



**DUNMORE LAKES SAND EXTRACTION PROJECT
MODIFICATION 2
(DA 195-8-2004 MOD 2)**

Heritage Management Plan

Prepared for
Boral Resources (NSW) Pty Limited

July 2021

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KELLEHER NIGHTINGALE CONSULTING PTY LTD
Archaeological and Heritage Management
ACN 120 187 671

Level 10, 25 Bligh Street
SYDNEY NSW 2000

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Recipient	Adnan Voloder, Planning & Development Manager (NSW & ACT)
Prepared by	Dr Matthew Kelleher
Approved by	Dr Matthew Kelleher

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Contents

CONTENTS	II
FIGURES	III
TABLES	III
1 INTRODUCTION	1
1.1 PROJECT BACKGROUND	1
1.2 PURPOSE AND OBJECTIVES.....	1
1.3 IMPLEMENTATION OF HMP	3
1.4 CONDITIONS OF CONSENT.....	3
1.5 AUTHORSHIP AND CONSULTATION.....	4
2 BACKGROUND	5
2.1 ABORIGINAL HERITAGE	5
2.1.1 <i>Archaeological sites</i>	5
2.1.2 <i>Impact of Stage 5 project on Aboriginal Objects</i>	6
2.2 HISTORICAL HERITAGE	8
2.2.1 <i>Listed heritage items</i>	8
2.2.2 <i>Archaeological assessment</i>	10
2.2.3 <i>Impact of Stage 5 project on listed historical heritage items</i>	10
3 ABORIGINAL COMMUNITY CONSULTATION	11
4 HERITAGE MANAGEMENT PROCEDURES	12
4.1 GENERAL HERITAGE MANAGEMENT	12
4.1.1 <i>Responsibility for Compliance with Heritage Management Plan</i>	12
4.1.2 <i>Construction Constraints</i>	12
4.1.3 <i>Avoiding Impact to Adjacent Areas</i>	12
4.1.4 <i>Suspected Human Remains Procedure</i>	12
4.1.5 <i>Unexpected Finds Procedure</i>	13
4.1.6 <i>Interaction of this HMP with other Plans</i>	13
4.1.7 <i>Review of HMP</i>	14
4.2 ABORIGINAL HERITAGE MANAGEMENT	15
4.2.1 <i>Archaeological Salvage Excavation</i>	15
4.2.2 <i>Management of Salvaged Aboriginal Objects</i>	16
4.2.3 <i>Aboriginal Site Impact Recording Forms</i>	16
4.2.4 <i>Aboriginal Heritage Training and Induction Process</i>	16
4.2.5 <i>Ongoing Consultation with Registered Aboriginal Parties</i>	17
4.3 HISTORICAL HERITAGE MANAGEMENT	18
4.3.1 <i>Archival Recording</i>	18
4.3.2 <i>Historical Heritage Training and Induction Process</i>	18
4.3.3 <i>Related and Incidental Mitigation Activities</i>	19
REFERENCES	20
APPENDIX A SECRETARY’S ENDORSEMENT	21
APPENDIX B HERITAGE NSW (ABORIGINAL HERITAGE REGULATION BRANCH) REVIEW OF DRAFT HERITAGE MANAGEMENT PLAN	22
APPENDIX C HERITAGE NSW RECOMMENDATIONS AND WHERE ADDRESSED IN DOCUMENT	31
APPENDIX D DPIE POST-APPROVAL REVIEW	37
APPENDIX E DPIE POST-APPROVAL REVIEW AND ACTION TAKEN IN DOCUMENT	41
APPENDIX F ABORIGINAL COMMUNITY CONSULTATION ON DRAFT HMP	44
APPENDIX G ARCHAEOLOGICAL SALVAGE METHODOLOGY	46

Figures

Figure 1. Location of the Stage 5 project area (Modification 2).....	2
Figure 2. Aboriginal archaeological sites (KNC 2019b:22, Figure 10)	7
Figure 3. Listed historical heritage items (Artefact Heritage 2019:23, Figure 3).....	9

Tables

Table 1. Conditions of Development Consent – Modification 2 (November 2020) –Heritage.....	3
Table 2. Registered Aboriginal sites – Dunmore Lakes Sand Stage 5	5
Table 3. Modification 2 impact on Aboriginal sites	6
Table 4. Listed historical heritage items – Dunmore Lakes Sand Stage 5.....	8
Table 5. Modification 2 impact on listed historical heritage items	10
Table 6. Registered Aboriginal Parties – Dunmore Lakes Sand Modification 2.....	11
Table 7. Aboriginal sites requiring mitigation (salvage excavation)	15
Table 8. Aboriginal sites with no further archaeological mitigation required	15
Table 9. Historical heritage items requiring mitigation (archival recording)	18
Table 10. Historical heritage items with no further mitigation required	18

1 Introduction

1.1 Project background

Dunmore Sand & Soil Pty Ltd (DSS) has obtained approval for a modification to their existing development consent (DA 195-8-2004) for the Dunmore Lakes Sand Extraction Project at Dunmore on the NSW South Coast. Development consent DA-195-8-2004 was for Stages 2, 3 and 4 of the project (now completed) and was granted by the Minister for Planning and Infrastructure on 29 June 2005.

The approved modification (MOD 2) is for a new extraction stage (Stage 5) on lands adjoining the existing operation. The approval for the Stage 5 project is a Section 75W modification to the existing consent under the *Environmental Planning and Assessment Act 1979* (EP&A Act) and was approved by the Independent Planning Commission (as delegate for the Minister for Planning and Public Spaces) on 16 November 2020.

The works for Stages 5A and 5B are located within Lot 51 DP 1012246 and Lot 502 DP 1174897 in the Shellharbour Local Government Area (LGA). The Stage 5 project area and approved disturbance area under the modification is shown in Figure 1.

Kelleher Nightingale Consulting Pty Ltd (KNC) was engaged by Boral Resources (NSW) Pty Ltd (Boral) as the owner of DSS to prepare a Heritage Management Plan (HMP) for both Aboriginal and historical (non-Aboriginal) heritage, in accordance with the conditions of modification approval.

An Environmental Assessment (EA) was prepared by Element Environment (April 2019) to accompany DSS's Modification 2 application to the Department of Planning, Industry and Environment (DPIE). Comprehensive heritage assessment (both Aboriginal and historical) was undertaken to inform the Modification 2 EA. This included detailed Aboriginal cultural heritage assessment and preparation of an Aboriginal Cultural Heritage Assessment Report (CHAR) (KNC 2019a) and subsequent Addendum CHAR (KNC 2019b) by KNC, and historical heritage assessment and preparation of a Statement of Heritage Impact (SOHI) by Artefact Heritage (Artefact 2019). The heritage assessments were prepared in accordance with the DPIE requirements of the EA and relevant guidelines and requirements of DPIE [now Heritage NSW; formerly the Office of Environment and Heritage (OEH)] and the NSW Heritage Office.

The assessments were included in the EA as:

- *Appendix E Aboriginal Cultural Heritage Assessment Report – “Dunmore Lakes Sand Project – Stage 5 Modifications, Dunmore NSW: Aboriginal Cultural Heritage Assessment Report” (KNC 2019a)*
- *Appendix G State of Heritage Impact Report – “Dunmore Lakes Sand Project: Modification 2, Non-Aboriginal Statement of Heritage Impact (SOHI)” (Artefact Heritage 2019)*

Following the exhibition period of the EA, DPIE made a request for additional information regarding Aboriginal heritage, which was addressed in a revised CHAR issued in June 2019. A submission received from Shellharbour City Council regarding recommendations for historical heritage was addressed in a Response to Submissions (RTS) letter prepared by Artefact Heritage in June 2019. In October 2019, DPIE advised Boral that additional clarification regarding the extent of Aboriginal archaeological investigations completed to date was required to finalise the assessment for Modification 2. This was provided in an Addendum CHAR (KNC 2019b).

Modification 2 was approved on 16 November 2020. This HMP document fulfills the requirements of the conditions of approval.

1.2 Purpose and Objectives

This HMP has been prepared to:

- Meet the conditions of approval regarding heritage (Modification 2 [November 2020]);
- Facilitate consultation and engagement with the local Aboriginal community to appropriately manage the Aboriginal cultural heritage values associated with the project;
- Describe how heritage will be managed for the project;
- Ensure that impacts to heritage are appropriately mitigated;
- Address long term management of salvaged Aboriginal objects; and
- Ensure appropriate controls and procedures are implanted in relation to any unexpected finds (Aboriginal and historical), including human remains.



Figure 1. Location of the Stage 5 project area (Modification 2)

1.3 Implementation of HMP

Boral is committed to implementing Aboriginal and historical heritage management and mitigation measures as outlined in the CHAR (KNC 2019a; 2019b), SOHI (Artefact Heritage 2019) and this HMP. The management strategies within the HMP work in association with the existing assessments and will be implemented in conjunction with the recommendations of the CHAR, SOHI and the RTS letter.

1.4 Conditions of Consent

Development consent was granted subject to a number of conditions, required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the on-going environmental management of the development.

Modification 2 (November 2020) comprised changes to Schedule 3 of the development consent relating to heritage, including preparation and implementation of a Heritage Management Plan (Condition 41). This HMP addresses the requirements of Schedule 3, Condition 41 as outlined in Table 1.

Table 1. Conditions of Development Consent – Modification 2 (November 2020) –Heritage

Condition	Description	Where Addressed
41.	<p>Prior to undertaking any development in Stage 5, the Applicant must prepare a Heritage Management Plan for the development to the satisfaction of the Planning Secretary. This Plan must:</p> <p>(a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;</p> <p>(b) be prepared in consultation with Registered Aboriginal Parties and Heritage NSW;</p> <p>(c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site;</p> <p>(d) describe the procedures and management measures to be implemented on the site to:</p> <p>(i) ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions;</p> <p>(ii) protect, monitor and manage identified non-Aboriginal heritage, Aboriginal objects and Aboriginal places (including any archaeological investigations of potential subsurface objects and salvage of objects within the approved disturbance area, including 52-5-0907 (DLS Boral AFT 1) and 52-5-0908 (DLS Boral AFT 2) in accordance with the commitments made in the documents listed in condition 2(c) of Schedule 2;</p> <p>(iii) protect non-Aboriginal heritage, Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development;</p> <p>(iv) manage the discovery of suspected human remains and any new Aboriginal objects or Aboriginal places, including provisions for burials, over the life of the development;</p> <p>(v) maintain and manage reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places (outside of the approved disturbance area); and</p> <p>(vi) facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on site;</p>	<p>Section 1.5</p> <p>Section 1.5 Section 3</p> <p>Section 2</p> <p>Section 4.2.4</p> <p>Section 4.2.1 Section 4.3.1 Section 4.3.3</p> <p>Section 4.1.3</p> <p>Section 4.1.4 Section 4.1.5</p> <p>Section 4.2.5</p> <p>Section 4.2.5</p>

(e) include a strategy for the care, control and storage of Aboriginal objects salvaged on site, both during the life of the development and in the long term;	Section 4.2.2
(f) include a protocol for managing interactions with the curtilage of the State heritage listed Dunmore House and identifying how this area would be rehabilitated to ensure the Dunmore House curtilage is restored without impacting the integrity or heritage values of the site; and	Section 4.3.3
(g) describe the measures to be implemented on the site to manage interactions with the Flora and Fauna Management Plan;	Section 4.1.6

1.5 Authorship and Consultation

This HMP has been prepared by a suitably qualified person as required by condition 41(a). This HMP has been prepared by:

- Dr Matthew Kelleher, PhD, Archaeology, University of Sydney, 2002

Dr Kelleher meets the minimum qualifications for a suitably qualified person as described in section 1.6 of the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*.

The Secretary's endorsement of Dr Kelleher to prepare the HMP was sought in accordance with condition 41(a) of Schedule 3 of the consent and was subsequently provided by DPIE on 08 July 2021. The letter of endorsement is attached as Appendix A. Heritage NSW (Aboriginal Heritage Regulation Branch) has advised that Kelleher Nightingale Consulting and Dr Matthew Kelleher are suitably qualified to prepare the HMP.

The HMP has been prepared in consultation with Heritage NSW and the Registered Aboriginal Parties in accordance with condition 41(b) of Schedule 4 of the consent. Heritage NSW was invited to comment on the draft management plan and revisions have been incorporated into the final version.

Heritage NSW (Heritage Division) has previously expressed no concerns in relation to State Heritage and that review of subsequent stages or modifications by the Heritage Division (Heritage Council of NSW) is not required.

The Heritage NSW (Aboriginal Heritage Regulation Branch) response to the draft HMP is attached as Appendix B. A table documenting where each recommendation/comment is addressed in the document is provided as Appendix C.

Following the Heritage NSW review of the draft HMP, a post-approval review and additional comments were provided by DPIE in July 2021. This is provided as Appendix D, with a modified table documenting where each recommendation/comment is addressed in the document provided as Appendix E.

Aboriginal community consultation is further described in Section 3 and Appendix F. No Aboriginal community comments were received on the draft HMP.

