

Hunter Indoor Sports Centre

Historical Archaeological Assessment

Report to EJE Architecture

May 2025



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1.0 INTRODUCTION

1.1 Background

This Historical Archaeological Assessment (HAA) supports the Response to Submissions (RTS) and Amendment Report for State Significant Development Application (SSD- 65595459) for the proposed Hunter Indoor Sport Centre (HISC) at 2 Monash Road and 24 Wallarah Road, New Lambton. SSD-65595459 sought development consent for an indoor stadium, amenities and associated civil and landscaping works.

The Amendment Report seeks changes to the original development proposal SSD-65595459.

The key project amendments include moving the building footprint and carpark west, adding turfed open space near Turton Road, and shifting the access driveway south. The realigned pedestrian promenade within the carpark includes a bridge over the open space.

The height at the south-eastern corner of the building will be increased to provide flexibility to use the upper level of the building for gymnastics and other activities, there are also minor internal reconfigurations to fit the revised footprint.

Within the public domain works include widening the Turton Road footpath, adding pedestrian safety fencing, and retaining the existing cycle/pathway on the south eastern corner of the site. The landscaping and public domain changes mean that four trees on the Turton Road frontage (previously proposed to be removed) can now be retained.

On the southern edge of the site, landscaping elements have been removed. Space is provided for the future expansion of pedestrian / cycleway route along this corridor (works to be delivered by others).

The active recreation area, including a half basketball court, has been deleted from the proposal.

Development consent is sought for the entire proposal, with the flexibility to deliver the project in two construction and operational stages.

This HAA report has been prepared to provide a detailed assessment of historical archaeological potential and significance, identified development impacts and provides recommendations for their mitigation.

1.2 The subject site

The site is located at 2 Monash Road and 24 Wallarah Road, New Lambton, within the Newcastle local government area (LGA), as illustrated in Figure 1. The site comprises multiple parcels of land and is legally described as:

- Lot 2380 DP755247
- Lot 2379 DP755247
- Lot 2378 DP755247
- Lot 2377 DP755247
- Lot 1 DP1304081.

1.3 Overview of the project

Basketball Association of Newcastle Limited (BANL) (the proponent) proposes development and construction of the Hunter Indoor Sports Centre at Wallarah and Blackley Ovals in New Lambton NSW, opposite Newcastle International Hockey Centre and McDonald Jones Stadium. The proponent is seeking approval of the proposal as State Significant Development (SSD) under Division 4.7 of the Environmental Planning and Assessment Act 1979. It is understood that the Secretary's Environmental Assessment Requirements (SEARs) have not yet been issued but are expected to require the assessment historical archaeological potential and any impacts of the proposed development. This report was prepared based on the requirements of standard industry SEARs.

EJE Architecture on behalf of the proponent have engaged Artefact Heritage to prepare a Historical Archaeological Assessment to address the anticipated requirements of the SEARs. This report will evaluate impacts to any identified historical archaeology and develop management measures for any proposed impacts.

1.4 Secretary's Environmental Assessment Requirements

The proposal has been classified as State Significant Development (SSD-65595459). Approval for the project is required and will be based on the assessment of an Environmental Impact Statement (EIS) for the proposal. This HAA has been prepared to inform the EIS.

As such the Director-General of the (NSW) Department of Planning and Environment (DP&E) has prepared Secretary's Environmental Assessment Requirements (SEARs) which need to be addressed in the EIS. The SEARs relating to archaeology, which have been addressed by this HAA, are as follows:

12. Heritage: Where there is potential for direct or indirect impacts on the heritage significance of environmental heritage, provide a Statement of Heritage Impact and Archaeological Assessment (if potential impacts to archaeological resources are identified), prepared in accordance with the relevant guidelines, which assesses any impacts and outlines measures to ensure they are minimised and mitigated.

1.5 Approach and methodology

This report was prepared in accordance with the principles and procedures established by the following documents:

- *Archaeological Assessments*
- *The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance*
- *Assessing Significance for Historical Archaeological Sites and Relics*
- *Historical Archaeology Code of Practice*

1.6 Limitations

This report provides an assessment of historical (non-Aboriginal) archaeological remains and their values only and does not assess Aboriginal cultural heritage or built heritage elements.

1.7 Authorship

This report was prepared by Kristen Tola (Heritage Consultant, Artefact) with technical input and review by Jenny Winnett (Technical Director, Artefact).



HUNTER INDOOR SPORTS CENTRE : PROPOSED OVERALL SITE PLAN



Figure 1-1: Location of study area. Source: EJE

2.0 STATUTORY CONTEXT

2.1 Heritage Act (NSW) 1977

The NSW Heritage Act 1977 (Heritage Act) is the primary item of State legislation affording protection to items of environmental heritage in NSW. The Heritage Act is designed to protect both listed heritage items, such as standing structures, and potential archaeological remains or relics.

Under the Heritage Act, 'items of environmental heritage' include places, buildings, works, relics, moveable objects and precincts identified as significant based on historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic values. State significant items are listed on the NSW State Heritage Register and are given automatic protection under the Heritage Act against any activities that may damage or affect its heritage significance.

2.1.1 State Heritage Register

The State Heritage Register (SHR) was established under Section 22 of the Heritage Act and is a list of places and objects of particular importance to the people of NSW, including archaeological sites.

To carry out activities within the curtilage of an SHR-listed item, approval must be sought under a Section 60 of the Act. In some circumstances where works are minor in nature and assessed to have minimal impact on the heritage significance of the SHR-listed item, they can be undertaken under a Section 57(2) Exemption or in accordance with agency or site-specific exemptions.

There are no heritage items listed on the State Heritage Register within or directly adjacent to the subject site.

2.1.2 Section 170 registers

Under the Heritage Act all government agencies are required to identify, conserve and manage heritage items in their ownership or control. Section 170 (s170) requires all government agencies to maintain a Heritage and Conservation Register that lists all heritage assets and an assessment of the significance of each asset. They must also ensure that all items inscribed on its list are maintained with due diligence in accordance with State Owned Heritage Management Principles approved by the Government on advice of the NSW Heritage Council. These principles serve to protect and conserve the heritage significance of items and are based on NSW heritage legislation and guidelines.

There are no heritage items within the subject site listed on s170 Heritage and Conservation Registers.

2.1.3 'Relics' provision

The Heritage Act provides additional protection for archaeological remains through the operation of the 'relics' provisions. The primary aim of an archaeological significance assessment is to identify whether an archaeological resource, deposit, site or feature is of cultural value and therefore, considered to be a 'relic'.

The Heritage Act defines a relic as any deposit, artefact, object or material evidence that:

- a. *relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and*
- b. *is of local or State significance.*

In accordance with Section 139, it is an offence to disturb or excavate land, where this may affect a relic, without an excavation permit under section 140 of the Heritage Act, unless an excavation permit exception is issued for works that are minor in nature, require monitoring or test excavation.¹

The discovery of unexpected relics, must be reported to Heritage Council under Section 146 of the Act:

-
- (a) *within a reasonable time after he or she first becomes aware or believes that he or she has discovered or located that relic, notify the Heritage Council of the location of the relic, unless he or she believes on reasonable grounds that the Heritage Council is aware of the location of the relic, and*
- (b) *within the period required by the Heritage Council, furnish the Heritage Council with such information concerning the relic as the Heritage Council may reasonably require.*
-

In addition to relics, remnants of historical structures which are typically not associated with artefactual material that may possess research value, are considered to be 'works'.

'Works' may be buried, and therefore archaeological in nature, however, exposure of a 'work' does not necessarily trigger a requirement to obtain an excavation permit under the Heritage Act.

Examples of 'works' include:

- Former road surfaces or pavement and kerbing.
- Evidence of former drainage infrastructure, where there are no historical artefacts in association with the item.
- Building footings associated with former infrastructure facilities, where there are no historical artefacts in association with the item.
- Evidence of former rail track, sleepers or ballast.
- Evidence of former rail platforms and former platform copings.

