

Production

Newcastle Archaeological Management Strategy 2015
prepared by the Planning and Regulatory Group, Newcastle City Council

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BACKGROUND REPORTS

This strategy provides a framework for managing the Non-Aboriginal archaeological resources in the Newcastle inner suburbs. It is supported by the *Archaeological Management Plan for Inner Newcastle*, 1997, and the *Newcastle Archaeological Management Plan Review*, 2013. These documents are available to download from Council's website

[www.http://www.newcastle.nsw.gov.au/about_newcastle/history_and_heritage/heritage_publications](http://www.newcastle.nsw.gov.au/about_newcastle/history_and_heritage/heritage_publications).

1.0 INTRODUCTION

This document was adopted by Newcastle City Council on 20 August 2015 as the Newcastle Archaeological Management Strategy 2015. It is aligned with the principles of the Newcastle 2030 Community Strategic Plan, Newcastle Heritage Policy 2013 and Heritage Strategy 2013-2017, the *Australia ICOMOS Burra Charter 2013*, *Archaeological Practice Note 2013*, and archaeological management guidelines published by the NSW Heritage Council in 2009 as “*Guidelines for the preparation of Archaeological Management Plans*”².

On 9 September 1997, Council adopted the *Archaeological Management Plan for Inner Newcastle*, prepared on behalf of Council by Sutera Architects in association with Dr Siobhan Lavelle, C and M J Doring and Dr John Turner (referred to in this document as the NAMP 1997). Its main purpose was to determine the location of potential archaeological resources in the Newcastle city centre. Since its adoption, the NAMP has determined the requirements for site specific investigations associated with development activities and is disclosed in the Section 149 certificates issued for land within the study area.

Council commissioned a review of the NAMP 1997 and engaged Edward Higginbotham & Associates Pty Ltd in 2012. The aim of the review was to add to the baseline archaeological data already available, re-assess the significance of archaeological resources in the light of changes to the relics provisions of the NSW Heritage Act 1977 and to establish the archaeological potential of roads and streets, omitted from the NAMP 1997. The review was completed in 2013.

The methodology used in the Review is primarily desktop assessment together with site inspections to determine the level of intactness of land in the study area. The Review sequences the urban development of the city from 1804 onwards, using map overlays of city blocks, to produce a model of the likely areas of archaeological potential. The Review 2013 provides information about the physical extent of archaeological material on zoned land, streets and roads. Areas of Archaeological Potential are mapped and reproduced in Section 5.0 of this Strategy.

1.1 Relationship to previous reports

This Strategy is informed by its two parent documents:

Archaeological Management Plan for Inner Newcastle, prepared on behalf of Newcastle City Council by Sutera Architects in association with Dr Siobhan Lavelle, C and M J Doring and Dr John Turner, 1997

Newcastle Archaeological Management Plan Review, prepared on behalf of the City of Newcastle by Edward Higginbotham & Associates Pty Ltd, 2013

² ISBN 978-1-921121-14-2

1.2 Study area

The Study Area is outlined in Figure 1.1 and comprises the suburbs known as Newcastle, a portion of Cooks Hill, a portion of The Hill, Newcastle West and Newcastle East.

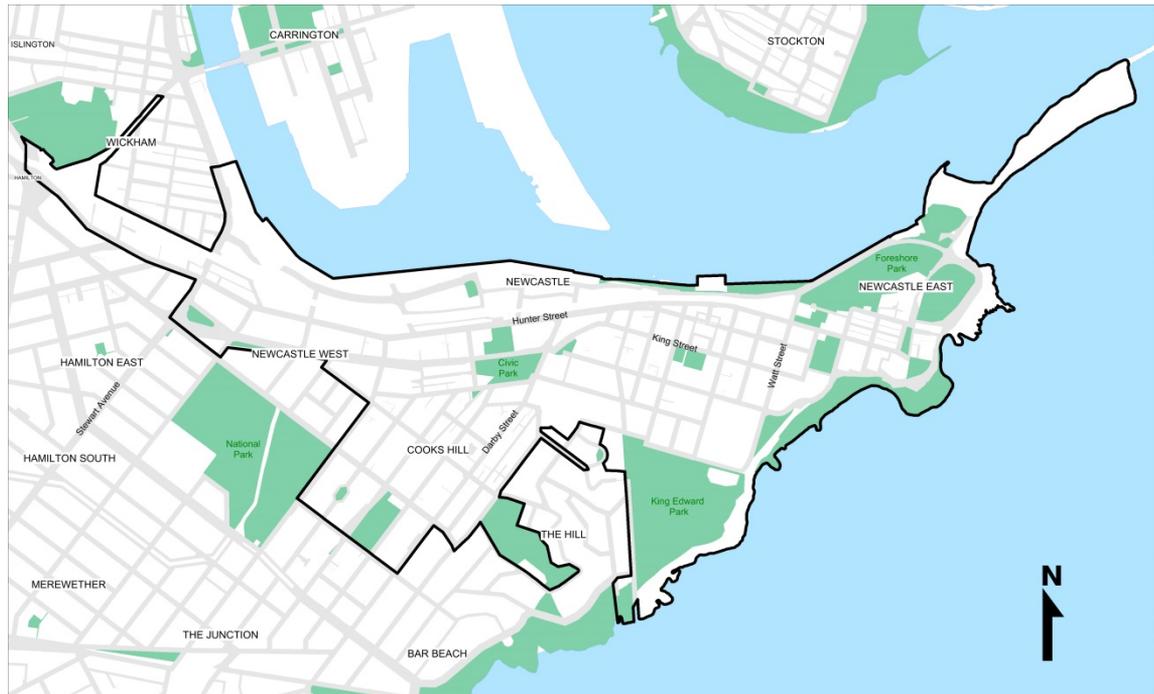


Figure 1.1 - Study Area

1.3 Archaeological Management Plans

An *Archaeological Management Plan* is an advisory tool that provides an understanding of the nature and extent of the archaeological resources within an area. The purpose of an archaeological management plan is to ensure that archaeology is considered in land use and strategic planning in places where there are likely to be a high concentration of archaeological sites. Archaeological Management Plans are commissioned by agency or local government authorities in order to:

- identify areas of archaeological sensitivity so that planning decisions can take these aspects into account;
- inform prospective developers, site owners and managers about the archaeological sensitivity of their land at the earliest opportunity;
- ensure that resources (human, physical and financial) are directed to the most sensitive areas and important sites;
- allow archaeologists the time for proper assessment and investigation of significant archaeological sites.

Archaeological Management Plans are particularly effective if they are used as the basis of management strategies such as this one, and if they are used to inform the heritage schedules and planning controls in Local Environmental Plans (LEPs) and Development Control Plans (DCPs). The Archaeological Management Plans that sit behind this Strategy are the

Archaeological Management Plan for Inner Newcastle, by Suters Architects in association with Dr Siobhan Lavelle, C and MJ Doring and Dr John Turner, 1997

Newcastle Archaeological Management Plan Review, by Higginbotham & Associates Pty Ltd, 2013

In 2009 amendments were made to the NSW *Heritage Act 1977* which changed the definition of an archaeological relic. Since 2009, a relic has been defined as an archaeological deposit, resource or feature that has *heritage significance* at a local or State level. This approach is consistent with the way other heritage items such as buildings, works, precincts or landscapes are identified and managed in NSW, that is, according to the degree and nature of their identified heritage significance. In NSW, an archaeological site is defined as an area which contains one or more archaeological 'relics'.

The value of an archaeological management plan is in identifying the likely location of archaeological 'relics'. Relics are defined by the NSW *Heritage Act 1977* as any material deposit that has local or state heritage significance. In understanding where these items may be located it is possible to establish a strategy to manage significance in accordance with the Act and to place this information in the context of land use planning at a local level. Councils are able to use this information when assessing development applications under the NSW *Environmental Planning and Assessment Act 1979* or when planning activities that may impact relics or archaeological sites. The agency charged with the responsibility for administering the NSW *Heritage Act 1977*, currently the NSW Office of Environment and Heritage, is able to use archaeological management plans when considering approvals to disturb relics.

Guidelines published by the NSW Office of Environment and Heritage (OEH) give direction to the assessment of heritage significance of archaeological relics and the preparation of

archaeological management plans³. This Strategy has been prepared in accordance with these guidelines as the basis for determining whether predicted archaeological features of Newcastle are 'relics' as defined by the NSW *Heritage Act 1977*. The test is whether a deposit, artefact, object or material evidence surviving from the past has heritage significance. If it does, it will be subject to the 'relics' provisions of the NSW *Heritage Act 1977*.

1.4 What is historical archaeology?

Archaeology is an evidence-based discipline which seeks to explain the past through the study of physical evidence. Many aspects of societies, environments, cultures and place, from various times in human history are studied, using excavated evidence, objects, and other material culture. Historical archaeology deals specifically with the archaeology of those areas within which there are written records *in addition* to surviving archaeological evidence. When used together, historical and archaeological evidence reveals a more complete understanding of the past.

In Australia, the discipline of historical archaeology is concerned with the study of the human settlement of Australia⁴. Historical archaeologists examine the material remains of items made and used by people in the past to obtain information about past conditions, and to explain past behaviour and activities. Historical archaeology deals not only with buried evidence, it also deals with sites and objects and the relationship between written and oral sources of evidence with physical remains. This may include buildings, structures, ruins, objects of everyday use, tools, equipment and machinery, as well as maritime sites such as shipwrecks (although maritime archaeology is legislated separately to terrestrial historical archaeology). Studying the age, origin, construction and location of these items can contribute new information about past changes and the evolution of our present society and environment.

The physical investigation of archaeological sites and relics is usually undertaken after the completion of historical research which will analyse written documents, maps, pictures and other relevant information such as oral history. Although historical archaeologists and historians may overlap at some point, they will generally examine different types of evidence and have both different areas of interest and differing research questions.

While a major objective of historical archaeology is the recovery, compilation and interpretation of the surviving physical evidence of the past, an aspect of increasing relevance to land use planning is the presentation, conservation *in situ*, and interpretation of the growing body of archaeological work to the public. The educational role of interpreting archaeological resources on site is very significant and has widespread economic and social value.

Of increasing relevance to the conservation of historical archaeology is the growth in cultural tourism and the potential for archaeological sites to be an essential element in this area. Many important sites of cultural tourism across Australia are historical archaeological sites, such as Port Arthur, the Great North Road, and parts of the Rocks. Several major sites have benefited

³ Heritage Branch of the Department of Planning (2009), *Assessing Significance for Historical Archaeological Sites and 'Relics'*, State of New South Wales. ISBN 978-1-921121-18-0.

⁴ The study of Aboriginal cultural heritage that pre-dates 1788 (Aboriginal settlement) is dealt with in NSW under the National Park and Wildlife Act 1974. The City of Newcastle prepared an Aboriginal Heritage Study in 1995 to manage Aboriginal sites. It is expected this study will be reviewed in 2015.

from the archaeological investigations that have taken place and allowed high quality, comprehensive on-site interpretation.

There is immense value for decision makers in having a predictive model accounting for the type of historical archaeology that may survive in an area and where it is likely to be found. Studies such as this Archaeological Management Plan, which identifies sites and blocks where significant archaeological resources are likely to survive, allows these resources to be considered in land use planning frameworks up front and in a timely manner.

1.5 Protection and regulation of historical archaeological sites

Archaeological sites and relics are contained in the surviving physical evidence of human occupation including building foundations, occupation deposits, features and artefacts. Many are unique examples, making Australia's archaeological heritage a fragile and irreplaceable resource. It is for this reason that archaeological sites and relics are formally protected by legislation in New South Wales, principle of which is the NSW *Heritage Act 1977*.

