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Archaeological Conservation and Heritage Interpretation Plan



Crown Landmark Pty Ltd

45 Macquarie Street Parramatta

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Part A

Nature of the Archaeological Resource

1.0

Introduction

1.1 Background and Context

This Archaeological Conservation and Heritage Interpretation Plan has been prepared in the context of a Part 3A submission by Crown Landmark Pty Ltd for the development of a large mixed use retail/commercial and residential building on the vacant site at 45 Macquarie Street, Parramatta. The site is located at the eastern end of the city centre block and has frontages to Macquarie, Marsden and Hunter Streets.

The unique feature that distinguishes this project from all others in Parramatta in recent years is the quality of the archaeological resources present on the site, combined with the fact that these resources were known prior to the formulation of the current development proposal. Unlike the majority of other projects in Parramatta, this information has been embraced and utilised to fully incorporate and integrate those archaeological resources with the highest cultural heritage significance into the design and public presentation of the project. Unfortunately the majority of the many archaeological investigations undertaken in central Parramatta over recent years have been more in the spirit of "rescue archaeology" and have resulted in only relatively small interpretive displays located somewhere in the new building. The exception was the Parramatta Justice Precinct site of the Old Convict Hospital. Here the project was amended to permit the development of a central public courtyard based on the in-situ interpretation and display of recovered sections of the early hospital structures.

Two areas of archaeology at the northern, Macquarie Street frontage, will be protected in-situ, conserved and interpreted through public display, with the support of an adjacent Interpretation Centre. They will be incorporated into the design of the public open space/entry plaza of the development, sheltered below a distinctive canopy that provides an essential component of the conservation framework for the archaeology.

The interpretation and public presentation opportunities embraced by the approach to the archaeology at 45 Macquarie Street will be greatly enhanced within a few years with the anticipated inscription of the nearby Old Government House and Government Domain section of Parramatta Park on the World Heritage List. This listing is an important part of the proposed serial inscription of a number of convict related sites across Australia. This World Heritage Inscription will raise the international public profile of Parramatta in general and its early history in particular. The high quality and integrity of the surviving evidence of the convict hut behind the Macquarie Street frontage will provide a unique opportunity for the subject development and its interpretation centre to develop a complementary and synergistic cultural tourism role to the world heritage site, located some 500 metres to the west.

Research commenced in 2004 into the archaeological resources at the subject site. It was undertaken in the context of a previous development proposal by Estate Constructions of Australia Pty Ltd. Edward Higginbotham & Associates, Archaeological Consultants, were commissioned to prepare a Conservation Management Plan for the projected archaeological resources. This was followed by a Statement of Heritage Impact, 2004 and the granting of an Excavation Permit for the site in February 2005. There were three main provisions within the Excavation Permit:

1. Archaeological excavation prior to development will recover the significance of the sites and make that information available in report or publication form to the general public.
2. The interpretation and display of the results of the excavation within the proposed development will enable the public to appreciate the heritage significance, history and archaeology of the site.

3. The resources available for display will include artefacts, reconstructed elements of buildings, historical documents, historical and archaeological information.

Archaeological excavation took place between April and July 2005, concentrating on the northern and southern frontages of the overall site. A rich collection of archaeological resources was revealed, the most complex sections and those with the highest degree of intactness being located along the Macquarie Street frontage. The final Excavation Report, prepared in three volumes by Edward Higginbotham & Associates was completed in March 2007. The archaeology is currently managed under a temporary protection provided by two small sheds.

As a result of the condition, extent, quality and significance of the archaeological resources revealed by the excavations, Estate Constructions of Australia Pty. Ltd, the then owners, decided to change their development approach and incorporate the conserved relics within the development. A major setback from the Macquarie Street frontage replaced the original minimum setback, enabling the conservation in-situ of the significant archaeological remains in this area. This was a far superior outcome than the previously planned reconstruction of some relics and their display within the overall development, and was more closely aligned with the preference within the Australia ICOMOS Burra Charter for in-situ conservation over reconstruction.

Estate Constructions of Australia submitted a revised design and opened negotiations with the NSW Heritage Office, the Minister for Planning and Parramatta Council. The revised scheme (2006/IDA/037), incorporating the Macquarie Street setback, was approved by the NSW Heritage Office in August 2006 and by Parramatta Council in September 2006.

The approved development provided for the following conservation outcomes:

1. In-situ conservation and display of the remains of the 1840s house and underlying "convict hut", including the wheelwright's workshop on Allotment 16 (Macquarie Street frontage)
2. In-situ conservation and display of the remains of the cellar of the Wheatsheaf Hotel or later Shepherd Inn on Allotment 18 (at the corner of Macquarie and Marsden Streets)
3. An Interpretation centre
4. The interpretation and display of the remains of the "convict huts" located on the Hunter Street frontage, which could not be conserved in-situ in the proposed development.
5. The permanent storage of artefacts recovered from the archaeological excavation, together with a display of selected items.

During 2007 Becton Property Group purchased the property from Estate Constructions of Australia. Becton proposed variations to the approved DA and submitted a s96 application to Parramatta City Council. The proposed development provided for an identical set of conservation and interpretation outcomes as the previous scheme, albeit with the extent of the in-situ display somewhat reduced. The s96 application was eventually granted.

In July 2009 Becton Property group sold the subject property to Crown Landmark Pty Ltd. Planning for an amended project commenced shortly thereafter, led by Bates Smart Architects and a project team that included Edward Higginbotham & Associates, Archaeological Consultants, and Graham Brooks and Associates, Heritage Consultants. International Conservation Services were introduced in the latter months of 2009 to advise on detailed conservation and environmental management issues regarding the archaeological resources. Within the overall team, Graham Brooks and Associates were charged with the development of the Site Interpretation Plan. Each of the conservation consultants was able to contribute in a significant manner to the final design proposal.

It is intended that the heritage outcomes identified for the archaeological resources in the initial Estate Constructions of Australia proposal will be continued in the current proposal. The early involvement of the conservation consultants has ensured that the heritage outcomes have in fact been enhanced above those envisaged in the original schemes. The areas of archaeology open for display and public appreciation is larger, the relationship between the archaeology and the Interpretation Centre more direct and the proposed environmental management and monitoring regimes better resolved.

1.2 Summary Description of the Archaeology

The site that was researched and excavated in 2005 by Edward Higginbotham & Associates. Detailed reports of the findings of this excavation have been prepared. The site has been identified as containing four particularly important relics, all of which are located along the northern frontage of the site fronting Macquarie Street:

- Evidence of the footings of a convict hut
- Evidence of occupation by a wheelwright
- Evidence of the cellar of the Wheatsheaf Hotel (c1801), one of the earliest remnants of a hotel building yet revealed in Australia
- The footings of a larger colonial period cottage with a deep well.

These relics are located in two groups in the vicinity of the Macquarie Street frontage. Minimum conservation curtilages have been defined for the two groups.



The two archaeological conservation zones identified for the excavated archaeology at the Macquarie Street northern frontage of the overall site. The zone on the left (west) encapsulates the remains of the convict hut, wheelwrights workshop and cottage. The zone on the right (east) encapsulates the remnant cellar thought to be from the former Wheatsheaf Hotel (c1801).

1.3 Summary of the Heritage Significance of the Archaeology

The following extract from the Historical Section of the Analysis of Cultural Significance within the 2004 Conservation Management Plan prepared by Edward Higginbotham & Associates gives a flavour of the significant archaeological relics found at the site.

The subject site contains evidence relating to the foundation of Parramatta as a penal settlement or Gaol Town in 1790. Parramatta, or Rose Hill as it was originally known was one of four settlements in Australia by 1790, the others being Sydney, Toongabbie and Norfolk Island. The sites of several "convict huts" are located on both the Macquarie Street and Hunter Street frontages. They have the potential to contribute evidence to our understanding of how the town changed from a Gaol Town to a Market Town in the 1820s.

The land on the corner of Macquarie and Marsden Streets was leased to John Graham on 1 January 1806. It was used as a hotel, later known as the "Wheatsheaf", from at least 1801, if not earlier. This lease is one of only two pre 1823 leases that can be located on the south side of Macquarie Street. It provides a very important example of the trends of development from a gaol town to a market town, a process that had largely been completed by 1823.

Other areas of the subject site indicate how this part of the town of Parramatta developed throughout the 19th and 20th centuries. Most of the allotments were associated with residential development, although the corner of Macquarie and Marsden Streets was one of the early public houses in the town ("The Shepherd" from 1825 onwards).

Level of significance: State and Local. State significance is ascribed to evidence of the "Convict Huts" on both the Macquarie and Hunter Street frontages, as well as the site of the "Wheatsheaf" Hotel on the corner of Macquarie and Marsden Streets. The remaining sites are assessed as possessing local significance.

The significance of the convict hut on the Macquarie Street frontage (Allotment 16) is based on the survival of sufficient masonry elements to overcome the typical problem of most of the other convict huts discovered elsewhere in Parramatta and on the southern frontage of the subject site. The typical archaeological remains associated with convict huts are largely soil cut features, with masonry elements largely absent. The conservation of such features is highly problematic in any development or museum context, as are the display options.

1.4 Statutory Requirements and Heritage Management Context

1.4.1 Director General's Requirements

The context for this Archaeological Conservation and Interpretation Plan is provided by Item 4 European Heritage of the Director General's Requirements (MP 09 0167) issued as part of the Part 3A process for the project.

European Heritage

The Environmental Assessment shall provide a Heritage Impact Statement prepared by a qualified Heritage Consultant in accordance with relevant guidelines listed below. The assessment is to provide the following in relation to the heritage and archaeological impacts and/or benefits associated with the project and should provide specific detail regarding:

- a) *Intended opportunities for the display, preservation and interpretation of the relics.*
- b) *An assessment of the physical and materials conservation requirements for the extant structural remains and archaeological fabric of the site, including recommended actions to mitigate impacts. The report should provide an indicative schedule of materials conservation needs of the archaeological remains.*

- c) *Construction management and services reticulation (including waste and stormwater disposal) strategies to minimise impact on the site's archaeological remains.*

The initial requirement indicates that equal or at least balanced consideration should be given to both the "preservation" of the relics and their "display and interpretation" to the public. In this case the terms "preservation" and "interpretation" relate to their specific definitions within the *Burra Charter*.

The *Burra Charter* defines "Preservation" as maintaining the *fabric* of a *place* in its existing state and retarding deterioration. In this context, "Conservation" means all the processes of looking after a *place* so as to retain its cultural significance

Article 25 of the *Burra Charter* outlines the importance of "Interpretation". *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.*

- Section 6 sets out the requirements for the preservation, stabilisation and conservation management of the archaeological relics.
- Section 11 sets out the proposed display of the archaeological relics within the context of the proposed development.
- Section 12 sets out the proposed archaeological conservation and preservation works, including the proposed management and mitigation works
- Sections 13 and 14 set out the proposed interpretation themes and techniques for the archaeological relics.

The response to item c) in the DGRs is contained as the appendix to this Report, *Recommendations for Protection of Archaeological remains During Construction*, prepared by International Conservation Services.

1.4.2 Archaeological Provisions of the NSW Heritage Act

During the 2005 excavation, sufficient investigation was completed to recover the significance of the site as a whole. This process differs from complete excavation of archaeological deposits, which would take two to three times longer than that required to reveal significance.

The excavations that were completed did enable the NSW Heritage Branch to release most of the site for redevelopment, with the exception of the sites on the Macquarie Street frontage. Nevertheless there is evidence of the survival of significant archaeological remains along the Macquarie Street frontage outside the area of the two identified conservation zones. These remains still come under the protection of the NSW Heritage Act and were assessed prior to the archaeological investigation as possessing state significance. The disturbance of these surviving archaeological remains will require archaeological investigation, if disturbed during the current redevelopment process.

1.4.3 Archaeological Management in Parramatta

The site is protected by the Parramatta City Centre LEP 2007 as Archaeological Management Unit No 3190.

Under Clause 35 (6) of Parramatta LEP 2007 Archaeological sites

The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site, be satisfied that any necessary excavation permit required by the [Heritage Act 1977](#) has been granted.

1.4.4 Parramatta City Centre LEP Heritage Listed Sites in the Vicinity

With the exception of the archaeological provisions of the LEP, the subject site is effectively vacant and is not listed as a heritage item.

There are several heritage items in the vicinity of the site that need to be taken into consideration when considering the likely impact of the proposed new building.

- 195 Church Street – St John's Pro-Cathedral + Verger's cottage + Parish Hall
- 197 Church Street - Shop & potential archaeological site
- 41 Hunter Street, Two-storey residence

The only listed heritage item in the immediate vicinity is the Edwardian house on the SE corner of Marsden and Hunter Streets. St Johns Cathedral is located at some distance to the east and is visible along the axial length of Hunter Street.

197 Church Street is sufficiently removed from the subject site and screened from it that there will be no adverse impact on its significance.



The nearest heritage listed property to the subject site is located at 41 Hunter Street, on the south east corner of Marsden and Hunter Streets, diagonally opposite the subject site.



The most important heritage item in the vicinity of the subject site is St John's Church. The church is located at some distance to the east and is visible on the axis of Hunter Street, which forms the southern boundary of the subject site

This axial view is a recognised Historic View that must be conserved in accordance with Section 7 of Parramatta City Centre DCP 2007

1.5 Conservation of Archaeological Resources

One of the challenges for the Conservation Strategy contained in this document is the level of moisture contained in the soil of this section of Parramatta. The improved environmental context envisaged in the new development will greatly assist in the long term conservation and monitoring of the archaeology



Moisture content of the soils is a critical aspect of the conservation of remnant convict hut timberwork



Vegetation growth must be kept clear of the archaeology



Much of the surviving structural material, such as early brickwork, is very soft and will not withstand being open to the weather.

1.6 Display of Archaeological Resources

There are many display techniques adopted for archaeological remains. They include a simple demonstration of the excavations, a more dramatic presentation of the emerging treasures and a simple visual composition to highlight the drama of the artefacts.



Structural components are often quite self explanatory, although presentation of the current state of the archaeology will require intervention to improve the interpretation messages

(Subject Site)



Special archaeological display, such as this partial excavation, can be very evocative for the public, illustrating how the objects have emerged from their centuries long burial.

(Entombed Warriors, Xian, China)



Graphic display of objects is an alternative to a more scientific option, and allows the objects to be appreciated as part of the visual character of the venue.

Hotel in historic waterfront locality

Quebec, Canada

1.7 Methodology: The status quo v the proposed development

This Archaeological Conservation and Interpretation Plan has been prepared in the context of a proposed residential and commercial development on the site bounded by Macquarie, Marsden and Hunter Streets, Parramatta.

At present the most significant archaeological resources revealed during the 2005 excavation, being the majority of those along the Macquarie Street frontage, are protected from the weather by two small temporary sheds. The protection afforded by this temporary shed does not extend to the management of overland water flows or the impact of subsurface water on the archaeology.



The archaeological relics located along the Macquarie Street frontage are shielded by two, temporary corrugated iron sheds, erected after the 2005 excavations.

Sections of translucent roofing allow light to penetrate to the interiors of the sheds but no other form of environmental management or protection is currently provided.



2008 flooding of the site caused some damage to the archaeology, especially the collapse of the sides of excavation trenches and the partial undermining of the foundation material below remnant brick walls



Flooding of the cellar of the former hotel at the north east corner of the site.

Fortunately the remnant floor boards discovered during the 2005 excavations had been removed for conservation and safe storage

In 2008 the site was flooded and some damage inflicted on the archaeological excavations and exposed trench walls, including partial collapse of the sides of archaeological trenches. Some stabilisation work was undertaken by Edward Higginbotham and Associates at that time.

The long term effects of rising damp, combined with fluctuating levels of humidity and light within the temporary shelters has also led to extensive plant and other biological growth on the exposed brickwork, and some deterioration of the brickwork and jointing through the wetting and drying action arising from the fluctuating moisture in the localised environment.