Where buried remnants of historical structures are located in association with historical artefacts (such as glass, ceramic, metal, bone. etc) that may have the potential to inform research questions regarding the history of a site, the above items would not be characterised as 'works' but considered to be 'relics'. 'Works' should be managed according to their significance.

Sites listed on the SHR and subject to Section 60 (s60) approvals, the 'works' and 'relics' definitions do not apply. Within an SHR curtilage, all archaeology is managed by its potential significance in a holistic manner.

2.2 Environmental Planning and Assessment Act (NSW) 1979

The Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act) establishes the framework for cultural heritage values to be formally assessed in the land use planning and development consent process. The EP&A Act requires that environmental impacts are considered prior to land development; this includes impacts on cultural heritage items and places as well as archaeological sites and deposits. The EP&A Act requires that Local Governments prepare planning instruments

¹ Refer to order published in the NSW Government Gazette
https://gazette.legislation.nsw.gov.au/so/download.w3p?id=Gazette_2022_2022-59.pdf

(such as Local Environmental Plans [LEPs] and Development Control Plans [DCPs]) in accordance with the Act, to provide guidance on the level of environmental assessment required.

2.2.1 Newcastle Local Environmental Plan 2012

Heritage items listed on the Newcastle LEP 2012 are managed in accordance with the provisions of Section 5.10 Heritage Conservation of this LEP. Under Clause 5 of this section of the Newcastle LEP 2012:

The consent authority may, before granting consent to any development:
(a) on land on which a heritage item is located, or
(b) on land that is within a heritage conservation area, or
(c) on land that is within the vicinity of land referred to in paragraph (a) or (b),
require a heritage management document to be prepared that assesses the extent
to which the carrying out of the proposed development would affect the heritage
significance of the heritage item or heritage conservation area concerned.

Schedule 5 of the Newcastle Local Environmental Plan 2012 includes a list of items/places of heritage significance within this LGA.

There are **no heritage items** listed on the Newcastle Local Environmental Plan 2012 located within the study area.

The closest heritage item on the Newcastle Local Environmental Plan 2012 is located within 750 metres of the subject site:

- Brick Stormwater Culvert (# I693)

2.3 Non-statutory considerations

2.3.1 Register of the National Estate

The Register of the National Estate (RNE) is no longer a statutory list; however, it remains valuable as an archive and sign of community esteem.

There are **no heritage items** within the vicinity of the subject site which are listed on the Register of the National Estate.

2.4 Summary of heritage listings

A summary of the heritage listings is provided in Table 1. The subject site can be seen in proximity to the listed heritage items below in Figure 2-1

Table 1: Register search results for heritage items relating to the subject site.

Item	Address	Significance	Listing	Place ID	Item type
Brick stormwater culvert	41 Wallarah Road (off Tyrone Street), New Lambton NSW	Local	Newcastle LEP 2012	I693	Built



Document Path: C:\Users\MDouglas\OneDrive - Artefact Heritage Services Pty Ltd\GIS\GIS_Mapping\231000_Hunter Basketball Stadium\MXD\231000_Heritage Items_v2_260224.mxd

Figure 2-1: Study area with LEP listed heritage items

3.0 HISTORICAL CONTEXT

3.1 Aboriginal occupation and European contact

This section provides a brief summary of the history and culture of the peoples of Awaba (Awabakal), the traditional custodians of Country. This section includes information collated from colonial sources and should be read with this in mind.

Note that early accounts reference the 'Awaba' as the name of the Country and group, with 'Awabakal' (meaning 'of the Awaba') used more recently, particularly in reference to people and language. Awaba/Awabakal have therefore been used interchangeably in this report.

3.1.1 Mulubinba and Awaba

The Land is culturally significant to the Aboriginal descendants of the Awabakal people, and they wish to preserve and recover as much cultural heritage history as possible for future generations.

David Ahoy, Lower Hunter Aboriginal Incorporated, 17 August 2022

The Awabakal people are the traditional custodians of the land on which the study area is located and have cared for Country for tens of thousands of years. Awabakal territory traditionally encompasses modern Lake Macquarie, Newcastle, and parts of the southern Hunter Region. Prior to colonisation, the land and waters now known as Newcastle were called *Mulubinba* – meaning 'place of sea ferns' – in the Awabakal language.²

There is evidence that in the Newcastle area that chert (a flint-like quartz) was mined by local people for use in tool making. A significant number of hand axes and micro-blades have been found by the local Aboriginal community, suggesting that the stone mined in the region was used for a broad range of toolmaking purposes. The stone was cut using traditional methods to shape the rock. These tools and items would have been traded amongst the Awabakal clans as well as with neighbouring Nations. Trading of stone would primarily have occurred locally between Aboriginal groups, including between the Pambalong clan and Wonnarua and Worimi peoples, although it is also expected that trade would have occurred further afield.³

There was a trade system across NSW – a lot of the tuff here is found out at Broken Hill; and Broken Hill silcretes are found up here. The trade system was very important.

Peter Townsend, Awabakal LALC site officer, 1 December 2022

The study area is located on the Lower Hunter Plain, within a shallow basin immediately west of the estuary at which the Hunter River (*Maiyaa*) meets the Tasman Sea.⁴ This plain was covered in tall open forests of river and swamp oak, broad leaved paperbarks and the occasional cabbage tree palm.⁵ These cabbage trees were used for a range of manufacturing purposes; the tree's fibres were used to make fishing line and nets, and its broad leaves were used for roof thatching.⁶ Varieties of

² University of Newcastle Special Collections, 2013. "The many names of Newcastle – Mulubinba." *Hunter Living Histories*, accessed on 8 July 2022 via <<https://hunterlivinghistories.com/2013/08/30/the-many-names-of-newcastle-mulubinba/>>.

³ Maynard et al 2021

⁴ AMBS 2005, pg. 80.

⁵ AMBS 2005, pg. 31.

⁶ Miromaa Aboriginal Language & Technology Centre, 2020. "Awabakal Dictionary: Community Edition," pg. 12.

banksia and tea tree, Sydney golden wattle and blady grass grew closer to the beachfront.⁷ The site was previously a swamp and, though now drained, is a site of mahogany swamp trees, *Eucalyptus Robusta*.

These open forests were a rich source of food for the Awabakal people of the Lower Hunter Plain, providing varied seasonal plant and animal life. The Awabakal cared for Country by practicing fire-stick farming throughout these forests. Fire-stick farming results in reducing fire hazards, facilitates hunting, changing plant and animal populations, and increasing biodiversity.

Sea life has always been one of the most important sources of food for the Awabakal people, and Aboriginal settlement was concentrated around *Maiyaa* and the coast. *Maiyaa* (which means 'snake' in the Awabakal language) provided *munboonkaan* (oysters), *parimankaan* (salmon), *kirul* (mullet), jewfish, prawns, and other marine life.⁸ Awabakal women dived for lobsters and fished using lines and nets, while men generally fished using *kalaara* (spears) made with sharpened stones or shellfish. On occasions when whales would become stranded on the shore, coastal and invited inland peoples alike would gather on the shore to feast for days. The Awabakal used *nauwai* (bark canoes) to skilfully navigate and fish in deeper coastal waters. Hundreds of shell middens found along the foreshores and catchments of the Hunter River and the Tasman Sea attest to thousands of years of sustainable fishing practices and coastal life in the region.

Evidence of well-worn trackways throughout the ridges of the Sugarloaf and Watagan ranges suggests that the mountains have long held special significance to the Awabakal. The Rev Threlkeld noted 'circular erections of stones' which were five- or six-foot diameter and two or three feet high.⁹ These stone structures were of spiritual importance to the Awabakal, who were wary 'of any of these stones being moved, especially the centre one', according to a mid-nineteenth century account¹⁰.

Aboriginal people across NSW also travelled to Mount Yengo for ceremonies:

The NSW mobs went to Mount Yengo for ceremonies, for a few weeks or who knows how long. And so, what you can see out there are the different types of arts on the rock. You have an escarpment with different styles of art; charcoals, yellow ochres and red ochres. Interesting stuff.

