <p><i>The repatriation of Aboriginal cultural material by a Heritage Division officer or under the direction of a Heritage Division officer is considered to be 'conservation works'. This work will not constitute harm or desecration under the NPW Act (s 87A(a)) provided that the Heritage Division officer is principally involved in the administration of the NPW Act.</i></p>	
<p>3. Is the activity located within, or will it affect, areas :</p> <ul style="list-style-type: none"> • within 200m of waters* • within a sand dune system* 	<input checked="" type="checkbox"/>	Low	<p>Most of the 26 assessment sites fall within dune, lunette, floodplain or lakebed landforms (see Appendix 7). However, all 26 assessment sites have been subject to a site assessment by an archaeologist and representatives from the AAG.</p> <p>Stern (pers. comm.) surveyed a large area (more than 200,000m²) of post lake aeolian sediments in the central Mungo lunette in 2010 and recorded archaeological features</p>	<p>Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):</p> <p>2, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
<ul style="list-style-type: none"> • on a ridge top, ridge line or headland • within 200m below or above a cliff face • within 20m of or in a cave, rock shelter or a cave mouth? 			<p>at a density of 0.0004 per m², or 1 feature per 2378 m². In this survey archaeological features included all archaeological traces including hearths, bone clusters, stone clusters, and shell clusters with isolated <i>in situ</i> finds. The context of this survey is comparable to the locations where reburials will take place – in general the reburials will take place on recent aeolian sands, not on Pleistocene strata. The number of archaeological features that could be expected to be found in the area of the reburials (28.5m²) would be 0.012.</p> <p>Therefore, the potential for Aboriginal archaeological deposits in these landforms is generally low to moderate and the potential scientific significance of any deposits is low. It is unlikely that previously unidentified archaeologically significant deposits will occur subsurface at the proposed reburial locations. It is also unlikely that the proposed reburials will have any adverse impact on the significant archaeological record of the WLRWHA.</p>	
4. If Aboriginal objects or landscape features are present, can impacts be avoided?	<input checked="" type="checkbox"/>	Low	<p>Objects on the surface can be readily avoided. However, there is a low to moderate likelihood that sub surface objects may be encountered. If this occurs Mitigation Measures, including No. 20 (below) will be implemented:</p> <p><i>'In the event that unexpected discoveries of objects or Aboriginal Ancestors occurs during excavation of the grave site the following Contingency Plan will be implemented. Works will cease immediately, the objects or remains will be recorded and photographed and an AHIMS record card will be completed, the excavation will be refilled, and a new grave</i></p>	<p>Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):</p> <p>2, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<i>site will be chosen elsewhere from within the 1 ha or 0.5 ha. assessment area'.</i>	
<p>5. If the above steps indicate that there remains a risk of harm or disturbance, has a desktop assessment and visual inspection[^] been undertaken (refer to the Due Diligence Code)?</p> <p>[^] For activities proposed by OEH, at a minimum, this should be undertaken by an OEH employee with Aboriginal Site Awareness training and relevant practical experience, as approved by an Area Manager.</p>	☒	Low	<p>A desktop assessment and a site assessment was undertaken in April 2019 (Appendix 7). The reburial will not impact on any existing surface stone artefacts where they were observed in April 2019, as the reburial locations have been chosen so as to avoid surface artefacts and therefore as much harm as possible. However, the action of reburial (excavation of small holes in the ground) may accidentally encounter subsurface artefacts or Aboriginal Ancestors.</p> <p>All activities will be conducted under the supervision of a Heritage NSW officer. In order to mitigate any residual risk, the unexpected finds protocol will be followed in the unlikely event that unexpected objects are uncovered during the reburial.</p> <p>The activity is exempt under Part 6, Aboriginal objects and Aboriginal places Div 1 General, Sec 87A and Sec 87B of the NPW Act. Details from the NPW Act are as follows:</p> <p>Sec 87A Exemptions for certain activities</p> <p>Section 86 (1) to (4) do not apply in relation to the following:</p> <p>(a) work for the conservation or protection of an Aboriginal object or place that is carried out by an officer of the Service or a person under the direction of such an officer,</p>	<p>Relevant controls and mitigation measures from Section 6.2:(Environmental safeguards and mitigation measures):</p> <p>2, 4, 5, 6, 7, 8, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 24</p>

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Likely impact (negligible, low, medium or high; negative or positive; or N/A)	Reasons (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p>Sec 87B Exemption for traditional Aboriginal cultural activities</p> <p>(1) The object of this section is to exempt Aboriginal people from the provisions of section 86 that prohibit the harming of an Aboriginal object or place.</p> <p>(2) Aboriginal people are exempt from the provisions of section 86 (1), (2) and (4) to the extent to which those provisions would, but for this section, prohibit Aboriginal people from carrying out traditional cultural activities (except commercial activities).</p> <p>(3) This section applies to and in respect of any dependants (whether Aboriginal or not) of Aboriginal people in the same way as it applies to and in respect of Aboriginal people.</p>	
6. Is the activity likely to affect wild resources or access to these resources, which are used or valued by the Aboriginal community?	<input type="checkbox"/>	NA	NA	

Special explanatory notes:

- If the above assessment indicates that there is still a reasonable risk or potential that Aboriginal objects, Aboriginal places or sensitive landscape features could be adversely affected by a proposal, consistent with the precautionary principle, it should either be re-considered or further detailed investigations undertaken.