The methodology adopted by the Plan has focussed on the development of appropriate conservation and interpretation actions for the archaeology in the context of the proposed development, as required by the relevant section of the Director General's Requirements (DGRs). The alternative or baseline scenario against which the proposed methodology is assessed in this report is the current situation, with its low level of conservation and total lack of interpretation.

The consultant team responsible for this section of the project has concentrated on assessing conservation options that are realistic and achievable in the current circumstances. During the preparation of the overall project, in close liaison with the consultant team, options for conservation and display in either a totally enclosed environment or with direct sun and weather protection as part of an open plaza environment, were examined in accordance with the requirements of the DGRs.

Conservation within an enclosed environment would permit greater control over light penetration and airborne humidity for the archaeological relics and may therefore contribute to a more secure preservation outcome. However, the fact that the relics are to be preserved in-situ means that they will continue to remain exposed to ground-borne moisture in both scenarios. As remnant components of former buildings, all of the in-situ relics have long been exposed to environmental degradation in the normal manner for building materials and components such as drains, footings and pavements. Natural deterioration is a normal part of the life cycle of buildings and building materials. The key objective of long term in-situ archaeological management is to slow the forces of deterioration by appropriate environmental management within their new context.

The research undertaken by Edward Higginbotham & Associates has confirmed that the relics uncovered at the northern frontage of the overall site, particularly in former Allotment 16, are of great importance and interpretive potential in the context of the early heritage of Parramatta and the nearby Governors Domain in Parramatta Park, which is likely to be inscribed on the World Heritage List. This importance is such that the highest forms of responsible public interpretation should be contemplated as part of the archaeological preservation component of the current development programme.

Accordingly, a long term conservation and interpretation plan has been developed that achieves an optimum balance between the objectives of Conservation and those of Interpretation.

1.8 Authorship and Acknowledgements

This Archaeological Conservation and Interpretation Plan was prepared by a consultant team led by Graham Brooks, Director of Graham Brooks and Associates, Heritage Consultants.

Significant components of the text, particularly the historical and archaeological research and analysis of significance, were provided by Dr. Edward Higginbotham, Director of Edward Higginbotham and Associates, Archaeological Consultants. In addition to the material provided by Dr. Edward Higginbotham, the bulk of the text on the analysis of the conservation issues and recommendations for the physical protection and conservation of the archaeology, including long term monitoring, were prepared by Liz Holt and David West, of International

Conservation Services. The contributed sections of text were edited and coordinated by Graham Brooks in order to develop a comprehensive report.

The consultant team would like to thank Mr Russel Strahle, General Manager Development, Crown Landmark Pty Ltd, Ms Kim Crestani, Senior Design Architect, Joshua International Architects, Philip Vivian, Director, and the project staff at Bates Smart Architects.

Valuable contributions to the proposed conservation and interpretation of the archaeology were made by the members of the Design Panel, appointed under the Part 3a provisions.

1.9 Site Identification



Location Plan of subject site, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta.

Source: Sydney REP 28 – Parramatta.

2.0

Historical Summary – European Occupation

2.1 Initial Settlement in Parramatta, 1788

The First Fleet arrived at Botany Bay on 20 January 1788. The Fleet left for Port Jackson on 24 January 1788 and disembarked at Sydney Cove on the 25 and 26 January 1788.¹

A farming settlement at Rose Hill (now Parramatta) was founded in November 1788. The crops of wheat at both Farm Cove and Norfolk Island had failed and it was essential for Governor Arthur Phillip to prepare new ground for sowing crops and also send for fresh grain by ship. The new settlement provided the first successful harvest in December 1789.²

The town of Rose Hill was commenced in July 1790 and the settlement renamed Parramatta in June 1791. Captain Watkin Tench provides a detailed description of the fledgling town:

The main street of the new town is already begun. It is to be a mile long, and of such breadth as will make Pall-Mall and Portland-Place 'hide their diminished heads'. It contains at present 32 houses completed, of 24 feet by 12 each, on a ground floor only, built of wattles plastered with clay, and thatched. Each house is divided into two rooms, in one of which is a fireplace and a brick chimney. These houses are designed for men only; and ten is the number of inhabitants allotted to each; but some of them now contain 12 or 14, for want of better accommodation. More are building; in a cross street stand nine houses for unmarried women: and exclusive of all these are several small huts where convict families of good character are allowed to reside. Of public buildings, beside the old wooden barrack and store, there is a house of lath and plaister, 44 feet long by 16 wide, for the governor, on a ground floor only, with excellent out-houses and appurtenances attached to it. A new brick store-house, covered with tiles, 100 feet long by 24 wide, is nearly completed, and a house for the store-keeper. The first stone of a barrack, 100 feet long by 24 wide, to which are intended to be added wings for the officers, was laid to-day. The situation of the barrack is judicious, being close to the store-house, and within a hundred and fifty yards of the wharf, where all boats from Sydney unload. To what I have already enumerated, must be added an excellent barn, a granary, an inclosed yard to rear stock in, a commodious blacksmith's shop, and a most wretched hospital, totally destitute of every conveniency.

The comparisons with the fashionable addresses in London hint at Governor Phillip's intention to stamp his grand design on the penal colony.³ Even though his duty was to house the convicts, Parramatta was not just going to be a penal establishment. He was determined also to have a planned town.

The layout and extent of development in Parramatta by 1792 is shown on an important map, prepared at the time of the departure of Governor Phillip.⁴

¹ Watkin Tench, *Sydney's First Four Years*, first published in two volumes, 1789 and 1793. Library of Australian History, Sydney. 1979: 32-39.

² Edward Higginbotham and Paul-Alan Johnson. *The Future of Parramatta's Past. An Archaeological Zoning Plan. 1788 to 1844*. University of New South Wales, and the Department of Planning. 1989. Volume 1. Pages 4-5.

³ Tench, W. *Sydney's First Four Years*. Sydney, 1799. p. 57.

⁴ Edward Higginbotham and Paul-Alan Johnson. *The Future of Parramatta's Past. An Archaeological Zoning Plan. 1788 to 1844*. University of New South Wales, and the Department of Planning. 1989. Volume 1. Pages 6-7.
Collins, D. *An Account of the English Colony in New South Wales*. Vol. 1. Sydney, 1975. p. 103.

The convicts were housed in huts, variously known as 'convict huts' or 'government huts' (the term 'convict hut' will be used henceforward in this report). They were typically two roomed structures with a central doorway and pair of flanking windows on either side. The partition wall was placed one side of the door, forming a larger room with a fireplace and a smaller room or bedroom. The conditions were crowded, with between 10 and 14 convicts per hut in the first years. Verandahs and skillions were added to most huts.⁵

There is an important series of references to these 'convict huts'.⁶ We now know from archaeological investigation that these buildings formed the majority of accommodation in the early town and were only completely replaced by the 1840s or 1850s. The 1844 map of Parramatta shows a large number of timber buildings, some of which must have started life as 'convict huts'. None of the timber buildings on the 1844 map survives today.

Between 1796 and 1823, the town changed from being a gaol to a market town. Leases of town allotments were made from 1796 onwards. On the 30 June 1823, arrangements were made to lease the majority of the town allotments to free persons (Figure 8). The remaining convicts were housed in the Convict Barracks (1820) on Macquarie Street or the Female Factory (1821) in North Parramatta.⁷

Because of this change from a penal settlement to a market town, it is difficult to ascertain the extent of 'convict hut' construction versus construction by free enterprise. Is it possible to identify all the early post built two roomed huts found on archaeological excavations as 'convict huts'? Research on this topic continues.

The 1804 map of Parramatta would seem to provide a more accurate guide to the total extent of 'convict huts' in Parramatta, but the map has been found to be inaccurate in some respects (Figures 6 and 7). Nonetheless it is this map that first identifies the buildings located on the archaeological site (Macquarie and Hunter Street frontages). A more accurate location plan for the buildings on the archaeological site is provided by the 1823 map.⁸

⁵ Edward Higginbotham and Paul-Alan Johnson. *The Future of Parramatta's Past. An Archaeological Zoning Plan. 1788 to 1844*. University of New South Wales, and the Department of Planning. 1989. Volume 1. Pages 6-7.

⁶ Edward Higginbotham and Paul-Alan Johnson. *The Future of Parramatta's Past. An Archaeological Zoning Plan. 1788 to 1844*. University of New South Wales, and the Department of Planning. 1989. Volume 1. Pages 17-20.

⁷ Edward Higginbotham and Paul-Alan Johnson. *The Future of Parramatta's Past. An Archaeological Zoning Plan. 1788 to 1844*. University of New South Wales, and the Department of Planning. 1989. Volume 1. Pages 8-14.

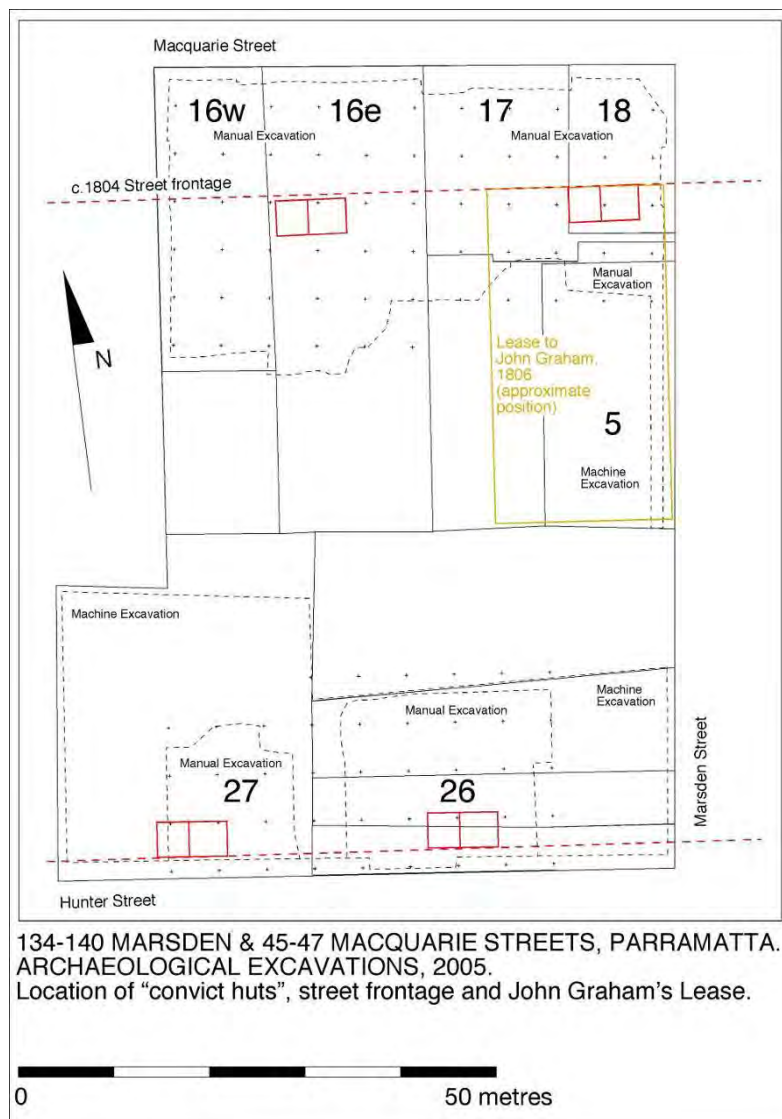
⁸ Originally thought to be dated to c.1813, research of the leases in Parramatta indicated that the date of the map was August 1804, the date of the latest lease shown on the plan. This research was undertaken by Dr. Edward Higginbotham as part of the archaeological Zoning Plan for Parramatta.

Edward Higginbotham and Paul-Alan Johnson. *The Future of Parramatta's Past. An Archaeological Zoning Plan. 1788 to 1844*. University of New South Wales, and the Department of Planning. 1989. Volume 1.

Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 2. Pages 12-13.

2.2 Early development on the Subject Site

There were four post built 'convict huts', one each on Allotment 16, 17-18, 26, 27-28. In the absence of any historical or archaeological evidence to reveal the nature of primary occupation, it is assumed that the buildings were originally occupied by convicts and later by free persons. Each of the town allotments on the archaeological site has been researched in detail. The life paths of the early 19th century occupants of the town allotments are summarised below.⁹



134-140 Marsden Street and 45-47 Macquarie Streets, Parramatta. Archaeological excavations, 2005, showing Allotment numbers and the location of 'convict huts'.
Edward Higginbotham & Associates

⁹ The following text for Allotments 16, 17 and 18 is an edited version of the Open Day Leaflet, prepared for the Open Day for the archaeological excavations on 4 June 2005. More detailed accounts can be found in the final excavation report.
Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 1. Pages 16-23, 36-102.

2.2.1 Allotment 16.

John Walker was a “currency lad”, born in the colony in 1799. He leased this town allotment on 30 June 1823. He was a skilled wheelwright and with this trade he had a secure income. He married Eliza Humm at St. John’s, Parramatta in 1821 and the couple had several children. As well as a wheelwright, John also was a farmer and involved in business in Parramatta.

He could afford to build himself a fine house on Macquarie Street. He converted the lease of his allotment to a grant in 1841, thus securing the improvements he had made to the land. It is likely that he had built the brick house by this time.

John Walker died in 1846, leaving the house to his children. The property was sold in 1864.

One later owner was Samuel Sweeney, who ran a coach works on Macquarie Street, east of Church Street. He lived here between 1884 and 1887. The brick house survived until at least the 1950s.

The allotment was subdivided in 1878 and the western part sold for £260, the high price indicating that it already had a house on it.

2.2.2 Allotments 17 & 18.

The story of the hotel on the corner of Macquarie & Marsden Streets tells an extraordinary tale of the reversal of fortune.

John Graham was transported to NSW in 1797 with a 7 year sentence. He was one of those few fortunate convicts, who had a wife prepared to stand by her husband through good and bad. She came out with her convicted husband and their children on the same ship. When in NSW, John was assigned as a government servant to his wife and it was Elizabeth Graham who may have operated the hotel on this site from 1801 or soon thereafter.

John Graham soon became wealthy. He took out a lease on the hotel in 1806, at this time named “The Wheatsheaf”. With the failure of their marriage, the hotel was sold in 1808. John Graham died in 1809.

By 1823, William Sully occupied Allotment 17. He had been transported to NSW in 1790 as a convict. He was again convicted of crimes in the colony, yet by 1814 was a constable – obviously the proverb “set a thief to catch a thief” was followed by the authorities in Parramatta.

Sully sold his building on Allotment 17 to Thomas Reynolds in 1823. Reynolds already possessed the building on Allotment 18.

Thomas Reynolds was transported to NSW in 1816 with a life sentence. He was soon pardoned, married in 1820 and had 2 children by 1824. From 1825 until 1846 he held the licence to “The Shepherd” or “Shepherd and Flock Inn”. He died in 1849, but the hotel continued to at least 1870.

While the hotel buildings do not appear to be well preserved, the cellar has survived on Allotment 17. Was this the cellar to “The Wheatsheaf” (1801-1809) or did it belong to the later “Shepherd and Flock Inn” (1825-1846)? This question has not been fully resolved by archaeological excavation – see Section 4.2.6.

2.2.3 Allotment 26.

John Hindle occupied the hut on Allotment 26 in April 1823. He was among the first to be born in New South Wales, his birth being registered in July 1789. By the 1810s he was farming at Seven Hills, but probably continued to live in Parramatta. He married Esther Becket at St. John's, Parramatta in 1812. By 1822 he was a 'licensed victualler' on this allotment. He died, owing various debts, on 17 April 1823.

William Tuckwell was another native born. He took up the lease of this allotment and the neighbouring Allotment 5 on 30 June 1823. In 1822 he had been appointed as Storekeeper of the Female Factory, then also Secretary in 1825. He resigned the post of Clerk in 1826, but continued as Storekeeper at least to 1828. With a government loan of £100 he bought town allotments and a farm. His affairs did not prosper. He lost his position at the Female Factory and was forced to sell his property due to bad debts. He later acquired land in North Parramatta.