Peter Townsend, Awabakal LALC site officer, 1 December 2022

3.2 Early European exploration

Although early European fishing boats may have passed as far as the mouth of the Hunter River, and the region was marked on an early map from Captain Cook's voyage north in 1770, it was not until 1797 that the Hunter region was extensively explored by Europeans. Lieutenant Shortland entered the Hunter River in 1797 in search of convicts who had escaped from Sydney by hijacking the *Cumberland* as she sailed out of Sydney. Though he failed to find the escapees, Lieutenant Shortland did note "a very fine coal river" which he named after Governor Hunter. Shortland reported the existence of coal outcroppings close to the mouth of the river, sparking interest in the economic possibilities of further exploring the region.

The first official exploration of the region was led by Colonel William Paterson in June 1801. Paterson noted that the land around Newcastle contained an abundance of resources such as salt, shell (for lime), fish and coal. He also observed that that low lying land near rivers would be suitable for

⁷ AMBS 2005, pg. 31.

⁸ AMBS 2005, pg. 33.

⁹ Rev. Threlkeld quoted in Gunson 1974: 65-66.

¹⁰ W.A. Miles quotes in Gunson 1974: 65-66.

cultivation, while the remainder provided 'excellent pasture for cattle'. The area was described as sandy and interspersed with estuarine and swampland areas.¹¹

An early settlement was attempted in 1801 at a convict camp on the Hunter's southern shore.¹² Instigated by the discovery of coal, early mining operations at the camp continued for only a year. The settlement at the mouth of the Hunter River was short-lived, ending in 1802 with the convicts and overseers being evacuated back to Sydney.¹³ Settlement was reattempted in 1804, this time with the convicts being accompanied by a compliment of military guards. The settlement became a place of secondary punishment for the worst offenders.¹⁴

Figure 3-1: Walter Preston's 1820 sketch 'Newcastle Hunter's River, New South Wales'



In 1815, Captain James Wells took commandment of the settlement. This resulted in an extensive 'building boom' in the area. During the period between 1815 – 1818 Newcastle's first streets were laid out and a church, gaol and school were erected.¹⁵

In 1823 Governor Macquarie ruled that proper exploitation of resources could not be undertaken by convicts and most were relocated to Port Macquarie, ending military rule in Newcastle. The abundance of coal and the accessible port drove European free settlement of the Newcastle region.

Modification of the natural landscape was carried out from the earliest stages of European occupation of the Newcastle region. By 1850 rock ballast and dredged silt had been used to reclaim the shoreline, allowing ships to dock and unload cargo.¹⁶ With the cessation of military rule, it was decided that land within Newcastle would be subdivided and put up for sale.

¹¹ Newcastle Morning Herald and Miner's Advocate 1934; Newcastle Morning Herald and Miner's Advocate 1939

¹² Umwelt 2014: 2.3

¹³ Umwelt 2014: 2.3

¹⁴ Umwelt 2014: 2.3

¹⁵ City of Newcastle Future City Group. 2014: 6

¹⁶ HDC 2014

Figure 3-2: Detail of Livingstone's c.1853 plan of Newcastle and the Hunter River¹⁷



3.3 Coal trade and railways

The need to transport coal drove the construction of the railway in the Hunter region. Original railways which served the burgeoning coal industry of the region were gravitational railways.¹⁸ Figure 3-3 details the locations of the major coal mines across Newcastle. The Newcastle branch of the Main Northern Line opened in 1857 and stations at Hamilton and Wickham were established in 1872 and 1936 respectively.¹⁹ Development of the railway connected Newcastle to greater NSW and cemented its role as a national and international coal trader. Newcastle remained a dominant urban centre until the depression of the 1890s.²⁰

Private coal railways utilised by companies such as the Australian Agricultural Company (AACo), the Newcastle Wallsend Coal Company, the Merewether Estate and other mining interests all assisted the process of urban development by linking the mining villages on their estates by private coal railways to Newcastle. These private railways played an important role in transporting people to and from the mining villages around Newcastle, shaping Newcastle's development.²¹

¹⁷ Livingstone, A. 1853 'Chart of the entrance and harbour of Newcastle' State Library of NSW Mitchell Map Collection Z/M2 811.252/1853/1

¹⁸ Campbell *et al* 2009

¹⁹ NSWrail.net 2016

²⁰ Suters Architects 1997

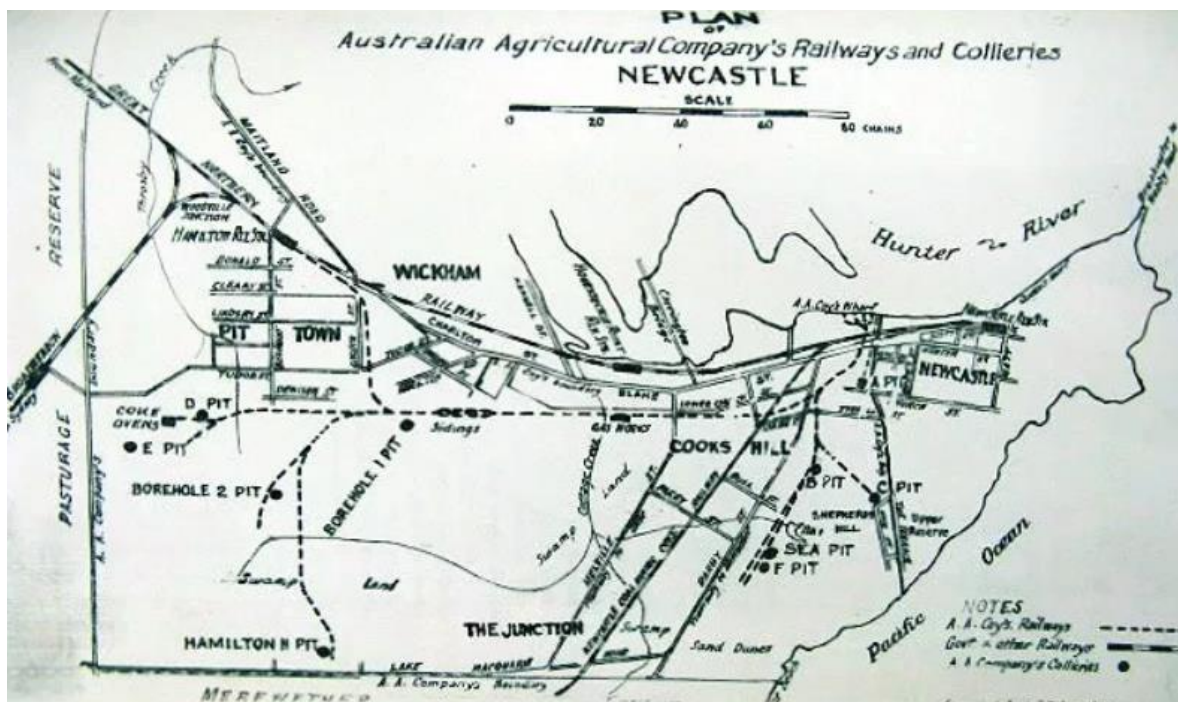
²¹ Rowe & di Gravio 2002: 10

was sunk using wholly convict labour. In 1849 the D Pit was opened in the vicinity of present-day Hamilton. During the 1850s the Company continued to develop new collieries in this area including the E and G pits, which were only a short distance from the D Pit and the closest pits to the current study area.

The company dominated industry and development of the town of Newcastle until 1847, when it lost its monopoly on coal mining, and when the discovery of the Borehole Seam encouraged other companies to enter the industry.²⁵ The dominant role of the company was further eroded in 1850 when the Burwood Mine was allowed to construct a railway through the company land.

From 1853 onwards, subdivision of the company grant allowed for the westward expansion of the city of Newcastle, and major centres developed along Hunter and Darby Streets.