- If it is concluded that an activity will have unavoidable and justified impacts on Aboriginal objects or Aboriginal places, the proponent should consider applying for an Aboriginal Heritage Impact Permit (AHIP) under s.90 of the NPW Act.

9.6 Other cultural heritage impacts during construction or operation

	Applicable?*	Likely impact (negligible, maintenance, minor, major, contentious; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
<p>1. What is the impact on places, buildings, landscapes or moveable heritage items?</p> <p>Attach relevant supporting information where required, such as a heritage impact statement.</p>	<input checked="" type="checkbox"/>	Negligible	<p>All of the proposed activity areas were assessed and inspected in the field. The 19 locations in the SHR are in very remote locations and none are in proximity to any historic building, landscape, moveable heritage item or relics as defined under the <i>Heritage Act 1977</i>.</p>	Not applicable
<p>2. Is any vegetation of cultural landscape value likely to be affected (e.g. gardens and settings, introduced exotic species, or evidence of broader remnant land uses)?</p>	<input checked="" type="checkbox"/>	Negligible	<p>All of the proposed activity areas were assessed and inspected in the field. The 19 locations in the SHR are in very remote locations and none are in proximity to any historic building, landscape, moveable heritage item or relics as defined under the <i>Heritage Act 1977</i>.</p> <p>Monuments and gravemarkers will not be placed and the works will not be in conflict with the character of the place</p>	Not applicable

9.7 Matters of national environmental significance under the EPBC Act

Section 3.14 of *Guidelines for Preparing a Review of Environmental Factors* provides further guidance.

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
Is the proposal likely to impact on matters of national environmental significance as follows:				
listed threatened species or ecological communities	<input type="checkbox"/>	Negligible	Three fauna species are federally listed as vulnerable Malleefowl <i>Leipoa ocellata</i> , Regent Parrot <i>Polytelis anthopeplus</i> and Corben's Long-eared Bat <i>Nyctophilus corbeni</i> (Appendix 9, and Section 8 above, 'Matters of national environmental significance'). The actions proposed within this project will not have a significant impact on these species. Malleefowl are generally restricted to mallee/Triodia communities in Western NSW and will not be impacted as repatriation sites are located outside of this vegetation type. The Regent Parrot is an infrequent visitor to Mungo NP (1 record only) and would be restricted to foraging in mallee habitat; it is therefore unlikely to be significantly affected by any elements of this proposal. Corben's Long-eared Bat is known to utilise belah-pine woodland communities within Mungo NP. As the use of machinery in these vegetation communities will be minimal and no perennial vegetation will be removed, the impact on this species will be negligible.	Environmental safeguards outlined in Section 6.2 will minimise impacts to threatened species, namely no perennial vegetation will be removed, and the use of machinery and vehicle movement will be minimised.

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			The activity footprint at any particular site will be small. A desktop analysis and field visit indicate that no threatened species or communities are likely to be significantly impacted by the proposal.	
listed migratory species	<input type="checkbox"/>	Negligible	<p>The EPBC Act protected matters report identifies 20 species listed as migratory or marine species protected under international agreements (CAMBA, JAMBA or ROKAMBA treaties) see Appendix 9. Of these species, 19 are considered wetland species (eg. migratory waders) and the assessment sites present no suitable habitat, and a further species is a migrant that rarely roosts while in Australian skies (Fork-Tailed swift <i>Apus pacificus</i>).</p> <p>Of these species listed, only the Black-eared Cuckoo <i>Chalcites osculans</i> and Rainbow Bee-eater <i>Merops ornatus</i> have the potential to occur at the assessment sites.</p> <p>Both species are spring migrants to the area. As repatriation activities will occur in autumn – winter, neither species will be present at the sites. Furthermore, the impact on these widespread and highly mobile species will be negligible.</p>	The activity will not occur in Spring to minimise disturbance to terrestrial migratory species.
the ecology of Ramsar wetlands	<input type="checkbox"/>	NA	There are no Ramsar wetlands in the activity area	Not applicable
Commonwealth marine environment	<input type="checkbox"/>	NA	There are not Commonwealth marine environments in the activity area	Not applicable