2.2.4 Allotment 27.

The hut on this allotment was also occupied by John Walker from at least April 1823 onwards (see Allotment 16). John Walker died on 1 July 1846. The property remained in the hands of his trustees for many years. The property was finally sold in 1883.

2.2.5 Allotment 28.

John Young occupied this allotment from at least April 1823. He had been convicted and transported to New South Wales with a life sentence in 1798. He was free and working as a tailor in Parramatta by 1806. He applied for financial assistance to return to England in 1818, to be reinstated with his wife and children. In 1821 he successfully applied for a grant of land. He continued to work as a tailor in Parramatta, acquiring more land and stock, but appears never to have been reunited with his wife and children. He sold this allotment in 1825 for £26 and moved to Phillip Street.

2.3 Later Owners and Occupiers.

Detailed historical research has been undertaken for all the town allotments.¹⁰

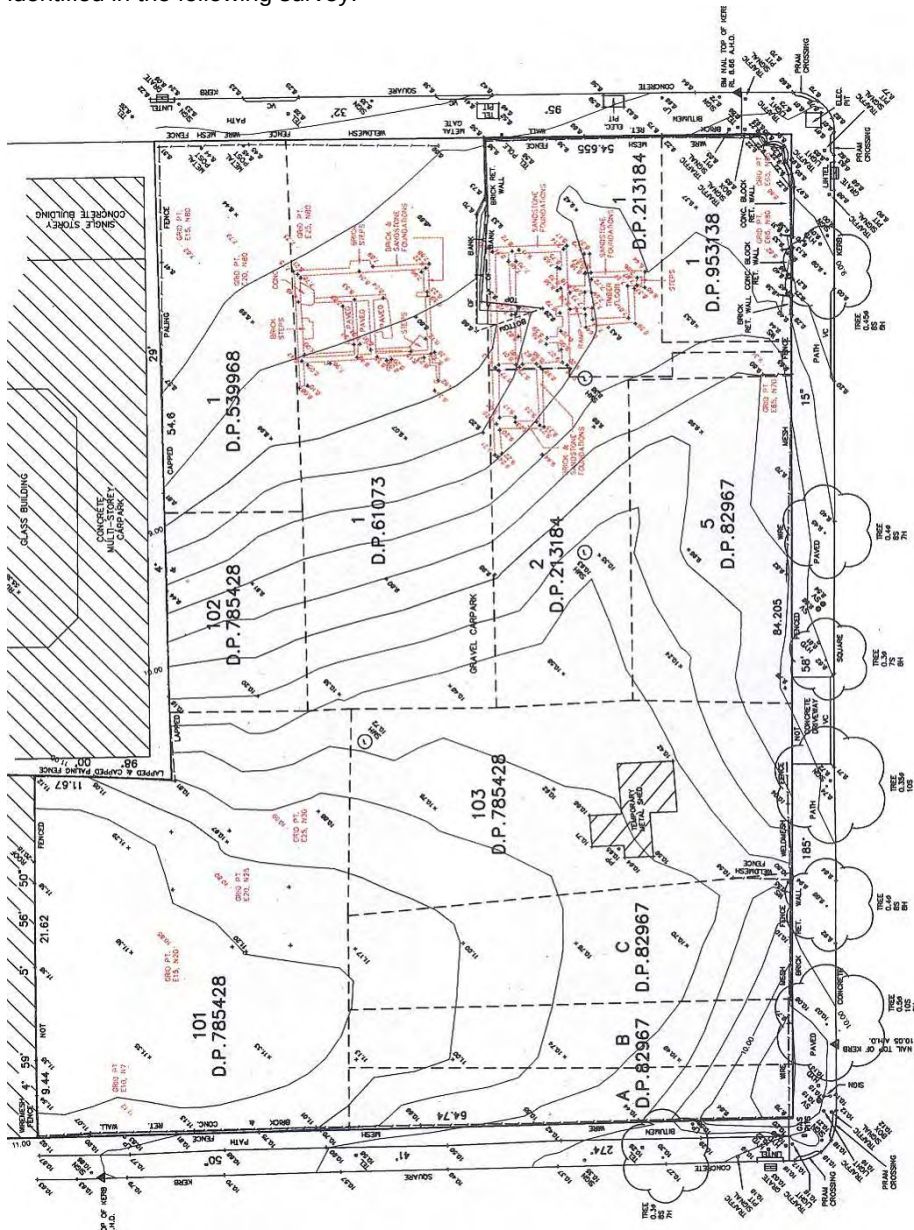
However, apart from Allotments 16 and 17, the archaeological remains of later buildings on the subject site have been removed by demolition or later redevelopment. The detailed research on later occupants is therefore excluded from this summary.

¹⁰ Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 1. Pages 16-23, 36-102.

3.0 Nature of the Archaeological Resource

3.1 Overview

Archaeological excavations undertaken in 2005 by Edward Higginbotham and subsequent liaison with the NSW Heritage Branch, has confirmed that the most important archaeological relics on the subject site are located towards the Macquarie Street frontage. They are identified in the following survey.



Survey plan of the entire site showing the significant archaeology at the northern frontage to Macquarie Street



Elevated photo looking east over the revealed archaeology during the 2005 excavations. The 'convict hut' lies within the brick footings of the 1830s house, while the hotel cellar is in the background



Remnants of the 1830s cottage and its later extensions.



The timber floor of the hotel cellar, before the removal of the timber floor boards for conservation and the protective backfilling



Layers of history revealed in the excavation included later alterations to the early 19th century buildings and reinforced concrete footings from a failed 1970s office development on the site.

3.2 Nature of the In-situ Physical Remains

The archaeological remains at 45 Macquarie Street are generally comprises of the following:

3.2.1 Sandstone Remains



Sandstone elements in the 1830s cottage are used mostly in conjunction with brick wall construction.

Along the northern-most boundary wall, sandstone slabs are used as a capping stone for the brick wall

An adjacent wall consists of two courses of sandstone slabs, supporting brickwork facing on the interior.



Sandstone has also been used as foundation walls within the below-grade cellar.

Sandstone slabs were also used as supports for the timber floor. They are at present under backfill of the trench.

3.2.2 Brick Remains



Brick remains can be found throughout the 1830s cottage site.

They comprise most of the vertical free-standing features including walls and wall facings

A brick floor is an important element of the 'convict hut' and its later use as a wheelwright's workshop – see below.



In the cellar archaeological site, brick remains are found in the stairs leading into the sub-ground cellar.

Bricks construct the steps and face the walls in that space

Bricks were also used in the drain for the cellar, not at present visible, but surviving under backfill.

3.2.3 Brick Paving



Brick paving is found only within the boundary of the original convict hut.



3.2.4 Features Below Grade

There are two archaeological features below grade within the excavated area.



The well for the 1830s cottage has been temporarily boarded over as a safety measure.

It is lined with brick and has only been partially excavated.



The cellar is also a below grade feature. Is it lined with sandstone with two access points; stairs in the northeast corner, and a ramped access point halfway along the western side.

3.2.5 Exposed Soil and Areas of Fill



Fill areas are predominantly around the outer edges of the main boundary walls of the convict hut site.



The fill matter is mostly sand, with some areas layered with a geotextile.

Unexcavated layers are also present and comprise loam and clay.

3.2.6 Unexcavated Features and Remains

At the lowest stratigraphic levels within the 'convict hut', the timber of some of the posts survived in the waterlogged conditions. Some of these posts were recovered in the 2005 excavations and have been conserved. Others are expected to survive under the brick floor of the 'convict hut', but could not be excavated. Other timbers also survived at the lower levels of the excavation of the 'convict hut'. They were recorded, but could not be conserved.

The archaeological site was not totally excavated in 2005 and other remains survive along the Macquarie Street frontage (Figure in Section 1.2).

3.2.7 The Current Environmental Context of the Archaeology

The archaeological remains are currently housed within two secure metal sheds with timber bracing; each shed has been fitted with a metal roof with a clear Perspex insert to allow transmission of light to the interior spaces.

During the most recent site visit it was noted that the temperature within the sheds increased markedly in the late morning, with direct sunlight shining through the Perspex sheeting and heating up the space. Humidity within the space also seemed to increase as the temperature increased.

There have also been reports of recent flooding of the remains (2008) during periods of heavy rain. Overland flow may contribute to the flooding, as the archaeological remains are on the lowest part of the site.

The ground water table in this area of Parramatta is reportedly high and can in times of heavy rain come close to the surface.



2008 flooding of the site caused some damage to the archaeology, especially the collapse of the sides of excavation trenches and the partial undermining of the foundation material below remnant brick walls



Some of the later 19th century archaeological remains that are considered to be of less significance than those of the very early structures

Nevertheless, these remains are important in illustrating the full historical development of the site

The temporary sheds can be seen in the background

3.3 Summary of Excavation Results.

The following text is a summary of the results of the 2005 excavations by Edward Higginbotham & Associates. This summary establishes in detail the nature of the archaeological resource.

3.3.1 Focus of excavations on State Significant sites.

The 2005 archaeological excavation investigated the well-preserved sites with the greatest level of significance (State). This included the four 'convict huts' on Allotments 16, 18, 26 and on the boundary of Allotments 27 and 28. Remains on Allotments 5 and 28 were found to be poorly preserved and not further investigated after opening up by machine.¹¹

3.3.2 Unexpectedly High Degree of Preservation.

The remains on Allotment 16, originally thought to be poorly-preserved because of the pile driving in the early 1990s, were found to be well-preserved outside the confined location of the piles. In fact this site proved to be one of the best-preserved 'convict huts' so far investigated in Parramatta, featuring deep stratigraphy as well as preservation of organics, including the posts of the 'convict hut'.

Two of the 'convict huts' were poorly preserved, namely the ones on Allotments 18 and 26. On Allotment 27, the "convict hut" and related structures survived in good condition, except where the footings straddled the boundary onto Allotment 28. No remains of these buildings survived on Allotment 28, making it difficult to understand the precise pattern and associations of the many pits and post-holes that were located on Allotment 27.¹²

3.3.3 Construction, alterations and additions to "convict huts".

The extent to which 'convict huts' survived until the middle years of the nineteenth century has not been revealed on previous excavations, except for the Blood Bank site on George Street.¹³

The current investigation has shown, in at least three out of four instances, that the "convict huts" survived well into the nineteenth century. The building on Allotment 16 survived into the late 1830s, while the hut on Allotment 26 survived until the 1830s or 1840s and the building complex on Allotment 27 survived until the 1840s or 1850s. The situation on Allotment 18 remains unclear, due to the poor preservation of the 'convict hut'.

The longevity of the "convict hut" structures seems surprising. It partly explains why so many of the buildings on the 1844 map of Parramatta were constructed in timber and why none survive today.

¹¹ Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 2. Page 1.

¹² Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 2. Page 13.

¹³ Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavation of the site of the New Blood Bank, Parramatta Hospital, George Street, Parramatta, N.S.W. N.S.W. Public Works, Health Development. 1994. The excavation reports for "convict huts" at 101 George Street and 180 George Street are not yet available, but may provide examples of survival into the mid 19th century.

It appears that each of the four 'convict huts' was constructed in accordance with the standard pattern of posts, forming a rectangle 12 feet wide by 24 feet long (3.65 by 7.31 metres). This is clear from Allotment 16, but there is no evidence to the contrary for the other examples on Allotments 18, 26 and 27.

For a post-built structure to survive for any length of time, it would have required renovation once the timber posts had rotted out below ground. Not only is the conversion to timber framed structure apparent from previous excavations, but the process is also apparent from the examples on Allotment 16 and possibly also on Allotment 27, where wall slots combine with evidence of posts.

There is evidence for wide verandahs or similar structures in the examples from Allotment 16 and 18, though there is potential for narrower verandahs on Hunter Street, particularly Allotment 27.

In at least two instances the original 'convict huts' grew in most directions, with rooms added to the sides and at the rear. The hut on Allotment 16 had a verandah at the front, skillion attached at the rear and extensions on both the east and west sides, in one or more stages. Other renovations included a large stone fireplace, a brick floor, a workshop area and finally an addition with sandstone footings. Indeed this final addition seems to have survived as part of the second stage development on this site, namely a masonry house built in the late 1830s.

On Allotment 27, three or four structures were recognised, representing rooms added to the original 'convict hut' up to the 1840s.

For the other examples, the nature of additions and alterations is less clear. The hut on Allotment 26 survived in poor condition, so that not even the precise location of the original walls was clearly evident. Nonetheless, behind the hut, a cellar was cut into the clay subsoil, with little to no surviving evidence of walling materials. A brick lined well was also located adjacent to the cellar. The cellar and the well suggest that this "convict hut" had a specialised use. This fits in well with the historical evidence for its use as a public house, operated in the 1820s by John Hindle. Born in the colony in 1789, he died in early 1823 and the public house closed.

On Allotment 18, the site of the 'convict hut' is so poorly preserved that no archaeological evidence survived of additions and alterations, except for a stone walled cellar.¹⁴

3.3.4 The correlation of historical and archaeological evidence

The correlation of the historical and archaeological evidence for the occupants of the "convict huts" on some of the allotments is surprising. The use of the hut on Allotment 26 as a public house in the 1820s has already been mentioned above and explains the need for the cellar and well. The subsequent lessee of the allotment was William Tuckwell, who was storekeeper at the Female Factory from 1822 to 1828. Tuckwell's business affairs fell into disarray in the late 1820s and he was forced to sell assets including his house in 1829. This hiatus probably explains why the 'convict hut' fell into disrepair and was demolished between 1836 and 1844.

The above example reveals how the archaeological evidence may be closely related to the circumstances of those who occupied the buildings. The close relationship between the archaeology and history works in both ways: not only can the circumstance of the occupants explain what happened to the buildings, but the assemblages can reveal the social and economic standing of the occupants. (The evidence revealed by each assemblage is discussed below).

¹⁴ Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 2. Pages 14-15.

Apart from evidence that some 'convict huts' in Parramatta were still occupied by convicts as late as 1807, there is no direct evidence to indicate that any of the 'convict huts' on this site were ever built or occupied by convicts, rather than free people. It is the absence of historical documentation for free occupation that implies convict occupation.¹⁵ Thus, while we know that the hut on Allotment 26 was built by 1804, we have no evidence of those occupying the building until the 1820s. This is the same for the other 'convict huts', except for the one on Allotment 18.

On Allotments 16 and 27-28, the earliest evidence for occupants is dated to April 1823.

On Allotment 18 we know the name of the original free occupant in 1801. It is unlikely that the 'convict hut' on this site was built any earlier, so we have relatively good evidence for a 'convict hut' being built for and occupied by a free person from the outset. This is the first archaeological and historical evidence that a two roomed post-built hut, typical of 'convict hut' construction, may not in fact have been used or built by convicts.

One of the most dramatic instances of the identification of the occupants of a 'convict hut' is provided by Allotment 16. John Walker, wheelwright, took up the lease of Allotment 16 on 30 June 1823. The impact he made on the site can be recognised from the drops of molten iron, cemented to the sandstone paving in the workshop, attached to the 'convict hut', and even more obviously in the layer of charcoal that covered the whole of the frontage of the allotment, as well as the brick floor of the 'convict hut'.

This allotment is also characterised by a whole series of measures to divert stormwater around and away from the buildings, including layers of fill and drainage ditches. Sometimes these measures were unsuccessful or were not maintained, leading to some obvious evidence of structural failure, particularly in the brick walls of the later building.¹⁶

3.3.5 Residential development.

The long survival of the "convict huts" has been one of the most important findings of the excavation. The investigation of later residential development was however limited by the surviving condition of the archaeological site as a whole.

Allotments 17, 18, 5 and 26 were poorly preserved. On Allotments 26, 27 and 28, recent demolition had removed even the footings of later nineteenth century buildings and structures. Apart from concrete footings, the surviving evidence of the later residential development on the site was restricted to Allotment 16.