2 Background

2.1 Aboriginal heritage

2.1.1 Archaeological sites

Three Aboriginal archaeological sites were identified in the Stage 5 project area (KNC 2019a and 2019b). The sites were registered on the Heritage NSW Aboriginal Heritage Information Management System (AHIMS) in accordance with Section 89A of the *National Parks and Wildlife Act 1974*. The sites are listed in Table 2 and locations shown on Figure 2.

Table 2. Registered Aboriginal sites – Dunmore Lakes Sand Stage 5

AHIMS Site ID	Site Feature	Site Name	Easting	Northing	Datum
52-5-0907	Artefact	DLS Boral AFT 1	301970	6166341	GDA
52-5-0908	Artefact	DLS Boral AFT 2	302231	6166976	GDA
52-5-0909	Artefact	DLS Boral AFT 3	302177	6167036	GDA

DLS Boral AFT 1 (AHIMS 52-5-0907)

Site DLS Boral AFT 1 was located within the beach ridge landform within the Stage 5B area, to the immediate south of a natural pond and a small drainage line. Initial test excavation indicated that the site extended throughout the entire portion of the landform within the study area, and contained relatively intact high density archaeological deposit. A total of 828 artefacts were excavated from 28 50x50cm excavation units during the initial program. Additional test excavation was focused on providing more information on site contents, extent and significance to assist DPIE with their assessment process for the project. The additional test results broadly confirmed the initial findings and also identified further intra-site variation. A further 470 artefacts were recovered from 37 additional 50x50cm excavation units.

Artefact distribution was characterised by high density deposits with localised low density deposit towards the margins of the sand body. The majority of artefacts were recovered from a defined orange brown sandy horizon that represents a relatively stable taphonomic environment. Results of test excavation indicate that the area contains evidence of dispersed and varied occupation activities that occurred during a prolonged period of time and on repeated occasions. The additional test program confirmed that deposit associated with the site extends across the beach ridge landform (outside of the Stage 5 area and proposed impact area for the project). Some attributes of the assemblage indicate potentially more selective (significant) activities and lower levels of disturbance/fragmentation outside of the project boundary.

The site represents a commonly occurring site type in the coastal region; however, recorded intact (coastal) sites are becoming less common as the majority of landforms in similar environmental settings are increasingly impacted by contemporary land use practices. The range of raw material and artefact types found at the site and clear stratigraphical concentration of artefacts adjacent to an estuarine environment is less common. This may relate to less frequent excavations in similar environmental contexts throughout the region, meaning that further investigation will contribute to the understanding of Aboriginal landscape use within these coastal areas, as well as assisting with management of coastal sites and identification/conservation of future sites based on geomorphic features (beach ridge). Based on the intactness, representativeness, and research potential of the site, DLS Boral AFT 1 was determined to have moderate-high archaeological significance.

DLS Boral AFT 2 (AHIMS 52-5-0908)

Site DLS Boral AFT 2 was located within the back barrier sand body within the Stage 5A area, adjacent to the tidal flat associated with the estuary of the Minnamurra River. Test excavation determined that the site retained an intact, high density archaeological deposit located across the entire remnant sand body. A total of 461 artefacts were recovered from 12 50x50cm test units.

Artefact density within the test excavation area was similar to DLS Boral AFT 1 and extrapolated to square metres, the test area displayed a mean artefact density of 115.3/m². Artefact distribution was characterised by a moderate to high artefact density across all excavated test units. Localised low density was recorded along the margins of the landform that indicates the site boundary. The highest artefact density was recorded within the central elevated section of the sand body. Some surface fill material was identified within the first 35 centimetres that did not impact on integrity of deeper sandy archaeological deposits. The assemblage contained a small quantity of cores and formalised tools indicating that the creation of stone tools occurred at the site but was secondary to the maintenance and use of stone tools. The quality and aesthetic nature of the raw material indicated a selective activity area.

The site represents a commonly occurring site type in the region; however, the majority of landforms in similar environmental settings have been significantly impacted by recent land use practices. The range of raw material and

artefact types found at the site and stratified context adjacent to the estuarine environment is less common. The site demonstrated moderate-high scientific value and it was considered likely that further investigation will contribute to the understanding of Aboriginal landscape use within coastal areas and assist in understanding the management of coastal sites and identification/conservation of future sites based on geomorphic features (back barrier sands). Based on the intactness, representativeness, and research potential of the site, DLS Boral AFT 2 was determined to have moderate-high archaeological significance.

DLS Boral AFT 3 (AHIMS 52-5-0909)

Site DLS Boral AFT 3 was located within the artificially raised area to the immediate west of Riverside Drive. It is located between the tidal flat and back barrier flat landforms. Test excavations determined that the raised area is made of fill material and a total of three artefacts were recovered from three test pits. It is possible that they were brought in with the fill material or they represent dispersed/disturbed isolated cultural material from the local area. No further cultural material was identified and the entire raised area was considered to have very low archaeological potential for intact deposits.

The site represents a commonly occurring site type in the region. The site demonstrated no scientific value due to the disturbed nature and low density of the archaeological deposit. Further investigation would not contribute to the understanding of Aboriginal landscape use in the region. Based on the intactness, representativeness and research potential of the site, DLS Boral AFT 3 was determined to have low archaeological significance.

2.1.2 Impact of Stage 5 project on Aboriginal Objects

The CHAR and Addendum CHAR (KNC 2019a and 2019b) determined that the Stage 5 project would impact on Aboriginal objects and archaeological deposit associated with all three sites. The project will remove the portion of the sites within the approved disturbance area of the Stage 5 project (Table 3).

Table 3. Modification 2 impact on Aboriginal sites

AHIMS Site ID	Site Name	Type of harm	Degree of harm	Consequence of harm	Significance of harm
52-5-0907	DLS Boral AFT 1	Direct	Partial	Partial loss of value	High
52-5-0908	DLS Boral AFT 2	Direct	Total	Total loss of value	High
52-5-0909	DLS Boral AFT 3	Direct	Total	Total loss of value	Low



Figure 2. Aboriginal archaeological sites (KNC 2019b:22, Figure 10)

2.2 Historical heritage

2.2.1 Listed heritage items

The SOHI prepared by Artefact Heritage for the project (Artefact Heritage 2019) identified four listed heritage items within the assessment area. These four items are listed on Schedule 5 of the Shellharbour Local Environmental Plan (LEP) 2013. The items are listed in Table 4 and locations shown on Figure 3.

Table 4. Listed historical heritage items – Dunmore Lakes Sand Stage 5

Item Name	Item/Listing Number	Address	Item Type	Significance
Dunmore House Complex, Dry Stone Walls and Trees	Shellharbour LEP 2013, I027	471 Riverside Drive, Dunmore	General	Local
Anglesboro and Trees	Shellharbour LEP 2013, I028	4 Swamp Road, Dunmore	General	Local
Minnamurra Vegetation Area	Shellharbour LEP 2013, I358	Dunmore	Landscape	Local
Rocklow Road Dry Stone Wall	Shellharbour LEP 2013, I253	Rocklow Road, Dunmore	General	Local

Dunmore House Complex, Dry Stone Walls and Trees

The 'Dunmore House Complex, Dry Stone Walls and Trees' heritage item comprises a rural 19th century homestead complex sited on a prominent hillside overlooking the surrounding Shellharbour landscape. The main residence is a two-storey U-shaped house with a symmetrical front, constructed of locally sourced basalt rubble and sandstone. The original portion of the house was built in 1865, with the second storey being added later in 1905. The house contains significant interiors including original cedar joinery and plaster cornices. Several outbuildings constructed of basalt rubble are sited near the house. The property is surrounded by dense plantings, features several Moreton Bay figs and early dry stone walls.

The item displays local significance. The statement of significance from the State Heritage Inventory listing for the item is as follows: "Dunmore House' possesses an individual architectural style and makes use of materials that were readily available in the surrounding area; basalt rubble and cedar. The home has strong associations with the early 1920s Premier of NSW, George Warburton Fuller, and is therefore of significance to the development of NSW. It has links with early industry and Shellharbour (quarrying, shipping, dairying) and the Fuller family who were prominent citizens in the locality and large landholders of the 19th century (SHR statement). Also noteworthy is the setting of the impressive early colonial house, built by George Laurence Fuller, on a prominent hilltop site beside the Princes Highway. It is surrounded by large mature trees including substantial Moreton Bay figs *Ficus macrophylla* that contribute to the wide cultural landscape, and dry stone walls that were instigated by Fuller for his surrounding tenant farms."

Anglesboro and Trees

The 'Anglesboro' and Trees heritage item comprises a 19th century Victorian era brick homestead within a rural complex setting with landmark qualities on the brow of a hill alongside Princes Highway. The cottage features a hipped roof with detached wrap around veranda, and is set amongst significant mature plantings with various outbuildings. A low post and rail timber fence borders the property.

The item displays local significance. The statement of significance from the State Heritage Inventory listing for the item is as follows: "Anglesboro is a pleasing brick Victorian era farm house located on the brow of the hill ridge with historic connections at a local level with the early settlement of the significant Dunmore valley. The home has historical associations with owner of Dunmore House, George Laurence Fuller and his Dunmore tenant farms. It also has link with the local dairying industry, and links with the Creagan family."

Minnamurra Vegetation Area

The 'Minnamurra Vegetation Area' heritage item adjoins the significant wetland of the Minnamurra River estuary, and contains endangered populations and threatened ecological communities of flora and fauna species within an area of around 120m². The landscape heritage item contains a variety of ecological communities including Bangalay-Banksia forest, Wattle forest, Swamp oak forest, Saltmarsh, Mangrove shrubland, Mangrove forest and Redgum Stringybark forest.

The item displays local significance. The statement of significance from the State Heritage Inventory listing for the item is as follows: "Bordering and supporting the nationally important wetland of the Minnamurra River estuary, the vegetative area has very high conservation value for both terrestrial and aquatic biodiversity. It contains endangered populations, endangered threatened ecological communities, and threatened flora and fauna species. Significant mangrove and salt marsh communities support several vulnerable and migratory bird species protected under international agreement, and nationally recognised threatened fish species." The area also holds Aboriginal cultural value linked to its ecological and landscape values.

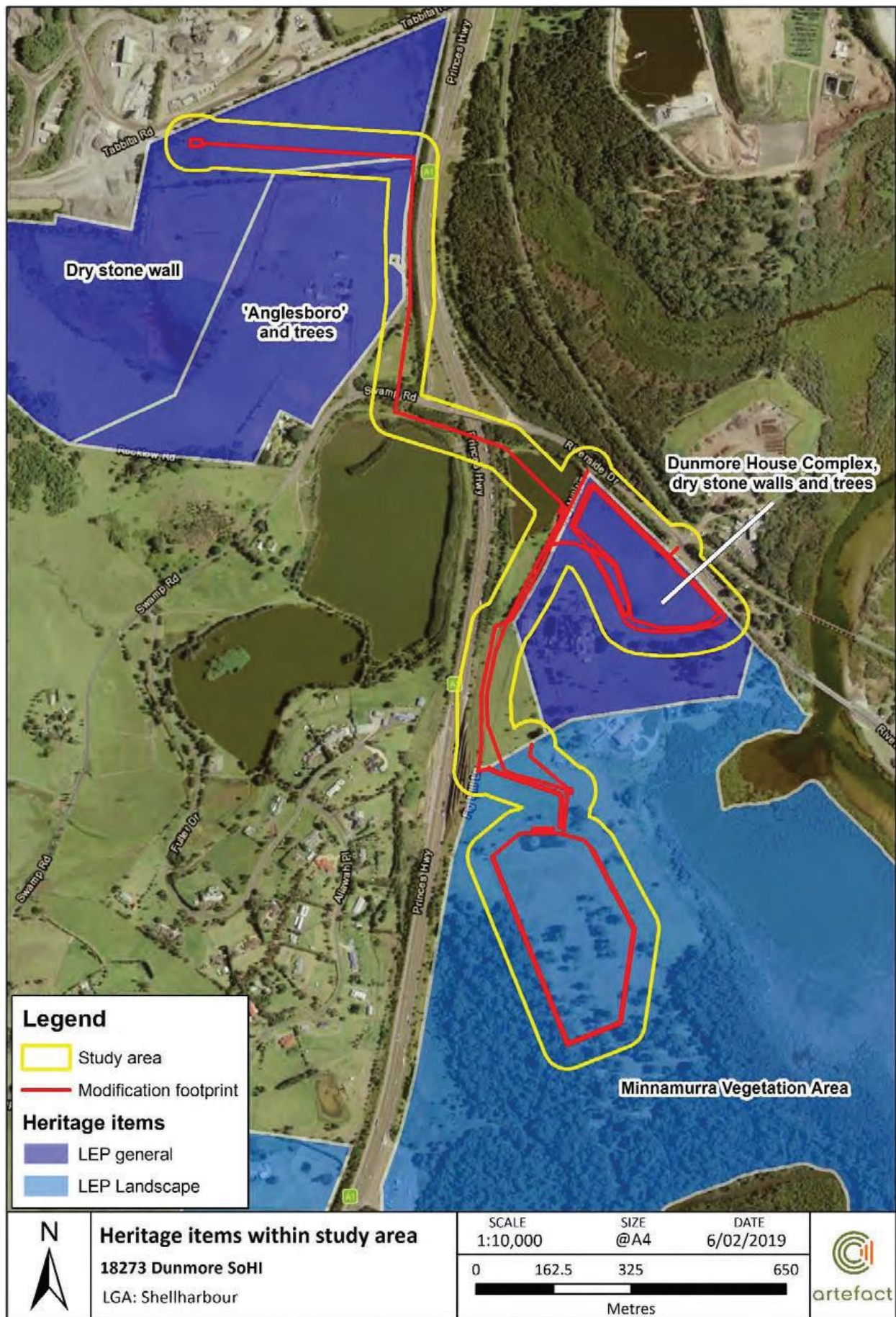


Figure 3. Listed historical heritage items (Artefact Heritage 2019:23, Figure 3)

Rocklow Road Dry Stone Wall

The Rocklow Road Dry Stone Wall heritage item comprises a typical dry stone wall dating from the mid-19th century that is constructed without mortar or cement, using traditional dry packing methods. The stone is locally derived. The stone wall is located along the southern boundary of the lot and runs along the length of Rocklow Road.