Amendments to the *Heritage Act* in 2009 changed the definition of an archaeological 'relic' under the Act. A relic is defined as an archaeological deposit, resource or feature that has *heritage significance* at a local or State level. This approach is consistent with the way other heritage items such as buildings, works, precincts or landscapes are identified and managed in NSW, that is, according to the degree and nature of their heritage significance. In NSW, an archaeological site is defined as an area which contains one or more archaeological 'relics'.

Unless otherwise exempted by other legislation, statutory consent under Sections 57, 60, 139 or 140 of the Heritage Act will be required to disturb, remove, alter, excavate or otherwise change a relic, before any such disturbance occurs, from the NSW Heritage Council or its delegate. Severe penalties can be applied to corporations or individuals who are found to be in breach of the Act.

1.6 Report structure

This report is arranged in the following format:

- Part 1 – Introduction
- Part 2 – Assessment of Cultural Significance
- Part 3 - Archaeological Research Framework
- Part 4 – Planning and Statutory Framework
- Part 5 - Management Strategy

For site specific information refer to the background documents that sit behind this strategy:

Archaeological Management Plan for Inner Newcastle, by Suters Architects in association with Dr Siobhan Lavelle, C and MJ Doring and Dr John Turner, 1997

Newcastle Archaeological Management Plan Review, by Higginbotham & Associates Pty Ltd, 2013

2.0 ASSESSMENT OF CULTURAL SIGNIFICANCE

2.1 The concept of cultural significance

In NSW, cultural significance means the cultural value that is attributed to a place, site or item when assessed under the NSW State Heritage Criteria. The main aim in assessing significance is to produce a succinct statement of significance, which summarises the heritage values of a place, site or item. The statement will then become the basis for management decisions that affect the item's future.

The principle reason in assessing *archaeological* significance is to identify whether an archaeological resource, deposit, site or feature is of cultural value. If there is significance attributed to an archaeological features or site, it will be defined as a 'relic' and protected by the provisions for relics in the NSW Heritage Act 1977 (as amended).

Archaeological sites containing 'relics' are managed in a similar manner to other types of heritage items. Following the model defined by J.S. Kerr, this comprises the following three elements:

- investigate significance
- assess significance
- manage significance

Furthermore, OEH guidelines stipulate that, *"for archaeological sites that have been assessed as containing 'relics', understanding the significant values is critical, because these sites are a non-renewable resource. Like other environmental resources, they must be managed for both the present and the future. The identified values of the site or 'relics' (the heritage significance) will help determine which management options are most appropriate."*⁵

2.2 NSW state heritage criteria

In NSW there are adopted criteria for heritage assessment prescribed under the NSW *Heritage Act 1977* (as amended). The criteria upon which cultural significance is based, are as follows:

- Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area);
- Criterion (b) 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);
- Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);
- Criterion (d) 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);
- Criterion (e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area);

⁵ Heritage Branch of the Department of Planning (2009), *Assessing Significance for Historical Archaeological Sites and 'Relics'*, State of New South Wales. ISBN 978-1-921121-18-0.

- Criterion (f) an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the local area); and
- Criterion (g) 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).

In addition, there are two levels of heritage significance – Local and State. 'State heritage significance', in relation to a place, building, work, relic, moveable object or precinct, means significance to the State in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item. Local heritage significance, in relation to a place, building, work, relic, moveable object or precinct, means significance to an area in relation to the historical, scientific, cultural, social, archaeological, architectural, natural or aesthetic value of the item.

2.3 Current approach to assessing archaeological significance

In 2009 Section 33(3) (a) of the Heritage Act was amended, making it imperative that more than one criterion is considered in assessing the cultural significance of sites or relics. However, for the majority of local archaeological sites, if they are locally significant under one criterion, these sites can still be managed under the 'relics' provision of the Heritage Act 1977. While 'research potential' remains an important assessment criterion, a research only approach does not encompass other heritage values that may be attributed to an archaeological site. Archaeological significance may be linked to other categories, and would be of particular relevance if relics result from specific historic events or decisions, or when significant incidents, events or occupancies have occurred at the site.

Other relevant factors may be comparative values related to the intactness and rarity of individual items. The rarity of individual site types is an important factor, especially in informing management decisions.

2.4 The archaeological significance of the study area

The archaeological resource of the Newcastle city centre (the study area) dates from the earliest period of European settlement in Australia. Newcastle is the third oldest urban settlement after Sydney and Parramatta. The city's archaeological resources yield information not only about Newcastle itself, but have the potential to contain information about the early colony and the experience of convict life that can contribute to understandings about life in colonial Australia and of how it was governed and administered, including encounters with the local indigenous population.

The Newcastle Archaeological Management Plan 1997 found that while Sydney, Hobart and Brisbane, as well as some small centres such as Port Macquarie, were established as penal colonies, the level of archaeological survival was found to be lower than the survival rate attributed to Newcastle. The NAMP 1997 determined that on the basis of the low rates of site amalgamation and redevelopment and few buildings with basements, the potential for remains to survive was much higher than those cities of similar age and origin. As such, the archaeological resource of the Newcastle city centre was determined to be potentially of outstanding significance.

Archaeological sites and relics within the Newcastle city centre embody the primary physical evidence of the early occupation period, along with the evolution of the city through various

historic phases of development, such as industrial processes and urbanisation. Archaeological remains have the potential to record and reflect these patterns of change.

2.4.1 Significance of the pre-1853 resource

For the period of Newcastle's development prior to 1853, the physical evidence includes above ground items and extant buildings and remnant structures, and below ground sites and areas of archaeological potential. There is a substantial likelihood that remains from the convict period (1804-1823) are present in the Newcastle city centre, relative to contexts such as Sydney and Melbourne which have undergone far more intense levels of development in the form of basement construction, multi-storey towers and site consolidation.

Much of the basic form of the earlier city of Newcastle can be interpreted from the surviving physical evidence – inclusive of subdivision pattern, allotments, early streets and buildings eg Rose Cottage off Bolton Street. The appearance of the city over time is well documented in graphic, pictorial and written sources. An historical archaeological approach to these resources which synthesises the documentary and physical evidence continues to provide an understanding of the historical processes that have shaped the city.

The archaeological remains of known sites are particularly important in reinforcing these observations about the survival rate, dispersal throughout the city, and significance of the resource. Sites such as Claremont, the remains of the parsonage, the site of James Fletcher Hospital, Rose Cottage, the Convict Lumber Yard, the site of the former Palais, numerous properties in Watt Street, Scott Street, Church Street, King and Bolton Streets, Silk House, and the Coal River Precinct contain remains from the pre- 1853 period. Claremont has associations with William Croasdill, manager of the Australian Agricultural (AA) Company.

Further physical and archaeological evidence likely to be contained in the city centre has important scientific research value. The critical factor will be archaeological analysis and publication of the results of excavation, which to date, have made infrequent contributions to the ongoing discourse of the history of Newcastle.

2.4.2 Significance of the post-1853 resource

From 1853 onwards several major historic developments occurred in Newcastle which have strongly influenced the pattern of city development. Of particular importance was the coming of the Great Northern Railway in 1853, with its associated period of harbour reclamation which changed the shape of the Newcastle foreshore. Subsequent port development, along with warehousing, retailing, shipping and commercial activities, created the early business centre of the east end around Hunter, King, Bolton and Watt Streets.

Another major change was the end of the AA Company's monopoly on the mining and sale of coal and the gradual subdivision for residential, industrial and commercial development of its inner city land (that is, west of Brown Street). Government activities at all levels, municipal services and the provision of public utilities have exerted a strong influence on the character of Newcastle including standing buildings such as the Customs House, wharfage and railway precinct at Honeysuckle, and the provision of municipal infrastructure such the extensive underground storm water drainage system in the city centre. The development of the port has created many potential sites of industrial archaeological interest and standing buildings, reflected

in sites such as the Cornish dock, Carrington dyke (including the crane bases) and the hydraulic pump house. The surviving building stock which post-dates 1860 is particularly significant and linked to the emergence of Newcastle as the capital of the Hunter region. Extant buildings including those associated with commerce and retailing, (eg banks, insurance and commercial chambers) and public buildings (eg police station, courthouse, customs house and post office).

Despite widespread development since 1997, Newcastle is considered a low scale city that reflects a period of growth in the early decades of the 20th century. The standing building stock means that the archaeological resources which relate to prior occupations are likely to contain or preserve archaeological evidence. The city's heritage listed buildings may also yield information about the occupation and use of the present structures, in concealed spaces such as floor and wall cavities.

The archaeological precincts in inner Newcastle are important for their ability to demonstrate the major themes in the city's historical development and reflect the broader influences that have shaped the city. For example the city's important maritime history from the beginning of European occupation is represented in the Ocean precinct, which includes extant structures such as Macquarie Pier and archaeological sites such as the Convict Lumber Yard and Watt Street wharf. The Ocean precinct and the associated surviving dock and port areas (Queens Wharf and further west) may also be considered a microcosm of an industrial-archaeological landscape, containing above and below ground physical evidence.

2.4.3 Revised assessment of cultural significance

The review of the NAMP 1997 by Edward Higginbotham & Associates Pty Ltd has provided a thematic approach to assessing the cultural significance of Newcastle's archaeological resource, based on historic themes in Newcastle's development, and is reproduced in the following statements:

1. Penal Settlement, 1801-1821 (State).
2. Town Development, 1820s-1853 (State).
3. The Australian Agricultural Company, 1828 onwards (State).
4. Railway and Port Infrastructure (State).
5. Harbour Defences (State).
6. Urban Development, 1853 onwards (Local).

2.4.4 Penal settlement, 1801-1821

Criterion a. An item is important in the course, or pattern, of NSW's cultural or natural history

Newcastle was founded as a penal settlement for the extraction of coal in 1801 and briefly occupied until 1803. The convict settlement was re-established in 1804, with convicts performing public works and labour, including coal mining, lime burning, timber getting and later brick-making. The convict camp and later settlement centred on the main street (Watt Street), leading from the government wharf to the Commandant's house. Several of the institutions of the penal settlement were located on higher ground, including the Commandant's House, the Hospital, the Gaol, the Guard House and Flagstaff. Other public buildings were located within the settlement, including the Lumber Yard, the Commissariat Stores and the Military Barracks.

As a penal settlement, Newcastle may be compared with the first settlements at Sydney, Parramatta and Norfolk Island, all of which were commenced in 1788. Newcastle shares many institutions and public buildings in common with these first settlements.

Newcastle (1801-1803, then 1804-1823) forms one of a group of penal establishments for secondary punishment, including Bathurst (1815 - 1832), Port Macquarie (1821-1830) in New South Wales, and Moreton Bay in Queensland. At Moreton Bay, the settlement commenced at Brisbane Town in 1824, while the agricultural establishment at Eagle Farm opened in 1829. It had a relatively short life and was closed in 1838. A progression can be seen from Newcastle and Bathurst to Port Macquarie and finally Moreton Bay, in order to maintain the isolation of the penal settlements from the expanding free population.

Elsewhere, Norfolk Island was re-opened in 1825 for secondary offenders, while a whole series of institutions were operated in Tasmania, including Macquarie Harbour (1821 - 1833), Maria Island (1825 - 1832), and Port Arthur (1830 - 1877).

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion b. 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

A number of the governors of New South Wales made a significant contribution to the establishment and development of the Newcastle Penal Settlement, including Governor John Hunter, Lieutenant-Governor William Paterson and Philip Gidley King through to Lachlan Macquarie. So too the various commandants, including Surgeon Martin Mason, Lieutenant Charles Menzies, Charles Throsby, Ensign A. C. H. Villiers, William Lawson, Lieutenant John Purcell, Thomas Scottowe, Captain James Wallis and perhaps most well known, Major James Thomas Morisset.