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
world heritage values of world heritage properties	☒	Negligible	<p>This matter is addressed in detail in a separate MNES assessment (Appendix 8).</p> <p>At the time of original World Heritage listing (1981) a Statement of Outstanding Universal value was not required, and the inscription of the property simply notes the World Heritage criteria on which the property was inscribed. A Retrospective Statement of Outstanding Universal Value (RSoOUV) for Willandra Lakes was adopted in 2013.</p> <p>The Willandra Aboriginal Ancestors were removed from the Willandra Lakes Region between 1968 and the early 1980s and are not referred to as 'attributes' of the World Heritage values of the property in the Retrospective Statement of Outstanding Universal Value (RSoOUV) 2013.</p> <p>The identified cultural values and attributes of the property are:</p> <ul style="list-style-type: none"> • <i>human development during the Pleistocene period and the way people interacted with their environment during this period;</i> • <i>the dispersal of humans as far as Australia by 42,000 years ago;</i> • <i>ritual burial of great antiquity; and</i> • <i>the development of complex plant-food gathering systems dating before 18,000 years.</i> 	<p>The attached assessment (Appendix 8) concludes that the proposed reburial of the Willandra Aboriginal Ancestors will not result in one or more of the National Heritage or World Heritage values of the WLR being lost, degraded or damaged, or notably altered, modified, obscured or diminished. The above being the case, it is concluded that:</p> <ul style="list-style-type: none"> ▪ the proposed action will not have significant impacts on matters of national environmental significance. No further safeguards or mitigation measures are therefore required.

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p>The RSoOUV consistently emphasises the undisturbed stratigraphic units containing occupation deposits of various kinds of cultural material—stone tools, grindstones, middens and trackways—and in-situ burials as the primary attributes that hold each of the values listed above. The oldest ritual cremation site in the world is specifically described as an attribute without acknowledging that the Aboriginal Ancestors were removed from the site.</p> <p>Appendix 8 makes a comparison of relevant international case studies of World Heritage properties in South Africa and the USA. In each of the three cases examined, reburial of Aboriginal Ancestors at the request of descendent communities has not been considered an impact to the Outstanding Universal Value of the property.</p> <p>These examples have noted that, by reinstating ancestral values and continuing cultural protocols of caring for the dead, reburial could be argued to have a beneficial impact on the values of the properties.</p>	
the national heritage values of national heritage places	☒	Negligible	<p>This matter is addressed in detail in a separate MNES assessment (Appendix 8).</p> <p>At the time of original World Heritage listing (1981) a Statement of Outstanding Universal value was not required, and the inscription of the property simply notes the World Heritage criteria on which the property was inscribed. A Retrospective Statement of Outstanding Universal Value (RSoOUV) for Willandra Lakes was adopted in 2013.</p>	The attached assessment (Appendix 8) concludes that the proposed reburial of the Willandra Aboriginal Ancestors will not result in one or more of the National Heritage or World Heritage values of the WLR being lost, degraded or damaged, or notably altered, modified, obscured or diminished.

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p>For this assessment, the values and attributes identified in the 2013 RSoOUV have also been adopted as the National Heritage values and their attributes have been utilised for the purposes of assessing the impact of the proposed action.</p> <p>The Willandra Aboriginal Ancestors were removed from WLR between 1968 and the early 1980s are not referred to as ‘attributes’ of the World Heritage values of the property in the Retrospective Statement of Outstanding Universal Value (RSoOUV) 2013.</p> <p>The identified cultural values and attributes of the property are:</p> <ul style="list-style-type: none"> • <i>human development during the Pleistocene period and the way people interacted with their environment during this period;</i> • <i>the dispersal of humans as far as Australia by 42,000 years ago;</i> • <i>ritual burial of great antiquity; and</i> • <i>the development of complex plant-food gathering systems dating before 18,000 years.</i> <p>The RSoOUV consistently emphasises <u>the undisturbed stratigraphic units containing occupation deposits of various kinds of cultural material—stone tools, grindstones, middens and trackways—and in-situ burials</u> as the primary attributes that hold each of the values listed above. The oldest ritual cremation site in the world is specifically described as an</p>	<p>The above being the case, it is concluded that:</p> <ul style="list-style-type: none"> ▪ the proposed action will not have significant impacts on matters of national environmental significance. No further safeguards or mitigation measures are therefore required.

Review of Environmental Factors - Willandra Lakes Aboriginal Ancestors reburial project 2021

	Applicable?*	Impact level (negligible, low, medium or high; negative or positive; or NA)	Reasons (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	Safeguards/mitigation measures
			<p>attribute without acknowledging that the Aboriginal Ancestors were removed from the site.</p> <p>Appendix 8 makes a comparison of relevant international case studies of World Heritage properties in South Africa and the USA. In each of the three cases examined, reburial of Aboriginal Ancestors at the request of descendent communities has not been considered an impact to the Outstanding Universal Value of the property.</p> <p>These examples have noted that, by reinstating ancestral values and continuing cultural protocols of caring for the dead, reburial could be argued to have a beneficial impact on the values of the properties.</p> <p>With reference to the NHL listing, this would be seen as enhancing the social/spiritual values recognised under NHL Criterion (g).</p>	

- **Note:** The [Protected Matters Search Tool](#) can assist in checking for matters of national environmental significance.
- Referral to the Commonwealth may be required if the activity is likely to have a significant effect on matters of national environmental significance. Refer to the [Significant Impact Guidelines](#). Contact NPWS if a significant affect is likely.

10 Proposals requiring additional information

This section is not applicable to this project

10.1 Lease or licence proposals under s.151 NPW Act

Not applicable, no lease or licence is required under the NPW Act.