Nonetheless on Allotment 26, the excavations identified a building, which had replaced the "convict hut", probably in the 1860s. This building is not shown on any known plan or map of Parramatta. There is certainly a gap in maps and plans for the period from 1858 to c.1890s, but it is still extremely unusual to find a building in Parramatta, dated to the period 1850-1900, which is not also shown on a historical map.¹⁷

¹⁵ For the latest mention of 'convict huts' in 1807, see HRA. Ser. 1, Vol. 6:179-181.

¹⁶ Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 2. Pages 15-17.

¹⁷ Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 2. Page 18.

3.4 Allotment 16 – Summary of Archaeological Evidence.

3.4.1 The “convict hut” and its later usage, c.1800 to 1830s.

The original “convict hut”, probably built by c.1800, and its conversion from a post-built structure to a timber-framed structure is described in Phase 001. The original building possessed two rooms, a smaller western room (Room 1) and a larger main room with a fireplace in the end wall (Room 2).

Apart from the structural change from post-built to timber-framing, there were several other additions and alterations between the 1800s and 1820s.

The earliest changes included the deposition of a number of fill layers in and around the hut (Phase 002). At around the same time a drainage ditch was dug on the uphill side of the hut (Phase 004). Both these measures were undertaken to avoid stormwater run-off, either by diverting the flow around the hut or by raising up the floor levels. These measures were also contemporary with the conversion of the hut to a timber-framed structure (Phase 001).

The next major addition appears to have been a brick floor (Phase 006) in Room 2 of the “convict hut”. This appears to have been contemporary with the addition of a fireplace in the south wall of Room 2 (Phase 003) probably replacing the original fireplace in the east wall. The eastern extension (Phase 005) may have been a free-standing square room, but may also have been attached to the east wall of the original hut, when the original fireplace was replaced by the south fireplace (Phase 003).

At least part of the fireplace in the south wall appears to have been demolished, as it was overlain by timber planks (Phase 007) believed to belong to an extension on the south side of the “convict hut”.

By the 1820s and 1830s a number of other additions and alterations had taken place. A workshop, comprising a series of rooms (Phases 009, 010 and 011), was constructed on the west side of the “convict hut”. The original south extension was demolished and another series of red sandy fill layers were laid down around the buildings (Phase 014) probably again to ensure freedom from stormwater. One well and perhaps another unfinished well were constructed in the back yard (Phase 013). Finally, a small building with stone footings (Phase 012) was constructed behind the east end of the “convict hut” and east extension. The stone building appears to be related to evidence of a second addition (Phase 008) on the south side of the “convict hut”.

The use of the building as the wheelwright’s workshop generated large amounts of charcoal, which was spread across the front of the allotment and within the buildings during the 1830s (Phase 015).

However by the end of the 1830s the former “convict hut”, together with its additions and alterations were demolished (Phase 016), except for the stone building (Phase 012).

3.4.2 A new brick house, 1830s.

The demolition made way for the construction of a new house, with stone footings and brick walls in the late 1830s (Phases 017 and 018). The new house incorporated the earlier stone building (Phase 012).

A small structure appears to have been constructed on the back of the house (Phase 019), but this may well be part of a later outbuilding (Phase 021), constructed in the late 1870s.

A well (Phase 020) was dug in the late 1830s, also at the back of the house. The front yard was again raised by fill layers in the 1830s and 1840s (Phase 023). A brick path led to Macquarie Street and a garden was laid out (Phase 024).

3.4.3 Substantial repairs, 1840s.

The house almost immediately needed substantial repairs (Phase 025). The back wall of the main rooms was rebuilt just outside the original footings, making the rooms slightly larger, walls were replastered, floors replaced, fireplaces moved and the roof possibly altered. The rear skillion also appears to have been rebuilt with masonry walls. What caused such major repairs? It seems that major damage had been caused by stormwater and flooding. At around this time a major lateral drain was cut across the slope a small distance behind the house (Phase 022).

3.4.4 Other measures to secure the house against stormwater damage, 1870s-1880s.

Major alterations recurred in the late 1870s or early 1880s. A large outbuilding was erected at the back of the house (Phase 021), over the well, which continued in service up to the 1890s (Phase 020). A brick dish drain (Phase 028) diverted the stormwater in the earlier lateral drain (Phase 022) into newly constructed agricultural drains around the three remaining sides of the house (Phases 026 and 027).

Other radical changes took place at the same time. The front yard was again raised with fill layers up to street level and a new front path constructed over the earlier one (Phase 033). A driveway or carriageway was constructed on the east side of the house (Phase 030). The raising of the front yard, in order to allow stormwater to drain to the street, also necessitated major changes in the house. The front verandah was raised and surfaced in cement, the floors were again raised and the fireplaces likewise (Phase 025).

However major damage was again caused by stormwater at the back of the house sometime after 1910. The rear wall of the skillion collapsed, the outbuilding was demolished and replaced by a timber framed structure on brick footings and stone pads, placed directly over the collapsed footings of the back skillion wall (Phase 029).

The brick house remained until the 1950s, before being demolished (Phase 034).

3.4.5 Subdivision of Allotment 16.

From an early stage, extensions of the "convict hut", notably the wheelwright's workshop (Phases 009-011), spread across the western part of the allotment. Another structure was located there in the 1850s (Phase 036). But it was not until subdivision of the western part of Allotment 16 that a new timber framed four-roomed cottage was built upon it (Phase 036) between 1878 and 1881.

It is just possible that the subdivision paid for the alterations to the main house (Phase 025) (see above).

Both the houses on Allotment 16 survived into the 20th century. Both were provided with piped water and a sewer connection (Phases 037 and 038). The house on Allotment 16 West was then demolished and replaced by a Federation Style house by 1911 (Phase 039).

More recently new development was commenced on Allotment 16, but only a series of concrete piles were driven into place. Luckily this did not damage the earlier remains to any great extent.

3.5 Allotments 17-18 – Summary of Archaeological Evidence.

The earliest evidence for occupation on Allotments 17 and 18 is a “convict hut”, very poorly preserved with only the bases of the post-holes of the front wall and verandah surviving (Phase 001).

The available historical evidence indicates that the building was occupied as a hotel from at least 1801, but there is no direct historical evidence for any prior convict occupation.

By 1808 the hotel possessed 6 rooms, stabling, a well and outbuildings, very little of which has survived in the archaeological record.

In the absence of surviving remains of the “convict hut” or hotel, it was hoped that the infill of the low-lying area on the Macquarie Street frontage would provide an assemblage relating to the buildings. The original soil profile and fill layers provided an assemblage dated to the 1820s (Phase 002) and 1830s (Phase 004).

In spite of extensive disturbance of the site in the 20th century, the walls of a cellar on Allotment 17 survived to 1.3 metres in height (Phase 003). The cellar possessed a brick drain leading to the street (Phase 005), as well as a stone lined ramp providing external access. Barrels and crates of bottles could have been lowered down this access into the cellar. A standard barrel of 36 gallons would have fitted down this ramp with ample room to spare.

The cellar was altered in the 1830s to provide internal access up into the hotel buildings (Phase 006). Other features included a surviving timber floor, with occupation layers (Phase 007), underfloor deposits (Phase 008) and demolition fill (Phase 010).

Most of the archaeological evidence (artefact dating and stratigraphy) dates the construction of the cellar to the 1830s, when Allotments 17 and 18 were occupied by the Shepherd and Flock Inn (1825-1870), but there is some evidence to suggest that between 1801-1808 the cellar may have belonged to the Wheatsheaf Hotel. The evidence for the early date is provided by two artefacts found in the cellar walls, dated from the 1790s and 1800s (that is, the decade, 1800-1809) and the presence of a building in the location of the cellar on the 1823 plan of Parramatta. The cellar is also located partly within the original street reservation, in other words in front of the original building line. This is a particularly important consideration for the dating of the cellar, because the street widths changed over time (see below)

Due to the poor preservation of remains on these allotments, little further excavation of hotel related features was undertaken (Phase 009). Other more recent features included the concrete footings of a terrace house on Allotment 17, first shown on a plan dated to 1892 (Figure 16) (Phase 011). Service trenches (Phase 012) were related to other 20th century development (Phase 013).

The poor condition of the archaeological remains makes it difficult to understand how long the ‘convict hut’ survived and does not allow the layout of the hotel buildings to be delineated. The best evidence is provided by the 1858 map and other survey sketches from 1854.¹⁸

¹⁸ Surveyor-General, Field Books, No 745, Knapp, 1854, SRNSW 2/8079.10, p 82, 84 and 108. Great Western Railway. Extension Parramatta to Penrith. 1858. Proclaimed Plan. Part 1. (Railway Archives).

3.6 Street alignments and widths.

The archaeological investigation has allowed uncertainty about the town layout to be resolved. This uncertainty was originally raised as an issue in 2004.¹⁹

The results of the previous study have been confirmed, with only minor correction, by the findings from this excavation. The changes are made in italics:

- The depth of the allotments between George Street and Macquarie Street was originally 410 feet, comprising a 200 feet depth on the George Street frontage, a 60 foot wide back lane and then a 150 feet depth on the Macquarie Street frontage.
- The centrelines of both George, Macquarie and Church Street have remained constant *in most respects, though there is some change in the alignment between Marsden and O'Connell Streets.*
- The width of Macquarie Street was 118 feet *in the 1790s.*
- The depth of allotments between Macquarie and Hunter Streets was 115 feet, making a total of 230 feet.

Though observed in the previous study, the change in the width of Macquarie Street from 118 feet to 148 feet by 1804 is now recognised as the explanation for the position of the "convict huts" on the excavation site.²⁰

The 'convict hut' on Allotment 16 is placed on the 1804 frontage of Macquarie Street, with its verandah actually in the street. The fence line indicated by the row of post-holes is on the previous 1790s frontage.

On Allotment 18, the remains of the 'convict hut' are also on the 1804 street frontage, with a verandah in the street. The hotel cellar is in front of the 1804 frontage, but behind the 1790s frontage. The surviving walls extend as far forward as the verandah on the 'convict hut'.

Elsewhere in Parramatta there is no evidence that building was allowed to encroach onto the original streets until after the street widths had been narrowed, as shown on the 1823 plan of the town. This means that the cellar of the hotel is likely to post-date 1823 or have been built before Macquarie Street was widened by 1804. The historical evidence for occupation by John and Elizabeth Graham dates from 1801.

While there is no evidence that the encroachment of buildings was condoned, there is ample evidence that fences were constructed in the street, on either side of the carriageways by 1804. The evidence is not only provided by a picture by George William Evans, but also by surveyor's field books.²¹

¹⁹ Edward Higginbotham & Associates Pty Ltd. Historical and archaeological assessment of proposed development, 18, 20 & 22A Hunter Street & 29 Macquarie Street, Parramatta, NSW. Supplementary Report. Order Architects Pty Ltd & Uruga, Hiex and Pallino Pty Limited Companies. 2004

²⁰ Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 2. Pages 3-11.

²¹ Evans picture and 1804 survey.

3.7 Allotment 26 – Summary of Archaeological Evidence.

A “convict hut” was built on Allotment 26 by 1804 (Phase 001). The remains of the building are poorly preserved and have been heavily disturbed by later development and demolition. The building was later occupied by John Hindle, born in the colony in 1789, and by the early 1820s was used as a public house, with a well (Phases 002 and 003) and a cellar (Phase 004).

John Hindle died in early 1823 and the public house closed.

On 30 June 1823 the government leased the allotment to William Tuckwell, who was storekeeper at the Female Factory from 1822 to 1828. Tuckwell's business affairs fell into disarray in the late 1820s and he was forced to sell assets including his house in 1829. This hiatus probably explains why the “convict hut” fell into disrepair and was demolished between 1836 and 1844.

The large waterhole (Phase 006) on Allotment 26 may have been dug in the 1820s or 1830s, probably in the final stages of occupation of the “convict hut”. The allotment was purchased by John Gilbert in the 1850s. He built a house on the northern part of the Allotment 26, outside the area of excavation, and may have built a structure south of the waterhole in the 1860s (Phase 001). Allotment 26 was subdivided and a pair of terraced houses was built on the corner block in the 1880s (Lot 1), but it was not until between 1900 and c.1911 that a house with concrete footings was built on Lot 2. Occupation from all these houses was located within the excavated area, including a cistern for the two terraced houses (Phases 008 and 009). The houses were provided with sewer connections in the early 20th century (Phase 010).

3.8 Allotment 27 – Summary of Archaeological Evidence.

A “convict hut” was built on the boundary between Allotments 27 and 28 by 1804. This building included a number of pits and post-holes on Allotment 27, while those on Allotment 28 were destroyed by later development. The “convict hut” has been identified as either Building 01 (Phase 001) or Building 02 (Phase 003), while a number of features could belong to either structure (Phase 002).

Between 1836 and 1844 two additional buildings were constructed to the east of the “convict hut” on Allotment 27, namely Buildings 03 and 04 (Phases 004 and 005). An unidentified structure (Structure 08, Phase 006) was located behind these two buildings.

By 1853 the allotment was vacant, all buildings having been removed. A number of soil layers (Phase 010) were identified, which seal the remains of the earlier buildings and include artefacts dating up to the 1860s.

Later occupation (Phase 011) is indicated by a number of features, together with concrete footings, relating to a group of three terraced houses, constructed in 1886.

4.0

Condition of the Archaeological Resources

4.1 The vulnerability of the archaeological remains.

After the completion of archaeological excavation in 2005, the archaeological remains on the Macquarie Street frontage were preserved in situ. The archaeological remains on the Hunter Street frontage were backfilled and metalled for use as a car park.

The archaeological remains on the Hunter Street frontage, though of State significance, were not considered suitable for conservation in situ, because of several factors, including near absence of masonry elements, poor preservation of the 'convict huts' and the difficulty of preserving soil-cut features, other than by use of modern materials. Instead these remains would be interpreted and displayed by other means and using a variety of media within the proposed development

The then client, Estate Constructions of Australia Pty Ltd, wished to keep the remains on the Macquarie Street frontage available for inspection and so proposed the construction of the present tin sheds over the principal sites on Allotment 16 ('convict hut', wheelwright's workshop and 1830s house) and Allotment 17-18 (hotel cellar). The sheds would have preserved the site in good condition, were it not for the inadequate stormwater drainage of the site.

The site has flooded and caused severe damage to the remains. It is no longer in the pristine condition it was left in at the end of the excavations. Once this flood damage was observed in June 2008, application was made for a permit exception to backfill the excavations. Geotextile was laid down in the base of the trenches and sand used as backfill. The backfilling has halted the undermining and further collapse of the major structural elements, but nonetheless the site is now in a vulnerable condition. Damage occurred to both the remains on Allotment 16 and those on Allotment 17-18.

4.2 Historical Evidence of Flooding and Ground Water

Interpretation of the archaeological evidence by the archaeologist has illustrated that there has been a history of flooding of the site. Specifically, the archaeological evidence indicates the following sequence of events:

- 1800-1820 – "The earliest changes [to the Convict Hut] included the deposition of a number of fill layers in and around the hut. At around the same time a drainage ditch was dug on the uphill side of the hut. Both these measures were undertaken to avoid stormwater run-off, either by diverting the flow around the hut or by raising up the floor levels."
- 1820s – "The original south extension [of the Convict Hut] was demolished and another series of red sandy fill layers were laid down around the buildings probably again to ensure freedom from stormwater."
- 1830s – The new brick house was built and "the front yard was again raised by fill layers."
- 1840s – "It seems that major damage had been caused by stormwater and flooding. At around this time a major lateral drain was cut across the slope a small distance behind the house."

- 1870s & 1880s - Other measures to secure the house against stormwater damage, including a brick dish drain to divert storm water to new agricultural drains and raising the level of the front yard.
- 1910 or later - However major damage was again caused by stormwater at the back of the house sometime after 1910. The rear wall of the skillion collapsed, the outbuilding was demolished and replaced by a timber framed structure on brick footings and stone pads, placed directly over the collapsed footings of the back skillion wall.

4.3 Ground Moisture in the wider Parramatta context

Whilst the possible future environmental conditions for the archaeological remains at 45 Macquarie Street are difficult to predict, some clues can be obtained from reviewing the situation of other exposed archaeological remains in Parramatta.