The item displays local significance. The statement of significance from the State Heritage Inventory listing for the item is as follows: “These remnant stone walls are historically significant as evidence of early settlement patterns, farming techniques and prominent early industries in the locality which shaped the local landscape. Also significant are associations with the pioneering settlers from Britain, Ireland and other parts of Europe who brought their stone walling techniques with them to Shellharbour. Now a rare feature in the local landscape, these stone walls are aesthetically significant for their scenic qualities which suggest age and their strong forms visually define the landscape. They run the entire length of Rocklow Road.”

2.2.2 Archaeological assessment

No evidence for historical archaeological remains was identified during the assessment. The potential for locally significant archaeology to be located within the Stage 5 project assessment area was assessed as nil-low, therefore the proposed works were not considered to result in an archaeological impact.

2.2.3 Impact of Stage 5 project on listed historical heritage items

The SOHI (Artefact Heritage 2019) determined that the Stage 5 project would have some level of impact on three of the listed heritage items (Table 5).

Table 5. Modification 2 impact on listed historical heritage items

Item Name	Listing	Direct (physical) impact	Visual impact	Indirect (vibration) impact
Dunmore House Complex, Dry Stone Walls and Trees	Shellharbour LEP 2013, I027	Moderate	Moderate	Neutral
Minnamurra Vegetation Area	Shellharbour LEP 2013, I358	Moderate	Moderate	Neutral
Anglesboro and Trees	Shellharbour LEP 2013, I028	Neutral	Negligible (temporary)	Neutral
Rocklow Road Dry Stone Wall	Shellharbour LEP 2013, I253	Neutral	Neutral	Neutral

3 Aboriginal Community Consultation

- **Registered Aboriginal Parties will be consulted and provided with an opportunity to participate in the archaeological salvage excavation and contribute to the Aboriginal heritage assessment reporting.**

Boral is committed to effective consultation with the local Aboriginal community regarding their activities and Aboriginal cultural heritage values. Nineteen Aboriginal community groups or individuals registered their interest in the Stage 5 project. The Registered Aboriginal Parties are listed in Table 6.

Table 6. Registered Aboriginal Parties – Dunmore Lakes Sand Modification 2

Registered Aboriginal Stakeholder	Representative and/or Contact Person
Illawarra Local Aboriginal Land Council	Paul Knight
Duncan Falk Consultancy	Duncan Falk
Leanne Tungai	Leanne Tungai
Darug Land Observations	Anna O’Hara
Woronora Plateau Gundangara Elders Council	Kayla Williamson
Goobah	Basil Smith
Biamanga	Janaya Smith
Cullendulla	Corey Smith
Gulaga	Wendy Smith
Murramarang	Roxanne Smith
Guunamaa Dreamin Sites and Surveying	Richard Campbell
Tungai Tonghi	Troy Tungai
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson
Muragadi Heritage Indigenous Corporation	Jesse Johnson
Merrigarn Indigenous Corporation	Shaun Carroll
Barraby Cultural Services	Lee Field
Yurrandaali Cultural Services	Bo Field
Wodi Wodi Coomaditchie Aboriginal Corporation	Heather Ball
James Davis	James Davis

Registered Aboriginal Parties for the project have expressed the cultural heritage significance of the project area. Registered Aboriginal Parties will continue to be consulted in relation to impacts on Aboriginal cultural heritage and the archaeological salvage excavations.

Registered Aboriginal Parties have been consulted regarding the proposed management and mitigation measures for Aboriginal heritage outlined in this Heritage Management Plan. Registered Aboriginal Parties have previously expressed their support for the archaeological salvage program and their interest in participating in the salvage excavation, given the Aboriginal cultural heritage significance of the project area. A copy of the draft management plan was provided to Registered Aboriginal Parties for review and comment. Appendix F provides further information on this correspondence. No comments or responses were received.

Registered Aboriginal Parties will be provided with an opportunity to participate in the archaeological salvage program and contribute to the Aboriginal heritage assessment reporting. Registered Aboriginal Parties will be provided with a draft salvage excavation report for review and comment. Aboriginal stakeholder comments will be included in the final report.

Registered Aboriginal Parties have been consulted on the storage and long term management of recovered Aboriginal objects. Consultation with Registered Aboriginal Parties will follow Heritage NSW consultation requirements as applicable *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010).

4 Heritage Management Procedures

The general management procedures in Section 4.1 have been designed to protect, monitor and manage identified Aboriginal and historical heritage within the approved disturbance area of the Stage 5 project. They apply for both Aboriginal and historical heritage and are consistent with the recommendations and commitments made in the CHAR, SOHI and EA for the project. They comply with the conditions of the development consent for the project.

Additional management procedures specific to Aboriginal heritage and historical heritage are given in Sections 4.2 and 4.3 respectively.

4.1 General Heritage Management

4.1.1 Responsibility for Compliance with Heritage Management Plan

1. The Proponent will ensure all of its employees, contractors and subcontractors and agents are made aware of and comply with this management plan.
2. The Proponent will appoint a suitably qualified and experienced environmental manager who is responsible for overseeing the activities related to this management plan.
3. The Proponent will appoint a suitably qualified and experienced Archaeologist who is responsible for overseeing, for and on behalf of the Proponent, the archaeological activities relating to the project.

4.1.2 Construction Constraints

1. Where archaeological salvage excavation has been nominated for impacted Aboriginal sites, no construction/development activities (or fencing, geotechnical investigations, minor clearing, establishing site compounds, adjustment to services/utilities etc.) can occur on the lands to be investigated until the relevant archaeological excavation at the nominated site has been completed.
2. Prior to the commencement of any work including early works activity (e.g. fencing, minor clearing, establishing site compounds etc.) a construction heritage site map identifying Aboriginal sites to be excavated and avoided will be prepared. The map will also identify the location of the identified historical heritage items which are to be subject to archival recording.

4.1.3 Avoiding Impact to Adjacent Areas

This HMP is specific to the area assessed by the CHAR, SOHI and EA for the Stage 5 project. All works associated with the Stage 5 project will be contained within the approved disturbance area as per the development consent. Additional archaeological, historical or Aboriginal heritage assessment will be required for any proposed impacts outside the approved disturbance area.

Heritage features including Aboriginal objects are known to occur in adjacent landforms and these will be avoided by all proposed extraction activities. Management measures to be implemented will include:

- clear fencing of the boundary of the approved disturbance area
- the inclusion of Aboriginal and historical heritage in the Dunmore Sand & Soil Flora and Fauna Management Plan
- an Aboriginal cultural heritage induction for staff and contractors including discussion of the requirements of the HMP
- appropriately documented toolbox talks to be held to ensure all on-site staff and contractors are aware of obligations and requirements regarding the protection of Aboriginal and historical heritage.

These management measures will be implemented prior to the commencement of any extraction or construction works.

4.1.4 Suspected Human Remains Procedure

- **Note that Project or Modification Approvals/Consents do not include the destruction of human remains.**
- **Any potential human remains encountered will be protected and managed appropriately, in accordance with Requirement 25 of the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010).**

All human remains in, on or under the land will not be harmed.

If suspected human remains are uncovered at any point, the following procedure will be implemented in accordance with *Skeletal Remains – Guidelines for the Management of Human Skeletal Remains under the Heritage Act 1977* (NSW Heritage Office 1998) and the *Aboriginal Cultural Heritage Standards and Guidelines Kit* (NPWS 1997):

1. as soon as remains are exposed, all work will halt at that location immediately and the Project environmental manager will be immediately notified to allow assessment and management;
 - i. stop all activities
 - ii. secure the site
 - iii. not further harm the remains
2. contact police, the discovery of human remains triggers a process which assumes that they are associated with a crime. The NSW Police retain carriage of the process until such time as the remains are confirmed to be Aboriginal or historic;
3. DPIE, as the approval authority, will be notified when human remains are found;
4. Contact the Environment Line on 131 555 info@environment.nsw.gov.au as soon as practicable and provide available details of the remains and their location;
5. once the police process is complete and if remains are not associated with a contemporary crime contact DPIE. DPIE will determine the process, in consultation with Heritage NSW as appropriate;
 - i. if the remains are identified as Aboriginal, the site is to be secured and DPIE and all Registered Aboriginal Parties are to be notified in writing. DPIE will act in consultation with Heritage NSW as appropriate. Heritage NSW will be notified in writing according to DPIE instructions; or
 - ii. if the remains are identified as non-Aboriginal (historical) remains, the site is to be secured and DPIE is to be contacted. DPIE will act in consultation with Heritage NSW as appropriate. Heritage NSW will be notified in writing according to DPIE instructions;
6. once the police process is complete and if the remains are identified as not being human, work can recommence once the appropriate clearances have been given.

4.1.5 Unexpected Finds Procedure

- **Any unexpected heritage items (Aboriginal objects or historical heritage items/relics) will be managed appropriately.**

For Aboriginal heritage, unexpected finds may include but not be limited to:

- Dense or stratified shell midden
- Faunal remains associated with cultural material or deposit
- Stone artefact types not recorded during the archaeological excavations
- Discrete Aboriginal objects not within the bounds of previously recorded sites.

In the event that an unexpected find is encountered the following procedure will apply:

1. Stop work and protect find area and report to environmental manager
2. Contact heritage advisor for identification
 - a. No further action if the find is not an Aboriginal object or historical heritage item/relic
 - b. If the find is an Aboriginal object or historical heritage item/relic proceed to next step
3. Undertake relevant regulatory requirements and contact with Heritage NSW and DPIE where required
4. Implement conservation or mitigation strategy
5. Obtain approval if required and comply with conditions
6. Recommence work.

4.1.6 Interaction of this HMP with other Plans

- Dunmore Sand & Soil Flora and Fauna Management Plan
- Dunmore Sand & Soil Long Term Management Strategy;
- Dunmore Sand & Soil Air Quality Monitoring Program;
- Dunmore Sand & Soil Water Management Plan;
- Dunmore Sand & Soil Noise Management Plan;
- Dunmore Sand & Soil Rehabilitation Management Plan;
- Dunmore Sand & Soil Flora and Fauna Management Plan;
- Dunmore Sand & Soil Waste Management Plan; and
- Dunmore Sand & Soil Pollution Incident Response Management Plan.

All activities undertaken in accordance with the above management plans will ensure consistency with this HMP. Any subsequent revisions to the above management plans will have regard to this HMP, as is required under the consent.

Should any of the listed management plans above undergo changes or revisions, the HMP will be checked for consistency and to ensure no additional impacts to Aboriginal heritage are likely as a result of those changes. The currently approved versions of these plans can be accessed on the Dunmore Operations website by clicking on the “environmental management plans” tab (link below):

<https://www.boral.com.au/locations/boral-dunmore-operations>

4.1.7 Review of HMP

This HMP will be reviewed every 24 months to ensure heritage is being managed appropriately and in accordance with the conditions of development consent and requirements of the HMP. The HMP will be reviewed in accordance with Schedule 5 Condition 3 of DA 195-8-2004 as detailed below:

Within 3 months of:

- a) the submission of an incident report under condition 7;
- b) the submission of an Annual Review under condition 9;
- c) the submission of an audit report under condition 10; and
- d) the approval of any modifications to this consent (unless the conditions require otherwise), the Applicant must review the suitability of existing strategies, plans, and programs required under this consent.

4.2 Aboriginal Heritage Management

The following management and mitigation measures are required for identified Aboriginal heritage within the approved disturbance area of the Stage 5 project. They are consistent with the recommendations and commitments in the CHAR and EA and comply with the requirements of development consent.