One of the more remarkable features of the Newcastle Penal Settlement is the fact a number of artists either served as part of the Military Establishment or were convicted and sent to Newcastle to serve their time, though not necessarily at hard labour. The convicts included Richard Browne, Joseph Lycett and Walter Preston.⁶ Military personnel, who have left artistic records include Thomas Scottowe, commandant from 1811 to 1814, Captain James Wallis, commandant from 1816-1818, and Edward Charles Close, who served as acting engineer in 1820-1821.⁷

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion c. An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW

As with other penal settlements, Newcastle shows important design features in its layout. Many of the principal institutions were placed on higher ground to emphasise authority, correction, health and religion, a type of arrangement also apparent in Bathurst and in Port Macquarie. At

⁶ John McPhee, ed. *Joseph Lycett, Convict Artist*. Historic Houses Trust. 2006, 19-22

⁷ Some of his paintings are dated c.1818, though they may be more accurately dated to 1820-1821, when he served at Newcastle.

both these latter institutions, it was Governor Macquarie and John Oxley who were responsible for the layout, though the earlier foundation of Newcastle suggests it was planned more simply as a military camp in its early days.

Many of the archaeological sites will also retain aesthetic qualities associated with traditional construction and historical design or layout of the buildings.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion d. An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons

The social significance of the Newcastle penal settlement has not been researched. Special interest groups, like the National Trust of NSW, or the Coal River Working Party, recognise the importance of the archaeological sites associated with the place. The local community also sees the value in conserving these important archaeological sites, like the Lumber Yard, not only to enhance awareness in the heritage of Newcastle, but also in terms of education and cultural tourism.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion e. An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history

Only a small number of the archaeological sites relating to the Penal Settlement have been investigated, including the Convict Lumber Yard, the Parsonage and also the cottage at the Commandant's Farm.

The number of surviving above ground sites from the penal settlement are few, comprising the remnant of wall at the Parsonage, the Bogey Hole, and probably some of the fabric of the Southern Breakwater (Macquarie Pier). The remains at the Lumber Yard are wholly below ground structures.

The physical survival of archaeological remains of these buildings and structures will not only have the ability to demonstrate the way of life of the convicts, the civil servants and military personnel, but will also provide a much needed focus for historical education and cultural tourism in the city and its region.

Archaeological excavations in many of the other penal settlements have to a varying degree contributed to our understanding of convict transportation, the living and working conditions within these settlements and how the Penal Colony as a whole changed and developed over time. Newcastle has the potential to also make a significant contribution through archaeological investigation and the conservation and display of significant sites. The Lumber Yard provides an early example of interpretation and display.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion f. An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history

The range of archaeological sites in New South Wales, available for the investigation of penal settlement, is limited to a few locations. Excepting the first settlements of Sydney and Parramatta, the sites of secondary punishment are limited to Newcastle, Bathurst, Wellington Valley and Port Macquarie. Newcastle is unique in New South Wales, being a penal settlement strongly associated with coal mining.

Remains of this theme could potentially be of state heritage significance.

Criterion g. An item is important in demonstrating the principal characteristics of a class of NSW's

cultural or natural places; or

cultural or natural environments

The Newcastle Penal Settlement includes many features seen also at the other penal settlements, for example, the types of buildings, including the Government House, Commissariat Stores, the Lumber Yard, the layout of the settlement, the way it fits into the sequence of penal stations in New South Wales, the sites associated with convict labour.

Remains that demonstrate this theme could potentially be of state heritage significance.

2.4.5 Town development, 1820s-1853 (State)

Criterion a. An item is important in the course, or pattern, of NSW's cultural or natural history

Newcastle is one of only three cities in New South Wales that commenced as places of secondary punishment, the others being Bathurst and Port Macquarie. The changeover from military to civil administration in each of these settlements took place in a similar fashion, with the overlay of a new or extended street layout with blocks and town allotments, but also by the replacement of the commandant with a police magistrate.

Newcastle is also highly unusual in New South Wales for the method by which town allotments were leased, rather than initially sold to applicants. This followed the practice established for Sydney and Parramatta. It had the effect of limiting capital improvements within the early town, until freehold title was obtained. A substantial number of the allotments were also leased to large landholders upstream in the Hunter Valley, on the assumption that they would build soon take advantage of the sea breezes and bathing opportunities, once their farms were established.

Another feature of Newcastle was the ongoing presence of convicts, not only for public works, but also in private assignment. For oversight this necessitated the construction of the Military Barracks and also the continued use of a number of the penal government institutions. Public works included not only the Breakwater, but also the coalmines until the Australian Agricultural Company took over the latter role: the Company continued to use convict miners. Even in 1841 the convicts formed over 51% of the local population. At that time Newcastle was the fifth largest town in New South Wales, behind Sydney, Parramatta, Maitland West and Windsor.

With the rapid expansion of settlement in the Hunter Valley and beyond in the 1820s, both Morpeth and Maitland became major centres at the head of river navigation. Newcastle stagnated until a number of events provided new impetus, including the declaration of a free port in 1846, the breaking of the coal mining monopoly of the Australian Agricultural Company in 1847 and the opening of the Great Northern Railway in 1857.

Although it was hemmed in on its west side by the Australian Agricultural Company's grant, the population of Newcastle did not need to expand in this period. However industries that needed water frontage were driven to the north side of the Hunter River at Stockton, since access to deep water was highly restricted in Newcastle itself.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion b. 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

Both the Surveyor General John Oxley and Surveyor Henry Dangar had a primary role in the layout of the town of Newcastle. Several of the new street names reflected the great interest in steam power at the time and were named after well known engineers.

Significant persons are numerous and only a selection can be named here. They include the powerful group of entrepreneurs and merchants including James Reid, William Brooks, Robert Fisher, James Hannell, Job Hudson, William Rouse, Simon Kemp, Martin Richardson, C P N Wilton, Henry Usher, James Brown, J Austin and George Brooks who lobbied for a free port in 1843. The names of other significant persons may be found in the list of grantees of town allotments, for example, James Mitchell, A W Scott and William Croasdill. Some of these individuals appear in the *Australian Dictionary of Biography (ADB)*.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion c. An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW

Many of the archaeological sites will retain aesthetic qualities associated with traditional construction and historical design or layout of the buildings.

Remains that demonstrate this theme could potentially be of local heritage significance.

Criterion d. An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons

The social significance of the early development of Newcastle has not been researched. Special interest groups, like the National Trust of NSW, or the Coal River Working Party, recognise the importance of the archaeological sites associated with the place. The local community sees the value in conserving these important archaeological sites, for example, both Toll Cottage and Claremont, not only to enhance awareness in the heritage of Newcastle, but also in terms of education and cultural tourism.

Remains that demonstrate this theme could potentially be of local heritage significance.

Criterion e. An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history

As with the penal settlement, there are only a small number of buildings surviving from the period of early town development. These include Toll Cottage and Claremont.

Many other sites of early buildings may survive below ground. The physical survival of archaeological remains of these buildings and structures will not only have the ability to demonstrate the living and working conditions of the town population, but also the convicts that were still so significant a part of the population. These sites will also provide a strong focus for historical education and cultural tourism in the city and its region.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion f. An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history

Newcastle is one of only three cities in New South Wales that commenced as places of secondary punishment, the others being Bathurst and Port Macquarie. Newcastle is also highly unusual in New South Wales for the method by which town allotments were leased, rather than initially sold to applicants.

Another unusual feature of Newcastle was the ongoing presence of convicts, not only for public works, but also in private assignment. Even in 1841 the convicts formed over 51% of the local population. At that time Newcastle was the fifth largest town in New South Wales, behind Sydney, Parramatta, Maitland West and Windsor.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion g. An item is important in demonstrating the principal characteristics of a class of NSW's

cultural or natural places; or

cultural or natural environments

In many respects the development of Newcastle mirrored that of other major towns in New South Wales. It had a similar grid layout, similar public institutions, as well as parallels in the development of housing and industry, even though dominated by the Australian Agricultural Company. Newcastle stagnated in the 1830s and 1840s due to the rapid development of the Hunter Valley and towns like Maitland and Morpeth, but a similar range of economic and geographical factors influenced other towns on the central and northern coast, like Port Macquarie after the withdrawal of the government institutions associated with penal settlement.

Remains that demonstrate this theme could potentially be of state heritage significance.

2.4.6 The Australian Agricultural Company, 1830 onwards (State).

Criterion a. An item is important in the course, or pattern, of NSW's cultural or natural history

The Australian Agricultural Company was established in 1824. Although best known for its agricultural and grazing interests, a major component of its business was the mining of coal at Newcastle, taking over the major role of the penal settlement. It was granted 2,000 acres immediately west of the town of Newcastle.

The A Pit was sunk in 1831 and was connected to the harbour and shipping by an inclined plane, the first railway in Australia. The Australian Agricultural Company used two steam engines (1839 and 1841) at the mine, the first to be used for mining in Australia as well as casting some metal components, which may have been the first time this work was done in Australia.

A series of pits were sunk, B Pit in 1841, C Pit in 1843; the Borehole was exploited from D and E Pits by 1849; F Pit was sunk in 1855, additional pits at Hamilton in 1861 and 1873. The company was also for a short time involved in salt production. Most of the workforce was convict labour, but with the end of transportation in 1840, skilled miners were brought out from the UK.

The company dominated industry and the development of the town of Newcastle. Industries that needed water frontage were driven to the north side of the Hunter River at Stockton, since access to deep water was highly restricted in Newcastle itself. However the company lost its monopoly in coal mining in 1847 and with the discovery of the Borehole Seam in 1848, many other companies were encouraged to enter the industry. The dominant role of the company was further eroded in 1850, when by act of parliament, the Burwood Mine was enabled to put a railway through company land to the government staithes.

The company built a new bridge across Hunter Street in 1862, replacing the old inclined plane. The Sea Pit was opened in 1888. Its closure in 1920 marked the end of the inner city coal mines and allowed the dismantling of the railway, the demolition of the Hunter Street Bridge and the realignment of King Street.

From 1853 onwards, the subdivision of the company grant allowed for the westward expansion of the City, with major centres of development along Hunter and Darby Streets.

For nearly one hundred years the Australian Agricultural Company played a dominant role in the development of Newcastle. The company continues its agricultural business and is still listed on the Australian Stock Exchange as the AAC.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion b. 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

The various superintendents of the Australian Agricultural Company and its other management have played a major role in the development of Newcastle.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion c. An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW

The archaeological sites associated with the Australian Agricultural Company may retain evidence of mining and other technology that was advanced for its time. The company was also responsible for a number of firsts in Australia, including its mine tramway and incline, the use of steam engines in mining and for the manufacture of iron components used in mining machinery.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion d. An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons

The social significance of the Australian Agricultural Company has not been researched. Special interest groups, like the National Trust of NSW, or the Coal River Working Party, recognise the importance of the archaeological sites associated with the company. The local community sees the value in conserving these important archaeological sites, like the Company Offices, or the railway embankment, not only to enhance awareness in the heritage of Newcastle, but also in terms of education and cultural tourism.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion e. An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history

As with the penal settlement and the early development of Newcastle, there are only a small number of buildings and other structures relating to the Australian Agricultural Company that survive within the study area. They include the Company's Offices, the Signalman's Cottage and remnants of the railway embankment and alignments along King Street and Brooks Street.

Many other sites of the collieries and other infrastructure may survive below ground, though most of the pits, excepting A Pit lie outside the study area. The physical survival of archaeological remains of these buildings and structures will have the ability to demonstrate the living and working conditions of the miners, both convict and free. These sites will also provide a strong focus for historical education and cultural tourism in the city and its region.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion f. An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history

Newcastle is unique in New South Wales for its role in coal mining from 1801 onwards, until the breaking of the monopoly of the Australian Agricultural Company in 1847.

The Australian Agricultural Company was also unusual for its use of technology that was advanced at the time, including rail inclines, steam engines and engineering works.

The company was also solely responsible for the extraction of coal in the inner city, after the end of the penal settlement.