At the same time, care must be taken with extrapolating too much from observations of other sites as accurate data on the original condition, the extent of excavation and sub-ground modification associated with each development and the variation in conditions since completion of the respective developments is not easily compiled.

The central business district of Parramatta between the railway line and the Parramatta River is essentially constructed on a low rise and two shallow watercourse systems draining roughly northward into the Parramatta River. The ground comprises clayey soil, which was a major contributing factor in the decision to settle at this location in November 1788.

The high point of the rise appears to roughly match the alignment of Church Street, whilst the eastern watercourse system drains northeast from the corner of Church and Argyle Streets. The area at the eastern end of George Street was historically swampy ground. The western watercourse system drains approximately northwards between Marsden Street and O'Connell Street.

The land to the north of the Parramatta River, particularly north of Victoria Road, rises quite rapidly.

Exposed archaeological remains in the CBD of Parramatta are presently located at the following locations:

- 45 Macquarie Street (site borders Marsden and Hunter Streets)
- Parramatta Justice Precinct (Marsden and George Streets)
- 25 Smith Street (corner of Macquarie Street)
- 18 Smith Street (mid-block between George and Macquarie Streets)
- 130 George Street

(Reconstructed archaeological remains are also visible at 77 George Street.)

The first two sites are located immediately adjacent to the western watercourse system. Information about this watercourse system is also known as a result of excavations at 150 Marsden Street, between Macquarie and George Streets.

The other three sites are located within the eastern watercourse system – indeed, the exposed remains at all three of these sites include portions of the drain constructed to provide drainage to this area. Information about this watercourse system is also known as a result of excavations at 95-101 George Street (corner of Charles Street).

Other sites in Parramatta with exposed archaeological remains are located north of the Parramatta River, on higher ground.

Whilst exposure of archaeological remains along the western watercourse system (45 Macquarie Street, Parramatta Justice Precinct) is comparatively recent, observations to date indicate that the ground water table in this area of Parramatta remains relatively high. The exposed remains at the Parramatta Justice Precinct remain damp two years after going on display, and four years after original archaeological excavation. Whilst there are basement excavations on this site, they are located adjacent to the perimeter of the Heritage Courtyard, not immediately adjacent to the exposed remains. Indeed, the exposed remains are, if anything, at a level higher than the new ground level for much of the Parramatta Justice Precinct.

At 45 Macquarie Street, whilst there is clearly a significant contribution from the overland flow of rainwater across the vacant site to the dampness of the exposed remains, observations suggest that the water table also remains relatively close to the surface.

Along the eastern watercourse system, exposed remains at two of the development sites listed above appear quite dry. These two sites have been developed for between 8 and 25 years. The exposed remains at the most recent site developed, 25 Smith Street (completed in 2007) are visibly damp, although this may well be due to water movement through the historic sandstone box drain which is exposed rather than due to surrounding ground conditions. In all three of these sites, excavations for basement car parks are located immediately adjacent to the exposed remains.

Further work would be required to enable any significant conclusions about likely future environmental conditions at the 45 Macquarie Street site to be drawn from this survey of other exposed archaeological remains in Parramatta. This is outside the timeframe and scope of this project.

4.4 Current condition of the physical remains

The archaeological remains were most recently inspected in mid-December 2009. At that time, the following conditions were noted:

4.4.1 Damp and Wet Soil



Most noticeably prevalent along the northern side of the Convict Hut



Also noted along the north side of the overall site (outside of the sheds) along Macquarie Street.

4.4.2 Erosion of Clay and Soil



*Evident along the wall on the north side
of the Convict Hut*



*Erosion has caused an undercut of a
brick wall on the south side of the site*

4.4.3 Soil Movement and Cracking



Prevalent on the south side of the site.



Soil cracking is evident as the ground dries out

4.4.4 Crumbling of Bricks



Evident along most brick wall features.



Degree of crumbling varies from large cracks through brick remnants, to very small fine particles.

4.4.5 Efflorescence



Efflorescence evident on vertical faces on most brick and stone wall features.



It is particularly common on the northern and eastern boundary walls of the excavated archaeology area.

4.4.6 Algal and Moss Growth



Algal growth is apparent on the horizontal feature paving in the centre of the Convict Hut remains.



Also evident on the lower courses of brick / stonework of the northern walls.

4.4.7 Higher Plants



Higher plants are prevalent on the northern side of the excavated remains although they appear throughout the site.



Plant growth is greatest where the sun penetrates through glazed panels in the roof of the timber framed sheds.

4.5 Context - Mechanisms of Deterioration

4.5.1 Erosion

Mechanism for Deterioration – Erosion can be defined as the wearing or breaking down of a material. Within the context of the conservation of archaeological remains, the term erosion is often used when referring to the ground or burial matrix; archaeological remains can become destabilised due to the wearing away of the ground around and under the remains. The result can be the destabilisation of built features, in particular in those areas that have been highly excavated or undercut. In particularly severe situations, erosion of the burial matrix can result in the slumping or toppling of features.

Deterioration due to erosion at Macquarie Place – Erosion has occurred at Macquarie Place with a swelling of ground water, and the subsequent softening of the clay matrix, making it more susceptible to destabilisation (weakening and slumping). The stability of the north wall of the convict hut was weakened by softened clay footings.

Evidence of structural settling can also be noted on several wall features on the south side of the site where the wall is clearly now out of alignment.

Drivers for deterioration – overland flow, increased ground moisture softening the clay.

4.5.2 Thermal cycling of materials (esp. bricks)

Mechanism for Deterioration – Changes in the ambient air temperature around archaeological features can result in the heating and cooling of the materials. While heating of materials results in the expansion of the fabric, subsequent cooling will foster a related contraction of the material. Cyclical expansion and contraction of materials due to changes in temperature can result in the appearance of structural cracking, where the inherent fabric of a material “breaks apart” during the contracting cycle. Large cracks due to thermal expansion and contraction are often most evident in brickwork walls.

Smaller cracks can also appear near the surface of the material, resulting in the fabric falling away from the main body of the element. This often appears as crumbling or sanding of the fabric.

Deterioration due to thermal cycling at Macquarie Place – Placement of the secure sheds over the archaeological remains has created a condition whereby there are extreme fluctuations in the ambient air temperature through the day. Although no structural cracking was observed (it is important to note that many of the remains could not be fully inspected due to plant covering), there is clear evidence of crumbling and deterioration of the brickwork throughout the site. In particular, bricks on the top of walls appear to be exhibiting signs of deterioration, likely due to their increased exposure to the prevailing temperature fluctuations.

Drivers for deterioration – sustained fluctuations in temperature.

4.5.3 Moisture cycling of materials (bricks, sandstone, and timber)

Mechanism for Deterioration – As with thermal cycling, continued wetting and drying of a materials can serve to be detrimental to the fabric of archaeological remains. As materials absorb water, they will expand; drying of the fabric will result in not only a loss of moisture, but also a corresponding contraction in dimensional size. The sheer force of these dimensional changes can have an impact on the material fabric: “pulling apart” of the fabric structure and the development of cracks within the material. Sustained fluctuations in moisture content often results in crumbling or sanding of the built fabric.

Moisture can originate from many sources: falling rain, overland flow or a high underground water table.

Deterioration due to moisture cycling at Macquarie Place – Crumbling of the bricks and sanding of the stone on site are both evidence of sustained wetting and drying of the materials. In particular, bricks that are located at, or near, the top of walls appear to most affected. This may be due to the more exposed location promoting more rapid evaporation.

Drivers for deterioration – sustained fluctuations in moisture.

4.5.4 Moisture cycling of surrounding ground (leading to soil movement and cracking)

Mechanism for Deterioration – As with cycling of moisture content in archaeological materials, cycling of moisture content within the burial matrix can also result in fluctuations in dimension and inherent qualities of strength.

Clay soil is particularly susceptible to swelling and shrinking. Increased moisture content within clay soil results in an inherent destabilisation of the material; its natural ability to remain cohesive is significantly reduced and it is more prone to slumping and lateral slipping.

A decrease in moisture content of clay will result in a contraction of the material.

Deterioration due to moisture cycling within the ground at Macquarie Place – Most of the remains at Macquarie Place are built within a clay sub-soil. Reports of a high water table and periodic flooding of the site make it highly likely that there would be destabilisation of the clay and corresponding slipping or slumping of built features. Emergency backfilling and stabilisation was carried out on the north wall of the convict hut where clay footings had softened and slumped during flooding conditions. This has led to the undermining of the north wall of the 1830s cottage.

Drying out and cracking of the clay subsoil is evident in many locations on the south side of the site.

Drivers for deterioration – sustained fluctuations in moisture.

4.5.5 Movement of salts through masonry

Mechanism for Deterioration - Moisture migrating through a material and to the surface will often result in the deposition of soluble salts either on the surface or just below the exterior surface. As moisture evaporates and soluble salts crystallise (and expand) they can displace the surrounding material, resulting in sanding/crumbling, cracking and surface spalling. Prolonged exposure to these conditions will result in the degradation of the underlying stone.

Salts are hygroscopic and can absorb moisture from the ambient air; therefore, if salts are left in place, they can also serve to hold moisture against the surface of the material, further promoting the cycle of wetting and drying.

Deterioration due to salts at Macquarie Place - The presence of soluble salts on the surface of the stone and brick, in combination with the observed sanding and crumbling of the materials indicates that there is moisture within the materials and that the moisture is attempting to evaporate to the exterior. In particular, exposure to high temperatures within the current structures will likely accelerate this action, with the direct sun intensely heating up the sheds.

Drivers for deterioration – moisture within the stone, evaporation (due to high ambient temperature or air movement).

4.5.6 Biological growth (incl. higher plants and algal growth)

Mechanism for Deterioration - Algal and moss growth can have both a physical and chemical impact on porous masonry. Well-established growth can form a micro-root system that extends into the substrate resulting in a physical integration with the stone. This root system will expand and contract in response to environmental conditions and moisture availability. In addition, the biological growth will release acids onto the substrate, which can result in a weakening of the structure of the masonry. Removal of the algae and moss can result in a pock-marked appearance to the stone. Once the growth is well established, this impact cannot be prevented and usually cannot be repaired.

The growth of higher plants and the establishment of their root system can also have an impact on built remains. Growth and expansion of roots can displace, or even crack, materials. Removal of root systems can be equally problematic as any destabilised material is often further loosened, or in some instances dislodged from the main body of the material.

Ultimately, biological growth is concentrated in areas where moist conditions are maintained over prolonged periods of time. This condition can be exacerbated if a material has a porous structure which allows the moisture to penetrate deeper into material and be retained within the stone itself, thus sustaining both plants and algal forms of growth.

Deterioration due to biological growth at Macquarie Place – Biological growth can be noted in most areas of the site, both within and outside the sheds. Within the sheds, higher plants are clearly concentrated in moist areas and tend to be more established in areas under the Perspex insert in the roof. Similarly, algal growth appears to be most established in the moist areas within the sheds.

Specific deterioration of the remains due to biological growth could not at this time be ascertained. This assessment will be carried out after the site has been cleaned and most of the biological growth removed.

Drivers for deterioration – sustained moisture, light, heat.

4.5.7 Access – (incl. people walking over remains)

Mechanism for Deterioration – Access to archaeological remains by people is necessary in most instances for either inspections or to carry out maintenance works. When this access however, is not planned and controlled, irreparable damage to the remains can result. Erosion from foot traffic can occur on softer or more delicate materials. Unstable remains can be toppled, or edges of subsurface features can be damaged by thoughtless placement of feet or equipment.

Deterioration due to access at Macquarie Place – Although there appears to be no significant evidence for damage due to careless (or unauthorised) access to the site, there is currently no strategy for how authorised visitors move around the site. As such, authorised visitors use their own discretion to move around and through the remains.

Driver for deterioration – unauthorized access, continued un-controlled access.

4.5.8 Summary – Drivers for Deterioration

The drivers for deterioration of the archaeological remains at Macquarie Place can broadly be summarised as the following:

- Overland run-off / flow
- Fluctuations of moisture within the ground
- Fluctuations of moisture within the archaeological materials
- Fluctuations of ambient air temperature
- Sustained access to the remains

Inherently, many of the drivers for deterioration are interrelated, whereby fluctuations of one condition may exacerbate other related conditions. For example, fluctuations of ambient air temperature will serve to promote evaporation of moisture from both archaeological materials and the ground, serving to increase potential fluctuations in moisture.

The effects of deterioration mechanisms working in concert are additive, making archaeological remains subject to these conditions particularly at risk. Mediating the drivers of deterioration and establishing a conservation approach must include strategies to reduce fluctuations in the conditions of the remains and stabilising the surrounding environment.

5.0 Assessment of Cultural Significance

5.1 Heritage Significance of the Archaeology

The significance of the archaeological site is summarised below.²²

The archaeological site contains evidence relating to the foundation of Parramatta as a penal settlement or Gaol Town in 1790. Parramatta, or Rose Hill as it was originally known was one of four settlements in Australia by 1790, the others being Sydney, Toongabbie and Norfolk Island. The sites of several “convict huts” are located on both the Macquarie Street and Hunter Street frontages. They have made a substantial contribution to our understanding of how the town changed from a Gaol Town to a Market Town in the 1820s.

The land on the corner of Macquarie and Marsden Streets was leased to John Graham on 1 January 1806. It was used as a hotel, known as the “Wheatsheaf”, from at least 1801. This lease is one of only two pre 1823 leases that can be located on the south side of Macquarie Street. It provides a very important example of the trends of development from a gaol town to a market town, a process that had largely been completed by 1823.

Other areas of the subject site indicate how this part of the town of Parramatta developed throughout the 19th and 20th centuries. Most of the allotments were associated with residential development, although the corner of Macquarie and Marsden Streets was one of the early public houses in the town (The “Wheatsheaf” from 1801-1808, and the “Shepherd” from 1825 onwards).

The persons associated with the subject site throughout its historical development played a range of roles in the town of Parramatta. None is well known for their contribution to life in New South Wales, but all made a significant local contribution.

The site possesses archaeological remains of buildings and other structures, dating from the early 19th century onwards. These remains comprise footings of both timber and masonry buildings. Sandstock brick and sandstone footings and other features possess aesthetic significance as examples of traditional building technology and also for visual appeal or attractiveness.

The community of Parramatta and surrounding suburbs have demonstrated the values they ascribe to archaeological sites in Parramatta, not only by their willingness to attend open days on archaeological sites, but also through their membership of such organisations as the Parramatta and District Historical Society and the National Trust. The investigation, conservation and management of the heritage values of the subject site are of interest and concern to this local community, but are also valued on a wider scale.

²² The complete statement of significance, divided up into each significance criterion, is found in the excavation report.
Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 1. Pages 147-150.

The 'convict huts' of Parramatta are an integral part of the Penal System and relate to the earliest period of convict transportation from 1788 onwards. They are thus of value to a much wider community or audience than the local community alone.

The results of archaeological investigation have demonstrated the range and variety of research themes to which the site has contributed. They relate not only to our understanding of the site, but also to the historical development in Parramatta and to the progress of settlement in New South Wales as a whole. The principal research questions are outlined in the excavation report.²³

Accommodation for convicts ("convict huts") was once common in the four original centres of settlement in New South Wales and also in later penal establishments, for example, Newcastle and Port Macquarie. A number of sites have been excavated, predominantly in Parramatta. Each site has provided unique evidence relating to activities and functions associated with them. The remains of "convict huts" have contributed to our knowledge of this phase in the development of Parramatta and settlement in New South Wales, as a whole. The excavation has provided a rare opportunity to investigate a total of four 'convict huts', one of which has shown remarkable levels of preservation, including organic materials, like the base of the wall posts.

The presence of a hotel site on the corner of Macquarie and Marsden Streets, dating from at least 1801, is extremely rare and highly significant for the contribution it has made to our understanding of the development of Parramatta and its change from a "Gaol Town" to a market town by 1823. Many hotels were located on prominent street frontages or corner positions. The fact that hotels could operate out of no more than a 'convict hut' has been demonstrated by the finding of another public house on the corner of Hunter and Marsden Streets (Allotment 26). This is a rare opportunity to investigate what must have once been a common part of town and city life, the local grog shops.