4.2.1 Archaeological Salvage Excavation

- **Archaeological salvage excavation will be undertaken according to the methodology attached as Appendix E to the CHAR (KNC 2019a) to mitigate project impacts on Aboriginal heritage. The salvage program will be undertaken in consultation with Registered Aboriginal Parties. Salvage excavation will occur following issue of Modification 2 consent and prior to commencement of actions in those areas.**

Management and Mitigation Required

The archaeological sites in Table 7 are of moderate-high Aboriginal heritage significance and will be impacted by the project. These sites require archaeological salvage excavation to mitigate the impacts.

The sites in Table 7 will be identified and protected until salvage excavation works have been completed at these sites (e.g., temporary fencing and/or identification in environmental management plan). The location of the sites in Table 7 will be monitored by the Proponent prior to the completion of salvage excavation.

Salvage excavation will be completed prior to any activities which may harm Aboriginal objects at these site locations.

Salvage excavation activities will be undertaken following the methodology attached as Appendix E to the CHAR (KNC 2019a), in accordance with conditions of consent. The methodology is attached as Appendix G of the HMP.

Table 7. Aboriginal sites requiring mitigation (salvage excavation)

Archaeological sites requiring management and mitigation	
Archaeological Sites (requiring salvage)	DLS Boral AFT 1 (52-5-0907) (Partial)
	DLS Boral AFT 2 (52-5-0908)

No Archaeological Mitigation Required

No archaeological mitigation is required for the site in Table 8.

Table 8. Aboriginal sites with no further archaeological mitigation required

No further archaeological mitigation required	
Archaeological Sites (no archaeological mitigation)	DLS Boral AFT 3 (52-5-0909)

Archaeological Salvage Excavation Report

An Archaeological Salvage Excavation Report will be prepared to document the findings of the archaeological salvage excavation program. The report will be prepared within 12 months of completion of the artefact analysis which will be completed in accordance with the salvage methodology and Heritage NSW guidelines. The report will:

- include an executive summary
- describe the methods and results of the salvage excavation program
- describe any ongoing consultation with and involvement of Registered Aboriginal Parties
- be completed with input and consultation with Registered Aboriginal Parties
- detail the results of the analysis of recovered Aboriginal objects
- include analysis of the geomorphological context and site formation processes in relation to the results of the salvage excavation and analysis of the Aboriginal objects
- include analysis of the local and regional archaeological context in relation to the results of the salvage excavation and analysis of the Aboriginal objects
- include analysis of the results of the excavations in relation to the research questions

- provide comment on how the results relate to the predictive model and indicate avenues for future research and desirable regional conservation outcomes
- provide comment on the effectiveness of any mitigation measures that were implemented
- provide comment on the effectiveness of the HMP
- detail the long-term management of Aboriginal objects
- include a statement of compliance with approval conditions and management and mitigation measures, and
- confirm that Aboriginal Site Impact Recording Forms have been completed and submitted to the Heritage NSW AHIMS Registrar.

4.2.2 Management of Salvaged Aboriginal Objects

- **Salvaged Aboriginal objects will be managed at a temporary storage location for analysis and reporting purposes. Long term management of Aboriginal objects will be determined in consultation with Registered Aboriginal Parties for the project. Long term management of Aboriginal objects will be finalised within 12 months of the completion of the final salvage excavation report.**

The short-term management of collected Aboriginal objects is as follows:

- Any Aboriginal objects that are removed from the land by actions authorised by the project approval, will be moved as soon as practicable to the temporary storage location (see below) pending any agreement reached about the long-term management of the Aboriginal objects.
- The temporary storage location will be: Kelleher Nightingale Consulting Pty Ltd, Level 10, 25 Bligh Street, Sydney NSW 2000.
- Any Aboriginal objects stored at the temporary storage location will not be further harmed, except in accordance with the conditions of consent.

The long-term management of collected Aboriginal objects is as follows:

- If recovered objects will be lodged with the Australian Museum, this will be undertaken in accordance with the *Australian Museum Archaeological Collection Deposition Policy* (January 2012, available online at: <http://australianmuseum.net.au/document/Protocols-for-the-deposition-of-archaeological-materials>).
- If recovered objects are to be reburied, a suitable location will be confirmed in consultation with the Registered Aboriginal Parties. Reburial will take place as soon as practicable in the context of the proposed extraction activities. Registered Aboriginal Parties will be invited to attend the reburial. The location of the reburied objects will be registered on the AHIMS database. Boral will implement procedures to protect the Aboriginal objects at the reburial location(s) from any further harm.
- If recovered objects are to be held by the Aboriginal community, these will be transferred in accordance with a Care Agreement or similar.
- Requirement 26 "Stone artefact deposition and storage" in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* will be complied with.

4.2.3 Aboriginal Site Impact Recording Forms

- **An Aboriginal Site Impact Recording Form will be completed following impacts to AHIMS sites authorised by the development consent.**

An Aboriginal Site Impact Recording Form (ASIRF) will be prepared and submitted to the AHIMS Registrar for each site, following impacts from actions authorised by the development consent. The Aboriginal Site Impact Recording Form is available online at: <http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf>

Where archaeological sites have been salvaged as part of the Stage 5 mitigation activities, the ASIRF will include a summary of the findings of the salvage program.

4.2.4 Aboriginal Heritage Training and Induction Process

- **Aboriginal heritage management procedures will be included in construction personnel training and induction processes.**

Aboriginal heritage management procedures and responsibilities for compliance will form part of the project induction for construction personnel (employees, contractors, subcontractors and/or agents). This will include site identification (including construction heritage site map) to ensure all personnel are aware of Aboriginal heritage management responsibilities, issues affecting their activities and procedures for dealing with unexpected finds including human remains. Suitable records will be kept of these inductions.

4.2.5 Ongoing Consultation with Registered Aboriginal Parties

Boral is committed to effective consultation with the local Aboriginal community regarding their activities and Aboriginal cultural heritage values.

Continuation of Consultation

Registered Aboriginal Parties will continue to be consulted in relation to impacts on Aboriginal cultural heritage and the archaeological salvage excavations. Consultation with Registered Aboriginal Parties will follow Heritage NSW consultation requirements as applicable *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (DECCW 2010). Specific points of contact include: review of draft HMP; commencement and completion of salvage excavations (site officers); review of draft salvage excavation report; consultation on long-term management of recovered Aboriginal objects; unexpected finds requiring review of HMP. It is anticipated RAPs will be contacted via email and/or phone.

Archaeological Salvage Excavation Program

Registered Aboriginal Parties for the project will be provided with an opportunity to participate in the archaeological salvage program. Registered Aboriginal Parties will continue to be involved with the management of Aboriginal cultural heritage within the Stage 5 project area, including assessment of the findings of the archaeological salvage excavation. Registered Aboriginal Parties will be provided with a draft salvage excavation report for review and comment. A minimum 28 day review period will be provided, in accordance with required review periods under the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010*. Comments will be included in the Archaeological Salvage Excavation Report.

Management of Salvaged Aboriginal Objects

Registered Aboriginal Parties will be consulted on the storage and long-term management of recovered Aboriginal objects from the salvaged sites. Long-term management options include a) lodgement of the assemblage with the Australian Museum; b) reburial of the objects on Country; or, c) objects to be transferred to the Aboriginal community under a Care and Control agreement or similar.

Access provisions to land outside of approved disturbance area

In the event that Registered Aboriginal Parties wish to access Aboriginal objects and Aboriginal places outside of the approved disturbance area, to a reasonable extent, Registered Aboriginal Parties should contact the project environmental manager. This provision will apply to lands owned and managed by Boral associated with the Stage 5 project. Where adjoining lands with relevant Aboriginal heritage values are not owned or managed by Boral, Boral will endeavour to assist in obtaining contact details for distribution to facilitate access for Registered Aboriginal Parties. Boral will assist, where reasonable to do so, to negotiate with the landowner in facilitating access, where this is reasonable and practicable. The landowner in their private capacity, reserves the right to refuse access to any party/individual, including Boral.

4.3 Historical Heritage Management

The following management and mitigation measures are required for identified historical heritage items within the approved disturbance area of the Stage 5 project. They are consistent with the recommendations and commitments in the SOHI, EA and RTS letter and comply with the requirements of development consent.

4.3.1 Archival Recording

- **Archival recording will be undertaken to mitigate project impacts on historical heritage. Archival recording will occur following issue of Modification 2 consent and prior to commencement of actions in the relevant areas.**

Management and Mitigation Required

The historical heritage items in Table 9 are of local significance and will be subject to a moderate level of both direct (physical) and visual impact by the Stage 5 project. These heritage items require archival recording to mitigate the impacts.

The heritage items in Table 9 will be identified and protected until archival recording has been completed within their curtilages (e.g., temporary fencing and/or identification in environmental management plan). The location of the heritage items in Table 9 will be monitored by the Proponent prior to the completion of archival recording.

Archival recording will be completed prior to any activities which may harm historical heritage values at these heritage item locations. Archival recording will be undertaken in accordance with the requirements of the publication *Photographic Recording of Heritage Items Using Film or Digital Capture* (Heritage Office 2006) and the conditions of consent.

Table 9. Historical heritage items requiring mitigation (archival recording)

Heritage items requiring management and mitigation	
Heritage items (requiring archival recording)	Dunmore House Complex, Dry Stone Walls and Trees Minnamurra Vegetation Area

No Mitigation Required

The historical heritage items sites in Table 10 are of local significance and will be subject to a negligible (temporary) or neutral level of direct (physical) and visual impact by the project. No mitigation activities are required for the heritage items in Table 10.

Table 10. Historical heritage items with no further mitigation required

No further mitigation required	
Heritage items (no mitigation)	Anglesboro and Trees Rocklow Road Dry Stone Wall

Archival Recording Methodology

Photographic recording, preparation of a photo catalogue and storage of photographic prints, electronic images and an accompanying report will be prepared in accordance with the requirements of the publication *Photographic Recording of Heritage Items Using Film or Digital Capture* (Heritage Office 2006) and the conditions of consent.

4.3.2 Historical Heritage Training and Induction Process

- **Historical heritage management procedures will be included in construction personnel training and induction processes.**

Historical heritage management procedures and responsibilities for compliance will form part of the project induction for construction personnel (employees, contractors, subcontractors and/or agents). This will include the heritage values of the place, avoidance procedures, heritage item identification (including construction heritage site map) to ensure all personnel are aware of historical heritage management responsibilities, issues affecting their activities and procedures for dealing with unexpected finds including human remains. Suitable records will be kept of these inductions.

4.3.3 Related and Incidental Mitigation Activities

The SOHI identified additional activities related to the Stage 5 project that will assist in mitigating the historical heritage impacts of the project. These activities will provide incidental and additional mitigation for the identified heritage impacts and are detailed below.

Rehabilitation

Upon completion of the approved extraction activities, the Stage 5A extraction area will be backfilled, topsoils spread and groundcover vegetation re-established to return the land back to pasture at the request of the landowner. The Stage 5B extraction area will be left as a freshwater pond at the request of the landowner and provide future habitat for local fauna. The SOHI and RTS letter identified that the proposed rehabilitation activities will assist in mitigating the moderate level of impact to the Dunmore House Complex, Dry Stone Walls and Trees heritage item:

Stage 5A activities have been located within an area of the Dunmore House Complex, Dry Stone Walls and Trees heritage item that does not contain any significant elements within the historic property. Stage 5A is sited as far as possible from the homestead complex and other significant elements.

The modification will result in only temporary impacts on the heritage item, with the area occupied by 5A only currently being utilised for grazing purposes; an activity which will resume in the medium term, once the resource is extracted and the area rehabilitated for pasture purposes. Impacts to Dunmore House Complex, Dry Stone Walls and Trees will be mitigated on completion of the works as the affected area is rehabilitated/revegetated and returned to grazing land.

Rehabilitation activities will be undertaken in accordance with the approved Rehabilitation Management Plan for the project.

Biodiversity Offsets

The Minnamurra Vegetation Area comprises a landscape item devoid of any built elements or features. Its listed values are related to the research potential, rarity and representativeness of the biodiversity it displays. The impacts of the modification associated with biodiversity values were assessed in a Biodiversity Assessment Report (BDAR; Niche Environment and Heritage 2019) prepared in accordance with the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, *NSW Biodiversity Conservation Act 2016*, *NSW Fisheries Management Act 1994*, and the *Biodiversity Assessment Method (BAM)*.

The removal of vegetation and trees within the Minnamurra Vegetation Area for the Stage 5B dredge pond will represent a permanent physical impact to the biodiversity values associated with this heritage item. The SOHI identified that these impacts to the Minnamurra Vegetation Area heritage item associated with the modification will be partially mitigated through offset credit requirements, and the retention of more intact areas of the heritage item.