Figure 3-4: Undated plan of the AACo's Newcastle railways and collieries.²⁶ Broadmeadow Station is to the far left of the image



3.5 The Newcastle Pasturage Reserve

In 1849, 2000 acres, known as the Newcastle Pasturage Reserve or 'common', was dedicated by the government as pasturage for cattle awaiting transport to New Zealand. The common was located on the western boundary of the AACo's grant, and stretched from Broadmeadow to Wallsend. The study area was originally located within the boundaries of this reserve (Figure 3-4). When the area was no longer required for this specific purpose, it came to be viewed as common land, for general pasturage and recreation by the surrounding community.

Throughout the 1880s hundreds of miners and their families squatted on the common to avoid paying rent and rates and remain in close proximity to their places of work. By 1887 the common had a population of 4486.²⁷ The dwellings were variously described as being constructed of wood or sundried brick, and being located on flat, but waterlogged, ground. In 1885 a reporter for The Sydney

²⁵ Newcastle Archaeological Management Strategy, 2015 p.16

²⁶ Hunter Living History <https://hunterlivinghistories.com/2016/05/16/sleep/> accessed 12/09/2018

²⁷ Docherty, J. C. *The Second City: Social and Urban Change in Newcastle, New South Wales, 1900 – c.1929*, Australian National University 1977 p.145

Mail stated that the area was barren and devoid of vegetation, and that much of the area had subsided due to being undermined by the collieries and was unsafe for settlement.²⁸

By the late 19th century the issue of the common settlement was a political one, with the community stating that they were forced to squat on the common for lack of alternative dwelling space in the vicinity of the collieries where they worked. Many of the families requested that their informal land holdings be given formal recognition by the government. In 1889 the government passed legislation allowing miners who had settled on the reserve prior to January 1888 to purchase their land. By 1900, 226 acres had been purchased by small landholders, 40 acres were purchased by the Waratah Coal Company and the Railway Department acquired 64.4 acres for its Broadmeadow locomotive depot, to the south of the study area.²⁹ By 1900, approximately 79 per cent of the common remained Crown land, and by 1935 only 35 percent of the common had been alienated.³⁰

Ownership of the railway lines through the common eventually reverted back to the crown, as did the mining leases. The open, undeveloped areas of the common were turned into parks (including the current study area), schools and John Hunter Hospital.

3.6 James and Alexander Brown's Collieries

James Brown (1816-1894) and Alexander Brown (1827-1877), colliery proprietors and merchants, were born in Lanarkshire, Scotland. In 1843 James leased eighty acres (32 ha) of land at Four Mile Creek, near East Maitland, and assisted by his brothers John (1823-1846) and Alexander (b.26 June 1827) began to mine outcropping coal for sale in Maitland and Morpeth.³¹ This land was reserved by the Crown in agreement with AACo, although the company tolerated small-scale mining for local use. However, when the Hunter River Steam Navigation Co. accepted Brown's tender to supply 4000 tonnes of coal a year at a lower price than they had been paying the AACo, the company took action. The Browns argued the Government's agreement with the AACo was illegal, but lost, and the subsequent court ruling meant that the Browns were forced to leave their lease at short notice.³²

James and Alexander, however, continued to mine coal in the East Maitland area, in partnership with John Eales, whose land grant predated the agreement with the AACo. In 1852 the brothers moved to Newcastle to develop a new mine in Minmi and develop their shipping interests.

In 1861 the brothers commenced development of a new colliery near present-day Broadmeadow which became known as the Hartley Vale Colliery. The colliery was ready for production by 1864, however, as the Browns were unable obtain permission to cross the Scottish Australian Mining rail line, the mine was unable to be worked. Instead, the Browns developed additional collieries adjoining the property, which became known as the New Lambton coal pits. In 1867 an act of parliament, the *Hartley Vale Railway Act*, was passed, allowing the Browns to complete their railway. By 1868 the Browns were the largest coal producers in the colony.

The New Lambton coal pits were described by G. H. Kingswell as follows:

In the year 1867 Messrs. J. and A. Brown commenced to work coal from the New Lambton Estate, which at resent is the freehold property of Messrs. George R. Dibbs and, and Alexander brown, M's. P. It consists of 1225 acres, and is bounded on the north and east by the Commonage, on the south by the Waratah Coal

²⁸ 'The Newcastle Pasturage Reserve' in The Sydney Mail and New South Wales Advertiser 1 August 1885, accessed via trove.nla.gov.au

²⁹ Docherty, J.C. 1977 p.145

³⁰ Ibid

³¹ Turner, J. W. 'James Brown' Australian Dictionary of Biography Vol. 3, 1969

³² Turner, J. W. 1969

*Company's land, while the estate of the Scottish Australian Mining Company forms the western boundary.*³³

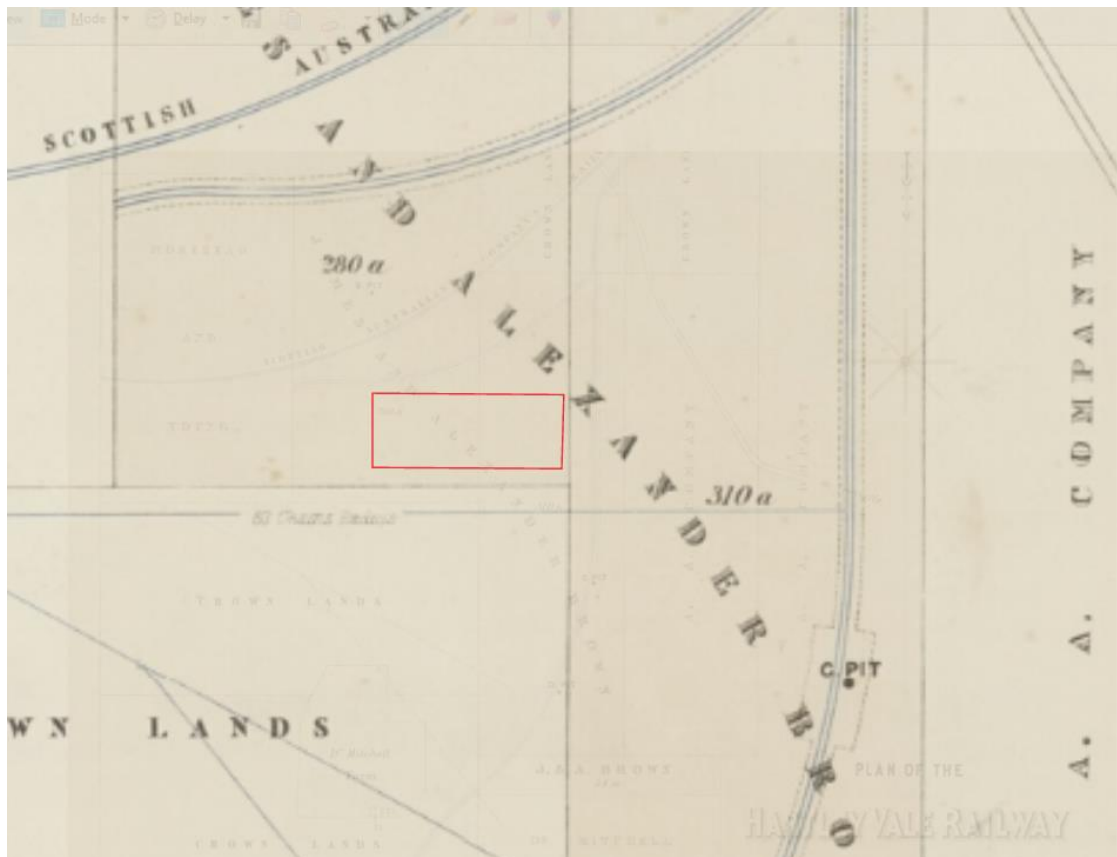
In 1873 James sold his share of the company to George Dibbs. The new company, comprising Alexander Brown and George Dibbs, sunk a second shaft south of the original colliery (assumed to be 'Brown's shaft' or 'C Pit' (marked on Figure 3-5 and Figure 3-6). According to Kingswell, the output of both mines was good, however, due to the inferior quality of the coal, the colliery was abandoned. The company then moved on to the B, or New Lambton Pit in 1870.³⁴ The B Pit later became known as the 'Old Dog and Rat Pit', and was Hartley Vale railway via a tunnel underneath the Lambton railway.