Proponents must complete and submit a **Sustainability Assessment** together with the REF. This also applies where OEH is the proponent for projects of the kind listed in s.151A, NPW Act.

For information on the sustainability assessment criteria and guidelines, including assessment templates, go to the [Development guidelines webpage](#).

Indicate which sustainability assessment is attached:

- special activities and uses (involving more than 400 people) – Sustainability Assessment **Template 2**
- built structures and facilities – Sustainability Assessment **Template 3**.

Note that for **minor activities and uses** (usually events and similar proposals involving fewer than 400 people), a streamlined and combined REF and Sustainability Assessment template is available (**Template 1**).

10.2 Telecommunications facilities (s.153D, NPW Act)

Not applicable, this project does not involve a telecommunication facility.

10.3 Activities within the Sydney Drinking Water Catchment

This project is not located within a catchment subject to the provisions of the [State Environmental Planning Policy \(Sydney Drinking Water Catchment\) 2011](#).

Not applicable

11 NSW Threatened species assessment of significance (5-part test)

Threatened species and ecological communities, or their habitats, which are likely to be affected by the activity must be identified and considered in the REF.

The factors set out in [Section 7.3 of the Biodiversity Conservation Act 2016](#) are used to decide whether there is likely to be a significant effect on threatened species ecological communities or their habitats. These factors can be addressed in the body of the REF, or in a separate document submitted with the REF. In preparing the assessment, refer to any relevant guidelines published by OEH.

Threatened species and communities and critical habitats listed under both the [Biodiversity Conservation Act 2016](#) and [Fisheries Management Act 1994](#) should be included. Those **only** listed under the [Environment Protection and Biodiversity Conservation Act 1999](#) (EPBC Act) should **not** be included. Impacts on EPBC Act listed species and communities should be addressed in section 9, or in a separate attached assessment. The proponent will still need to separately consider whether referral to the Commonwealth is required.

The following is to be taken into account for the purposes of determining whether a proposed development or activity is likely to significantly affect threatened species or ecological communities, or their habitats—

- (a) in the case of a threatened species, whether the proposed development or activity is 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,
- (b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity—
 - (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
 - (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
- (c) in relation to the habitat of a threatened species or ecological community—
 - (i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
 - (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and
 - (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,
- (d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
- (e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

11.1 Response

A database search revealed that twenty species of threatened fauna and two species of threatened flora under the NSW [Biodiversity Conservation Act 2016](#) have been recorded in Mungo NP using the search tool for the NSW Bionet Atlas. A copy of the search results is appended (Appendix 5).

Four of the fauna species and one of the flora species listed in NSW are also listed as Nationally threatened under the [Environment Protection and Biodiversity Conservation Act 1999](#). A copy of the search results is appended (Appendix 9).

Four threatened ecological communities have been recorded in the Mungo NP according to Bionet. A copy of the search results is appended (Appendix 6). However as explained above, *Halosarcia lylei* open shrubland is not known to occur in the area and appears in error. One of these communities (Sandhill Pine Woodland in the Riverina, Murray Darling Depression and NSW South Western Slopes) is represented at two locations (GL005 and WCW-006, see Appendix 2). Adoption of the environmental and Aboriginal cultural heritage controls and mitigation measures listed in this REF will ensure there is no impact on the Cypress-pine.

A review of threatened species or ecological communities against the *Fisheries Management Act 1994* using the 5-Part test is not required as none of the sites are near water bodies, have impact on waterways or provide habitat for threatened aquatic species or communities.

The impact on threatened species and threatened ecological communities occurring on the park are considered in the 5-part test below.

Many of the sites had only one species of flora present (Black Bluebush) while the maximum number of flora species represented on any site was nine. Bare ground was frequently above 90% of total cover, while only one site had less than 50% bare ground. No threatened flora or fauna was recorded at any site during the field work.

As no native vegetation will be removed or habitat will be adversely affected by this activity there will not be a significant impact on threatened species, populations or endangered ecological communities, it is concluded that a five-part test is not warranted. The proposed activity is benign and of short duration resulting in no impact or permanent change to habitat. The extremely small surface area disturbed at each of the 26 reburial sites will rapidly recover following rain.

11.1.1 Species and Communities considered in 5-part test

Threatened Plants – Mossgiel Daisy and Silky Swainson-pea

Threatened Ecological Communities – *Acacia loderi* shrublands, *Acacia melvillei* shrublands, Sandhill Pine Woodlands

Threatened Animals – mallee slender blue-tongue lizard, malleefowl, spotted harrier, white-bellied sea-eagle, little eagle, Australian bustard, pink cockatoo, regent parrot, white-fronted chat, chestnut quail-thrush, southern ningau, western pygmy possum, little pied bat, Corben's long-eared Bat, inland forest bat, jewelled gecko, pink cockatoo, western blue-tongue lizard.

(a) *in the case of a **threatened species**, whether the proposed development or activity is 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,*

From available knowledge based on Bionet records, both threatened plant species (Silky swainson-pea and Mossgiel daisy) occur in small, dispersed populations across the park. No individuals of either species were observed at the assessment sites, however given the dry conditions it is unlikely either species would have been visible or identifiable during field surveys.