While the uniqueness of each "convict hut" has been recognised in the above criterion of rarity, it is also the case that each site is representative of the others in providing a range of evidence relating to construction, additions, alterations and sequence of occupation. With the excavation of sufficient examples of this type of site it will become apparent that these structures have a set range in construction, sequence of additions and alterations and also sequence of occupation. At present, this state of knowledge has not been reached.

The artefact assemblages associated with archaeological sites in Parramatta, Sydney and in other centres on the Cumberland Plain are well known. This excavation has provided representative examples, but the assemblages are also unique in that they provide social and economic information that is unavailable from any other source.

The well-preserved remains on Allotment 16 also provide a unique opportunity for environmental sampling, to further understand how the landscape and vegetation of Parramatta changed over time.

The site was originally assessed as possessing State significance. In view of the current nomination for world heritage listing of 'Convict Sites', it is recommended that the 'convict huts' of Parramatta should be regarded as possessing a National level of significance. In future it would be appropriate to add 'convict huts' to an existing world heritage listing.

²³ Edward Higginbotham & Associates Pty Ltd. Report on the archaeological excavations, 134-140 Marsden Street and 45-47 Macquarie Street, Parramatta, NSW. Estate Constructions of Australia Pty Ltd. March 2007. Volume 1. Pages 151-154.

5.2 The Significance of the Archaeology on Allotment 16.

While the above statement of significance applies to the site as a whole, the archaeological remains on Allotment 16 are so well preserved that they deserve individual comment. The special or unique characteristics of the 'convict hut', wheelwright's workshop and masonry house (1830s), with its later alterations, additions, extension and subdivision, may be summarised as follows:

1. Depth of stratigraphy. The site is unique in Parramatta in providing over 1.3 metres depth of stratigraphy (7.2 to 8.5 m AHD) on Allotment 16. This has two consequences. The structural remains of the various buildings, from the 'convict hut' onwards are ranged at distinct depths. Elsewhere in Parramatta the whole of the 220 years of occupation is usually found at a single level, with a maximum of 200-300 mm of archaeological stratigraphy.
2. Separation of assemblages. The second consequence of depth of stratigraphy is the separation between assemblages and the sealing of archaeological deposits from later contamination. This means that the artefact assemblages are separated from one another by a much greater depth differential than usually the case. Though it is still not possible to separate out the convict from the free occupation of the 'convict hut', the early assemblages do provide an indication of the deprivation of the early years in New South Wales. Furthermore the depth of stratigraphy allows us to analyse assemblages at 20 year intervals, which is highly unusual for archaeological sites where shallow stratigraphy prevails.
3. Preservation of organics. The depth of stratigraphy is a direct result of the fact that the original building was constructed in what had been a branch of the Parramatta River. Though the river had changed its course many years previously, the area was still wet and poorly drained. The near anaerobic environment has allowed for the preservation of organic materials, including the bases of the posts of the 'convict hut'. The good preservation and the depth of stratigraphy make it an ideal site for environmental sampling (pollen analysis). The ground level has been progressively raised up to avoid the consequences of waterlogging, stormwater and flooding.
4. Longevity of buildings. While previous excavations have shown that 'convict huts' could survive up to the 1830s and 1840s, with renovation, the frequency or commonplace nature of this survival of primitive buildings in Parramatta had not been recognised until the completion of the excavations and report in 2005 and 2007 respectively.
5. Conversion of post-built 'convict huts' to timber-framed structures. While previous archaeological investigations have indicated that post-built 'convict huts' were converted into timber-framed structures, the well preserved remains on Allotment 16 clearly demonstrate that this conversion was accompanied by weatherboarding of the walls. Thus the historical references to repairs and weatherboarding can now also be equated with the conversion to timber-framing, a much more durable form of construction, which could last until the 1840s and 1850s.
6. Correlation of historical and archaeological evidence for occupants. The detailed research of the early occupants of the town allotments, so that their careers and life paths can be reconstructed, has had a distinct advantage in allowing the archaeology to make a much more detailed contribution. Historic lives can be tied in with archaeological remains. This is particularly true for Allotment 16, where the wheelwright's workshop has been so dramatically identified, but is also highly revealing when John Hindle's public house or grog shop can be shown to have been housed within the walls of a 'convict hut', with the addition of a primitive cellar and a well with a narrow shaft (Allotment 26). The detailed historical research has allowed us to reveal the personal circumstances of each occupant, while their relative social and economic standing can be viewed in the artefact assemblages.

7. The historical and archaeological evidence for the occupation of Allotment 18 indicates that a two-roomed hut with post-construction, though typical of a 'convict hut', was not always and invariably constructed and occupied by convicts, but could also have been built and used by free persons. This is the first occasion on which this evidence has been revealed.
8. The archaeological investigation of Allotments 16 and 18 has provided the physical evidence to verify that the width of Macquarie Street has changed on two principal occasions. The street was originally laid out in the 1790s with a width of 118 feet (36 metres), widened by 1804 to 148 feet (45.1 metres) width and then narrowed again by 1823 to 60 feet (18.29 metres). This change of width provides important evidence for the dating of buildings on the Macquarie Street frontage.

5.3 The Significance of the Archaeology on Allotment 18.

The contrast between the grog shop on Allotment 26 and the public house on Allotment 17-18 could not have been greater in terms of physical presence, one was in a 'convict hut', the other was a six-roomed structure, with well, stabling and outbuildings. While John Hindle's license is first mentioned in 1822, that of John and Elizabeth Graham is first documented in 1801.

The cellar on Allotment 18, if it is dated to 1801-1808, would be the earliest surviving fabric of a hotel in New South Wales.

Part B

Conservation of the Archaeological Resources

6.0

Performance Requirements for Conservation

6.1 Mediating Mechanisms of Deterioration

Chapter 4 described the variety of drivers and mechanisms currently causing deterioration of the archaeological remains at 45 Macquarie Street. For example, the presence of soluble salts on the masonry, in combination with the sanding and crumbling of the materials, indicates that there is moisture evaporating from the surface of the material. In particular, exposure to high temperatures within the temporary shed structures on a diurnal basis is likely accelerating this action. Furthermore, the combination of direct sun intensely heating up the sheds and the high relative humidity arising from the presence of moisture is creating an ideal environment for biological growth. When the development takes place, the temporary sheds will be removed and the archaeology exposed to the general environment, in sharp improvement to the environment within the temporary sheds.

The conservation strategy for the new context as part of the proposed development must therefore focus on mediating and/or controlling these drivers for deterioration – moisture, light, heat, salt, biological growth – so that the remains can reach an equilibrium within the exposed environment.

In order to successfully mediate the drivers and mechanisms for deterioration of the archaeological remains at 45 Macquarie Street, it is necessary to consider all three of the following approaches:

- Preventive conservation
- Physical conservation
- Continuous monitoring and maintenance

6.1.1 Preventive Conservation

A term more commonly used in the context of fine art and museum collections, but equally applicable to all forms of heritage conservation, preventive conservation, or preservation, is concerned primarily with providing environmental conditions for the remains so as to minimize their deterioration and damage, both now and in the future.

Preservation of in-situ remains is often difficult as planning and implementation decisions often occur at a point in time where it is too early to reliably and confidently predict all of the environmental conditions and deterioration mechanisms that will act on the remains in the future.

Allowances for preservation actions and controls must therefore be incorporated into the design of the new development. Within this context however, where a comprehensive understanding of eventual environmental conditions is difficult and therefore cannot be planned and designed with exactness, the development must provide for a series of “environmental filters” or ways in which the drivers for deterioration – moisture, light, heat etc – can be managed to adequately control those environmental conditions which eventuate following completion of the proposed development.

6.1.2 Physical Conservation

Physical conservation works are those works which are more commonly understood as stabilisation. They involve hands-on work to the remains and their immediate surroundings, and include protection, stabilisation, preservation and eventually display of the archaeological remains.

The physical conservation works should be undertaken at several stages throughout the proposed development, to reflect the need to manage the risk of damage to the remains during construction, as well as to take advantage of the construction period to implement conservation works over a longer timeframe.

Whilst there is always a desire to complete the physical conservation works prior to Practical Completion of a development, there can be benefits (stakeholder engagement, interpretation, changes in environmental conditions) in continuing the physical conservation works on past the Practical Completion date.

6.1.3 Monitoring and Maintenance

Following completion of the proposed development, it will be necessary to monitor the condition of the remains to track changes to the condition of the archaeological remains and the surrounding environment.

Monitoring generally includes a combination of visually monitoring of the remains for overall condition of the materials as well as recording of baseline environmental data (temperature, humidity, moisture content), often via the Building Management System.

The results of this monitoring will feed directly into the medium and long term maintenance of the site. Although general maintenance recommendations can be developed and planned for directly following completion of the development, ultimately these maintenance recommendations must be revisited to reflect the inevitable changes in condition of the remains identified during monitoring.

In conjunction with the monitoring of the remains condition, a structured maintenance program will be required. This will include routine procedures, such as removal of litter and control of biological growth, as well as management procedures, such as changes in how the remains are presented for interpretive purposes.

6.2 Mediating Deterioration at all Stages of the Project

Another way of considering these conservation actions is in terms of a time continuum where different conservation actions are carried out at different points in time, for varying durations. In the context of the proposed development around the archaeological remains at 45 Macquarie Street, we can identify the following stages on the time continuum:

6.2.1 DA /Detailed Design Development

Design development includes generating initial design schemes and preservation strategies which will focus heavily on preventive conservation schemes.

Detailed design development includes incorporating legislative feedback and refining the design to maximise the potential of the site and respond to the needs of the archaeological remains.

6.2.2 Construction

This phase will include:

- **Site Preparation** - preparing and protecting the archaeological remains and immediate surrounds prior to commencement of excavation or construction on site. Central to this will be responding to the specific conditions of the existing site, namely areas of exposed and buried archaeological remains and considerations regarding areas that will be viewed, or not viewed, by the public.
- **Initial Structural Works** - installation of the structural columns as well as other works that may occur in the vicinity, such as peripheral sheet piling within and around the archaeological remains.
- **Construction** - construction around and above the area of archaeological remains. This phase will primarily address establishing the protection of the archaeological remains for the duration of the construction project.

Note, A report entitled Recommendations for Protection of the Archaeological Remains During Construction is contained as an Appendix to this document.

6.2.3 Practical Completion / Preparation for Display

Following completion of the development, the archaeological remains will need to be prepared for display. The extent of works will depend upon two main factors:

- The condition of the remains following removal of protection hoarding.
- Display strategy outlined as part of the Interpretation Plan for the site.

This phase will be heavily focussed on carrying out physical conservation works.

6.2.4 Long Term Building Operation

Although planning for the long term operation of any facility will have occurred throughout the development, this phase is focused on implementing strategies for both monitoring and maintenance. Initially involving the developer, the long term operation of the site will generally be the responsibility of the owner of the site.

Typically, our community only sees the physical conservation works that occur during the preparation of the remains for display as the development approaches Practical Completion. However, in terms of the degree of influence and extent of impact on the condition of the remains, many of the other stages on this time continuum are of significantly greater importance. This is where consideration of preventive conservation and monitoring / maintenance becomes critical to obtaining the optimum conservation solution for the archaeological remains.

Given the dynamic moisture conditions experienced by the archaeological remains on this site in the past, presently, and likely in the future beyond completion of the proposed development, this time-based approach to conservation of the remains will deliver the best outcome for this site.

6.3 Performance Requirements for Mediating Deterioration

Taking into account the drivers and mechanisms for deterioration of the archaeological remains at 45 Macquarie Street, and the approaches to conservation outlined above, we have identified a set of performance requirements for mediating deterioration of the remains.

These performance requirements provide a framework for developing both specific conservation solutions to individual mechanisms of deterioration of particular components of the remains, as well as strategies to respond to dynamic environmental conditions around the remains over an extended time period encompassing both construction and operation of the proposed development.

They have been prepared to facilitate the detailed design of the plaza surrounding the in-situ archaeological remains. They provide a framework for guiding the detailed design, including the provision of adequate services, as well as a means for assessing the suitability of particular design solutions.

In some cases, particular values of parameters are yet to be defined pending further research.

6.3.1 Ground Moisture, Run-off and Flooding

- Prevent overland flow of floodwater.
- Maintain ground water table level no higher than [level tba] below the current surface profile of the soil.
- Manage soil moisture content at [level tba], but generally high.
- Prevent rainfall directly onto the remains.
- Prevent run-off from the roof, façade and plaza flowing onto the remains.
- Manage moisture content of masonry at [level tba].
- Manage moisture content of exposed timber floorboards at [level tba].

6.3.2 Biological Growth

- Allow for active management of all forms of biological growth (mould, fungi, cyanobacteria, algae, higher plants).

6.3.3 Ambient Air

- Manage air above the remains (and possibly air flow) in order to control air flow, moisture content and temperature.
- Facilitate a means to "buffer" the archaeological remains from extreme fluctuations in air qualities (temperature, moisture level, flow etc).

6.3.4 Temperature

- Make provision to manage fluctuation in temperature around the remains so as to minimize thermal cycling of the archaeological materials.
- Maintain the temperature as low as possible to limit the rate of evaporation of moisture from the materials.

6.3.5 Managed Access

- Prevent public access directly onto the remains.
- Provide for safe maintenance access to all areas of exposed (ie. not buried) remains.
- Ensure that the exposed remains are secure and safe from vandalism.
- Provide good visual access to the public in a safe manner

6.3.6 Maintenance and Longer-term Considerations

- Allow for active management (including on-going maintenance) of the in situ remains.
- Monitor the behavior of the remains over time to confirm performance against established performance requirements.
- Allow for periodic review of the effectiveness of implemented preservation solutions.

6.3.7 On-going Management

In addition, it is noted that for the proposed development to succeed, and for conservation of the archaeological remains to occur on an ongoing basis, it is crucial that the cost of conservation works, including ongoing environmental control, monitoring and maintenance, must be sustainable.

Furthermore, it would be preferable that an appropriate legal mechanism for managing the financial contributions required for ongoing conservation of the archaeological remains be established as early as possible.

7.0 Additional Archaeological Excavation Requirements

The proposed development will have a series of impacts on the archaeological site. The impacts may be divided into three categories:

- Within the Archaeological Protection Zones – Macquarie Street frontage.
- Outside the Archaeological Protection Zones – Macquarie Street frontage.
- Elsewhere on the site.

7.1 Within the Archaeological Protection Zones – Macquarie Street frontage.

Impacts within the Archaeological Protection Zones on the Macquarie Street frontage comprise

- All those works associated with the conservation, interpretation and display of the archaeological relics
- Excavation for the one column base that could not be located outside the designated protection zones.

All these construction activities will have an impact on the surviving archaeological remains. They will require archaeological excavation prior to construction.

The works will also include provision for closing down the archaeological site and providing adequate protection throughout the construction process, as well as the methodology of re-opening the site for interpretation and display.

As part of this programme, a series of pollen samples should be gathered from regular stages in the stratigraphic profile.

7.2 Outside the Archaeological Protection Zones – Macquarie Street frontage.

The proposed development will have an impact on surviving archaeological remains outside the Archaeological Protection Zones.

Specific items include:

1. The excavation for the fire escape to the Macquarie Street frontage.
2. The excavation for the stormwater retention basin on the Macquarie Street and Marsden Street frontages.
3. Construction of column bases for superstructure.
4. Construction of podium and other footings.

All these construction activities will have an impact on the surviving archaeological remains. They will require archaeological excavation prior to construction.

Other items include the excavation of the basement areas. The excavation may impact on the southern edge of the archaeological remains and Archaeological Protection Zones on the Macquarie Street frontage.

These construction activities will have an impact on the surviving archaeological remains. They will require an archaeological monitoring programme and archaeological excavation, if the impact is substantial.

As part of this programme, a series of pollen samples should be gathered from regular stages in the stratigraphic profile.