A drawback to settlement in the area was subsidence due to intensive coal mining, and buyers of Crown land within the Precinct in 1918 were warned: 'Sale is restricted to the surface and to a depth of 100 feet below the surface.'

Drainage of the low-lying former pasturage occurred from the late 19th century. Prior to that, whenever there were heavy rains, many of the developing streets would flood and large portions of the area were unusable (Figure 3-7). The construction of drainage throughout Broadmeadow opened up large portions of land for settlement (Figure 3-8).

A plan from 1910 (Figure 3-9) indicates that while residential and commercial development of the study area had commenced, the study area itself was undeveloped.

Figure 3-5: Detail from the 1867 'Plan of the Hartley Vale Railway' showing the holdings of James and Alexander Brown, with the approximate location of the study area in red³⁵



³³ Kingswell, G. H. *The Coal Mines of Newcastle NSW*, 1890

³⁴ Kingswell, G. H. 1890

³⁵ 1867 'Plan of the Hartley Vale Railway' State Library of NSW Z/ M2/ 812.179/ Hartley Vale/ 1867/1

Figure 3-6: 1873 'Map of the Waratah Coal Company Blocks' showing the holding of James and Alexander Brown, with the study area in red³⁶



3.7 Development of western Newcastle

The AACo brought stability to the town of Newcastle, but, by the terms of its land grant the Company did not have the right to alienate any of its land, and the town was restricted to the area east of Brown Street until the early 1850s.

In 1853, the AACo. subdivided their 2000-acre land-holdings, opening western Newcastle up for development. The first subdivision was successful, with the majority of land holdings going to miners and other AACo employees on Darby and Hunter Street west. A number of lots were purchased with the aim of creating businesses, including butchers and publicans. Some of the larger allotments were purchased by Chinese for market gardening.³⁷ The arrival of the Great Northern Railway in 1857 provided further incentive for settlement and development within the area and, as transportation options improved, the outlying suburbs of Newcastle began to develop.

As much of the study area was originally part of the Newcastle Pasturage Reserve (see section 3.5), swampy, criss-crossed with colliery railways and polluted by industry, it did not develop until the early 20th century. A further drawback to settlement in the area was subsidence due to intensive coal mining, and buyers of Crown land within the study area in 1918 were warned: 'Sale is restricted to the surface and to a depth of 100 feet below the surface.'

Drainage of the low-lying former pasturage occurred from the late 19th century. Prior to that, whenever there were heavy rains, many of the developing streets would flood, and large portions were unusable.

³⁶ 1873 'Map of the Waratah Coal Company Blocks' National Library of Australia MAP F 82

³⁷ Suters Architects 1997 p.27

The construction of drainage throughout Broadmeadow opened up large portions of land for settlement (Figure 3-8).

A plan from 1910 (Figure 3-9) indicates that residential and commercial development of the study area had commenced along Lambton and Broadmeadow Roads, the majority of the area was undeveloped pasture.

Figure 3-7: The Newcastle lowlands, 1897. Photo taken from intersection of Beaumont St and Glebe Rd looking north towards Hamilton. The study area is in the left background. University of Newcastle Cultural Collections.



Figure 3-8: Drain construction workers at Broadmeadow, NSW, 6 April 1900. University of Newcastle Cultural Collections.

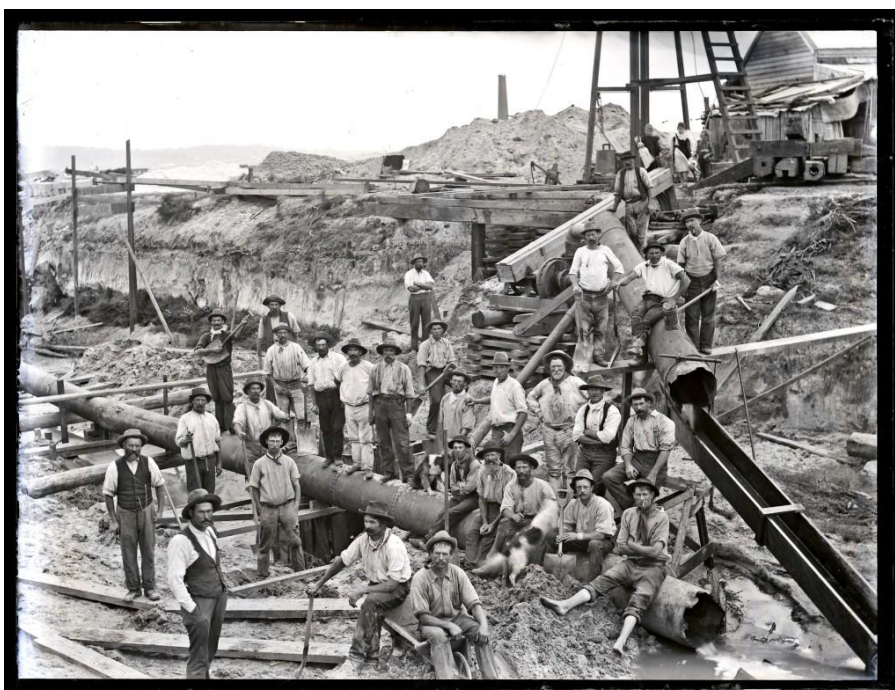


Figure 3-9: Detail from 1910 plan with study area in red³⁸



3.8 World War II

During World War II (WWII) numerous locations in the Hunter region were utilised in the war effort. Several heavy anti-aircraft batteries were installed across Newcastle by the Newcastle Anti-Aircraft Group in September 1943. During this period the study area contained four dummy gun stations, designed to mislead Japanese aircraft (Figure 3-10). Each station consisted of a platform with a mounted timber anti-aircraft replica gun.

During this period, as evidenced by the 1944 aerial (Figure 3-10), the east portion of the study area appears to have been a sporting oval, possibly a cricket ground with pitch in the centre, with a small structure on the southwest boundary. Early drains or stormwater channels are visible to the south of the study area boundary.

³⁸ Barrett, Lc Cpl A. Map of the Country around Newcastle N.S.W. 1910

Figure 3-10. Aerial photograph c.1944



Document Path: C:\Users\MDouglas\OneDrive - Artefact Heritage Services Pty Ltd\GIS\GIS_Mapping\231000_Hunter Basketball Stadium\MXD\231000_Historical Overlays_v2_260224.mxd

3.9 Overview of land-use phasing

A summary of historical phases has been included in Table 3.

Table 3: Overview of land-use phasing by section.

Phase	Development	Date	Discussion
1	Newcastle Pasturage Reserve	1849 – c.1880	The subject site was originally part of the 2000 acre pasturage reserve. It is unlikely that any developments occurred during this phase.
	Hartley Vale Colliery	1861 – c.1880	Two pits were worked to the south-east of the subject site. The colliery railway line passed from north-east to south-west to the north of the subject site. It is unlikely additional land clearance or improvements occurred during this phase
2	Public Reserve	c.1880s - current	The study area was part of a large portion of the former common designated to public recreation following a program of drainage. It is unlikely additional land clearance or improvements occurred during the establishment of the park have resulted in an archaeological footprint, currently the area is utilised as an open oval, with amenities on the southern boundary alongside an open canal (both developments are outside the study area).
	WWII	1943	The study area contained four anti-aircraft dummy gun emplacements.

4.0 ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

4.1 Introduction

This section discusses the known and potential historical archaeological resources within the subject site and their significance.

The potential for the survival of archaeological remains is significantly affected by development activities that required ground disturbance. This assessment is therefore based on consideration of current ground conditions, and analysis of the historical development of the study area.