Of the 26 threatened fauna species recorded from Mungo NP (Bionet records, anecdotal records and NPWS pitfall survey data) the 12 threatened fauna species listed above could potentially be impacted to a minor degree by this proposal i.e. ground nesting/dwelling species or species that are known to utilize habitats or habitat attributes where reburial activities are identified.

Given the small activity footprint, it is unlikely any local population of any threatened species will be put at risk.

Environmental safeguards as outlined in Section 6.2 will mitigate risk to these species. As both threatened plant species are widespread, albeit localised in occurrence, the nature of the activity is highly unlikely to put a local population at risk. Prior to excavation and ancillary works on the

sites, the area should be checked to confirm if either threatened flora species is likely to be directly affected by the works, and if so, an alternative location at the site will be selected. The retention of topsoil to spread back over the site will ensure the seedbank is retained. While there is limited information about the life history traits of the silky swainson-pea, other *Swainsona* species are promoted by soil disturbance, fire or light grazing (Porteners and Roberston 2003).

*(b) in the case of an **endangered ecological community or critically endangered ecological community**, whether the proposed development or activity—*

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

The three threatened ecological communities (TECs) are not likely to be put at risk from the proposal (*Halosarcia lylei* TEC is not considered to occur in the area, for reasons explained in Section 8).

The activity will not occur in the vicinity of known or potential locations of *Acacia loderi* shrublands or *Acacia melvillei* shrublands. These communities occur at small, dispersed sites across the park. Due to discrete and dispersed nature of these ecological communities, this activity can easily avoid these TECs.

Two sites occur within a community that meets the criteria as Sandhill Pine Woodland in the Riverina, Murray-darling Depression and NSW South-western Slopes Bioregions. Environmental safeguards as outlined in Section 6.2 will minimise the risk to these communities. In addition, any works within sandhill pine woodlands should avoid vehicle traffic as much as practicable and avoid excavation activities within 20m of the dripline of existing trees to minimize the potential for translocation of soil pathogens, soil disturbance and root damage.

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

The activity will not have an adverse impact on the composition of ecological communities at the site, provided environmental safeguards as outlined in Section 6.2 are implemented, avoiding works in threatened Acacia communities and minimising impacts to sandhill pine communities as outlined in b (i) above.

(c) in relation to the habitat of a threatened species or ecological community—

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

The proposed activity will temporarily remove a very small amount of potential habitat for threatened plant species. The activity will involve the temporary excavation of soil, and as each site is spatially dispersed, it is unlikely to threaten the population of any threatened species in the area. As outlined in Section 6.2, the impact is likely to be temporary as topsoil removed during construction will be retained and used to re-cover excavated areas. The area then be allowed to revegetate naturally.

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

The proposed activity will not have fragmentation or isolation effects on the two threatened plant species. Both species have been recorded at locations across the park and both species have seeds that are readily dispersed. Mitigation measures as outlined in section 6.2 will minimise potential risks to these species.

The TECs on the park are found in small, discrete populations across the park. The activity will not contribute to these communities becoming further fragmented as the activity footprint at any particular site is small. The activity will also avoid areas of threatened Acacia woodlands and if works are to occur in Sandhill Pine Woodland, mitigation measures as outlined in section 6.2 of this assessment of significance will be implemented.

- (iii) *the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality,*

The activity will not damage the habitat of threatened species or the threatened ecological communities. The activity footprint at any particular site is small. Mitigation measures to reduce the impact at any one particular site will reduce the impact at any particular site, and the cumulative impact will also be very small.

- (d) *whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),*

No areas of outstanding biodiversity value have been identified within the proposed area.

- (e) *whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.*

The activity is not a key threatening process nor expected to increase the impact of key threatening processes, provided mitigation measures outlined in section 6.2 and in the above assessment are implemented.

12 Summary of impacts

This table summarises the impacts and consider the cumulative impacts of the activity based on the classification of individual impacts as low, medium or high adverse, negligible or positive.

Category of impact	Significance of impacts		
	Extent of impact	Nature of impact	Environmentally sensitive features
Physical and chemical	The activity is benign in respect to physical and chemical impacts. Although the activity involves small excavations at multiple sites, careful site selection and adoption of controls and mitigation strategies will avoid impact on the land. There will be no chemicals used or no discharges to air or water or land.	There will be no impact on the land or air from the presence of a small number of people and excavation of small holes for reburial or remains at 26 locations across widely dispersed site. Adoption of controls and implementation of mitigation measures will avoid impacts.	Nil
Biological	The activity is benign in respect to biological impacts. No native vegetation will be removed or destroyed, or breeding areas disturbed, modified or lost.	There will be no impact on habitat resulting from the presence of a small number of people and excavation of small holes for reburial or remains at 26 locations across widely dispersed sites. Adoption of controls and implementation of mitigation measures will avoid impacts.	There will be no impact on threatened species, populations or ecological communities.
Natural resources	The activity is benign in respect to natural resource impacts. There will be no water used or wastewater discharged during this activity. As there are no above-ground structures resulting from the proposed activity, the landscape and landforms will not be altered or compromised. There will be no ongoing	There will be no impact on water resources, soil resources, landscapes and landforms from the presence of a small number of people and excavation of small holes for reburial or remains at 26 locations across widely disperse sites. Adoption of controls and implementation of mitigation measures will avoid impacts .	There will be no impact on groundwater, waterways, wetlands or geological features.