References

- Artefact Heritage, 2019. Dunmore Lakes Sand Project: Modification 2. Non-Aboriginal Statement of Heritage Impact (SoHI). Report to Element Environment on behalf of Dunmore Sand & Soil Pty Ltd
- DECCW, 2010. *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010: Part 6 National Parks and Wildlife Act 1974*. Department of Environment, Climate Change and Water NSW, Sydney.
- DECCW, 2010. *Code of Practice for the Archaeological Investigation of Aboriginal Objects in NSW*. Department of Environment, Climate Change and Water NSW, Sydney.
- Element Environment Pty Ltd, 2019. Dunmore Lakes Sand Extraction Project, Modification 2. Environmental Assessment. Prepared for Dunmore Sand & Soil Pty Ltd.
- Heritage Office 2006. *Photographic Recording of Heritage Items Using Film or Digital Capture*. Heritage Information Series, Heritage Office, Department of Planning, Parramatta, NSW. ISBN 1 921121 02 5.
- Kelleher Nightingale Consulting Pty Ltd (KNC), 2019a. Dunmore Lakes Sand Project – Stage 5 Modifications, Dunmore, NSW: Aboriginal Cultural Heritage Assessment Report. Prepared for Element Environment Pty Ltd on behalf of Dunmore Sand & Soil Pty Ltd.
- KNC, 2019b. Dunmore Lakes Sand Project – Stage 5 Modifications, Dunmore, NSW: ADDENDUM to Aboriginal Cultural Heritage Assessment Report. Prepared for Element Environment Pty Ltd on behalf of Dunmore Sand & Soil Pty Ltd.
- NSW Heritage Office, 1998. *Skeletal remains: guidelines for the management of human skeletal remains under the Heritage Act 1977*. Heritage Office, Sydney.
- NSW National Parks and Wildlife Service (NPWS), 1997. *Aboriginal Cultural Heritage Standards and Guidelines Kit*. NSW National Parks and Wildlife Service, Hurstville.
- Niche Environment and Heritage, 2019. Biodiversity Development Assessment Report for the Dunmore Lakes Sand Project – Modification 2. Prepared for Dunmore Sand & Soil Pty Ltd.

Appendix A Secretary's Endorsement**Planning,
Industry &
Environment**

Mr Adnan Voloder
Planning & Development Manager (NSW & ACT)
Boral Land & Property Group
39 Delhi Road
North Ryde, NSW, 2113

08/07/2021

Dear Mr Voloder

**Dunmore Lakes Sand Extraction Project (DA195-8-2004)
Endorsement of Expert – Heritage**

I refer to your request (DA195-8-2004-PA-33) for the Planning Secretary's approval of a suitably qualified person to prepare the Heritage Management Plan for the Dunmore Lakes Sand Extraction Project (DA195-8-2004).

The Department has reviewed the nomination and information you have provided and is satisfied that the expert is suitably qualified and experienced. Consequently, I can advise that the Planning Secretary approves the appointment of Dr Matthew Kelleher of Kelleher Nightingale Consulting Pty Ltd to prepare the Heritage Management Plan.

If you wish to discuss the matter further, please contact Nagindar Singh on 8289 6873 or via email at nagindar.singh@planning.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M. Smith'.

Director
Resource Assessments
as nominee of the Planning Secretary

4 Parramatta Square, 12 Darcy Street, Parramatta 2150 | dpie.nsw.gov.au | 1

Appendix B Heritage NSW (Aboriginal Heritage Regulation Branch) Review of Draft Heritage Management Plan



Our ref: DOC21/452824
Senders ref: DA 195-8-2004, MOD 2

Dr Matthew Kelleher
Kelleher Nightingale Consulting Pty Ltd

By email: matthew.kelleher@knconsult.com.au
Cc: Cristany Milicich, Kelleher Nightingale Consulting, cristany.milicich@knconsult.com.au

Dear Dr Kelleher

Review of Dunmore Lakes Sand Extraction (DA 195-8-2004, MOD 2 (Stage 5)) - draft Heritage Management Plan

Thank you for referring the draft Heritage Management Plan (HMP) for the Dunmore Lakes Sand Project to us for comment. We understand that this HMP has been prepared under the conditions of consent for DA 195-8-2004 - Modification 2 of the Dunmore Lakes Sand Extraction Project, that is also known as 'Stage 5'.

We have prepared advice below relating to the Aboriginal cultural heritage assessment in relation to the provisions of the *National Parks and Wildlife Act 1974* (NPW Act). Please note that if you are seeking advice in relation to the *Heritage Act 1977* then a separate request for comment needs to be submitted to Heritage NSW: heritagemailbox@environment.nsw.gov.au.

Overall, we support the draft Heritage Management Plan. However, we have prepared the comments in **Attachment 1** below for your consideration. These comments include recommendations for the salvage excavation and reporting and ongoing consultation with the Registered Aboriginal Parties (RAPs).

Importantly, we note that the consultation with the Registered Aboriginal Parties (RAPs) on the HMP has not been completed (KNC 2021, p.11). The HMP cannot be finalised until this consultation process is complete. The RAPs must be provided with a reasonable opportunity (at least 28 days) to provide comment and those comments must be appropriately addressed. Extraction and construction activities must not start until the HMP has been finalised in consultation with the RAPs.

We understand this Heritage Management Plan has been prepared to meet consent conditions

It is our understanding that the draft HMP has been prepared in accordance with Condition 41, Schedule 3 of the development consent DA 195-8-2004, MOD 2 as modified in November 2020. We have reviewed the draft HMP in relation to the requirements of Condition 41 (see Attachment 1).

Previous Aboriginal cultural heritage advice was provided on this development
Heritage NSW provided previous advice to the Department of Planning, Industry and Environment (DPIE) in relation to this matter on 6 August 2020. This followed previous Aboriginal cultural heritage assessment advice provided by the Biodiversity and Conservation Division of DPIE.

Level 6, 10 Valentine Ave Parramatta NSW 2150 ■ Locked Bag 5020 Parramatta NSW 2124
P: 02 9873 8500 ■ E: heritagemailbox@environment.nsw.gov.au

Heritage NSW commented on the draft conditions of consent and overall Aboriginal cultural heritage assessment. Heritage NSW advised that the identified significance of the Aboriginal heritage values warranted an in-perpetuity conservation outcome for those parts of site 52-5-0907 that are outside the Stage 5B extraction area. In addition, Heritage NSW recommended that the addendum test excavation report be provided to the RAPs and noted that the results may not change the objections some RAPs had made to the proposed works.

We reiterate this advice and again note the objections to the development previously raised by some of the RAPs. We encourage the ongoing consideration of the high Aboriginal cultural heritage values of the land subject to this development in all aspects of these works.

If you have any questions about this advice, please contact Rose O'Sullivan, Archaeologist, Aboriginal Cultural Heritage Regulation – South, at Heritage NSW, on 4224 4177 or rose.osullivan@environment.nsw.gov.au.

Yours sincerely



Jackie Taylor
Senior Team Leader, Aboriginal Heritage Regulation Branch – South
Heritage NSW
11 June 2021

Enclosure: Attachment 1: Heritage NSW (HNSW) advice on how the Dunmore Lakes Sand Extraction draft HMP addresses the consent conditions in relation to Aboriginal cultural heritage management

Attachment 1: Heritage NSW (HNSW) advice on how the Dunmore Lakes Sand Extraction draft HMP addresses the consent conditions in relation to Aboriginal cultural heritage management

Condition #	Condition	HNSW advice	HNSW recommendation
40	The Applicant must ensure that the development does not cause any direct or indirect impact on any identified heritage item located outside of the approved disturbance areas, beyond those impacts predicted in the documents listed in Condition 2(c) of Schedule 2.	We support the proposed protection measures outside the extraction area in section 4.1.3 of the HMP (KNC 2021, p.12).	We recommend a note is added to section 4.1.3 of the HMP (KNC 2021, p.12) stipulating that these measures must be implemented before any extraction or construction works start.
41 (a)	The HMP must be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Planning Secretary.	HNSW advises that Kelleher Nightingale Consulting and Dr Kelleher are suitably qualified to prepare this HMP.	We recommend that clarification could be added to the HMP that a 'suitably qualified person' should include meeting the minimum qualifications described in section 1.6 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW 2010).
41 (b)	The HMP must be prepared in consultation with Registered Aboriginal Parties and Heritage NSW.	This review addresses the requirement for consultation with Heritage NSW only.	The results of consultation with the Registered Aboriginal Parties must be incorporated into the final HMP that is submitted to DPIE. Any comments from the RAPs must be adequately addressed in the finalised HMP.
41 (c)	The HMP must include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site.	The HMP addresses Aboriginal and non-Aboriginal cultural heritage values. We note that the current comments relate only to the Aboriginal cultural heritage assessment.	N/A

Condition #	Condition	HNSW advice	HNSW recommendation
41 (d) (i)	The HMP must describe the procedures and management measures to be implemented on the site to: (i) ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions.	Section 4.1.3 (KNC 2021, p.12) includes toolbox talks for all on site staff and contractors.	We recommend that this section is amended to include the requirement for an Aboriginal cultural heritage induction for staff and contractors, discussion of the HMP requirements and the requirement that all inductions and toolbox talks are appropriately documented.
41 (d) (ii)	Protect, monitor and manage identified non-Aboriginal heritage, Aboriginal objects and Aboriginal places (including any archaeological investigations of potential subsurface objects and salvage of objects within the approved disturbance areas, including 52-5-0907 (DLS Boral AFT 1) and 52-5-0908 (DLS Boral AFT 2) in accordance with the commitments made in the documents listed in condition 2(c) of Schedule 2;	The HMP addresses this requirement through: <ul style="list-style-type: none"> • The requirement for archaeological salvage excavation (section 4.1.2). • The requirement for the extraction area boundary to be fenced (section 4.1.3). 	In relation to the archaeological salvage excavations, we recommend that: <ul style="list-style-type: none"> • The archaeological salvage excavation methodology is attached to the HMP. • That a minimum m of 100m² of salvage excavation will be required. Given the significance of the deposit and extent of impacts under this modification, the estimated maximum of 200m² may well be required. Additional salvage excavation provisions need to be made if this nominated amount is required to be exceeded based on the excavation results. • We support the use of 2.5mm and 1mm mesh sieves and excavation in stratigraphic units. • We support the collection of sediment and other samples for the purposes of dating or geomorphological analysis. <p>We recommend that a timeframe, for example 12 months from the completion of the salvage excavations, be included in the HMP for the delivery of the archaeological salvage excavation report.</p>

Condition #	Condition	HNSW advice	HNSW recommendation
			<p>The salvage report (KNC 2021, p.14) reporting requirements in section 4.2 needs to also contain:</p> <ul style="list-style-type: none"> • Analysis of the geomorphological context and site formation processes in relation to the results of the salvage excavation and analysis of the Aboriginal objects. • Analysis of the local and regional archaeological context in relation to the results of the salvage excavation and analysis of the Aboriginal objects. • Analysis of the results of the excavations in relation to the research questions. • Comment on how the results relate to the predictive model and indicate avenues for future research and desirable regional conservation outcomes. • Comment on the effectiveness of any mitigation measures that were implemented. • Comment on the effectiveness of the heritage management plan that was in place. • A statement confirming that the long term management arrangements for excavated Aboriginal objects as set out in the conditions of this AHIP have been completed.
41 (d) (iii)	Protect non-Aboriginal heritage, Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development;	The HMP addresses this requirement in relation to Aboriginal cultural heritage through the requirement for the extraction area boundary to be fenced, inclusion of heritage sites in the Environmental Management Plan and requirement for toolbox talks for staff and contractors (section 4.1.3).	We support protection of the Minnamurra Vegetation Area (KNC 2021, p.9). This area includes part of site 52-5-0907. It is likely that this ecological community has Aboriginal cultural heritage values. We recommend that these values are clarified and recorded through consultation with the Aboriginal community and incorporated into the HMP (KNC 2021, pp.8-9).