'Archaeological potential' refers to the likelihood that an area contains physical remains associated with an earlier phase of occupation, activity, or development of that area. This is distinct from 'archaeological significance' and 'archaeological research potential'. These designations refer to the cultural value of potential archaeological remains and are the primary basis of the recommended management actions included in this document.

The archaeological potential of a site is presented in terms of the likelihood of the presence of archaeological remains, considering the land use history and previous impacts at the site. This evaluation is presented using the following grades of archaeological potential:

Table 2: Grading of archaeological potential

Assessed Potential	Rationale
Nil Potential	Where there is no evidence of historical development or use, or where previous impacts such as deep basement structures would have removed all archaeological potential.
Nil to Low Potential	Where there has only been low intensity historical activity, such as land clearance or informal land use, with little to no archaeological 'signature' expected; or where previous impacts were extensive, such as large-scale bulk excavation which would leave isolated and highly fragmented deposits.
Low Potential	Where research has indicated little historical development, or where there have been substantial previous impacts which may not have removed deeper subsurface remains entirely.
Moderate Potential	Where analysis has demonstrated known historical development with some previous impacts, but where it is likely that archaeological remains would survive with localised truncation and disturbance.
High Potential	Where there is evidence of multiple phases of historic development and structures, with minimal or localised twentieth-century development impacts, and where it is likely that archaeological resources would remain intact.

4.2 Physical context

An inspection of the study area was conducted on 1 November by Kristen Tola (Heritage Consultant) and Matthew Syron (Awabakal LALC). The aim of the visual inspection was to inspect the study area of proposed works, inform a preliminary assessment of Aboriginal and Historical archaeological potential, and to identify any heritage items or heritage significant fabric within the study area and in the vicinity that may be affected by the project.

The study area was walked in 15-20m transects south to north, starting in the southeastern corner and moving northwest. Two locations of the study area were under active use; therefore, these areas were avoided during the survey and full survey coverage was not achieved. A non-differential GPS device was used to track progress and to mark waypoints or points of interest. A photographic recording was completed, and photographic log used to record photographs taken during the survey.

4.2.1 Description of survey area

The total study area covered a footprint of approximately 31,986m². Survey Unit 1 was comprised of two adjacent sporting fields, Wallarah and Blackley Ovals (Lots 2377-2380 DP755247) bounded by Lambton High School to the north, Turton Road to the east, Monash Road and Lambton Ker-rai Creek to the south, and adjacent sports field on Wallarah Road to the west. The survey unit consisted of a flat plain landform, rising slightly in a southwest direction.

Grassed fields dominated the study area with some structures such as drains, culverts and fencing. Outside the southern boundary of the study area were structures such as a concrete pathway, fencing, easement, and a stormwater channel. A building positioned on a concrete slab base (375m²) was located in the southern portion of the ovals but is also located outside of the study area. Overall, visibility of the survey unit was extremely low due to a high coverage of manicured grass.

4.2.2 Summary of results

In summary, the results of the survey were inadequate due to the overall poor ground visibility. The majority of the study area was covered by grass and there were built structures on the periphery of the study area (one building, shipping container, fencing, drains, culverts). Under these conditions it was not possible to adequately observe the ground surface. Where the ground exposures were present, these appear to be located in the vicinity of the known drainage and historical gun emplacements, as indicated by the aerals and vegetation differences observed.

Figure 4-1. View north east across sports fields showing boundary with Lambton High School and Turton Road.



Figure 4-2. View south west showing sloped rise in the landform with hills in the distant background of study area.



Figure 4-3. View west from east boundary of study area showing culverts.



Figure 4-4. View north showing footpath, fence and drainage area under the trees.



Figure 4-5. View east showing fenced edge of study area, with concrete pathway, easement and stormwater channel.



Figure 4-6. View south showing high ground coverage of grass.



4.3 Discussion of previous disturbance

While the history of the study area could have produced a range of archaeological evidence related to former activities and phases, the likelihood of such evidence surviving to the present is influenced by a range of factors. These factors include the durability of the material evidence and subsequent impacts such as demolition and construction.

Available historical sources provide evidence for early mine workings and rail lines associated with the AACo and Hartley Vale Colliery and the Hamilton commonage/crown land. However, these developments are unlikely to have resulted in modifications to the current study area. Excavation for the construction of the dummy gun emplacements in 1943 are likely to have resulted in localised impacts to the ground surface.

It is possible that utility service corridors are located throughout the study area, particularly associated with drainage. Services may range from electrical conduits, telecommunications wiring, water and sewerage services, and a large network of stormwater drainage services throughout the site. The installation of these services would have involved ground disturbing works that may have impacted the landform across the study area to varying degrees.

Overall, the study area has undergone little by way of disturbance that may have impacted on historical archaeological resources.

4.4 Assessment of archaeological potential

Potential archaeological evidence is discussed in Table 4 within the phases identified in the previous section. In some instances, archaeological remains may span multiple phases. The following assessment includes identification of potential archaeological evidence associated with each phase.

Table 4: Summary of historical archaeological potential

Item	Phase	Discussion and potential remains	Potential
Newcastle Pasturage Reserve	1849 - 1861	Evidence of land clearance and agricultural preparation (tree boles, plough marks in subsoils, environmental samples); Evidence of water management systems (field drains, cisterns, dams); Opportunistic dumps of soil and rubbish; Evidence of property boundaries (postholes)	Low
Hartley Vale Colliery	1861 – c.1880	Evidence of the colliery railway (track, ballast, earthworks) Evidence of undocumented colliery works – administration buildings and warehouses (footings, postholes, platforms, yard surfaces); evidence of mine workings (undocumented adits, shafts, entrances)	Low
Public Reserve	c.1880s - current	Evidence of former use of reserve in the form of postholes, planting pits, landscaping and access roads	Low
WWII	1943	Evidence of dummy gun emplacements (concrete footing, remnant dummy gun materials)	High

4.4.1 Summary of historical archaeological potential

This assessment of archaeological potential is based on readily available information including photographic evidence, previous historic heritage assessments and site visits. The identified historical archaeological resource has extremely limited potential to provide material evidence of early coal mining practices in Newcastle. Although the study area has been subject to relatively little development since the closure of the coal mines in the late 19th century, very little activity appears to have taken place within the study area during historical phase 1.

The study area has high potential to contain evidence of construction of the WWII era anti-aircraft dummy gun emplacements. The disturbance caused by construction of these emplacements is still visible on current aerials and vegetation differences were observed during the site inspection.

The significance of potential remains is discussed further in Section 5.0.

5.0 ASSESSMENT OF ARCHAEOLOGICAL SIGNIFICANCE

5.1 Basis for assessment

Heritage or 'cultural' significance is defined in The Burra Charter: the Australia ICOMOS Charter for Places of Cultural Significance (Burra Charter) as: 'Aesthetic, historic, scientific, social or spiritual value for past, present and future generations'.

Determining the cultural significance of a place or an item assists in identifying what characteristics of the place contribute to that significance. The assessed significance forms the basis for identification of appropriate management measures associated with any work that may impact heritage and archaeological items of significance.

Assessing heritage significance (NSW Heritage Office, as amended 2001) was developed as part of the NSW Heritage Manual to provide the basis for an assessment of heritage significance of an item or place. The seven heritage criteria are presented in Table 5 below.

Table 3: Heritage criteria for assessing significance

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

The specific nature of archaeological resource necessitates that they be assessed independently from aboveground and other heritage elements because of the challenges associated with the often-unknown nature and extent of buried archaeological remains and judgment is usually formulated based on anticipated attributes. To facilitate assessment of archaeological significance, the NSW Heritage Branch (now Heritage NSW) arranged the seven heritage criteria into four groups:

- Archaeological research potential (Criterion E)
- Association with individuals, events, or groups of historical importance (Criterion A, B & D)
- Aesthetic of technical significance (Criterion C)
- Ability to demonstrate the past through archaeological remains (Criterion A, C, F & G)

The following significance assessment of the subject site's potential archaeological remains is guided by 'Assessing Significance for Historical Archaeological Sites and 'Relics''.³⁹

An assessment of the significance of the potential remains is included below in Table 4.