The location of the company grant of 2,000 acres, together with the local geography, constrained the development of Newcastle. This is clearly seen in the building of railway and port infrastructure, the Burwood Mine Railway, but also in forcing other early industries to locate at Stockton if they required deep water frontage.

Another unusual feature of the Australian Agricultural Company was its continued employment of convict labour until the end of transportation in 1840.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion g. An item is important in demonstrating the principal characteristics of a class of NSW's

cultural or natural places; or

cultural or natural environments

The Australian Agricultural Company is unique or unusual in many respects, but its preferred use of advanced technology for mining set the pattern for the later development of collieries in the Hunter Valley.

Remains that demonstrate this theme could potentially be of state heritage significance.

2.4.7 Railway and Port Infrastructure

Criterion a. An item is important in the course, or pattern, of NSW's cultural or natural history

The Hunter River Railway (Great Northern Railway) was opened in 1857, less than two years after the opening of the Sydney to Parramatta Railway. The line was extended from Honeysuckle Point into Newcastle itself in 1858.

The railway played a pivotal in enabling Newcastle to replace Maitland and Morpeth as the principal port for the Hunter River. Like the Eveleigh Railway Workshops in Sydney, Newcastle developed its own workshops at Honeysuckle Point. They played a major role in manufacture and repair of railway stock until closed in 1978.

The rapid development of the coal industry after the breaking of the Australian Agricultural Company monopoly was facilitated by improved rail access to the port and new port facilities. Captain E O Moriarty, Engineer-in-Chief of the Harbours and Rivers Branch, was largely responsible for the scheme for extensive port improvements at Bullock Island (now Carrington) between 1862 and 1878. Land was also reclaimed at Kings Wharf and both rail and port facilities were modernised.

Port improvements also include the Customs House, navigation beacons, pilot station, lighthouse, life boat service, bond stores and other infrastructure.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion b. 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

The improvement of port infrastructure from 1862 to 1878 was largely the responsibility of Captain E O Moriarty, Engineer-in-Chief of the Harbours and Rivers Branch.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion c. An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW

The improvement of port infrastructure included highly advanced hydraulic technology for powering of cranes, as well as other modern technologies.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion d. An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons

The social significance of the railway and port facilities at Newcastle have not been researched. Special interest groups, like the National Trust of NSW, or the Coal River Working Party, recognise the importance of the archaeological sites associated with the railway and port. The local community also sees the value in conserving these important sites, including the Lee Wharf buildings and the Honeysuckle Workshops, not only to enhance awareness in the heritage of Newcastle, but also in terms of education and cultural tourism.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion e. An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history

There are a number of surviving sites associated with rail and port infrastructure, including the Honeysuckle Railway Workshops, the Lee Wharf buildings, the railway stations and the navigational beacon on Tyrrell Street

The physical survival of these buildings, together with their archaeological remains, have the ability to demonstrate the important development of Newcastle as a port and railway terminus. These sites will also provide a strong focus for historical education and cultural tourism in the city and its region.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion f. An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history

The Great Northern Railway was developed as an railway network independent from Sydney until the lines were connected across the Hawkesbury River in 1889.

Outside Sydney, the port facilities at Newcastle were the most extensive and highly developed of any other port in New South Wales.

Remains of this theme could potentially be of state heritage significance. .

Criterion g. An item is important in demonstrating the principal characteristics of a class of NSW's

***cultural or natural places; or
cultural or natural environments,***

The development of rail and port infrastructure in Sydney and Newcastle have many parallels.

Remains that demonstrate this theme could potentially be of state heritage significance.

2.4.8 Harbour Defences (State)

Criterion a. An item is important in the course, or pattern, of NSW's cultural or natural history

Note. Fort Scratchley is excluded from the study area.

With the closure of the Military Barracks in the 1850s, a detachment of NSW Artillery was stationed at Newcastle from 1855. Four eighty-pounder guns were erected in 1878, but were moved to Fort Scratchley when it was completed in 1882.

Fort Scratchley formed the hub of harbour defences, constructed initially against a Russian threat.

Shepherds Hill was constructed as a coast battery in the 1890s. Fort Wallace at Stockton, completed just before 1914, became the key fortification prior to World War II. There were radar units on Ash Island.

The fortification of Newcastle forms part of the history of harbour defences in New South Wales, centred on Port Jackson (Sydney), but also including Botany Bay and Wollongong.

Newcastle harbour and city was attacked by Japanese submarine on 7-8 June 1942. The guns at Fort Scratchley fired a number of rounds in defence. Newcastle was one of a number of cities in Australia attacked by the Japanese in the Second World War, including both Sydney and Darwin.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion b. 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

The construction of Fort Scratchley is particularly associated with Major-General Sir William Jervois and Lieutenant Colonel Peter Scratchley.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion c. An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW

The fortifications in Newcastle demonstrate the development of armaments technology and military fort construction up to the Second World War.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion d. An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons

The social significance of the harbour fortifications at Newcastle have not been researched, but the armed forces continue to have an active interest in these sites. Special interest groups, like the National Trust of NSW, or the Coal River Working Party, recognise the importance of these defences. The local community also sees the value in conserving these important sites, including Fort Scratchley and the Shepherd Hill fortifications, not only to enhance awareness in the heritage of Newcastle, but also in terms of education and cultural tourism.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion e. An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history

The fortification of Newcastle, together with their archaeological remains, have the ability to demonstrate the development of defences for Newcastle as a port and major city. These sites will also provide a strong focus for historical education and cultural tourism in the city and its region.

Remains that demonstrate this theme could potentially be of state heritage significance.

Criterion f. An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history

The harbour at Newcastle was one of a small number of ports attacked by the Japanese in World War II. A number of important guns survive at Fort Scratchley, namely the two 6 inch Mark VII guns, which saw action against the Japanese.

Remains of this theme could potentially be of state heritage significance. .

Criterion g. An item is important in demonstrating the principal characteristics of a class of NSW's

***cultural or natural places; or
cultural or natural environments***

The harbour defences at Newcastle are part of a series of defences along the east coast of New South Wales, including Sydney, Botany Bay and Wollongong. Comparisons may be made between these sites and also those overseas in places like Auckland, New Zealand (Devonport).

Remains that demonstrate this theme could potentially be of state heritage significance.

2.4.9 Urban Development, 1853 onwards (Local)

Criterion a. An item is important in the course, or pattern, of NSW's cultural or natural history

During the later nineteenth and twentieth century, Newcastle and Wollongong were the largest and most industrialised coastal cities outside Sydney.

With the subdivision of the Australian Agricultural Company land in 1853, the city of Newcastle could spread to the westward, principally along Hunter and Darby Streets.

By the end of the nineteenth century the city had developed and buildings had infilled most of the city blocks. To serve the population, a wide range of houses were built, including also schools and churches, as well as pubs and hotels. To serve the needs of the port, coal mining and other industry, a number of factories, foundries and engineering workshops were established, including Rodger's Foundry, Gibson's Foundry, Arnott's Biscuits, a Soap Works and Refrigeration Works.

The Municipality of Newcastle was established in 1859 under the provisions of the Municipalities Act, 1858. The municipality became the Borough of Newcastle in 1867, under the provisions of the Municipalities Act, 1867, and continued in this form until 1938. Newcastle was proclaimed a city in 1885.

The rapid development of the city in the nineteenth century replaced most of the earlier buildings. Similarly in the twentieth century, redevelopment was concentrated in the City and along Hunter and King Streets to the west. Suburbs, including Newcastle East, The Hill and Cooks Hill were largely bypassed by this later development, leaving several attractive nineteenth century housing precincts.

Newcastle is only one of a few cities in New South Wales to be served by trams in the late nineteenth and early twentieth centuries. Gasworks were constructed in 1866, electrical supply commenced in 1881 from a municipal power plant in Tyrrell Street, while the Zaara Street power station supplied Newcastle from 1915 to 1976.

Water was piped from the Walka Water Works in 1887, with a number of service reservoirs in Newcastle itself, one near the Obelisk, another in Tyrell Street. The first sewerage pumping station (SPS) was built at the Hunter and Brown Street intersection in 1910.

Remains associated with this theme could potentially be of local heritage significance. Some sites may be of state significance, particularly the underground reservoirs on Tyrrell Street.

Criterion b. 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

The individuals and groups that played a prominent role in the development of Newcastle have not been researched. There is a wide range of people that played significant roles.

Remains that demonstrate this theme could potentially be of local heritage significance.

Criterion c. An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW

The surviving built fabric of Newcastle, dating from 1853 onwards, will exhibit a range of aesthetic qualities, both in design and technical expertise. This subject is largely beyond the scope of the Newcastle Archaeological Management Plan Review.

More relevant from the archaeological viewpoint is the technical expertise evident in the underground reservoirs at Tyrrell Street.

Remains that demonstrate this theme could potentially be of local heritage significance. Some sites may be of state significance, particularly the underground reservoirs on Tyrrell Street.

Criterion d. An item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons

The social significance of the later nineteenth and twentieth century development of Newcastle have not been researched. Special interest groups, like the National Trust of NSW, or the Coal River Working Party, recognise the importance of the surviving built fabric and associated archaeological sites. The local community also sees the value in conserving these important precincts, through the recognition of a number of conservation areas, not only to enhance awareness in the heritage of Newcastle, but also in terms of education and cultural tourism.

Remains that demonstrate this theme could potentially be of local heritage significance.

Criterion e. An item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history

The study of the surviving fabric of late nineteenth and twentieth century Newcastle and the associated archaeological sites are likely to contribute to our understanding of the communities, their living and working conditions. After the 1870s to 1890s municipal rubbish disposal and other factors removed most artifact assemblages from their original contexts, reducing substantially the contribution of archaeology to domestic sites from this period onwards.

Remains that demonstrate this theme could potentially be of local heritage significance..

Criterion f. An item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history

The surviving fabric of late nineteenth and twentieth century Newcastle reveals the extensive nature of development in the harbour city that can only be compared with the other major cities of New South Wales. For example, the blocks of two-storey terraced houses, in both weatherboard and brick may only be compared with the inner city suburbs of Sydney, including Paddington, Surry Hills, Glebe and Balmain. Just as in Sydney, the archaeological resources associated with these developments will be as rich and as varied.

Remains that demonstrate this theme could potentially be of local heritage significance.

Criterion g. An item is important in demonstrating the principal characteristics of a class of NSW's

***cultural or natural places; or
cultural or natural environments***

The surviving fabric of late nineteenth and twentieth century Newcastle reveals a pattern of development where housing and schools are found together with pubs, hotels and local industry. This type of development is typical of the nineteenth century development of cities and major towns in New South Wales.

Remains that demonstrate this theme could potentially be of local heritage significance.

3.0 ARCHAEOLOGICAL RESEARCH FRAMEWORK

3.1 Archaeological research design

An archaeological research design aims to ensure that when archaeological sites are excavated, the maximum amount of information is recovered, and that this information is used to contribute to knowledge about the past. The concept of archaeological research design is specifically connected with the idea that historical archaeology should be more than just a method which observes, records and describes the archaeological evidence contained within a given area. An archaeological approach should also inform the analysis and interpretation of the evidence recovered, and link it to broader areas of research interest. It should also attempt to provide explanations of the meaning of any patterns evident in the information. The point is that an archaeological perspective is vital to both the recovery and interpretation of the evidence. The archaeological record is not only an independent source, it contains evidence of equal status and importance to any written historical document. For the most useful archaeology and interpretation it is necessary to have two things:

- A clearly stated conceptual framework which will allow the recovery of meaning from the archaeological data; and
- Specific methods and procedures which will enable the analysis of the identified areas of research.

Since the 1980s, permits for excavation have typically been issued with an associated research design. Usually, the excavation permit will contain

- The actual excavation methods and strategies will be used to recover, record and analyse the evidence present at the site being investigated; and
- A list of questions which the archaeological excavation of the site might reasonably be expected to answer.