Category of impact	Significance of impacts		
	Extent of impact	Nature of impact	Environmentally sensitive features
	management or maintenance required.		
Community	<p>The activity will have a positive impact on the Aboriginal community</p> <p>There will be no negative impacts on the Aboriginal community or the broader community.</p> <p>There is no residence within many kilometres of the reburial sites, no additional traffic will be generated on roads and there will be no noise or odour emissions.</p>	Nil	Nil
Cultural heritage	<p>Reburial will not impact on any existing surface Aboriginal objects where they have been observed in April 2019. However, the action of reburial – excavation of small holes in the ground, may accidentally encounter Aboriginal objects, although this is assessed to have low or no likely impact.</p> <p>No relics as defined under the <i>Heritage Act (1977)</i> will be impacted by the proposed activity.</p> <p>The activity will result in the burial of the Willandra Aboriginal Ancestors.</p>	<p>Excavation of small holes may displace or move Aboriginal objects, if they are encountered when the graves are dug. Heritage NSW will mitigate the impacts in the unlikely event that objects are encountered by following the unexpected finds protocol, noting the exemption for the proposed activity for conservation works and traditional cultural activities for Aboriginal people (burial) allowed under the NPW Act.</p> <p>Nil</p> <p>The Willandra Aboriginal Ancestors collection will become inaccessible for research, study or scientific analysis.</p>	<p>Not relevant</p> <p>Not relevant</p> <p>Not relevant</p>

13 Conclusions

In conclusion indicate if:

- there is likely to be a significant effect on the environment and an environmental impact statement is required

No

Yes

Reason(s):

This REF has described the impacts of the proposed activity. Mitigation measures, as outlined in Section 6.2, will avoid any potential deleterious impacts on cultural or natural heritage features discovered during the activity not previously detected at the assessment sites. Sections 9.1 to 9.7 have addressed all of the environmental matters as required under Clause 228 of the EP&A Regulation.

This REF concludes that the activity will have no significant or adverse impacts on environmental matters as required under Clause 228 of the EP&A Regulation including:

- (a) no environmental impact on a community,
- (b) no transformation of a locality,
- (c) no environmental impact on the ecosystems of the locality,
- (d) no reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality,
- (e) negligible or low effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations,
- (f) no impact on the habitat of protected animals (within the meaning of the Biodiversity Conservation Act 2016),
- (g) no impact on endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air,
- (h) no impact on or long-term effects on the environment,
- (i) no degradation of the quality of the environment,
- (j) no risk to the safety of the environment,
- (k) no reduction in the range of beneficial uses of the environment,
- (l) no pollution of the environment,
- (m) no environmental problems associated with the disposal of waste,
- (n) no increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply,
- (o) no cumulative environmental effect with other existing or likely future activities.
- (p) no impact on coastal processes and coastal hazards, including those under projected climate change conditions

No native vegetation will be removed or destroyed during this activity, therefore habitat values will not be reduced or compromised.

No native vegetation will be removed, or habitat will be adversely affected by this activity. There will not be a significant impact on threatened species, populations or endangered ecological communities.

The proposed activity is benign and of short duration resulting in no impact or permanent change to habitat. The extremely small surface area disturbed at each of the 26 reburial sites will rapidly recover following rain.

- there is likely to be a significant effect on threatened species, populations, ecological communities or their habitats and a species impact statement is required

- No
 Yes

Reason(s):

The impact on threatened species and threatened ecological communities occurring has been considered in a 5-part test (Section 11.1.1). There will be no impact or changes to habitat of threatened species, populations or ecological communities as no native vegetation will be removed or destroyed. There will be no change to the distribution of pest animals or weeds and no increases in erosion or reduction in water quality.

- the activity is in respect of land that is, or is part of, critical habitat (or Area of Outstanding Biodiversity value) and a species impact statement is required

- No
 Yes

- the activity is likely to significantly impact matters of national environmental significance listed under the Commonwealth Environment Protection and Biodiversity Conservation Act

- No
 Yes

Reason(s):

Section 9.7 and Appendix 8 of this REF has considered **Matters of national environmental significance under the EPBC Act** and the question of whether the proposal is likely to impact on matters of national environmental significance, including listed threatened species or ecological communities, listed migratory species, the ecology of Ramsar wetlands, Commonwealth marine environment, world heritage values, and the national heritage values.

The proposed reburial of the Willandra Aboriginal Ancestors will not impact on any of these matters. It will not result in one or more of the National Heritage or World Heritage values of the WLR being lost, degraded or damaged, or notably altered, modified, obscured or diminished. The above being the case, it is concluded that the proposed action will not have significant impacts on matters of national environmental significance.