Table 4. Assessment of Archaeological Significance against the NSW Heritage Act criteria

Criterion	Discussion
A) Historical: an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area)	Phase 1: Archaeological remains associated with the Newcastle Pasturage Reserve, and the individuals that lived within it, if intact, may reach the local significance threshold. The private coal mining companies of the later 19 th century broke the monopoly of the AACo and were integral in developing the outer suburbs of Newcastle. Archaeological remains associated with the Hartley Vale Colliery, if unexpectedly intact, may have significance at a local level.
	Phase 2: The archaeological resource associated with the development of the public reserve are unlikely to be demonstrative of the development of public spaces in Newcastle, and are therefore unlikely to reach the local significance threshold. Archaeological evidence of the anti-aircraft dummy gun emplacements would be representative of the defensive wartime efforts in place during WWII. If considerably intact, these remains may reach the local significance threshold under this criterion.
B) Associative: an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area)	Phase 1: The study area has low potential to contain an archaeological resource associated with mine workers and their families illegally squatting on the pasturage reserve. Should a considerably intact archaeological resource be identified, it may reach the local significance threshold under this criterion. The study area has generally low potential to contain an archaeological resource associated with the Brown brothers and other individuals associated with early coal mining in Newcastle.
	Phase 2: Archaeological evidence associated with this phase is unlikely to have a special association with individuals or groups of importance and is unlikely to reach the local significance threshold under this criterion.
C) Aesthetic or Technical: an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area)	Phase 1: The potential archaeological remains within the study area have little potential for aesthetic significance. Although it is recognised that exposed <i>in situ</i> archaeological remains may have distinctive/attractive visual qualities and have visual characteristics with potential to connect communities and individuals to the past in a tangible way, the potential archaeological remains at the study area are likely to be ephemeral. The potential archaeological resource is unlikely to meet the local significance threshold under this criterion.
	Phase 2: Archaeological evidence of the anti-aircraft dummy gun emplacements have the potential to provide insight into the methods employed in the construction of these items. If considerably intact, these remains may reach the local significance threshold under this criterion.
D) Social: an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area)	The study area bears testament to the long history of European association, settlement and landscape modification in Newcastle. The site has the potential to contribute to the local community's sense of place and provide a connection

³⁹ Heritage Branch, Department of Planning 2009. *Assessing significance for Historical Archaeological sites and 'Relics'*

Criterion	Discussion
	<p>to the history of Newcastle. This connection is unlikely to be a strong one, however, due to the limited potential survivability of the resource.</p> <p>The potential archaeological resource is unlikely to meet the local significance threshold under this criterion.</p>
<p>E) Research Potential: an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area)</p>	<p>Phase 1: Colliery remains are unlikely to survive within the study area, and the potential for undocumented remains is low. Similarly, it is unlikely the study area would contain a considerably intact archaeological resource associated with miners squatting on the pasturage reserve. The physical survival of archaeological remains of undocumented buildings and structures would have the ability to demonstrate the layout of the colliery site, and potentially provide some insight into the working lives of miners and their families, however, and if unexpectedly intact or legible remains associated with Phase 1 were identified, they may reach the local significance threshold under this criterion through their ability to contribute to our understanding of this unique use of Crown land during the early development of Newcastle.</p> <p>Phase 2: Archaeological evidence of the anti-aircraft dummy gun emplacements have the potential to provide insight into the methods employed in the construction of these items. If considerably intact, these remains may reach the local significance threshold under this criterion.</p>
<p>F) Rarity: an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the local area)</p>	<p>Phase 1: An intact archaeological resource associated with occupants of the pasturage reserve would be unique and rare. Should an intact archaeological resource associated with Phase 1 survive within the study area, it may have significance at a local level. Newcastle is unique in New South Wales for its role in coal mining from 1801 onwards. Private coal enterprises such as Hartley Vale were also unusual in their adoption of technology, including rail inclines, steam engines and engineering works. Overall, there is low potential for the area to contain a significant archaeological resource associated with colliery use, however, should such a resource exist, and should it be intact and legible, it may have significance at a local level.</p> <p>Phase 2: Archaeological evidence of the anti-aircraft dummy gun emplacements would be rare in the local context. If considerably intact, these remains may reach the local significance threshold under this criterion.</p>
<p>G) Representativeness: an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area)</p>	<p>Phase 1: The Newcastle collieries were unique in many respects, but their use of advanced technology for mining set the pattern for the later development of collieries in the Hunter Valley and NSW. Overall, there is low potential for the area to contain a significant archaeological resource associated with the Hartley Vale colliery, however, should such a resource exist, and should it be intact and legible, it may have significance at a local level under this criterion.</p> <p>Phase 3: An archaeological resource associated with the development of the public reserve are unlikely to be representative of the development of public spaces in Newcastle, and are therefore unlikely to reach the local significance threshold. Archaeological evidence of the anti-aircraft dummy gun emplacements would be representative of the defensive wartime efforts in place during WWII. If considerably intact, these remains may reach the local significance threshold under this criterion.</p>

5.1.1.1 Summary statement of archaeological significance

In summary, an archaeological resource within the study area that could meet the local significance threshold would include:

- Intact and substantial archaeological relics associated with the illegal occupation of the Newcastle Pasturage Reserve (Phase 1) including postholes, artefact bearing deposits, rubbish pits, footings and other structural remains (Criteria a, b, e and f)
- Intact and substantial archaeological works associated with previously undocumented evidence of the Hartley Vale Colliery (phase 2) such as footings, evidence of undocumented rail lines and/or mine workings (criteria a, e, f and g)
- Intact and substantial archaeological works associated with the anti-aircraft dummy gun emplacements (Phase 2) such as earthworks, concrete footings and remnants of the dummy guns themselves (criteria a, c, e and f).

Remains associated with the development of the public reserves are unlikely to have research potential or archaeological significance. These archaeological features would not meet the threshold for local significance.

5.2 Summary statement of significance

A summary of the archaeological potential and its significance is presented below in Table 5.

Table 5: Summary of archaeological significance

Phase	Item	Date	Archaeological Potential	Archaeological Significance
1	Newcastle Pasturage Reserve	1849 - 1861	Low	Local
	Hartley Vale Colliery	1861 – c.1880	Low	Local
2	Public Reserve	c.1880s - current	Low	Nil
	WWII	1943	High	Local

6.0 ASSESSMENT OF DEVELOPMENT IMPACT

6.1 Proposed development

Basketball Association of Newcastle Limited (BANL) proposes development and construction of the Hunter Indoor Sports Centre at Wallarah and Blackley Ovals in New Lambton, a project accompanied by site preparation, earthworks, extensive excavation as part of the construction of the building and installation of new services and a carparking area.

6.2 Development impacts

The proposed development comprises construction of a new basketball complex to facilitate approximately a stadium court and additional basketball courts with additional standard amenities and support spaces, including car parking. Key elements of the project will include:

- Site preparation and earthworks including excavation,
- Construction of a basketball stadium building,
- Vehicular access off Womboin Road and Turton Road. (EJE Architecture 2023).

The study areas has been assessed as having generally low potential to contain significant archaeological resources associated with the proposed development. Should any archaeology associated with the proposed development unexpectedly survive within the study area, it is assumed that the project earthworks would result in major adverse impact to these remains.

The proposed works have the potential to result in major adverse impact to potential archaeological works of local significance associated with the WWII anti-aircraft dummy gun emplacements.

6.3 Recommended management

The proposed works are expected to result in major adverse impact to archaeological evidence of the dummy gun emplacements. Impact to these archaeological works of potential local significance is considered acceptable. Remains are unlikely to be substantial, and the sites were not actively used during the WWII period, considerably reducing the potential for artefact bearing deposits to be present.

It is therefore recommended that a program of archaeological monitoring and archival recording be undertaken to record the fabric and extent of one of the former emplacements.

It is assumed that all of the dummy gun emplacements would have been constructed similarly and would have been consistent in shape and form. Therefore, archival recording of a single example is considered to be appropriate.