7.3 Elsewhere on the site.

The remainder of the site does not require conservation in situ. The archaeological investigation of this area was completed in 2005, apart from one item. The small brick lined well on Allotment 26 was only excavated to a depth of 1.9 metres, in compliance with safety standards. Additional excavation of the well was not included in the budget for archaeological investigation.

During bulk excavation, the remainder of the well should be excavated to recover bricks and also the remainder of the early assemblage of artefacts (Allotment 26, Phase 002).

The well is significant, since it belongs to a hotel, dated to 1822-1823. John Hindle's grog shop was located in a 'convict hut' with a primitive earth-lined cellar and brick-lined well as its only major improvements. The grog-shop provides a distinct contrast with the cellar footings on Allotment 17-18, belonging to either the 'Wheatsheaf' or later 'Shepherd Inn'.

Since the whole of the site was not subject to excavation, it is possible that significant archaeological remains may be impacted during bulk excavation. Bulk excavation should therefore be subject to an archaeological monitoring programme to ensure that any other significant archaeological remains are recovered.

7.4 Excavation Permit applications

Part 3A of the *Environmental Planning and Assessment Act*, 1979, as amended, overrides the *Heritage Act*, 1977, as amended.

Should the proposed development be approved under Part 3A, then there is no additional requirement to apply for an excavation permit under the *Heritage Act*, in order to undertake the archaeological investigation, as described in this report.

Part C

Interpretation of the Archaeological Resource

8.0 Interpretive Opportunities and Context

8.1 A remarkable Opportunity for Interpretation of a Convict Hut

With the 2005 excavation of 45-47 Macquarie Street an excellent interpretation opportunity emerged - the physical remains of a 'convict hut' which included more than soil-cut features: the building had a brick floor: also the preservation of organic materials enabled some posts and weatherboards from the walls to survive in situ. Other factors enhanced the interpretation potential of the site, including the remarkable correlation of the historical and archaeological evidence for the wheelwright's workshop, the depth of stratigraphy and the ability of the remains to reveal the story of the development of the site over two centuries. The cellar, potentially the earliest physical remains of a hotel in New South Wales, was also an important factor in the decision to conserve the remains on the Macquarie Street frontage in situ.

The physical conservation and display of a 'convict hut' in the Parramatta CBD will truly connect the city with its park, the Governor with the governed, the then top echelons of New South Wales society with the lowest, the convict with the free. The opportunities for cultural tourism, education, the enrichment of the urban environment through its heritage should not be missed.



A portion of the brick floor of the convict hut, located during the 2005 excavations, together with other physical evidence, provided the best opportunity to date in Parramatta to conserve and display the remains of such an early building.

8.2 Primary considerations in the presentation of the site

A key objective of the presentation of the relics is to recapture its state similar to that prevailing during archaeological excavation. Archaeologists clean surfaces by trowelling to enhance the soil colours and textures. This enables the site plans to be drawn accurately and the site to be photographically recorded to a high standard. While it is not possible to retain the standard of presentation of an archaeological site for a long period, either during or after excavation, it is appropriate that the display of the site should maintain these high standards of presentation. If surfaces cannot be preserved in pristine condition, then surface treatments should be adopted which maintain these standards and also serve interpretive and display purposes. For example, if a clay surface cannot be maintained, then it should be covered in gravel or other material, which also allows for archaeological features to be clearly discerned. This requirement may be summarised as:

1. An appropriate surface treatment should be used to display archaeological features.
2. All masonry should be cleaned prior to display and the site maintained in this condition.
3. All archaeological sections should be maintained in a vertical profile, as originally cut. If the soil has collapsed the section may need to be rebuilt using other suitable materials.
4. The depth of the archaeological remains is a significant factor on this archaeological site. Where trenches have been flooded and surfaces covered, they should be re-excavated to their original depth in order to maintain the perception of the depth of stratigraphy.
5. The report on 'convict huts', required by Condition 22 of the excavation permit for the 2005 excavations, currently in progress, will draw together the evidence provided by all the excavations of 'convict huts' to date in Parramatta. This report should be adapted as a publication to support the archaeological displays accompanying the archaeological remains on this site.

8.3 Presentation Opportunities in World Heritage Context

It is anticipated that within two to three years, sections of Parramatta Park, known as "Old Government House and Government Domain", will become an important component of a new serial World Heritage Site celebrating Australia's convict heritage. Such inscription can be expected to raise the profile of early settlement history in Parramatta and significantly enhance the work of both the NSW Heritage Branch and Parramatta City Council, in celebrating and presenting the rich cultural history of the city. The archaeological relics on the subject site, which include convict era remains, are located within approximately 500m of the future World Heritage Site and have the potential to reinforce and complement the visitor experience of that Site.

Article 4 of the *World Heritage Convention* identifies "Presentation" of the Outstanding Universal Value as being of equal importance to its "Identification, Protection, Conservation and Transmission" to future generations.

In addition there are a number of other issues that need to be taken into consideration for the formulation of a combined conservation, display and interpretation framework for the archaeological relics.

The *ICOMOS International Cultural Tourism Charter* (1999) states, *that one of the major reasons for undertaking any form of conservation is to make the significance of the place accessible to visitors and the host community, in a well managed manner.*

8.4 Interpretation through Reconstruction

The current condition of the archaeological site suggests that as part of the proposed interpretation and display, reconstruction should be considered as a means of stabilising the site and for providing additional interpretive and display opportunities.

These opportunities are briefly discussed below:

8.4.1 Allotment 16

A number of opportunities exist for reconstruction of parts of the 'convict hut' and 1830s cottage. These include:

Location / Item	Surviving condition	Opportunities for reconstruction
Wall posts of 'convict hut' in Room 1 (West Room).	The flooded condition of the 'convict hut' remains in Room 1, including the collapse of the south wall and the edge of the brick floor allow for a number of reconstruction opportunities.	The lower sections of a number of the wall posts could be reconstructed in modern materials, worked in a traditional fashion. The south wall of the 'convict hut' possessed evidence of weatherboarding, now collapsed and destroyed. These posts and weatherboards could be reconstructed in modern materials, again worked in a traditional fashion.
The fireplace of the 1830s cottage along the West Wall of Room 1 (West Room).	The fireplace was removed to allow for the remains of the 'convict hut' to be excavated. The fireplace was carefully dismantled, planned and photographed at each level and all the materials conserved and placed on timber palettes in storage.	The fireplace could be reconstructed and suspended above the remains of the 'convict hut'. This is the original fireplace. Like the others it was raised up and reused, as the floor levels were raised. The fireplace shows the adaptation of the house to prevent flooding and the ingress of stormwater.
Brick piers for the support of the timber floor in the 1830s cottage, Rooms 1 and 2.	These brick piers were removed during excavation in order to investigate earlier deposits.	Some or all of the brick piers could be reconstructed and suspended at their original height in order to reveal the structural support for the timber floor of the 1830s cottage. Again, suspending them at their original height will demonstrate the depth of stratigraphy.
The agricultural drain around the north front and east and west sides of the 1830s cottage.	The drain was progressively removed as the excavations proceeded below the depth of the drain. The drain was dismantled and all the pipework was conserved and placed in storage, including one of the bends.	The agricultural drain could be reconstructed in situ and suspended in its original location. The drain illustrates the need to control stormwater and how the levels of the site changed over time.

Location / Item	Surviving condition	Opportunities for reconstruction
Timber boards associated with the 'convict hut', at the lowest or earliest levels of the site, located in front of the 1830s verandah.	The location of these boards was recorded, photographed and planned during excavation. The wood survived in poor condition and could not be conserved.	These boards could be reconstructed using modern materials, worked in a traditional fashion. These boards suggest that part of the structure of the 'convict hut' lay between the 1792 and 1804 street frontages. They suggest the possibility that construction of the 'convict hut' predated the widening of the street by c.1804. Further evidence is provided by the line of post-holes, which should also be part of the interpretation and display of the site.
Timber boards in back skillion of house.	The location of these boards was recorded, photographed and planned during excavation. The wood survived in poor condition and could not be conserved.	These boards could be reconstructed using modern materials, worked in a traditional fashion. These boards formed structural elements of the back skillion of the 'convict hut'. They demonstrate how the back of the 'convict hut' was altered over time. If they are suspended above the excavated archaeological surface and the remains of the fireplace / stone feature, they will also demonstrate how the site has been raised up over time to avoid flooding and the ingress of stormwater.
Partition wall across back skillion, 1830s cottage.	A brick partition wall footing was removed during excavation of the back skillion. The wall was removed in order to excavate earlier deposits. The wall had also collapsed during a flood event during the archaeological investigation.	This partition wall could be reconstructed across the back skillion and suspended at its original height. It will demonstrate the change in the depth of stratigraphy during the 19 th century.
Stormwater drain across back of 'convict hut'.	The stormwater drain was covered with a lid of timber planks. The location of these boards was recorded, photographed and planned during excavation. The wood survived in poor condition and could not be conserved. It was removed during excavation.	These boards could be reconstructed using modern materials, worked in a traditional fashion. These boards formed a lid to the stormwater drain, indicating that pedestrian access was as important as drainage at the back of the 'convict hut'.

8.4.2 Allotments 17-18.

Location / Item	Surviving condition	Opportunities for reconstruction
Floor of cellar.	The timber floor of the cellar was removed for conservation.	An opportunity exists to replace the floor in situ. If the cellar is not considered to be an appropriate conservation environment for these timbers, then an opportunity exists for the reconstruction of the floor of the cellar and the timber lined access ramp. In addition a timber ladder or steps could be provided as access into the cellar at the north-east corner, where there was clearly an access point in the original cellar.
Drain from cellar.	The original brick drain from the cellar to the street was excavated in 2005. The sides of the drainage trench have collapsed, due to flooding of the site after the excavation..	The drain should be re-excavated to the surviving brickwork and the sides of the trench rebuilt in similar materials. The current clay and soil infill of this area could be formed into the original trench sides using timber formwork. The soil could be treated like pise brick construction. The original brick drain could be reused for drainage purposes.

8.4.3 Allotment 26.

Location / Item	Surviving condition	Opportunities for reconstruction
Well belonging to John Hindle's grog-shop.	The shaft of the well survives beneath the car-park.	The small brick lined well on Allotment 26 was only excavated to a depth of 1.9 metres, in compliance with safety standards. During bulk excavation, the remainder of the well should be excavated to recover bricks and also the remainder of the early assemblage of artefacts (Allotment 26, Phase 002). The well is significant, since it belongs to a hotel, dated to 1822-1823. John Hindle's grog shop was located in a 'convict hut' with a primitive earth-lined cellar and brick-lined well as its only major improvements. The grog-shop provides a distinct contrast with the cellar footings on Allotment 17-18, belonging to either the 'Wheatsheaf' or later 'Shepherd Inn'. An opportunity exists to partially reconstruct the shaft of the well at or near its original location at ground floor level within the new development, as part of the public art programme.

8.5 Options for display of the relics within the development

Within the context of the development, where the in-situ archaeological relics are to be contained within the large northern pedestrian plaza, there are two fundamental options for the display of the relics:

- Display within a contained volume
- Display in the “Open”

8.5.1 Display within a contained volume

This option requires the relics to be housed in a contained volume, in which daylight or direct sunlight is effectively excluded and the majority of public viewing is either through glazed openings or by entry into the volume, with artificial light used to display the relics.

The primary objective with this option is to provide a high level of atmospheric control and management in order to reduce the forces of deterioration, particularly biological growth, on the archaeological relics. Other forces, such as the potential impact of ground moisture bringing salts into the masonry relics are unlikely to be managed in a significantly different manner between the two display options.

The height and volume of the contained volume will depend on whether the public are permitted to enter it to view the relics. The relative levels of the relics and the main plaza floor level are such that if the enclosed volume were large enough to permit people to enter and view the relics close up, the roof of the enclosure will project above the level of the plaza, potentially presenting as an intrusion into the open volume of the public space.

If the interpretation programme includes physical access into the enclosed volume, there may need to be a light-secure foyer and a darkened viewing area around the relics, but separated from them by a glazed wall. ICS have advised that the form of mould which grows in very dark conditions can generate spores that may be harmful to human health, suggesting that a glazed wall between the relics and the viewer will be mandatory.

Entry into the enclosed volume and viewing of the relics would require a deliberate decision on the part of the visitor and passer-by, suggesting that many casual visitors would not make the effort and would miss out on experiencing the relics and their interpretation.

Casual visitors to the building, and the regular commercial and residential occupants, would also need to make a deliberate decision to inspect the relics. This is unlikely to occur on a regular basis, indicating that the relics would not become part of the “spirit of place” of the building. By way of an example, the excellent recent conservation and display project in Hickson Road, Walsh Bay is hidden and locked away from casual visitors, who must make special arrangements for viewing. It has not become part of the “spirit of place” with the other high quality interpretation of the historic industrial waterfront of Walsh Bay.

Interpretation in this context might include the conventional approach of marking out the alignment and layout of the surviving remains on the roof of the enclosure, except that these would only be visible from the first floor Interpretation Centre, not from the foyer itself. Views down from the first floor level Interpretation Centre to the roof of the volume would be possible, giving interested visitors an opportunity to gain some understanding from the overlook.

The bulk of the “presentation” of the relics will rely on the displays and programmes in the Interpretation Centre. Casual visitors and those on dedicated tours of Parramatta’s cultural heritage, including its future World Heritage Site, will be required to visit the Interpretation Centre, at first floor level, if they are to gain an effective understanding of the nature of the archaeological resource.

8.5.2 Display in the “open”

This option provides for the archaeological relics to be on display in full view of the visiting public and occupants of the building. Various combinations of options are available for environmental management and security, including display under a glass floor, containment in glass display “boxes”, containment within an environmentally managed large foyer volume, or display in a fresh air setting with gates and glass or other balustrades for security.

Interpretation in this context will be greatly enhanced by the tactile, visual and spatial experience of viewing the relics from an adjacent pedestrian area. Interpretive panels at ground floor level, explaining visible relics, would be very different from those needing to explain relics in an enclosed volume.

The relics will be able to be viewed from a variety of directions and from a variety of distances, depending on the final design of the adjacent walkways and circulation routes.

Cultural tourism visitors to Parramatta, including to its future World Heritage Site, will be able to readily access the archaeological displays in either an informal or guided manner. These relics will have the potential to become a core component of existing and future historical walking tours of Parramatta, and other programmes developed by Parramatta City Council and others.

Casual visitors in the locality will be encouraged to view the relics without the need for a conscious “visit” to the relics. Casual visitors to the building and its occupants will have a regular exposure to the foyer displays, enhancing the role of the archaeology in developing a “spirit of place” for the building and grounding this spirit firmly in the historical cultural landscape of Parramatta.

Views down from the first floor level Interpretation Centre would be of major interest, giving interested visitors an opportunity to gain an enhanced understanding from the overlook. The “presentation” of the relics and other programmes in the Interpretation Centre will then complement the visible relics. Casual visitors and those on dedicated tours of Parramatta’s cultural heritage, including its future World Heritage Site, may then choose to visit the Interpretation Centre, at first floor level, if they are interested to gain a greater understanding of the nature of the archaeological resource.

A major advantage of the potential visible display with these relics, when compared with recent projects in The Rocks, Port Macquarie and the Southern Highlands, is that there can be a three storey open volume over the relics, giving viewers an opportunity to imagine them in their original spatial setting, far more effectively than other projects where they are spatially “hemmed-in” below major new building structures.

The preference of this Interpretation Plan is to display the relics in the open, within the context of the pedestrian plaza. This option ensures that the archaeological relics will be far more accessible to the public and will have a greater potential to become part of the “psyche” of the building and of Parramatta generally, especially in the future context of the world heritage site in Parramatta Park. In terms of meeting the interpretation objectives, this option is far superior to the display of the relics in an enclosed volume.

Detailed consideration undertaken by both International Conservation Services and Dr Edward Higginbotham has concluded that the environmental management performance requirements and preservation objectives for the archaeological relics can be achieved in the context of an open display.