Research design is a fundamental aspect of historical archaeology because it is linked to the issue of scarce resources. Due to the time and costs involved in archaeological fieldwork, the results of such work should be valuable to the development of new insights into the historical processes that have shaped an area. In this way it should be possible to add to existing knowledge rather than just confirming it. If archaeology is undertaken only as a descriptive process, it would be an expensive way to confirm or record information. It is for this reason that research design is extremely important to the field of historical archaeology.

3.2 Research themes applicable to the study area

The bold type headings that follow indicate the overall research subject, while the plain text indicates the type of related topics and/or evidence around which site-specific research questions might be framed. A discussion of the research theme from the 2013 review follows. It should be noted that the research areas are not mutually exclusive but are overlapping and complementary. For example; the topic of mining may be relevant to Environmental Modification & Disturbance, Penal Settlement, Australian Agricultural Company, and Industry and Manufacturing; and wharves may be relevant to Environmental Modification & Disturbance, Military & Maritime, Urbanisation & the 19th Century City, and Industry & Manufacturing.

3.2.1 Natural Environment

Landform/topography and Vegetation / Habitat. Location of original 'natural' ground levels; Topography; Landscape features; Water table / Catchment, creek lines & drainage; Harbour and Estuary, Beaches and Shorelines; Plants / Pollens (native species); native food species and resources; other resource locations (timber, building materials, coal); Fossils; Geology.

Every archaeological site will contribute to an understanding of the natural environment, if only to determine the nature of the natural subsoils. Opportunities do exist for exploring the natural environment and the changes brought about by Aboriginal and historical settlement through environmental sampling of various types, for example, pollen analysis. Sites with deep stratigraphy, or waterlogged sites like wells, cisterns, lagoons and dams provide ideal sites for environmental sampling. In particular there are sites in East Newcastle, previously known as the Sandhills, where sampling may be undertaken, for example the pond or dam near Stevenson Place and Parnell Place, shown on a map dated to 1839-1840 (1839-40 N 71.844) (SHI 2176215). Another example is the Water Reserve on the foreshore near Bolton and Newcomen Streets (SHI 2176207).

3.2.2 Environmental Modification & Disturbance

Land Reclamation and Fill; Harbour / Port / Wharf Construction & Reconstruction; Fill levels and extent of altered ground; Other landscape changes (eg. movement of frontal sand dunes over East Newcastle); Water Supplies (public wells / private wells / cisterns / reticulated supply); Vegetation - disturbance / loss and introductions (plant pollens); Quarrying.

The natural environment has been changed in many ways by urbanisation. Some major examples are described below.

The area of East Newcastle, previously known as the Sandhills, was subject to the onslaught of wind blown sand, once the natural vegetation had been cleared, probably from the early years of the Penal Settlement, 1804 onwards.

The sand dunes behind Newcastle Beach are shown on Armstrong's Map of 1830 (Volume 3, Figure 6.4). The removal of the vegetation over the dunes was progressive, until it became an area of wind blown sand by the mid 1830s (Volume 3, Figure 6.10). Various measures were attempted to control the movement of the sand. The street alignment map of 1853 shows a "High Bush fence" had been erected along the cliff top between the Hospital and the Gaol, but that this had been swamped by sand (Volume 3, Figure 6.28). This map also shows that sand was a problem as far west as the alignment of Pacific Street. Innovative measures to plant out indigenous shrubs and pigface were considered and possibly the erection of new barriers in 1853 (Volume 3, Figures 6.29 and 6.30). The effect of the sand can be seen on the road alignment to the north of Stevenson Place, which is marked as a "Buried Road" on the 1839 plan (Volume 3, Figure 6.15). This road was marked as a plank road on navigational charts up to the 1880s. The problem of wind-blown sand delayed development in East Newcastle until the 1880s and 1890s.

Various archaeological sites have revealed the extent and depth of the wind-blown sand, most notably the archaeological investigations of the Lumber Yard from 1989 onwards (SHI 2176214).

Other sites that have encountered deep sand layers include investigations at the Royal Newcastle Hospital (SHI 2176223).

Caution should be exercised in the determination of what are the natural soils on sites affected by wind blown sand. Aboriginal sites and indeed early sites belonging to the Penal Settlement may be buried under what appears at first to be natural sand.

Another important case of environmental modification is the site of the former Military Barracks on Watt Street, Newcastle, completed in 1840 (SHI 2176232). The building of the barracks required substantial levelling of the site and has also had an effect on the neighbouring streets, including Watt, Newcomen and Church Streets. Church Street appears to have been raised up in front of the Courthouse, with the original landform possibly reflected in the service lane behind the three storey terraced houses at 8-32 Church Street (SHI 2176206).

Reclamation of the foreshore of the Hunter River is the other major example of environmental modification in Newcastle (SHI 2176280 - 2176285). While the archaeology of sites near the water frontage provide a major opportunity for investigating Newcastle's historical port and rail infrastructure, it should not be forgotten that the foreshore was also subject to a variety of uses prior to reclamation. Examples include the bathing house on a jetty on the foreshore on the alignment of Zaara Street (1853 - Street Alignment) (SHI 2176285). One of the most spectacular examples of the usage of the foreshore prior to reclamation was the discovery of the wreck on the steam tug 'Leo' beneath reclamation at Honeysuckle Drive, east of Worth Place (SHI 2176282).

3.2.3 Aboriginal occupation/contact

Location / Extent; Pre-contact environment; Resources; Material Culture; Continuity & Change. Acculturation.

The investigation of several historical archaeological sites has revealed also the evidence for previous Aboriginal settlement along the Hunter River foreshore. Examples include the Newcastle Convict Lumber Yard (SHI 2176214), the Boardwalk site (SHI 2176282) and the recent investigations at 684 Hunter Street, Newcastle (SHI 2176280). Increasingly it is becoming clear that Aboriginal sites may be well preserved where historical remains are also intact.

3.2.4 Penal settlement

Physical / spatial layout (including Street pattern); Sites / Buildings; Construction / technology; Occupants /Lifeways; Early industries.

The mapping of the possible extent of convict huts in the Penal Settlement has enabled a more complete understanding of the archaeological resource (SHI 2176225, Figure 1). The settlement not only included the convict huts, but also the military and civil institutions for the control of the convicts and the places of convict labour.

The investigation of the Convict Lumber Yard from 1989 onwards provided an important yardstick for the investigation of the Penal Settlement (SHI 2176214). The cottage at the Commandant's Farm has also recently been subject to archaeological investigation at 684 Hunter Street, Newcastle (SHI 2176280). Although there have been a number of archaeological

investigations within the area known to have been occupied by convict huts, none has yet provided results that would improve our understanding of the conditions of living within the penal settlement as a convict, although some of the convict work places are well known, for example, Macquarie Pier or the Southern Breakwater (SHI 2176219), coal mining under the city (SHI 2176223, 2176232, 2176239, among others) and the Convict Lumber Yard (SHI 2176214). The recent excavation of Kirkwood House revealed that the parsonage for Christ Church still survived as the core of the building. Only a remnant of the structure has survived the demolition of Kirkwood House by the State government (SHI 2176232). The brick barrel drain on Church Street may reuse a drainage adit from one of the early convict coalmines (SHI 2176287).

Every opportunity should be grasped to excavate sites of convict occupation under controlled archaeological conditions. From the experience of Newcastle alone, archaeological monitoring programmes provide control over excavation insufficient to recover the remains of convict huts. It is recommended that the methodology usually adopted for opening up sites for area excavation, with the machine under archaeological supervision, would be a more appropriate response within the area of SHI 2176225 and adjacent inventory listings. Street works in this area should also be under much closer archaeological supervision and control to ensure the recovery of this highly significant evidence.

3.2.5 Military and maritime

Precincts / Areas; Roles & Functions; wharves; defence installations.

The 2013 review of the NAMP 1997 by Edward Higginbotham & Associates Pty Ltd has reviewed this research theme and separated and extended into a number of themes leaving Defence and Military Establishments as a separate theme.

The Defence and Military Establishments theme now includes items such as the Military Hospital and Military Barracks on the main street (Watt Street) of the Penal Settlement (SHI 2176203), the 1840s Military Barracks (SHI 2176232), but also items like the Orderly Room for the 4th Regiment Infantry, King Street shown on the 1886 and later plans (1886 - M&G; 1895-97 - Detail) (SHI 2176206). The Church Street Drain may also be associated with the Military Barracks (SHI 2176287).

3.2.6 Government Town

Continuity and change; Physical / Spatial layout (including Street pattern and subdivision, town allotments); Sites / Buildings (including building materials & technology); Occupants / Lifeways (including residential / domestic sites); Land Uses; Public Utilities and Services.

3.2.7 The development of hospitals and health infrastructure in New South Wales

The theme of hospitals and health infrastructure includes the Hospital and Surgeons house for the Penal Settlement (SHI 2176223) and the Benevolent Asylum Lying-in Hospital on Parry Street (SHI 2176268). A number of archaeological have been completed in the area of the Hospital, Pacific Street.

3.2.8 Defence and military establishments

Fort Scratchley has been excluded from the study area for the Newcastle Archaeological Management Plan Review 2013, but related sites include the fortifications on Shepherds Hill and the military positions on Obelisk Hill (SHI 2176239 and 2176240). There is also physical evidence for the securing of the 1881 submarine mine cable across the harbour at the Pilot's Station (SHI 2176285).

The fortifications at Shepherds Hill have been extensively conserved (SHI 2176239).

3.2.9 Maintenance of law and order

This theme includes the site of the building used as the earliest courthouse for the Penal Settlement and early town on the corner of Watt and Church Streets (SHI 2176206). The purpose built courthouse for the early town was located on Hunter Street (SHI 2176204). The later Courthouse is located on Church Street (SHI 2176232).

Police Stations, Police Barracks or Watch Houses were located on Church Street and Darby Street (SHI 2176232, 2176263). The Water Police also occupied premises on Scott Street (SHI 2176222), but also had a boat shed (SHI 2176284).

3.2.10 The development of port infrastructure in New South Wales

The research theme of Port Infrastructure includes items like the government wharf on Watt Street, which served the Penal Settlement from 1804 onwards, Macquarie Pier, the pilots' cottages and flagstaff, the Water Police, as well as the extensive reclamation along the Hunter River foreshore for port facilities, particularly the scheme designed by E O Moriarty, Engineer-in-Chief of the Harbours and Rivers Branch, and constructed between 1862 and 1878. Lee Wharf was constructed in 1910 and extended west in the 1920s (SHI 2176215, 2176216, 2176218, 2176219, 2176222, 2176280 to 2176285).

Extensive conservation and archaeological works have been undertaken to conserve the two surviving Lee Wharf sheds and renew access to the waterfront in the Honeysuckle Precinct (SHI 2176281 and 2176282).

The theme also includes the Customs House on Bond Street and also the various bond stores in the city, including the Earp Gillam & Co and D Cohen & Co Bond Stores (SHI 2176214 and 2176285). Ireland's Bond Store was located further from the waterfront at 123 King Street (SHI 2176229).

A more unusual feature of this theme is the pair of lighthouses and lighthouse keeper's cottage on Tyrrell and Perkins Streets (SHI 2176237 and 2176245). The Obelisk on Obelisk Hill, built in 1850, also served as a navigational aid (SHI 2176239). More recent navigational light are located south of King Street (SHI 2176243).

3.2.11 The development of rail infrastructure in New South Wales

The Great Northern Railway was the second passenger railway network in New South Wales, opened in 1857 and extended to the terminus at Newcastle in 1858. Railway offices and housing were also located on the block to the east of the station, east of Watt Street (SHI 2176214, 2176277 to 2176285).

Extensive heritage, archaeological and conservation works have been completed on the former Honeysuckle Railway Workshops and associated infrastructure (SHI 2176281 and 2176282)

The theme may also include the mine railways of the Australian Agricultural Company and the Burwood Mining Company, although these may also be considered under the theme of coal mining (see below) (SHI 2176248 and 2176250).