Condition #	Condition	HNSW advice	HNSW recommendation
41 (d) (iv)	Manage the discovery of suspected human remains and any new Aboriginal objects or Aboriginal places, including provisions for burials, over the life of the development;	Sections 4.1.4 and 4.1.5 of the HMP (KNC 2021, pp.12 – 13) address these requirements.	<p>We recommend that the process outlined in Requirement 25 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW 2010) is added to section 4.1.4 of the HMP.</p> <p>We recommend that the Environment Line contact details are included in this section (telephone 131 555 and email info@environment.nsw.gov.au).</p> <p>Unexpected finds need to be defined in section 4.1.5 so that it is clear when it is expected that work would stop and the find be assessed by an archaeologist in consultation with the Registered Aboriginal Parties. We suggest that unexpected finds may include but not be limited to:</p> <ul style="list-style-type: none"> • Dense or stratified shell midden • Faunal remains associated with cultural material or deposit • Stone artefact types not recorded during the archaeological excavations • Discrete Aboriginal objects not within the bounds of previously recorded sites.
41 (d) (v)	Maintain and manage reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places (outside of the approved disturbance area); and	We support the provision of access to the Aboriginal cultural heritage sites for the Aboriginal community. This is included in section 4.2.5 of the HMP (KNC 2021, p16).	N/A
41 (d) (iv)	Facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of	Addressed in section 4.2.5 of the HMP (KNC 2021, pp.15-16).	<p>We recommend this section is strengthened to include:</p> <ul style="list-style-type: none"> • The points at which the RAPs will be consulted, e.g. developing the HMP, the start of salvage excavations, the end of salvage excavations, the drafting of the salvage excavation report, the discussion and implementation of the long term management of

Condition #	Condition	HNSW advice	HNSW recommendation
	Aboriginal cultural heritage on the site;		<p>Aboriginal objects, if unexpected finds occur and on review of the HMP.</p> <ul style="list-style-type: none"> • Information about how the RAPs will be contacted, e.g. by telephone, email or post. • A commitment to providing the RAPs with a reasonable opportunity, being at least 28 days, to provide comment on reports including the archaeological salvage excavation report. <p>The HMP needs to include provisions requiring Aboriginal community representatives to be present for all excavations given the potential for human remains to be present, in accordance with Requirement 25 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> (DECCW 2010).</p>
41 (e)	Include a strategy for the care, control and storage of Aboriginal objects salvaged on site, both during the life of the development and in the long term;	Addressed under section 4.2.2 of the HMP (KNC 2021, p.15).	<p>The long term management provisions can be strengthened by including a time frame for finalising the long term management of Aboriginal objects, e.g. within 12 months of the completion of the salvage excavations.</p> <p>We recommend that the following measures be included in section 4.2.5, 'Management of Salvaged Aboriginal Objects':</p> <ol style="list-style-type: none"> 1. The proponent must facilitate discussions with the RAPs regarding the proposed long term management of those Aboriginal objects excavated during test excavation and salvage excavation. 2. The RAPs must be provided with a minimum of 28 days to provide comment on the proposed options for the long term management of those Aboriginal objects recovered through archaeological excavation. 3. The proponent must provide written confirmation of the long term management option(s) and the outcomes of

Condition #	Condition	HNSW advice	HNSW recommendation
			<p>the consultation process with the RAPs about these option(s) to Heritage NSW.</p> <p>4. If the RAPs wish to manage the Aboriginal objects under a care agreement, then an application for the Transfer of Aboriginal Objects pursuant to section 85A of the Act must be submitted to Heritage NSW. The application for Transfer is available online at: https://www.heritage.nsw.gov.au/protecting-our-heritage/care-agreements/.</p> <p>5. If the RAPs wish for the Aboriginal objects to be reburied, the AHIP holder must:</p> <p>a) Ensure the reburial occurs as soon as practicable in the context of the proposed extraction activities.</p> <p>b) Provide representative(s) of the RAPs with an opportunity to be present for the reburial.</p> <p>c) Provide detail of the location of each reburial area and description of the reburial process to Heritage NSW as soon as practicable after the reburial occurs by submitting an AHIMS site card pursuant to section 89A of the <i>National Parks and Wildlife Act</i>.</p> <p>d) Implement procedures to protect the Aboriginal objects at the reburial location(s) from any further harm.</p>
41 (f)	Include a protocol for managing interactions with the curtilage of the State heritage listed Dunmore House and identifying how this area would be rehabilitated to ensure the Dunmore House curtilage is restored without impacting	N/A – as noted above the current comments relate only to Aboriginal cultural heritage considerations under the NPW Act.	N/A

Condition #	Condition	HNSW advice	HNSW recommendation
	the integrity or heritage values of the site; and		
41 (g)	Describe the measures to be implemented on the site to manage interactions with the Flora and Fauna Management Plan.	We recommend that s4.1.6 of the HMP (KNC 2021, p.13) explicitly refers to integrating the flora and fauna plan with the Aboriginal cultural heritage assessment.	We recommend explicit description be included in the HMP of how it will interact with the Flora and Fauna management plan. We also recommend the wording of section 4.1.6 is strengthened to require the HMP to be checked for consistency when any of the listed management plans are changed and to ensure no additional impacts to Aboriginal heritage are likely as a result of those changes.
41A.	The Applicant must implement the Heritage Management Plan approved by the Planning Secretary.	We support implementation of the HMP following consideration of these comments and after review and comments have been received from the Registered Aboriginal Parties.	N/A

Appendix C Heritage NSW Recommendations and Where Addressed in Document

Condition #	Condition	HNSW advice	HNSW recommendation	Where addressed
40	The Applicant must ensure that the development does not cause any direct or indirect impact on any identified heritage item located outside of the approved disturbance areas, beyond those impacts predicted in the documents listed in Condition 2(c) of Schedule 2.	We support the proposed protection measures outside the extraction area in section 4.1.3 of the HMP (KNC 2021, p.12).	We recommend a note is added to section 4.1.3 of the HMP (KNC 2021, p.12) stipulating that these measures must be implemented before any extraction or construction works start.	Section 4.1.3 Added text at end of section
41 (a)	The HMP must be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Planning Secretary.	HNSW advises that Kelleher Nightingale Consulting and Dr Kelleher are suitably qualified to prepare this HMP.	We recommend that clarification could be added to the HMP that a 'suitably qualified person' should include meeting the minimum qualifications described in section 1.6 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW 2010).	Section 1.5 <ul style="list-style-type: none"> Clarified that Dr Kelleher meets the minimum qualifications of a 'suitably qualified person' as per the <i>Code of Practice</i>. Included Heritage NSW advice that Dr Kelleher and KNC are suitably qualified.
41 (b)	The HMP must be prepared in consultation with Registered Aboriginal Parties and Heritage NSW.	This review addresses the requirement for consultation with Heritage NSW only.	The results of consultation with the Registered Aboriginal Parties must be incorporated into the final HMP that is submitted to DPIE. Any comments from the RAPs must be adequately addressed in the finalised HMP.	Noted – no comments were received from RAPs.
41 (c)	The HMP must include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site.	The HMP addresses Aboriginal and non-Aboriginal cultural heritage values. We note that the current comments relate only to the Aboriginal cultural heritage assessment.	N/A	Noted
41 (d) (i)	The HMP must describe the procedures and management measures to be implemented on the site to: (i) ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions.	Section 4.1.3 (KNC 2021, p.12) includes toolbox talks for all on site staff and contractors.	We recommend that this section is amended to include the requirement for an Aboriginal cultural heritage induction for staff and contractors, discussion of the HMP requirements and the requirement that all inductions and toolbox talks are appropriately documented.	Section 4.1.3 <ul style="list-style-type: none"> Addition of third dot point specifying an Aboriginal cultural heritage induction for staff and contractors including discussion of the requirements of the HMP Amendment to fourth dot point noting that toolbox talks will be appropriately documented

Condition #	Condition	HNSW advice	HNSW recommendation	Where addressed
41 (d) (ii)	Protect, monitor and manage identified non-Aboriginal heritage, Aboriginal objects and Aboriginal places (including any archaeological investigations of potential subsurface objects and salvage of objects within the approved disturbance areas, including 52-5-0907 (DLS Boral AFT 1) and 52-5-0908 (DLS Boral AFT 2) in accordance with the commitments made in the documents listed in condition 2(c) of Schedule 2;	The HMP addresses this requirement through: <ul style="list-style-type: none"> The requirement for archaeological salvage excavation (section 4.1.2). The requirement for the extraction area boundary to be fenced (section 4.1.3).	In relation to the archaeological salvage excavations, we recommend that: <ul style="list-style-type: none"> The archaeological salvage excavation methodology is attached to the HMP. That a minimum m of 100m² of salvage excavation will be required. Given the significance of the deposit and extent of impacts under this modification, the estimated maximum of 200m² may well be required. Additional salvage excavation provisions need to be made if this nominated amount is required to be exceeded based on the excavation results. We support the use of 2.5mm and 1mm mesh sieves and excavation in stratigraphic units. We support the collection of sediment and other samples for the purposes of dating or geomorphological analysis. We recommend that a timeframe, for example 12 months from the completion of the salvage excavations, be included in the HMP for the delivery of the archaeological salvage excavation report. <p>The salvage report (KNC 2021, p.14) reporting requirements in section 4.2 needs to also contain:</p> <ul style="list-style-type: none"> Analysis of the geomorphological context and site formation processes in relation to the results of the salvage excavation and analysis of the Aboriginal objects. Analysis of the local and regional archaeological context in relation to the results of the salvage excavation and analysis of the Aboriginal objects. Analysis of the results of the excavations in relation to the research questions. Comment on how the results relate to the predictive model and indicate avenues for future research and desirable regional conservation outcomes. Comment on the effectiveness of any mitigation measures that were implemented. Comment on the effectiveness of the heritage management plan that was in place. A statement confirming that the long term management arrangements for excavated Aboriginal objects as set out in the conditions of this AHIP have been completed 	<ul style="list-style-type: none"> Archaeological salvage methodology has been attached as Appendix D Field Methods: Phase 2. Addition of statement "In accordance with advice from Heritage NSW, provisions for further salvage (>200m²) would be made if the excavation results indicate that this nominated amount is required to be exceeded." Noted Noted <p>Section 4.2.1 – added text clarifying report timeframe</p> <p>Section 4.2.1 – Archaeological Salvage Excavation Report</p> <p>Added dot points to incorporate additional reporting requirements as per Heritage NSW recommendations</p>
41 (d) (iii)	Protect non-Aboriginal heritage, Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development;	The HMP addresses this requirement in relation to Aboriginal cultural heritage through the requirement for the extraction area boundary to be fenced, inclusion of heritage sites in the Environmental Management Plan and requirement for toolbox talks for staff and contractors (section 4.1.3).	We support protection of the Minnamurra Vegetation Area (KNC 2021, p.9). This area includes part of site 52-5-0907. It is likely that this ecological community has Aboriginal cultural heritage values. We recommend that these values are clarified and recorded through consultation with the Aboriginal community and incorporated into the HMP (KNC 2021, pp.8-9).	Section 2.1.2 Added text noting that the area also holds Aboriginal cultural value.

Condition #	Condition	HNSW advice	HNSW recommendation	Where addressed
41 (d) (iv)	Manage the discovery of suspected human remains and any new Aboriginal objects or Aboriginal places, including provisions for burials, over the life of the development;	Sections 4.1.4 and 4.1.5 of the HMP (KNC 2021, pp.12– 13) address these requirements.	<p>We recommend that the process outlined in Requirement 25 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW</i> (DECCW 2010) is added to section 4.1.4 of the HMP.</p> <p>We recommend that the Environment Line contact details are included in this section (telephone 131 555 and email info@environment.nsw.gov.au).</p> <p>Unexpected finds need to be defined in section 4.1.5 so that it is clear when it is expected that work would stop and the find be assessed by an archaeologist in consultation with the Registered Aboriginal Parties. We suggest that unexpected finds may include but not be limited to:</p> <ul style="list-style-type: none"> • Dense or stratified shell midden • Faunal remains associated with cultural material or deposit • Stone artefact types not recorded during the archaeological excavations • Discrete Aboriginal objects not within the bounds of previously recorded sites. 	<p>Section 4.1.4 Included reference to Requirement 25</p> <p>Section 4.1.4 Included Environment Line contact details</p> <p>Section 4.1.5 Added suggested text defining possible unexpected finds (Aboriginal heritage)</p>
41 (d) (v)	Maintain and manage reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places (outside of the approved disturbance area); and	We support the provision of access to the Aboriginal cultural heritage sites for the Aboriginal community. This is included in section 4.2.5 of the HMP (KNC 2021, p16).	N/A	N/A
41 (d) (iv)	Facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site;	Addressed in section 4.2.5 of the HMP (KNC 2021, pp.15-16).	<p>We recommend this section is strengthened to include:</p> <ul style="list-style-type: none"> • The points at which the RAPs will be consulted, e.g. developing the HMP, the start of salvage excavations, the end of salvage excavations, the drafting of the salvage excavation report, the discussion and implementation of the long term management of Aboriginal objects, if unexpected finds occur and on review of the HMP. • Information about how the RAPs will be contacted, e.g. by telephone, email or post. • A commitment to providing the RAPs with a reasonable opportunity, being at least 28 days, to provide comment on reports including the archaeological salvage excavation report. <p>The HMP needs to include provisions requiring Aboriginal community representatives to be present for all excavations given the potential for human remains to be present, in accordance with Requirement 25 of the <i>Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales</i> (DECCW 2010).</p>	<ul style="list-style-type: none"> • Points of contact added in Section 4.2.5 Ongoing Consultation with Registered Aboriginal Parties: Continuation of Consultation • Section 4.2.5 Ongoing Consultation with Registered Aboriginal Parties: Continuation of Consultation • Section 4.2.5 – Archaeological Salvage Excavation Program. Specified RAPs will be provided with a minimum 28 day period to review draft salvage excavation report. <p>Section 4.2.5 – Archaeological Salvage Excavation Program. This section includes provisions for RAPs to participate/attend the salvage excavation program, ensuring community representatives will be present for all archaeological excavations</p>