The environmental safeguards outlined in section 6.2 will minimise impacts to threatened species. No native vegetation will be removed or destroyed during this activity therefore habitat values of threatened species, populations or ecological communities will not be reduced or compromised.

- the activity will require certification to the Building Code of Australia, Disability (Access to Premises – Buildings) Standards 2010 or Australian Standards in accordance with the OEH [Construction Assessment Procedure](#).

- No
 Yes

14 Supporting documentation

The following Appendices to this REF have been prepared. Some of the information in Appendices 2, 3, and 7 is considered culturally sensitive and confidential and it is not in the public interest to make this information widely available.

These Appendices therefore form a confidential component to this REF

Document title	Author	Date
Appendix 1 Map of Assessment Sites	Sunraysia Environmental	April 2019
Appendix 2 Site Descriptions of 26 Assessment Sites	Sunraysia Environmental & Heritage NSW	April 2019
Appendix 3 Summary Table of Site Descriptions	Sunraysia Environmental	April 2019
Appendix 4 Site Assessment Team by Location	Sunraysia Environmental	April 2019
Appendix 5 Search of NSW Threatened Species, Mungo National Park	NSW Bionet Atlas	April 2019
Appendix 6 Search of NSW Threatened Ecological Communities, Mungo National Park	NSW Bionet Atlas	April 2019
Appendix 7 Willandra Lakes Aboriginal Ancestors Reburial Project Heritage Assessment	Heritage NSW	September 2020
Appendix 8 Willandra Lakes: Assessment of Impacts of reburial on Matters of Environmental Significance (MNES). Prepared for the Office of Environment and Heritage, NSW Government	Smith, A, Travers, I, James, L. Extent Heritage Advisors, Melbourne	May 2019
Appendix 9 EPBC Protected Matters Report	The Department of Environment and Energy	27 March 2019
Appendix 10 Willandra Lakes Aboriginal Ancestors Reburial Project Statement of Heritage Impact	Heritage NSW	September 2020
Appendix 11 Proposed Reburial Location Information	Heritage NSW	September 2020
Appendix 12 Response from Local Councils	Heritage NSW	October 2020
Appendix 13 Response from lease holders	Correspondence from lease holders	February and March 2020

Appendix 14 Response from NSW National Parks & Wildlife Service	NSW National Parks & Wildlife Service	October 2020
Appendix 15 REF Submissions Report	Comments on REF	September 2020
Appendix 16 History of Consultation	Heritage NSW	September 2020
Appendix 17 Table of Proposed Works	Heritage NSW	September 2020
Appendix 18 Response from Heritage NSW (Aboriginal Cultural Heritage Regulation)	Heritage NSW	October 2020

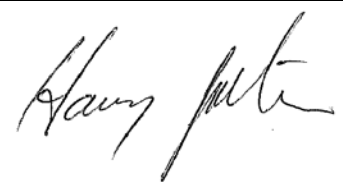
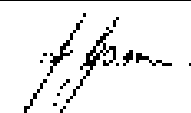
15 Fees

Proponents are required to pay an initial fee of \$170 (a final fee is also required before determination of the REF). If the activity consists of environmental remediation and/or the proponent is a community group, OEH may waive the fees on request.

<input type="checkbox"/>	\$170 payment/cheque for initial fee is enclosed
<input checked="" type="checkbox"/>	<p>A waiver of fees is requested for the following reasons:</p> <ul style="list-style-type: none"> • The application is for activities associated with the long-term management of the Willandra Lakes (including Mungo NP). • The activity is consistent with the Willandra Lakes Plan of Management (1996) • The activity is consistent with Mungo National Park Plan of Management (2006)

16 Signature of proponent

The REF is certified by the **proponent**

Signature		Signature	
Name	Harvey Johnston	Name	Jo Gorman
Position	Senior Team Leader, Heritage NSW	Position	Manager, Lower Darling Area, NPWS
Date	9/11/2020	Date	11/11/2020

Seal (if signing under seal):

Next steps — for OEH use

- External proponent REF or major REF
 - Proceed to prepare determination report and determination notice.
- Internal minor REF
 - Proceed to prepare determination notice (no determination report required).

Determination report templates, determination notices and model conditions are available on the Review of Environmental Factors (REF) Guidelines OEH intranet page.