The Scott Street Drain may have been constructed to divert stormwater around the Newcastle Station facilities (SHI 2176289).

3.2.12 The development of roads and bridges in New South Wales

The research theme on roads and bridges has been included in the Newcastle Archaeological Management Plan Review 2013 to provide a context for the Hunter Street bridge over Cottage Creek (SHI 2176281).

3.2.13 The development of tramway infrastructure in New South Wales

Although tramlines have been excluded from consideration in the Newcastle Archaeological Management Plan Review 2013, other aspects of tramway infrastructure have still been considered, including the Parnell Place Tram Depot and adjacent Engine House (SHI 2176216, 2176217), as well as the former steam tram engine shed and later substation for electric trams on the north side of Hunter Street (SHI 2176283).

3.2.14 Town development in New South Wales up to the early 1850s

The theme of town development up to the 1850s covers all aspects of town development principally within the area of the town laid out by Dangar in the 1820s. Although this theme covers a wide range of topics, nonetheless the use of convicts for public labour and private assignment results in a society, which was in many ways different from town development in a free society. Although Transportation ceased in 1840, the Convict System was not finally dismantled until 1852 in Newcastle and elsewhere. The association of town development with the Convict System and its administration means that this research theme is of state significance (SHI 2176201 - 2176217, 2176220, 2176222 - 2176224, 2176226 - 2176232, 2176239, 2176285, 2176287, 2176290, 2176291).

Although there have been a number of archaeological investigations within the Dangar grid of streets, nonetheless few have provided insights into living and working conditions, sufficient to address the issue of relations between convict and free persons in the household or community. Nonetheless the recent excavation of Kirkwood House (the former Parsonage) has provided an opportunity to address a range of issues relating to town development up to the 1850s (SHI 2176232).

3.2.15 The development of prisons in New South Wales

The theme of prisons in New South Wales would have been considered under a number of themes in the Newcastle Archaeological Management Plan 1997, but has been separated into a single theme in the Review.

The Gaol for the Penal Settlement was located at the eastern end of Scott Street. It was one of the first buildings built of brick in 1816 and was criticised for its poor state of construction (SHI 2176217). The gaol at Newcastle can be compared with those in other penal settlements and towns.⁸

3.2.16 Public utilities and services - water supply

Examples of water supply at Newcastle commence with the public wells near the northern end of Newcomen Street (SHI 2176207, 2176208, 2176210). Alternative supplies of fresh water may have been obtained from another well on the foreshore north of Stevenson Place (SHI 2176285).

Reservoir No. 1, a semi-underground reservoir with valve house was built between 1881 and 1888 as the first in Newcastle (SHI 2176238). The underground circular water supply reservoir on Obelisk Hill (SHI 2176239) was built in 1885 to service higher areas of Newcastle, whereas the Brown Street Reservoir served other areas by gravity feed. Reservoir No. 2 on Tyrrell Street, another underground reservoir, was built in 1918, after the demolition of the public school (SHI 2176238). Reservoir No. 1 received water from the Walka Pumping Station at Maitland, while Reservoir No. 2 is associated with water supply from the Chichester Dam (NAMP 1997. Inventory No. 1158; Section 170 Register for Hunter Water).

A high level reservoir was located at the south end of High Street (SHI 2176240).

3.2.17 Public utilities and services - gas supply

The Newcastle Gas and Coke Company constructed a gasworks on Parry Street in 1866. This is located outside the study area and the site has been thoroughly remediated in recent years.

A gasworks for the Railways Department was built in c.1883. It was located at the Newcastle Terminus and fronted onto Watt Street to the north of the station (SHI 2176284).

3.2.18 Australian Agricultural Company

Influence on settlement pattern & development; mines & railways (sites)

The Australian Agricultural Company played a major role in the development of Newcastle and of the coal mining industry in New South Wales. The hub of company administration and activities was located on the deep water frontage of their 2,000 acre grant, between Brown and Merewether Streets, including coal staithes and company offices and workshops (SHI 2176283).

Mine tramways and railways fed coal from the various mines to these staithes (SHI 2176248). To the east of Brown Street the early coal mines were worked by convict labour under government control and possibly also by the Australian Agricultural Company before they were excluded from the town itself (SHI 2176203, 2176204, 2176212, 2176290). The A Pit of the company was opened up in 1831 with its tramway to the coal staithes (SHI 2176243), Mine adits in the sea cliffs south of High Street have been identified as possible later nineteenth century company mine workings (SHI 2176240).

⁸ James Semple Kerr, *Design For Convicts*. National Trust of Australia and the Australian Society for Historical Archaeology. Library of Australian History, Sydney. 1984.

While both the B and C Pits (1837 and 1841, respectively) are located outside the study area, mine infrastructure, including some of the miners cottages, or 'Colliers Village', paddocks, enclosures and dams were located south of Tyrrell Street (SHI 2176246)

With the loss of its monopoly in 1847, the Australian Agricultural Company was forced to allow the Burwood Coal Mining Company rail access to the coal staithes across Australian Agricultural Company land (SHI 2176250).

Other Australian Agricultural Company mine workings were located near to F Pit and the Sea Pit. They include an adit in Parry Street (SHI 2176264), mine buildings (SHI 2176265), the company dam in Nesca Park (SHI 2176266), drainage from the F Pit (SHI 2176267) and from the company dam in Nesca Park (2176292). The Darby Street Drain was another major drain for the mine dams or workings (SHI 2176288).

3.2.19 Urbanisation and the 19th Century city

Development of the CBD and specialised land uses; Land value; Population (increase / demographics); Occupations and residents of the CBD; Town Services / Urban Amenity; Health / Welfare; Transport; Civic administration; nature of development / expansion of the city (increased structural / spatial / functional complexity); social repercussions; consumerism & access to imported goods.

This broad ranging theme relates to most of the inventory listings for the Newcastle Archaeological Management Plan Review 2013.

The Review has however highlighted one aspect of this research theme, namely the distinction between areas of housing for the more wealthy citizens of the city, for example around the Cathedral (SHI 2176224), and housing for less well off working people and families, for example in Cooks Hill (SHI 2176258 to 2176260, 2176264, 2176268, 2176269, 2176270, 2176272) or West Newcastle (SHI 2176273 and 2176274).

Some of the best preserved blocks with housing for working people and their families are located within the area bounded by Laman, Bruce, Parry and Union Streets, together with the area on the north side of Laman Street. These blocks include the churches they attended, for example the United Methodist Free Church (SHI 2176258 to 2176260, 2176272).

The investigation of a range of these properties would be an important goal for historical archaeology.

3.2.20 Industry and manufacturing

Industry locations & industrial production; Labour relations / class struggle (working class neighbourhoods); Economic organisation & control of production vs. social differentiation; labour requirements and the composition of families. Major industries and sites (eg those related to Mining, Steel making, Transport, Commerce and other important industrial / historic activities for Newcastle).

Industry and manufacturing were extremely important factors in the development of Newcastle. Much of the major heavy industry is however outside the study area of the Newcastle Archaeological Management Plan Review 2013.

However within the study area, a broad range of industry is represented, commencing with convict labour within the Penal Settlement, including coal mining (see theme below), the construction of the Macquarie Pier (Southern Breakwater) (SHI 2176219) and the Lumber Yard as a place for skilled convict labour (SHI 2176214). Convict labour was also used to construct many of the buildings, resulting in some criticism of shoddy construction of Christ Church and the Gaol. The government flourmill stood near the later Obelisk (SHI 2176239). The Commandant's Farm was located near Cottage Creek (SHI 2176281). This site of the government cottage at this farm has been recently excavated.

Among these sites, the Lumber Yard was excavated from 1989 onwards (SHI 2176214) and is now interpreted within a landscaped park setting.

With the development of the town from the 1820s to 1850s, coal mining was developed by the Australian Agricultural Company (see theme above), while other larger industries had to seek water frontage outside the study area at Stockton, or further west on the south side of the Hunter River. An example is Henry Dangar's Newcastle Meat Preserving Works (SHI 2176281), part of which has been subject to recent excavation. A Salt Works was located in East Newcastle (SHI 2176216). The Royal Engineer's Workshops were located near the Flagstaff (SHI 2176218) with quarrying nearby and at Nobbys Head (SHI 2176219).

During the latter part of the nineteenth century several industries grew up within the city blocks, for example blacksmith's shops (SHI 2176204, 2176213, 2176275), 'ship smiths' (SHI 2176210), a carpenter's shop (SHI 2176211), cordial factories (SHI 2176214), foundries (SHI 2176228, 2176272, 2176283), sawmills (SHI 2176247, 2176280), steam powered works (SHI 2176252), a tobacco factory (SHI 2176254), Arnott's Biscuits (SHI 2176260), a Chinese cabinet maker (SHI 2176271), a marble works (SHI 2176273, 2176274), a motor garage (SHI 2176274), a cooperage (SHI 2176276), a coach building works (SHI 2176277), a soap factory (SHI 2176280), shipyards (SHI 2176282), a stone crushing works (SHI 2176283), a windmill manufacturing works (SHI 2176283), an ice works (SHI 2176283), and a stone crushing works (SHI 2176284). The above listing does not include the various building trades.

3.2.21 Coal Mining in New South Wales, 1801 onwards

The development of coal mining in Newcastle commenced in 1801, but was resumed in 1804 with the Penal Settlement of Newcastle. There are a number of convict period mine shafts and adits under the City, but also near Fort Scratchley and Nobbys Head (SHI 2176218 and 2176219). The remainder of this theme follows the development of the Australian Agricultural Company and is described under that theme.

3.2.22 Cultural life

Religious / Educational; Social / Entertainment.

The Newcastle Archaeological Management Plan 1997 theme has been expanded in the 2013 Review to include three additional research themes as follows:

3.2.23 Theatres, entertainment and public recreation

This theme includes the Victoria Theatre on Perkins Street (SHI 2176228), the Soldiers Baths near Fort Scratchley (SHI 2176241), tennis courts on the site of the former A Pit (SHI 2176243) and a dancing hall on Darby Street (SHI 2176252), among others.

3.2.24 Religion and burial customs

This theme includes not only churches and parsonages, but also burial grounds and cemeteries. The prime example is Christ Church (SHI 2176224). The earliest burials in Newcastle may be located in the vicinity of Thorn Street (SHI 2176213, 2176290 and 2176291). Other examples include the early Presbyterian Church and Manse on Church and Watt Streets (SHI 2176206), but there are many others.

The recent excavation of Kirkwood House revealed that the parsonage for Christ Church still survived as the core of the building. Only a remnant of the structure has survived the demolition of Kirkwood House by the State government (SHI 2176232).

The former Presbyterian and Roman Catholic Cemetery is located at 700 to 710 Hunter Street, Newcastle West has also been subject to archaeological investigation (SHI 2176281).

3.2.25 Education - schools, colleges and universities

Many of the early schools in Newcastle and elsewhere were founded by the various denominations of the Church (SHI 2176209, 2176224, 2176226, 2176233, 2176236, 2176237, 2176243, 2176267). A Public School was located on Tyrrell Street (SHI 2176238, 2176246), another on Laman Street (SHI 2176272).

Other examples include the School of Arts at Newcastle (SHI 2176211) and at Wickham (SHI 2176280), the Technical College and Trades Hall are shown at 590-608 Hunter Street (SHI 2176281).

The Honeysuckle Point area also began as a leasehold subdivision owned by the Church and called the 'Bishop's Settlement'. The land had originally been intended for a grammar school (SHI 2176282).

3.2.26 Gender and ethnicity

Roles / Status (Social & Economic) including occupations. Historic, Social, Spatial & Physical environment. Locations and or concentration of specific groups. Lifestyle.