Condition #	Condition	HNSW advice	HNSW recommendation	Where addressed
41 (e)	Include a strategy for the care, control and storage of Aboriginal objects salvaged on site, both during the life of the development and in the long term;	Addressed under section 4.2.2 of the HMP (KNC 2021, p.15).	<p>The long term management provisions can be strengthened by including a time frame for finalising the long term management of Aboriginal objects, e.g. within 12 months of the completion of the salvage excavations.</p> <p>We recommend that the following measures be included in section 4.2.5, 'Management of Salvaged Aboriginal Objects':</p> <ol style="list-style-type: none"> 1. The proponent must facilitate discussions with the RAPs regarding the proposed long term management of those Aboriginal objects excavated during test excavation and salvage excavation. 2. The RAPs must be provided with a minimum of 28 days to provide comment on the proposed options for the long term management of those Aboriginal objects recovered through archaeological excavation. 3. The proponent must provide written confirmation of the long term management option(s) and the outcomes of the consultation process with the RAPs about these option(s) to Heritage NSW. 4. If the RAPs wish to manage the Aboriginal objects under a care agreement, then an application for the Transfer of Aboriginal Objects pursuant to section 85A of the Act must be submitted to Heritage NSW. The application for Transfer is available online at: https://www.heritage.nsw.gov.au/protecting-our-heritage/care-agreements/. 5. If the RAPs wish for the Aboriginal objects to be reburied, the AHIP holder must: <ol style="list-style-type: none"> a. Ensure the reburial occurs as soon as practicable in the context of the proposed extraction activities. b. Provide representative(s) of the RAPs with an opportunity to be present for the reburial. c. Provide detail of the location of each reburial area and description of the reburial process to Heritage NSW as soon as practicable after the reburial occurs by submitting an AHIMS site card pursuant to section 89A of the <i>National Parks and Wildlife Act</i>. d. Implement procedures to protect the Aboriginal objects at the reburial location(s) from any further harm. 	<p>Section 4.2.2 Included a statement regarding timeframe</p> <p>Included in Section 4.2.2 and Section 4.2.5</p>

Condition #	Condition	HNSW advice	HNSW recommendation	Where addressed
41 (f)	Include a protocol for managing interactions with the curtilage of the State heritage listed Dunmore House and identifying how this area would be rehabilitated to ensure the Dunmore House curtilage is restored without impacting the integrity or heritage values of the site; and	N/A – as noted above the current comments relate only to Aboriginal cultural heritage considerations under the NPW Act.	N/A	N/A
41 (g)	Describe the measures to be implemented on the site to manage interactions with the Flora and Fauna Management Plan.	We recommend that s4.1.6 of the HMP (KNC 2021,p.13) explicitly refers to integrating the flora and fauna plan with the Aboriginal cultural heritage assessment.	We recommend explicit description be included in the HMP of how it will interact with the Flora and Fauna management plan. We also recommend the wording of section 4.1.6 is strengthened to require the HMP to be checked for consistency when any of the listed management plans are changed and to ensure no additional impacts to Aboriginal heritage are likely as a result of those changes.	Section 4.1.6 Added text specifying that the Flora and Fauna Plan (and others) and activities undertaken under these plans will ensure consistency with the HMP Section 4.1.6 Added text clarifying that “Should any of the listed management plans above undergo changes or revisions, the HMP will be checked for consistency and to ensure no additional impacts to Aboriginal heritage are likely as a result of those changes.”
41A.	The Applicant must implement the Heritage Management Plan approved by the Planning Secretary.	We support implementation of the HMP following consideration of these comments and after review and comments have been received from the Registered Aboriginal Parties.	N/A	N/A

Appendix D DPIE Post-Approval Review



Dunmore Lakes Sand Extraction Project – Heritage Management Plan Post Approval Review

Document: Heritage Management Plan
Revision: Version v0.4, dated June 2021
Reviewed: Nagindar Singh (July 2021)

Rehabilitation Management Plan – DA195-8-2004, Schedule 3, Condition 43	Satisfactory (Yes/No/Partial)	Comment	Action Required
41 Prior to commencing extraction in Stage 5, the Applicant must prepare a Heritage Management Plan for the development to the satisfaction of the Planning Secretary: This plan must:			
a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Planning Secretary;	Partial	<ul style="list-style-type: none"> • Update Section 1.5 to state Dr Matthew Kelleher has been endorsed as a suitably qualified and experienced person (when the letter has been received) and the date that he was endorsed. • Include a copy of the endorsement letter in Appendix A. 	Yes
b) be prepared in consultation with Registered Aboriginal Parties and Heritage NSW;	Partial	<ul style="list-style-type: none"> • Section 1.5, Section 3 and Appendix B. • Provide a sample letter that was provided to RAPs seeking feedback on the draft HMP and a log of communication with the RAPs (dates, who was contacted and what was communicated). 	Yes
c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site;	Yes	<ul style="list-style-type: none"> • Section 2 	No
d) describe the procedures and management measures to be implemented on the site to: <ul style="list-style-type: none"> (i) ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions; (ii) protect, monitor and manage identified non-Aboriginal heritage, Aboriginal objects and Aboriginal places (including any archaeological investigations of potential subsurface objects and salvage of objects within the approved disturbance areas, including 52-5-0907 (DLS Boral AFT 1) and 52-5-0908 (DLS Boral AFT 2) in accordance 	Partial	<ul style="list-style-type: none"> • (i) - Section 4.2.4 • (ii) - Sections 4.2.1, 4.3.1 and 4.3.3. • (iii) – Section 4.1.3 • (iv) – Sections 4.1.4 and 4.1.5 • (v) – Section 4.2.5 • (vi) – Section 4.2.5 • Edits required - Recommendations of the expert should be translated into firm commitments of actions that will be undertaken to avoid or minimise impacts on the heritage values of the area. 	Yes



Dunmore Lakes Sand Extraction Project – Heritage Management Plan
Post Approval Review

Document: Heritage Management Plan
Revision: Version v0.4, dated June 2021
Reviewed: Nagindar Singh (July 2021)

<p>with the commitments made in the documents listed in condition 2(c) of Schedule 2;</p> <p>(iii) protect non-Aboriginal heritage, Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development;</p> <p>(iv) manage the discovery of suspected human remains and any new Aboriginal objects or Aboriginal places, including provisions for burials, over the life of the development;</p> <p>(v) maintain and manage reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places (outside of the approved disturbance area); and</p> <p>(vi) facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site;</p>			
<p>e) include a strategy for the care, control and storage of Aboriginal objects salvaged on site, both during the life of the development and in the long term;</p>	<p>Yes</p>	<ul style="list-style-type: none"> Section 4.2.2, Appendix D 	<p>No</p>
<p>f) include a protocol for managing interactions with the curtilage of the State heritage listed Dunmore House and identifying how this area would be rehabilitated to ensure the Dunmore House curtilage is restored without impacting the integrity or heritage values of the site; and</p>	<p>Yes</p>	<ul style="list-style-type: none"> Section 4.3.3 	<p>No</p>
<p>g) describe the measures to be implemented on the site to manage interactions with the Flora and Fauna Management Plan.</p>	<p>Yes</p>	<ul style="list-style-type: none"> Section 4.1.6 	<p>No</p>
<p>The Applicant must implement the Heritage Management Plan as approved by the Planning Secretary</p>	<p>Yes</p>	<p>Entire document</p>	<p>No</p>



Dunmore Lakes Sand Extraction Project – Heritage Management Plan
Post Approval Review

Document: Heritage Management Plan
Revision: Version v0.4, dated June 2021
Reviewed: Nagindar Singh (July 2021)

<i>Other Comments</i>	
<ul style="list-style-type: none"> The Department requires firm commitments for management activities, further action or implementation of monitoring and mitigation measure etc, Accordingly, undertake a review of the entire document and replace "must" "would" , "may", "shall" or "should" with "will" for any action, monitoring etc (as appropriate) that are required to be undertaken to meet consent conditions, unless these words form is part of consent conditions. Consider including discussions in the HMP on reporting on the progress of salvage works and other impacts on heritage values and / or these were avoided / mitigated in Annual Reviews (condition 9 of Schedule 5) and at Community Consultative Committee meetings (condition 6 of Schedule 5). 	Yes

Appendix E DPIE Post-Approval Review and Action Taken in Document

Rehabilitation Management Plan – DA195-8-2004, Schedule 3, Condition 43	Satisfactory (Yes/No/Partial)	Comment	Action Required	Action Taken
41 Prior to commencing extraction in Stage 5, the Applicant must prepare a Heritage Management Plan for the development to the satisfaction of the Planning Secretary: This plan must:				
a) be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Planning Secretary;	Partial	<ul style="list-style-type: none"> • Update Section 1.5 to state Dr Matthew Kelleher has been endorsed as a suitably qualified and experienced person (when the letter has been received) and the date that he was endorsed. • Include a copy of the endorsement letter in Appendix A. 	Yes	Updated Section 1.5 and attached endorsement as Appendix A.
b) be prepared in consultation with Registered Aboriginal Parties and Heritage NSW;	Partial	<ul style="list-style-type: none"> • Section 1.5, Section 3 and Appendix B. • Provide a sample letter that was provided to RAPs seeking feedback on the draft HMP and a log of communication with the RAPs (dates, who was contacted and what was communicated). 	Yes	Refer Appendix F for additional consultation details including copy of letter sent to RAPs
c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site;	Yes	<ul style="list-style-type: none"> • Section 2 	No	N/A
d) describe the procedures and management measures to be implemented on the site to: <ul style="list-style-type: none"> (i) ensure all workers receive suitable Aboriginal cultural heritage inductions prior to carrying out any activities which may cause impacts to Aboriginal objects or Aboriginal places, and that suitable records are kept of these inductions; (ii) protect, monitor and manage identified non-Aboriginal heritage, Aboriginal objects and Aboriginal places (including any archaeological investigations of potential subsurface objects and salvage of objects within the approved disturbance areas, including 52-5-0907 (DLS Boral AFT 1) and 52-5-0908 (DLS Boral AFT 2) in accordance with the commitments made in the documents listed in condition 2(c) of Schedule 2; (iii) protect non-Aboriginal heritage, Aboriginal objects and Aboriginal places located outside the approved disturbance area from impacts of the development; (iv) manage the discovery of suspected human remains and any new Aboriginal 	Partial	<ul style="list-style-type: none"> • (i) - Section 4.2.4 • (ii) - Sections 4.2.1, 4.3.1 and 4.3.3. • (iii) – Section 4.1.3 • (iv) – Sections 4.1.4 and 4.1.5 • (v) – Section 4.2.5 • (vi) – Section 4.2.5 • Edits required - Recommendations of the expert should be translated into firm commitments of actions that will be undertaken to avoid or minimise impacts on the heritage values of the area. 	Yes	Noted – language updated throughout document to use ‘will’

<p>objects or Aboriginal places, including provisions for burials, over the life of the development;</p> <p>(v) maintain and manage reasonable access for relevant Aboriginal stakeholders to Aboriginal objects and Aboriginal places (outside of the approved disturbance area); and</p> <p>(vi) facilitate ongoing consultation and involvement of Registered Aboriginal Parties in the conservation and management of Aboriginal cultural heritage on the site;</p>				
<p>e) include a strategy for the care, control and storage of Aboriginal objects salvaged on site, both during the life of the development and in the long term;</p>	<p>Yes</p>	<ul style="list-style-type: none"> Section 4.2.2, Appendix D 	<p>No</p>	<p>N/A</p>
<p>f) include a protocol for managing interactions with the curtilage of the State heritage listed Dunmore House and identifying how this area would be rehabilitated to ensure the Dunmore House curtilage is restored without impacting the integrity or heritage values of the site; and</p>	<p>Yes</p>	<ul style="list-style-type: none"> Section 4.3.3 	<p>No</p>	<p>N/A</p>
<p>g) describe the measures to be implemented on the site to manage interactions with the Flora and Fauna Management Plan.</p>	<p>Yes</p>	<ul style="list-style-type: none"> Section 4.1.6 	<p>No</p>	<p>N/A</p>
<p>The Applicant must implement the Heritage Management Plan as approved by the Planning Secretary</p>	<p>Yes</p>	<p>Entire document</p>	<p>No</p>	<p>N/A</p>
<p>Other Comments</p>				
<ul style="list-style-type: none"> The Department requires firm commitments for management activities, further action or implementation of monitoring and mitigation measure etc, Accordingly, undertake a review of the entire document and replace “must” “would” , “may”, “shall” or “should” with “will” for any action, monitoring etc (as appropriate) that are required to be undertaken to meet consent conditions, unless these words form is part of consent conditions. Consider including discussions in the HMP on reporting on the progress of salvage works and other impacts on heritage values and / or these were avoided / mitigated in Annual Reviews (condition 9 of Schedule 5) and at Community Consultative Committee meetings (condition 6 of Schedule 5). 			<p>Yes</p>	<ul style="list-style-type: none"> Noted – language updated throughout document to use ‘will’ Noted. Boral will consider inclusion in Annual Reviews and Community Consultative Committee meetings.

Appendix F Aboriginal Community Consultation on draft HMP

A full log of Aboriginal community consultation for the project is available in the CHAR (KNC 2019a and 2019b).