17 References

- Australian Archaeological Survey Consultants Ltd. (2004). *Our Past, Our Future. The Willandra. Willandra Lakes World Heritage Area Three Traditional Tribal Groups Plan of Management, Employment Strategy, Keeping Place and Research Centre Feasibility Study*. Unpublished report to Mutthi Mutthi, Ngiyampaa and Paarkinji.
- Australian Heritage Commission. (1980). *Nomination of Willandra Lakes Region for inclusion in the World Heritage List*. Canberra: Australian Heritage Commission.
- Bowler, J., Jones, R., Allen, H., & Thorne, A. (1970). Pleistocene human remains from Australia: a living site and human cremation from Lake Mungo. *World Archaeology*, 2, 39-60.
- Context. (2014). *Willandra Lakes Region World Heritage Area Plan of Management*. Unpublished draft report.
- Department of Communications and the Arts. (2016). *Australian Government Policy on Indigenous Repatriation*. Canberra: Department of Communications and the Arts.
- Department of Environment, Sport & Territories. (1996). *Sustaining the Willandra: The Willandra Lakes Region World Heritage Property Plan of Management*. Canberra: Department of Environment, Sport & Territories.
- Department of Planning, Industry and Environment (DPIE) (2019) *State vegetation type map: Western region v1.0 IVS_ID 4492*.
- Godden Mackay Logan. (2003). *Mungo National Park Historic Heritage: Conservation Management and Cultural Tourism Plan*. Report prepared for NSW National Parks and Wildlife Service.
- Higgins, P. ..., Peter, J. M., & Steel, W. K. (Eds.). (2001). *Handbook of Australian, New Zealand and Antarctic Birds. Volume 5: Tyrant-flycatchers to Chats*. Melbourne: Oxford University Press.
- Marchant, S., & Higgins, P. .. (1993). *Handbook of Australian, New Zealand and Antarctic Birds. Volume 2: Raptors to Lapwings*. Melbourne: Oxford University Press.
- Mulvaney, J. (1972). Prehistoric man in Australia. *Nature*, 240, 9-10.
- Mungo National Park New South Wales: A Bush Blitz Survey Report*. (2017). Canberra: Commonwealth of Australia .
- NSW National Parks and Wildlife Service. (2006). *Mungo National Park Plan of Management*. Sydney: Department of Environment and Conservation.
- Office of Environment & Heritage. (2018). *Repatriation of Aboriginal Ancestors and Cultural Material Policy*. Sydney: Office of Environment & Heritage.
- Porteners, M., & Roberston, G. (2003). *Threatened Plants in Western New South Wales Information Review*. Hurstville: NSW National Parks and Wildlife Service.
- Porteners, M., Ashby, E. M., & Benson, J. S. (1997). The natural vegetation of the Pooncarie 1:250 000 mapsheet. *Cunninghamia*, 5(1), 139-231.
- Smith, A., Travers, I., & James, L. (2019). *Willandra Lakes: Assessment of impacts of reburial on matters of national environmental significance*. Unpublished report to Office of Environment & Heritage.
- Total Catchment Management Services Pty Ltd. (1996). *Gol Gol Station: Individual Property Plan*. Prepared for the Lessees of Gol Gol Station.
- Total Catchment Management Services Pty Ltd. (1996). *Mulurulu Station: Individual Property Plan* . Prepared for the Lessees of Mulurulu Station.

- Total Catchment Management Services Pty Ltd. (1996). *Top Hut Station: Individual Property Plan*. Prepared for the Lessees of Top Hut Station.
- Webb, S. (1989). *The Willandra Lakes Hominids*. Canberra: Department of Prehistory, Research School of Pacific Studies, Australian National University.
- Webb, S. (2016). *A basic assessment of future RCKP research programs and aims*. Report presented to the Aboriginal Advisory Group.
- Webb, S. (2018). *Made in Africa. Hominin explorations and the Australian skeletal evidence*. New York: Academic Press.
- Westaway, M. (2006). The Pleistocene human remains collection from the Willandra Lakes World Heritage Area, Australia, and its role in understanding modern human origins. *National Science Museum Monographs*, 34, 127-138.
- Westaway, M. (2016). *A report to the Willandra Elders on two possible Ice Age child cremations*. Unpublished report to the Aboriginal Advisory Group.
- Westbrooke, M. E., & Miller, J. D. (1995). Vegetation of Mungo National Park, western New South Wales. *Cunninghamia*, 4(1), 63-80.
- Westbrooke, M., & Miller, J. D. (1995). Vegetation of Mungo National Park, western New South Wales. *Cunninghamia*, 4(1), 63-80.
- Westbrooke, M., Miller, J. D., & Kerr, M. K. (1998). The vegetation of the Scotia 1: 100 000 map sheet, western New South Wales. *Cunninghamia*, 5, 665-684.
- Western Heritage Group. (2017). *The Mungo Report. Statement of Significance of the Willandra Lakes World Heritage Area to Aboriginal People of Western NSW*. Retrieved from <http://westernheritagegroup.com.au>
- Willandra Lakes Region World Heritage Area Aboriginal Advisory Group. (2019). *Research Manual (DRAFT)*.
- Williams & Associates. (2015). *Key outcomes report of a Willandra repatriation Forum held in Mildura 17-18 February 2015*. Unpublished report to the Office of Environment & Heritage.
- Williams & Associates. (2016). *Key outcomes report of a 2nd Willandra repatriation Forum held in Buronga 9 November 2016*. Unpublished report to the Office of Environment & Heritage.
- Williams & Associates. (2017). *Key outcomes report of a 3rd Willandra repatriation Forum held at Inland Botanic Gardens, Buronga on 5 April 2017*. Unpublished report to Office of Environment & Heritage.
- Williams, D. (2016). *Repatriation of Cultural materials and Human Remains to Willandra: A brief review. A document to support community workshops on repatriation*. Unpublished report to the Office of Environment & Heritage.