This theme of Social and Economic Status, Gender and Ethnicity covers a wide range of archaeological sites in Newcastle. Mention has already been made of housing areas for workers and their families, in contrast to the houses of more wealthy citizens in the theme of Urbanisation and the 19th Century City, above.

Specific mention will be made here regarding the evidence for the Chinese in Newcastle, as an ethnic minority. In 1886 Hap War and Co was located on Watt Street, with a 'Chinese Den' at the rear (SHI 2176202). 'Chinese Quarters' were also located within the block on the opposite side of Watt Street in the 1890s (SHI 2176205). A Chinese cabinet making works was located at 489 Hunter Street (SHI 2176271).

3.2.27 Archaeological management issues

Site preservation; Integration and comparison of results. Assessment of management plan predictions both overall and in relation to specific (inventoried / scheduled) sites. Feedback into the process of future management.

The theme of Archaeological Management Issues was not addressed in the revised inventory itself, but is further considered in this section.

The above discussion of research themes has highlighted the effect of development-based archaeology on the archaeological resource. The result is that the contribution of archaeological investigations is restricted to a limited number of themes, whereas others have not yet received the full attention of archaeologists. Are we at a stage in historical archaeology where we should be directing energy towards particular themes rather than others? Or are we satisfied to simply recover the significance of sites as they are developed? These are questions, which should be discussed by archaeologists in both professional and academic forums.

Other factors have restricted the contribution that can be made by archaeology. A brief analysis of the heritage and archaeological reports available to this study reveals the following general statistics:

Study Type	Number of reports.
Archival Recording and site survey	6
Archaeological assessment reports and heritage impact statements ⁹	71
Conservation Management Plans and related documents	34
Excavation reports - General	9
Excavation reports - Test	5
Excavation reports - Monitoring	16
Permit applications	4
Research designs	9

The table clearly shows that the majority of heritage and archaeological reports are either archaeological assessment reports, heritage impact statements or conservation management plans and related documents. These provide an opportunity for detailed historical research into various themes, but do not necessarily further the contribution of archaeology.

⁹ Archaeological assessment reports may also include research design and permit application.

Surprisingly there are relatively few reports on larger scale archaeological excavations, even though these provide the best opportunity for archaeology to contribute to our understanding of the themes addressed above. Some examples include the archaeological excavations of the Lumber Yard from 1989 (SHI 2176214) and the more recent excavation at Kirkwood House (SHI 2176232).

As noted above, excavation methodology is a key factor in the contribution to research themes.¹⁰ Greater emphasis should be given to those sites where area excavation is likely to enable a site to make a substantial contribution to research themes.

¹⁰ Many publications are available on excavation techniques in archaeology. The author wrote a paper in the *Australian Journal of Historical Archaeology* (now *Australasian Historical Archaeology*) in 1985, though more up to date publications are available.
Edward Higginbotham. 'Excavation techniques in historical archaeology', *Australian Journal of Historical Archaeology*, 1985. vol. 3, 8-14.

4.0 PLANNING AND STATUTORY FRAMEWORK

This section contains an overview of the current planning and statutory framework as it relates to archaeological heritage and the obligations imposed by the NSW Heritage Act 1977. In particular, the relative responsibilities of the NSW Heritage Council and local government in relation to relics is explained.

While it is true that responsibility for granting consent to disturb relics rests with the NSW Heritage Council, many land use decisions are made by local government under the Environmental Planning and Assessment Act 1979 and Local Government Act 1993. It follows then that an archaeological management plan and strategy will assist at the local level by informing councils of the likely location and predicted heritage values of archaeological sites and relics and the information will be available to the council in its' decision making capacity. There are two aspects to this –

1. Relics or sites identified in an archaeological plan may be listed as archaeological sites in Schedule 5, part 3, of the Newcastle Local Environmental Plan 2012 and identified on the accompanying maps. The information is disclosed in planning certificates issued in respect of such properties.
2. The potential location of relics can be identified on maps and the advisory information applied to land use planning, building design and development assessment.

4.1 NSW Heritage Act 1977

Division 9 of the Heritage Act relates to the “Protection of certain relics”. Under s139 of the Act (the relics provisions), a person may only disturb or excavate land known to contain a relic, or, where there is reasonable cause to suspect relics, in accordance with an excavation permit issued by the Heritage Council of NSW. Penalties apply where there are breaches of the Act. Permits are issued in accordance with Heritage Council policies which ensure that disturbance of sites and ‘relics’ occurs in accordance with appropriate professional assessment, standards and procedures.

The NSW Heritage Council website provides the following advisory information for those considering excavating or disturbing land where there is reason to suspect the presence of archaeological materials:

“To excavate or disturb land, you will need to make an application to the Heritage Council if you are going to disturb or excavate any land in NSW that is likely to contain archaeological remains. There are two types of applications, depending on whether the site is listed on the State Heritage Register.”

The value of this Strategy and its background documents the AMP 1997 and 2013 Review, is that it removes guess work in identifying those parts of Newcastle which contain a relic or where there is a high chance of a relic being uncovered. The inventory of potential sites in the plan and review provides guidance about those areas where there is considered, based on desk top assessment, to be relics present, and it determines the potential level of heritage significance.

This provides the strategic tool for dealing with Newcastle's archaeology in the context of s139 of the Act.

Under Section 4 of the Heritage Act, a relic is defined as:

'relic' means any deposit, artefact, object or material evidence that:

relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, *and*
is of state or local heritage significance.

Section 139 of the Heritage Act provides that:

A person must not disturb or excavate any land knowing or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed unless the disturbance or excavation is carried out in accordance with an excavation permit.

A person must not disturb or excavate any land on which the person has discovered or exposed a relic except in accordance with an excavation permit.

Furthermore, Section 146 of the Heritage Act requires any person who is aware, or believes a relic has been disturbed to:

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
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.

On some archaeological sites or where there is cause to suspect the presence of a relic, provided that the work is minor and not likely to affect heritage significance, a Permit Exception under s139 can be sought, which are provided under a schedule of exemptions listed at Subsection 57(1) of the Heritage Act. Exceptions can be granted where it can be demonstrated that an activity is minor and not likely to affect heritage significance. These can be made in the following circumstances:

1. An archaeological assessment, zoning plan or management plan has been prepared in accordance with Guidelines published by the Heritage Council of NSW which indicates that any relics in the land are unlikely to have State or local heritage significance; or
2. the excavation or disturbance of land will have a minor impact on archaeological relics including the testing of land to verify the existence of relics without destroying or removing them; or
3. a statement describing the proposed excavation demonstrates that evidence relating to the history or nature of the site, such as its level of disturbance, indicates that the site has little or no archaeological research potential.

There are also circumstances in which excavation or disturbance of land of the kind specified below does not require approval under subsection 57 (1) of the Act:

- (a) the excavation or disturbance of land is for the purpose of exposing underground utility services infrastructure which occurs within an existing service trench and will not affect any other relics;
- (b) the excavation or disturbance of land is to carry out inspections or emergency maintenance or repair on underground utility services and due care is taken to avoid effects on any other relics;
- (c) the excavation or disturbance of land is to maintain, repair, or replace underground utility services to buildings which will not affect any other relics;
- (d) the excavation or disturbance of land is to maintain or repair the foundations of an existing building which will not affect any associated relics;
- (e) the excavation or disturbance of land is to expose survey marks for use in conducting a land survey

4.2 Environmental Planning and Assessment Act 1979 - Standard Instrument

The Newcastle Local Environmental Plan 2012 contains planning provisions for land in the City of Newcastle in accordance with the standard environmental planning instrument under section 33A of the Environmental Planning and Assessment Act 1979. The standard instrument provisions enable Councils to include archaeological sites and/or relics in their LEPs and requires notification to the NSW Heritage Council if intending to grant consent to development on an archaeological site (excluding those on the State Heritage Register or subject to an Interim Heritage Order). Within the standard instrument definitions, the term 'relic' has the same meaning as in the NSW Heritage Act.

The reason councils can now include archaeological sites in their LEPs is to provide controls that support the s139 provisions of the NSW Heritage Act. Specifically, Clause 5.10(2)(c) requires development consent to be obtained where:

“disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed”.

The fact that archaeological sites may now be listed in the Newcastle LEP 2012 in Schedule 5, Part 3, Archaeological Sites, enables Council to be much more strategic when determining development applications that may impact such sites. This has obvious benefits in that it allows the location of relics to be advised via the s149 certificate and published on the NSW Legislation website (via the LEP), and to be included in Council's internal planning controls. Having knowledge of the likely location of relics should provide a more strategic approach and enable better outcomes for the archaeological resource. This issue is further explored in Section 5.0 Management Strategy.

The inclusion of archaeological sites in the LEP also benefits the NSW Heritage Council in its role as the consent authority for disturbance to a relic. Where a development proposal (that requires consent) is considered by Council, the Heritage Council must be notified if Council

intends to grant consent. Before the Council grants consent to a development application, Council must take into consideration any response received from the Heritage Council within 28 days after the notice is sent.

Clause 5.10 (7) of the Newcastle Local Environmental Plan 2012 states:

(7) Archaeological sites

The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site (other than land listed on the State Heritage Register or to which an interim heritage order under the Heritage Act 1977 applies):

- (a) notify the Heritage Council of its intention to grant consent, and
- (b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.

Development consent is not required under Clause 5.10 (3) if the applicant has notified the Council of the proposed works, and the Council has provided written agreement to the applicant before any work is carried out that it is satisfied that the proposed development:

- “(i) is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or archaeological site or a building, work, relic, tree or place within the heritage conservation area, and
- (ii) would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place, archaeological site or heritage conservation area”.

4.3 Newcastle Development Control Plan

The Newcastle Development Control Plan contains guidelines to manage archaeological matters - 5.06.01 Archaeological management, with provisions supported by the NAMP 1997. The objectives for archaeological management are as follows:

1. Provide for the timely identification of potential archaeological sites.
2. Ensure that the findings of the Newcastle Archaeological Management Plan are considered when planning development in the city centre.
3. Ensure that high quality archaeological interpretation is an outcome of development activity.
4. Comply with the relevant provisions of the NSW Heritage Act 1977.

The controls in the DCP state that the archaeological significance and the potential location of archaeological sites should be established during the design development process and factored into the initial design stage. Applicants developing in the Newcastle City Centre are referred to the Newcastle Archaeological Management Plan 1997. The guidelines also stipulate that archaeological sites are managed and conserved in accordance with the assessed level of heritage significance and that there is adherence to the recommendations of any archaeological assessment. The DCP will need to be amended to ensure it refers to this Strategy as well as the 2013 Review.

5.0 DEVELOPMENT PROCEDURES

5.1 Executive summary

The purpose of this section is to outline the archaeological management procedures that apply in certain circumstances. It should be read in conjunction with the latest version of the NSW Heritage Council's "Guidelines for the preparation of Archaeological Management Plans"¹¹.

This section also outlines a framework for managing the significance of both listed and predicted (potential) archaeological sites within the context of land use and construction planning. The strategies are derived from the articles of the Australia ICOMOS Burra Charter, 2013 and Archaeological Practice Note 2013, as well as the archaeological management guidelines published by the NSW Heritage Council (as above). The strategies contained in this section promote alignment with the principles of the Newcastle Heritage Policy 2013 and Heritage Strategy 2013-17.

5.2 Excavating land in the study area

Shallow excavation, for example shallow pad footings or strip footings no deeper than 500mm, poses the lowest level of risk to relics and archaeological material. Widespread excavation deeper than one metre (ie. basement carparking, deep trenching for sumps, services or lift wells, or for larger scale residential flat buildings), has a higher chance of penetrating relics or archaeological deposits. It is this category of development activity that will generally require archaeological potential to be addressed and managed where development is proposed in the study area.

The procedures that apply will depend on the nature of excavation being proposed, and whether the property contains potential relics as determined by the NAMP 1997 or Higginbotham Review 2013, or if listed as an archaeological site in the Newcastle LEP 2012.