This methodology is outlined in Section 6.3.1. This monitoring program could be undertaken during or prior to project bulk earthworks.

As the remains are considered to be archaeological 'works,' and the project has been designated SSD, approval to impact the remains of the gun emplacements under the relics provisions of the *Heritage Act 1977* is not required.

6.3.1 Work Method Statement – Archaeological Monitoring

Archaeological remains are likely to consist of brick and concrete footings and areas of concreted or bituminised hard stand. Due to the late 19th and early 20th century construction date and industrial nature of these remains, they are unlikely to be associated with artefact bearing deposits. The location of the potential remains alongside and within the ballasted rail corridor is likely to have been impacted by numerous service corridors. Archaeological remains may have been truncated by installation of these services.

6.3.1.1 Excavation team

Archaeological investigations would be managed by a suitably qualified Excavation Director who would meet the 2019 NSW Heritage Council criteria for monitoring and salvage of locally significant archaeological remains. The Excavation Director would be responsible for overseeing the archaeological program.

The historical archaeological Excavation Director would be responsible for the overall management of the archaeological program.

Archaeological excavation and monitoring tasks would be conducted by appropriately trained archaeologists under the coordination and supervision of the Excavation Director.

6.3.1.2 Investigation location selection

The westernmost emplacement has been selected for investigation. This location would result in the least impact to the construction program.

6.3.1.3 Methodology

The archaeological methodology for monitoring would include the following:

- An archaeologist would be in attendance during excavation works with the potential to expose and/or impact archaeological remains associated with one of the dummy gun emplacements.
- A mechanical excavator with mud/flat bucket would be utilised to expose the remains to allow for recording in plan. A mechanical excavator and hand tools would then be used to expose a portion of the exterior of the structure in section. The interior of the structure would then be excavated by mechanical excavator and hand tools. Should the interior be inaccessible, a portion of the structure may need to be partially demolished by mechanical excavator to expose the interior
- It is not anticipated that the works will encounter an artefactual resource/relics. Should artefacts be identified during monitoring, these would be recorded and removed. If substantial artefact bearing deposits are identified in association with the dummy gun emplacement, the hold point as outlined in Section 6.3.1.4 would be implemented.

6.3.1.4 Hold points

The following 'hold points' would be in place through the life of the project:

1. Should archaeological 'relics' associated with Phase 1 occupation of the site be identified during investigation works, all excavation would cease, the 'relics' would be protected, and Heritage NSW would be notified of the discovery.

2. Should intact artefact bearing deposits and/or archaeological 'relics' associated with the WWII era use of the site be identified during monitoring, archaeological salvage would commence. Should artefact bearing deposits extend beyond the trench excavated to investigate the dummy gun emplacement structure, the trench/excavation area would be widened to investigate the full extent of

the resource. Any WWII era relics would be investigated in accordance with archaeological best practice and Heritage NSW guidelines.

6.3.1.5 Recording methodology

Archaeological remains would be archivally recorded in accordance with best practice archaeological methodologies by the archaeologist on site as follows:

- A standard context recording system would be employed. The locations, dimensions in plan and characteristics of all archaeological features and deposits would be recorded on a sequentially numbered register
- Scaled section drawings where appropriate
- Scaled trench plans would be drawn showing the location of archaeological features revealed by excavation
- Digital photography, in RAW format, using photographic scales and photo boards where appropriate
- The location of the archaeological find/s would be surveyed.

6.3.1.6 Artefact management

Artefacts are unlikely to be uncovered during archaeological investigations, however, artefacts from secure or *in situ* contexts would be collected and recorded (by context). Retrieval of artefacts would focus on diagnostic pieces and other items whose analysis would contribute to the research questions for this site.

Should diagnostic or significant artefacts be present within the fill layers (out-of-context), a sample would be retained as part of the archaeological record. Any discarded items will be recorded on context or discard sheets/

Artefacts would be collected by context and bagged with a label recording their registered context number, site code, date and initials of the collecting individual/s. Each artefact bag or individual artefact would be tagged with a Tyvek® tag and sealed in plastic bags. A record and description of relevant artefacts would be included in their corresponding context sheet and photographed where necessary. All artefact bags would be catalogued prior to being stored in an archival quality storage container to prevent loss or misattribution of contextual data.

Artefact discard guidelines

Non artefactual material would not be collected unless in response to targeted research questions. In the event that non artefactual material has erroneously entered artefact collections this may be disposed of at any stage without further recording. Non artefactual material includes:

- Hazardous material
- Modern material resulting from the demolition and excavation process (includes items such as dynabolts, geofab, food wrappers and containers, construction PVC)
- Fragments of construction material including ballast, broken bricks, pipes and tiles
- Unmodified stones and rocks
- Metal items that have rusted to an unrecognisable form
- Items such as ceramic or glass that are smaller than 1cm x 1cm and which show no diagnostic features (visible pattern, decoration or makers mark)
- Pieces of wood that are not identifiable in form &/ are too small for species identification (5cm x 3cm)

- Items with no contextual ID
- Degraded items that cannot be identified.

Discarded material would be recorded and logged on a register during excavation work. This register will stay with the collection and be included in the final report.

6.3.1.7 Research Design

It is not anticipated that the extent of NDD excavation would allow for detailed analysis of potential archaeological remains. Therefore, the archaeological monitoring report would address the following research questions:

- Do archaeological remains of the dummy gun emplacements survive within the study area
- What is the predominant building material and form of the remains?
- Can the archaeological remains be compared to other WWII era fortification and defence systems in the local area?

6.3.1.8 Post-excavation analysis and reporting

Following the completion of archaeological monitoring program, a post-excavation report would be prepared. This would incorporate the results of the archaeological program, map survey data obtained during the investigative works and respond to the research design.

The timing of provision of this report would be discussed with the proponent on finalisation of the monitoring program.

The final report would then be issued to Heritage NSW.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

The study area has been assessed as having potential to contain the following archaeological resources:

Table 6: Summary of potential archaeological resources

Phase	Item	Date	Archaeological Potential	Archaeological Significance
1	Newcastle Pasturage Reserve	1849 - 1861	Low	Local
	Hartley Vale Colliery	1861 – c.1880	Low	Local
2	Public Reserve	c.1880s - current	Low	Nil
	WWII	1943	High	Local

The design is currently at concept stage, but it is assumed that the proposed works may result in major adverse impact to any surviving archaeological resources.

7.2 Management and mitigation measures

It is recommended that the following measures be implemented to mitigate impacts to potential archaeological remains:

Mitigation measure	Description
Heritage induction	<p>All relevant construction staff, contractors and subcontractors must be made aware of their statutory obligations for heritage under the <i>NSW Heritage Act 1977</i> and best practice as outlined in The Burra Charter (Australia ICOMOS 2013) to ensure no archaeological remains or heritage fabric are impacted during the proposed works without appropriate mitigation measures in place.</p> <p>This will be implemented through a heritage ‘tool box talk’ carried out prior to works commencing and throughout the works program.</p>
Archaeological monitoring	<p>The study area has the potential to contain locally significant archaeological remains associated with four WWIOI dummy gun emplacements.</p> <p>It is recommended that a program of archaeological monitoring and recording, in accordance with the WMS outlined in this document, should be undertaken prior to our during excavation works.</p> <p>The results of the archaeological monitoring program, including survey data, would be presented in a standalone results report.</p>
Unexpected Finds Procedure	<p>An Unexpected Finds Procedure should be implemented for all excavation works not subject to direct management by an archaeologist.</p> <p>The Unexpected Finds Procedure should outline the process to be followed should a potential archaeological item be encountered during work and identify a qualified historical archaeologist to be contacted to provide further advice.</p>

Mitigation measure	Description
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Should archaeological 'relics' be unexpectedly identified during any excavation work, dependant on the nature and significance of the find, there may be a requirement to notify Heritage NSW in accordance with Section 146 of the NSW *Heritage Act 1977*.



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