Registered Aboriginal Parties have been consulted regarding the proposed management and mitigation measures for Aboriginal heritage outlined in this Heritage Management Plan. During consultation undertaken for the CHAR assessment process, Registered Aboriginal Parties have previously expressed their support for the archaeological salvage program and their interest in participating in the salvage excavation, given the Aboriginal cultural heritage significance of the project area.

A copy of the draft management plan was provided to all Registered Aboriginal Parties listed in the Table below via email and/or post for review and comment on 14 May 2021. A copy of the cover letter accompanying the draft HMP is provided overleaf. Registered Aboriginal Parties were provided with a 28 day review period and invited to send through any comments they may have or contact the KNC office to discuss further.

Registered Aboriginal Parties – Dunmore Lakes Sand Modification 2

Registered Aboriginal Stakeholder	Representative and/or Contact Person
Illawarra Local Aboriginal Land Council	Paul Knight
Duncan Falk Consultancy	Duncan Falk
Leanne Tungai	Leanne Tungai
Darug Land Observations	Anna O'Hara
Woronora Plateau Gundangara Elders Council	Kayla Williamson
Goobah	Basil Smith
Biamanga	Janaya Smith
Cullendulla	Corey Smith
Gulaga	Wendy Smith
Murramarang	Roxanne Smith
Guunamaa Dreamin Sites and Surveying	Richard Campbell
Tungai Tonghi	Troy Tungai
Murra Bidgee Mullangari Aboriginal Corporation	Ryan Johnson
Muragadi Heritage Indigenous Corporation	Jesse Johnson
Merrigarn Indigenous Corporation	Shaun Carroll
Barraby Cultural Services	Lee Field
Yurrandaali Cultural Services	Bo Field
Wodi Wodi Coomaditchie Aboriginal Corporation	Heather Ball
James Davis	James Davis



**Kelleher
Nightingale Consulting Pty Ltd**

ADN 26 120 187 871 ADN 120 187 871

Level 10
25 Bligh Street
Sydney NSW 2000
p 02 9232 5373
f 02 9232 0680

14 May 2021

[RAP contact name]
[RAP organisation name]
[Address 1]
[Address 2]

Dear Sir/Madam,

**RE: DUNMORE SAND & SOIL PTY LTD - DUNMORE LAKES SAND PROJECT
Heritage Management Plan**

Thank you for your ongoing involvement, input and contribution to the Dunmore Lakes Sand project to date.

Dunmore Sand & Soil Pty Ltd (DSS) has obtained approval for a modification to their existing development consent (DA 195-8-2004) for the Dunmore Lakes Sand Extraction Project at Dunmore on the NSW South Coast. Development consent DA-195-8-2004 was for Stages 2, 3 and 4 of the project (now completed) and was granted by the Minister for Planning and Infrastructure on 29 June 2005.

Kelleher Nightingale Consulting Pty Ltd was engaged by Boral Resources (NSW) Pty Ltd as the owner of DSS to prepare a Heritage Management Plan (HMP) for both Aboriginal and historical (non-Aboriginal) heritage, in accordance with the conditions of modification approval.

Please find enclosed a copy of the HMP for your comment.

Please provide all comments you may have by Friday 11 June 2021 to:

Zac Thomas
Kelleher Nightingale Consulting Pty Ltd
Level 10, 25 Bligh Street, Sydney NSW 2000
Phone: 02 9232 5373
Email: zac.thomas@knconsult.com.au

if you have any questions regarding the HMP please contact the office on 02 9232 5373.

Thank you and we look forward to receiving your comments,

Yours sincerely,

Zac Thomas

Attach: (1) HMP

Appendix G Archaeological Salvage Methodology

Methodology

Research Aims

The main aims of the proposed salvage excavation program are:

- ◆ To salvage a representative sample of the identified archaeological sites prior to development impact.
- ◆ To analyse the salvaged archaeological material to gain and conserve knowledge and understanding of the scientific and cultural information exhibited by the activities associated with coastal landforms.

The further scientific aim of the salvage excavation program would be to determine the subsurface integrity, extent, spatial distribution and nature of the cultural deposit and the specific types of associated archaeological/cultural activities.

- ◆ Determining the integrity of the deposit involves assessing the degree of disturbance which is present.
- ◆ Determining the statistical extent of the sites and/or activity areas involves identifying the boundaries associated with the identified archaeological deposit.
- ◆ Assessing the spatial distribution involves identifying the presence/absence of archaeological material across the identified archaeological sites.
- ◆ The nature of the sites refers to the type of activities indicated by the artefactual material (e.g. primary production, domestic knapping, hunting camps). The goal would be to retrieve entire assemblages from specific activities if such activities were present.
- ◆ Retrieved assemblages would be compared with the results from other relevant archaeological projects in order to assess significance.

Research Questions

Archaeologically, sites DLS Boral AFT 1 and 2 represent important resource enabled (from estuary environments) focal points. Such focal points are often associated with very selective activity, which is reinforced by the selective and high quality nature of the artefacts recovered during the test program. The results of the proposed salvage excavation would increase our understanding of subsurface archaeology within the study area. In particular, research would focus on the archaeologically-identifiable cultural activities that took place within the beach sand bodies adjacent to the Minnamurra River estuary. DLS Boral AFT 1 and DLS Boral AFT 2 represent site types uncommon due to their low levels of previous disturbance in the region and the close association with an estuary may have facilitated longer, repeated or more specialised use of this area.

What can we expect?

It is anticipated that differences in stone tool assemblages may be related to different cultural activities (e.g. primary reduction vs maintenance flaking). Results from the test excavation program indicate that the sites may display assemblages with different characteristics, possibly representing different activities or site use over a prolonged time or repeated occasions. The science of archaeology is paramount to any research question and it is important to stress that the goal for the salvage program for all excavated sites is straight forward: to retrieve a viable sample for comparative analysis using established techniques (see Field Methods below). In this regard interpretation would not precede data collection. The proposed archaeological program would systematically sample the relevant areas using standard techniques with the outcome being a viable, robust and comparable sample. Analysis of the sample would follow and interpretations would be made distinctly separate from the results.

Question 1: What cultural activities are archaeologically identifiable in association with exploitation of estuarine environments?

Question 2: How does past Aboriginal use of this area relate to activities in adjacent areas (alluvial plains, ridgelines and the more elevated sandstone escarpments further west)?

Question 3: Do the sites display any unique or distinguishing traits that may be the result of their location in a unique landscape?

Question 4: Do sites contain evidence for repeated or specialised activities across long periods of time, or a single event in time? Is this reflected within the artefact assemblage (i.e. preference for certain raw material or artefact types)?

Archaeological Salvage Areas

Salvage excavation would be undertaken on identified archaeological sites DLS Boral AFT 1 and DLS Boral AFT 2. Salvage excavation of these sites would focus on the extraction of collections of artefacts related to activity areas and geomorphic information.

FIELD METHODS

The goal of the field excavation program is to recover significant assemblages of artefacts and investigation of contributing geomorphic processes.

Salvage Program

In order to achieve the most robust and comparable result, KNC advocates an open area salvage excavation. The first phase in open area salvage is to establish the statistical boundaries of the previously identified archaeological deposit. This approach is designed to salvage the spatial properties of the site as shown in the lithic continuum; in other words, recording the spread of activities across the site and wider landscape.

Phase 1

A series of 1 m² squares are excavated on a transect grid overlain on the site impact area to confirm the spread of lithics and related geomorphic activity. Phase 1 squares would be positioned to complement and augment the information from the previous test excavation programs conducted at the site.

Where Phase 1 test results identify information bearing deposit, Phase 2 excavation will be completed. Information bearing deposits are identified by triggers such as: significant quantities of artefacts, variations in raw material, unusual artefacts, chronological material and/or taphonomic indicators. In this context chronologic material is anything that can be used to date artefacts or deposit: charcoal or charcoal bearing deposit (e.g. hearth ash), sandy deposit, gravels (e.g. aluminium feldspar). Where necessary, additional Phase 1 squares can be excavated to confirm the spread of lithics and related geomorphic activity. Excavation intervals for additional Phase 1 squares would be determined by the findings of the salvage program and boundaries of the proposed impact area. It is anticipated that up to 25 additional Phase 1 squares would be required at each of the salvaged sites.

Phase 1 excavation would also determine the depth of intact archaeological material to ensure the retrieved sample is representative of cultural activity. Geoarchaeological assessment will use 50mm micro cores to assist the determination of the depth of archaeological material.

Phase 2

Open area salvage, Phase 2 will expand on Phase 1 squares to encompass entire activity areas. It is anticipated that around 75-100m² will be excavated during the Phase 2 salvage program. Additional excavation beyond this estimated total may be required depending on the progression of the salvage program and potential requirement to capture more archaeological data i.e. expansion of open areas beyond initial estimates in order to capture entire activity areas, or continuation of archaeological material in contexts suitable for radiometric dating. Up to 100m² of additional excavation may be required (anticipated Phase 2 excavation limit of 200m²). In accordance with advice from Heritage NSW, provisions for further salvage (>200m²) would be made if the excavation results indicate that this nominated amount is required to be exceeded.

Individual excavation squares measuring 1 m² would be hand excavated in stratigraphic units (Unit A, Unit B, etc.). Squares would be excavated until the basal layer or culturally sterile deposit is reached (on average to 80 centimetres, potentially up to 1.5m below the surface). Excavation will be undertaken by stratigraphic unit. Excavation at depths beyond 1 metre may require stepping in order to facilitate access to potentially deep deposits.

Sieving of the excavated deposit is required with a minimum sieve mesh size of 2.5mm. The use of the 1mm sieve mesh will also be used to capture micro debitage (where required) for assessing depositional movement (possibly pumice debitage that could indicate natural reworking activity) and interpreting activity areas. The use of 1mm sieve mesh has been shown to contribute significant information about site integrity and artefact reduction.

Sampling of the sandy matrix to at least 1.5m depth will be undertaken in areas revealing high density or significant cultural deposits. In addition, thin section profiles (where feasible) would also be collected from open areas. The soil profiles of all areas would be fully documented and appropriate records would be archived.

Carbon samples will be collected and analysed for material relating to both the archaeology and geomorphology. Where appropriate cosmogenic and radiometric dating of soils and rock surfaces will be applied (Nishiizumi et al. 1986, 1993).

The location of each excavated square would be identified on a surveyed plan of the site. Stratigraphic sections detailing the stratigraphy and features within the excavated deposit would be drawn and all squares would be photographed.

Analysis

Artefacts would be analysed on a comparable level with previous analyses of excavated assemblages. Information derived from this analysis; in particular the identification of specific artefact types and their distributions and associations; would be used to put together interpretations about how sites were used, where sites were located across the landscape, the age of sites and to assess cultural heritage values. By comparing different areas it would be possible to determine whether there were differences in the kinds of activities carried out and if different activities were related to different landforms.

The geoarchaeological assessment will focus on the integrity of the deposit and the ramifications of geomorphic change for: artefact survivability, interspatial assessments and scientific significance.

A range of stone artefacts may be present across the salvage areas and the analysis would expand accordingly to account for artefact variability. All information would be recorded in database form (MS Excel). Various types of evidence would be used to determine the kinds of activities that were carried out. A short description of the proposed analysis is outlined below.

- ◆ Field analysis would record basic data, such as material type, number and any significant technological characteristics, such as backing or bipolar techniques; added to this would be any provenance data such as pit ID and spit number. The purpose of the field recording is twofold: 1) establish a basic recording of artefacts retrieved and 2) to allow on-going assessment of the excavation regime (e.g. whether higher stratigraphic resolution is required while digging).
- ◆ Detailed (laboratory) analysis would entail recording a larger number of characteristics for each individual artefact. These details would be recorded in matrices suitable for comparative analysis (e.g. multivariate and univariate) of the excavated assemblage on a local and regional basis.
- ◆ Lithic characteristics to be recorded cover a range of basic information but are not limited to these categories (see example below). For transparency, terms and category types would in large part be derived from Holdaway and Stern (2004).

Sample Categories		
Record Number	% Cortex	Flake Type
Pit ID	Length	Termination Type
Spit Number	Width	Core Type
Count	Thickness	Number of Scars (Core)
Raw Material	Weight	Scar Type (Core)
Colour	Modification	Shape of Flake
Quality	Reduction Type	Platform Type

- ◆ A detailed explanation and glossary would be provided with the final excavation report.
- ◆ Minimum Number of Flake (MNF) calculations formulated by Hiscock (2002) would be undertaken where applicable (although past experience indicates MNF calculations would not be required for this excavation program).

The analysis of artefacts recovered during the excavation program would be undertaken in a transparent and replicable fashion so as to permit the comparison of the entire excavated assemblage with data from other areas. This would also allow for an interpretation of the study area's archaeological significance.

Field Team

KNC directors, Dr Matthew Kelleher and Alison Nightingale, would be responsible for the salvage excavation program. Dr Matthew Kelleher would direct the excavation component of the Aboriginal archaeological assessment. Matthew has extensive experience in managing archaeological excavations and research projects. Matthew would also be the principal contact for the overall Aboriginal archaeological assessment for the project. The salvage excavation will be undertaken in partnership with Registered Aboriginal Parties.