The Newcastle Development Control Plan Section 5.06.01 controls and objectives will apply where there is reason to suspect that a relic may be affected by a development activity and will need to be considered in the design development process.

5.2.1 Procedures for archaeological sites in Newcastle LEP 2012

Initial checks should be carried out to ascertain if the property has statutory recognition as an archaeological site in Newcastle LEP 2012, Schedule 5, Archaeological Sites. The level of significance should also be established (ie local or state or on the State Heritage Register). If the property does contain an archaeological site of local significance, Council should be contacted to discuss what approvals apply and what documentation would be required to be submitted. Typically either a full or baseline archaeological assessment would be submitted with an application for development consent, prepared by an archaeologist recognised by the Heritage Division of the NSW Office of Environment and Heritage. In accordance with Clause 5.10 (7) of the Newcastle LEP 2012, this would be referred to the NSW Heritage Council and any response received by Council would be considered in determining the DA.

¹¹ ISBN 978-1-921121-14-2

All archaeological assessments will need to consider the archaeological significance summary provided in Section 2.0 of this Strategy, and any research framework based on the Archaeological research Design and research themes articulated in Section 3.0 of this Strategy.

If the level of significance was state or state nominated, a proponent would be referred to the Heritage Division of the NSW Office of Environment and Heritage to discuss the approval requirements prior to proceeding further with design development. Archaeological sites that are of state significance will always require an archaeological assessment and consideration of *in situ* retention where any site disturbance is envisaged.

The omission of archaeological advice early in development planning and design stages can seriously compromise the retention of the archaeological resource, lead to costly time delays and can significantly compromise project schedules, so it is imperative that when dealing with an archaeological site listed in Schedule 5 of the NLEP 2012, the advice of an archaeologist is obtained early on. This enables *in situ* retention of significant archaeological remains by incorporating the location of relics into the design.

The flow chart below (figure 5.1) provides a process for archaeological assessment early on in the development planning and design process. It should be followed when undertaking development on a property listed in Schedule 5 as an Archaeological item or when dealing with any potential archaeological site identified in the NAMP 1997 or the Review 2013.

Procedures for Archaeological Assessments Preceding Development Applications.

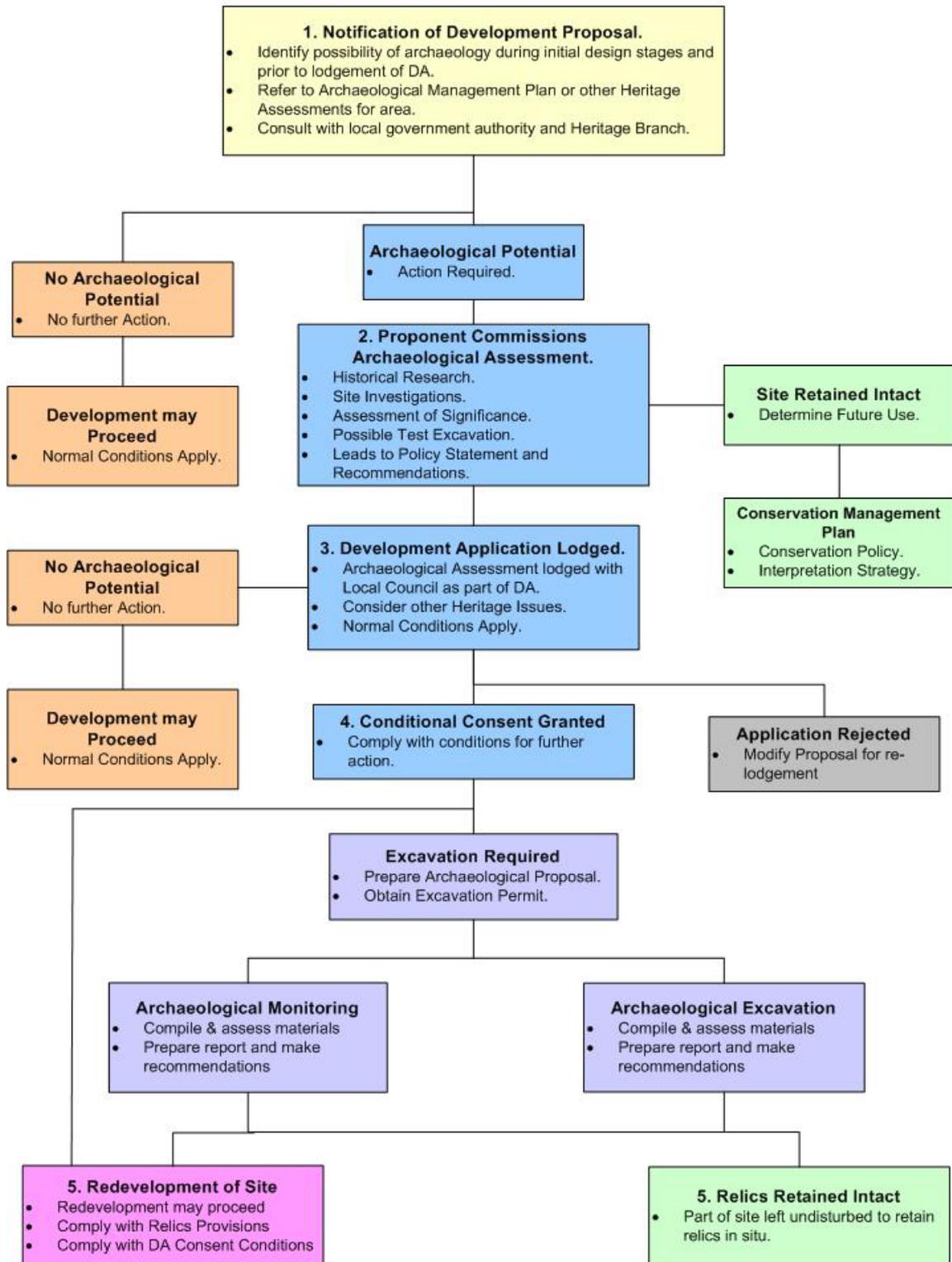


Figure 5.1 - extract from Newcastle Archaeological Management Plan Review, prepared on behalf of Newcastle City Council by Edward Higginbotham & Associates Pty Ltd, 2013.

5.2.2 Procedures for *potential* archaeological sites and relics

The Newcastle Archaeological Management Plan 1997 and the Higginbotham & Associates Review 2013 provide a desk-top analysis of land parcels to identify land that is reasonably likely to contain relics or archaeological sites, but that are not listed in Schedule 5 of the NLEP 2012. By consulting these documents it is possible to confirm whether there is potential to disturb a relic, and the potential to trigger the provisions of s139 of the Heritage Act. The preliminary findings will inform the planning and development assessment process and determine options for management in accordance with this Strategy and compliance with the Heritage Act.

The Higginbotham & Associates Review 2013 provides an Inventory of potential archaeological sites. Where the inventory indicates a strong potential for relics to be present on a site, an archaeological assessment should be prepared by an archaeologist to determine the degree of heritage significance, ie whether local or state, and the extent of the relic and/or archaeological site. This should be submitted with the development application so that it can be referred to the Heritage Division of the NSW Office of Environment and Heritage.

As noted previously, archaeological assessments must consider the archaeological significance summary provided in Section 2.0 of this Strategy, and any research framework based on the Archaeological Research Design and research themes articulated in Section 3.0 of this Strategy.

5.3 Strategies for conserving archaeological sites and relics

The overriding strategy for the conservation of the city's archaeology is that archaeology of national or state heritage significance is retained in situ, interpreted and opportunities for further research investigated.

5.3.1 Conservation in situ

Site planning and conceptual design for site redevelopment are important processes that can determine the future survival of archaeological relics on the site of origin. Where relics are predicted to be present at a site subject to redevelopment, it is important that these processes occur in consultation with the Heritage Council or delegate prior to lodgement of a development proposal with Council. Depending on the nature of the development proposal, level of heritage significance, and location of the predicted archaeological resource, the Heritage Council may require relics to be retained in situ, while in other cases it may be acceptable to undertake investigation and recording, along with the removal of remains through archaeological salvage methodologies.

The NSW Office and Environment and Heritage may require conservation of the relics in situ where an archaeological assessment recommends it as an appropriate management option. This may be because the archaeological features are of such significance or research value that they warrant retention or conservation in the place where they were found. All archaeology of potential national or state significance should be retained in situ, interpreted and opportunities for further research investigated.

The Burra Charter recommends conservation in situ for all items of cultural significance, reproduced here in extract:

- Article 9.1 The physical location of a place is part of its cultural significance. A building, work or other component of a place should remain in its historical location. Relocation is generally unacceptable unless this is the sole practical means of ensuring its survival.
- Article 28.1 Disturbance of significant fabric for study, or to obtain evidence, should be minimised. Study of a place by any disturbance of the fabric, including archaeological excavation, should only be undertaken to provide data essential for decisions on the conservation of the place, or to obtain important evidence about to be lost or made inaccessible.
- Article 28.2 Investigations of a place, which requires disturbance of the fabric, apart from that necessary to make decisions, may be appropriate provided that it is consistent with the policy for the place. Such investigations should be based on important research questions which have potential to substantially aid our knowledge, which cannot be answered in other ways and which minimise disturbance of the significant fabric.¹²

5.3.2 Interpretation and Display

The Burra Charter states that 'the cultural significance of many places is not readily apparent, and should be explained by interpretation. Interpretation should enhance understanding and enjoyment, and be culturally appropriate.'¹³

Opportunities for the interpretation and display of relics or sites should be investigated both during and after the completion of archaeological investigation. Archaeologists can advise on the use of recovered archaeological material and its interpretation. Numerous examples exist involving artefact displays within building foyers. While the best option is to undertake retention in situ, display and presentation of material on site can be successful.

In cases where remains are removed through excavation and site preparation processes, there are various strategies whereby artefacts and archaeological remains may be recovered and displayed, thereby achieving a public outcome for the archaeological investigation. This may include transfer of the remains to a cultural institution where they can be used for research purposes, public programs, or preservation.

Where this is not possible archaeology must be subject to detailed archaeological investigation, testing and assessment within a reasonable timeframe to permit the archaeology to be meaningfully treated and publically useful information to be retrieved from the archaeological resource.

¹² Australia ICOMOS Inc. The Burra Charter. The Australia ICOMOS Charter for Places of Cultural Significance. 1999. p. 5, 9.

¹³ Australia ICOMOS Inc. The Burra Charter. The Australia ICOMOS Charter for Places of Cultural Significance. 1999. p. 8.

5.3.3 Recommendations for future heritage listing of archaeological sites

The Newcastle City Centre is a Heritage Conservation Area (HCA) listed in Schedule 5 of the Newcastle LEP 2012. The significance of the City Centre HCA should be expanded to include a reference to the archaeological resources of the City Centre, as this is also a component of heritage value which needs to be considered in design development, planning, development assessment and construction methodologies.

For any sites identified in the NAMP 1997 and the Review 2013 as being of potential local heritage significance, it is recommended that these be further assessed and where appropriate, listed in Schedule 5 as Archaeological sites. Where there are already coincident heritage items located at these locations, the heritage inventory and statement of heritage significance should be revised to include this information. In some cases, the cadastral boundaries and curtilage will need to be refined prior to being considered for listing. Consistent with targets in the Newcastle Heritage Strategy, it is recommended that as a target, twenty archaeological sites are statutorily listed in the Local Environmental Plan by 2017.

For any sites in the NAMP 1997 and the Review 2013 that are identified as potential state or national heritage significance, it is recommended that nominations are made to the NSW State Heritage Register as archaeological items. Sites with potential national archaeological significance including the Coal River Precinct, the Government Domain (parts of the James Fletcher Hospital) and the Convict Lumber Yard, should be nominated to the National Heritage List.

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