8.6 Interpretation Display Options

There are a number of display options available for the archaeological resource within the site. Set out below are a number of international examples by way of illustration.



Archaeological remains completely open to the weather and the coastal environment, with elevated walkways for public viewing.

*Paphos World Heritage Site
Cyprus*



Large archaeological site covered by a contemporary canopy, with public walkways to facilitate public viewing

Sanctuary of Apollo, Cyprus



Paving over the relics and marking their presence on the surface.

This is suitable where the relics are located in what will become a major public pedestrian space.

Heidelberg, Germany

Within an Interpretation Centre, archaeological artefacts can be displayed in a scientific manner with learned information for each object or in a dramatic or decorative manner, depending on the circumstances



Artefacts displayed in specially designed cases.

*Athens Metro Station
Greece*



*Scientific or didactic display of
artefacts.*

*Nicholson Museum,
Sydney*



*Large scale display of artefacts
in a visitor or interpretation
centre.*

*St Augustine Monastery Visitor
Centre
Canterbury, UK*

8.7 Preferred Interpretation Display Option

The preferred interpretation option is for the entire archaeological resource at the northern end of the site to be enclosed within a major foyer style volume, where it can be displayed and conserved in a controlled environment.

All of the layers of historical development expressed in the archaeology will be interpreted and displayed, with interpretation panels located at intervals behind the elevated viewing platforms. Associated activities such as cafes or entry ramps will be integrated in the space and will positively absorb the archaeology into the psyche and identity of the whole building.



Although this display is located in a completely enclosed and atmospherically controlled space, being in the basement of a much larger pre-existing building, the concept of an elevated walkway is relevant to the Macquarie Street plaza option.

*Vatican Museums
Rome*



Pedestrian walkways surround and span across the archaeological display.



Most of the interpretation and display of selected artefacts is arranged around the various walkways.

In this case the research centre was not part of the public access areas.

9.0 Archaeological Interpretation in Parramatta

9.1 In-situ Display of “Convict Huts” in Parramatta

The conservation of ‘convict huts’ in Parramatta has been a long-term goal of archaeologists and the NSW Heritage Branch. While there have been a number of archaeological excavations in Parramatta over several decades, the opportunities for in situ conservation and display have not been taken up in most cases.

During the 1980s and 1990s, the in situ conservation and display of ‘convict huts’ was not required as an outcome of archaeological excavation or redevelopment.²⁴ This was largely because of the near absence of masonry remains associated with these sites. The conservation of soil-cut features was generally considered an insurmountable problem. Other conservation options were considered in the early 2000s, including conservation in situ without excavation, as occurred on the Children’s Court Site at 2 George Street, Parramatta.²⁵



The first “convict hut” was excavated on the site of the Family Court, 1 George Street, Parramatta in 1985. The soil cut features were fully excavated, recorded, photographed and planned, but were not conserved. The site demonstrates the difficulties associated with the conservation of soil cut features.

²⁴ Edward Higginbotham & Associates Pty Ltd. George Street, Parramatta, NSW, 1985. Report on archaeological excavation of buildings associated with the early township, 1790 to c.1820s, Department of Housing and Construction, and Leighton Contractors Pty Ltd. 1986.

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Archaeological Management & Consulting Group Pty Ltd. Report on the archaeological test excavation programme & monitoring for the proposed Office Works Superstore, 41 - 53 George Street, Parramatta. 1996.

Report on the archaeological excavation of the site of the New Blood Bank, Parramatta Hospital, George Street, Parramatta, N.S.W. N.S.W. Public Works, Health Development. 1994.

²⁵ Casey & Lowe Pty Ltd. Proposed Parramatta Children’s Court Site Interim report archaeological testing in the conservation zone: corner George & O’Connell Streets Parramatta / prepared for the Government Architects Office & the Department of Commerce on behalf of The Attorney General’s Department.

More recent excavations of 'convict hut' sites have resulted in a variety of interpretation and display options, including surface treatment of paving, archaeological display cabinets and signage. These sites include 95-101 George Street, 180-180a George Street, and the Parramatta Justice Precinct. None of these displayed the physical remains of a 'convict hut'.



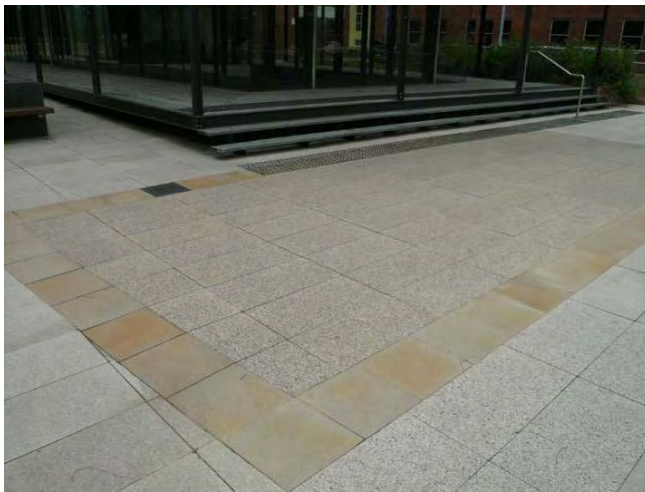
Changes in soil texture and colour reveal soil cut archaeological features, which are typical of "convict Huts" (Parramatta Justice Precinct).



Exposed archaeology at Parramatta Justice Precinct is now partially visible within glazed outdoor rooms within the central pedestrian plaza



*Parramatta Justice Precinct
plaque located within the paved
outline of the hut*



*Wider view of the outline of the
convict hut on the upper paved
terrace of the courtyard*



*View into the café enclosure
looking down on the exposed
remains of the Hospital building*



Parramatta Justice Precinct entry steps to heritage courtyard with interpretive plaques



The second enclosed area protecting and displaying the in-situ archaeology.

Unfortunately the reflection off the glazed wall makes it hard to view the remains at certain times of the day



A similar paving has been used to mark the outline of another of the former hospital buildings.

Visitors must read the small plaques to understand the difference in the early buildings that are denoted by these markings

9.2 Other Archaeological Interpretive Displays in Parramatta



Archaeological display cases on the side of a foyer to a residential complex.

George Street, Parramatta



Small display window in the pavement reveals a section of an underground drain that was discovered during a number of archaeological digs on either side of Smith Street, Parramatta

The heavy levels of moisture and sunlight reflection, combined with excessive plant growth below the glass, make viewing and interpretation problematic



The five glass panels in the foyer of 18 Smith Street provide some viewing capacity to another section of the historic drain.

Unfortunately, the lighting below floor level is difficult to maintain, reducing the ability of visitors to the building appreciating the evidence located below the floor.

10.0 Audiences

10.1 Introduction

The effective interpretation and presentation of the cultural significance of a place or item through the identified Interpretive Themes is dependant on the accurate identification of target audiences. The identification of a particular audience will influence the choice of media for interpretation of the place and the content of the information provided. Identifying multiple audiences may necessitate multiple strategies in order to target those audiences in different manners.

10.2 Staged Interpretation Programme

In the case of the mixed residential, commercial and retail project at 45 Macquarie Street, Parramatta, which is currently at the beginning of a planning and development process, the interpretation programme could unfold over several years as the development moves through approval, marketing, construction and initial occupation until it reaches the long term residency process. The audiences for the interpretation will vary across these primary stages of the project.

10.2.1 Architectural Design and Approvals phases

The architectural design and approvals phase is already underway in accordance with the Part 3A processes of the EP&A Act. The decision to incorporate the archaeology as a major design and display feature within the main entry plaza off Macquarie Street was generated through the prior discovery of the highly significant archaeology and the associated consents for its conservation management and display.

The audience in this phase comprises the professional planning and design teams involved in the preparation of the design and documentation work response to the Director General's Requirements and the various consent agencies involved in approving the project.

10.2.2 Marketing phase for the new uses

The marketing phase for any project seeks to identify potential customers and attract them to the new development. It creates a sense of place to distinguish the emerging residential, retail and commercial space from others in Parramatta. It assists in creating a unique product identity that can complement the overall marketing plan. Typically marketing for new residential development concentrates on the lifestyle character and attractions to be provided for the new residential community. Marketing for commercial occupants concentrates on the economic efficiencies of the location and the available infrastructure within the building.

Interpretation programmes for the audiences for both residential and employment components can be informed of the background characteristics and history of the place that create a distinctive difference from other developments – that contribute to the underlying sense of place. Residential buyers and commercial occupants could be attracted by the strong sense of Parramatta as a place with a many layered cultural history within Sydney and NSW.

Both audiences could be interested in the archaeological management and conservation programmes that have been conducted across the site and how the present development has been fashioned to protect and display these artefacts while telling stories and revealing questions that have yet to be resolved.

10.2.3 Moving-in phase for new occupants and users

The prospective audience during the moving-in phase seeks to know a little more about the place and the locality. Their friends and colleagues are interested in why the location was chosen for the house or place of work. They will be interested in the surrounding Parramatta community and its facilities and how they might relate and interact with that community.

They could be encouraged to learn about the history and significance of the location into which they are moving so that they can discuss this with their friends and relatives.

10.2.4 Long term occupation of the site

The long term audience for any interpretation plan will comprise the static residential/employment pool and visitors or passers-by. Potentially this audience could provide a series of engaged groups through the provision of interpretive material throughout the public realm of the development.

The residential/employment audience has the time to examine the available information more closely but will soon lose interest in displays that simply provide static information with no additional cultural or artistic benefit.

Visitors, tourists, special interest groups and passers-by may also be interested in learning about the place before or during their visit. They have the advantage of not being exposed to any particular interpretive material on a continuing basis so are likely to show more interest in the displays during their visits. Among visitors, there are those with a deeper interest in the indigenous, pastoral, industrial or working history of the Parramatta region, those with a passing interest and those with little or no interest in the history or earlier character of the locality.

The emerging inscription of the nearby Government Domain in Parramatta Park on the World Heritage List will raise the profile of Parramatta to the international stage. It is well known that world heritage listing increases tourism, particularly if well managed and promoted. The close physical location of the subject site, with its visible display of a convict hut, is a strongly complementary feature to the world heritage site and can readily be incorporated into tourism and visitor circuits. In addition there are walking tours and trails in and around Parramatta that reveal to interested groups the history and cultural heritage of Australia's second urban settlement. The subject site with its Interpretation Centre has a powerful opportunity to become a significant focus of visitation within the Parramatta CBD.

The coffee shops and retail tenancies around the plaza provide opportunities for casual visitors to engage, in a passive manner with the archaeology.

In addition, it is proposed that the open plaza be used for theatrical performances and other festival events. The design has explored the potential for portions of the open sections of the plaza to be temporarily covered over to permit larger performance spaces. With clever and coordinated promotion, the archaeological plaza at 45 Macquarie Street will become a major community amenity.

Different interpretive techniques should be used to target different audiences.

Part D

The Proposal and Assessment of Impact

11.0

A New Context for the Archaeology

11.1 The Archaeological Plaza

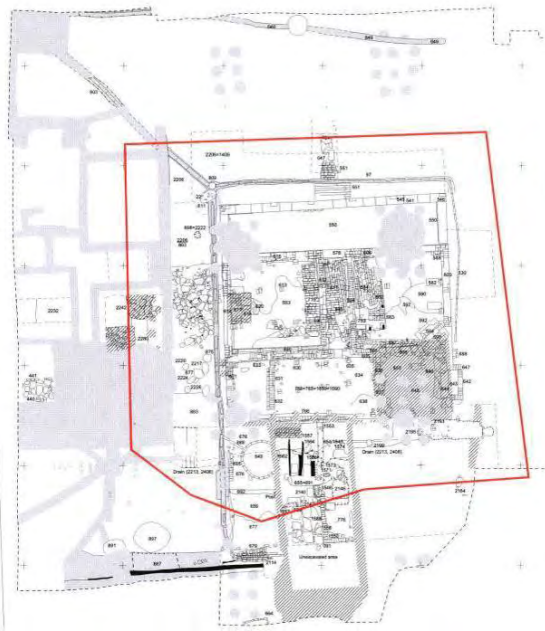
The proposed redevelopment at 45 Macquarie Street, Parramatta comprises a high rise residential tower with retail at street level and several floors of commercial space above. The development is described in the drawings prepared by Bates Smart Architects and described in the Statement of Environmental Effects prepared by JBA Planning. The design was developed in conjunction with the archaeological and heritage consultants and with full recognition of the unique opportunity to expose and present known in-situ archaeological resources, as required by both the earlier Excavation Permit and the Director General's Requirements for the project.

With regards to the archaeological resources, the development has the following features:

- An underground “dam” around the archaeology defined by the basement car park and foundation walls around the edges of the plaza, creating a large area protected from overland flooding and enables improved environmental management for the relics.
- A large pedestrian plaza has been created across the northern, Macquarie Street, frontage within which a number of large openings will enable pedestrians to look down and see the in-situ archaeological display, which will be open and unenclosed. The plaza has been designed with a large, high level canopy to provide sun shading and environmental management for the archaeology, in addition to improving the quality of the pedestrian space.
- The plaza will be open during the day to allow the unimpeded circulation of pedestrians. Security gates will be closed at night.
- The openings in the plaza around the archaeology will be fitted with glass handrails for safety but will generally not extend upwards to a level where visitors must look through glass to see the archaeology.
- Research is being undertaken by the architects to explore the potential for “drop-in” flooring panels over some of the openings over the archaeology. These flooring panels will enable the provision of an expanded plaza area for pedestrian activity during festivals or performances.
- An Interpretation Centre, located at first floor level on the western side of the development, overlooking the plaza, enabling direct overlook of the archaeology. This will be accessed from an area at the south western corner of the plaza which will provide a ground floor level entry and introduction space for the Interpretation Centre.
- A storage and resource centre located as a “back of house” facility on the ground floor behind the main plaza.

Three of the key design approaches taken in consultation with the archaeological and heritage consultants comprise:

- Identification of two protection zones around the important early archaeological remains, into which any intervention must be carefully controlled. The only unavoidable intervention in the western zone was one column footing.
- A greatly expanded opening within the plaza compared with the earlier approvals. While a “bridge” has been included over the central section of the archaeology, the scheme will enable more than just the very early archaeology to be viewed and appreciated.
- A reduction in number and relocation of the main columns supporting the residential tower above as these load bearing structures reach ground level. This was achieved by the use of “V” shaped columns that pick up two load points and direct them to single locations in and around the sensitive areas of archaeology.



The proposed protection zone around the 1830s cottage and convict hut on the western side of the Macquarie Street frontage



The protection zone around the remains of the hotel cellar at the eastern end of the Macquarie Street frontage



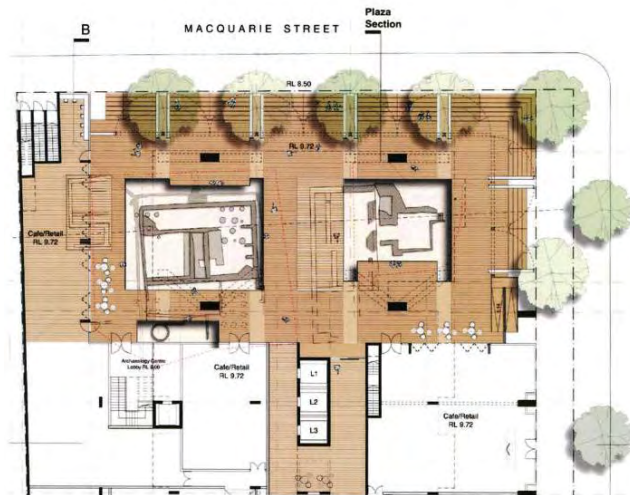
A view of the design concept for the “V” shaped columns supporting both the high level canopies and the tower above.

The “V” design minimises the number of columns that must be accommodated within the vicinity of the sensitive archaeology



Conceptual view, looking east and down from the first floor Interpretation Centre to the open sections of the plaza, through which the archaeology will be exposed

This direct visual connection will greatly enhance the power of the interpretation programmes

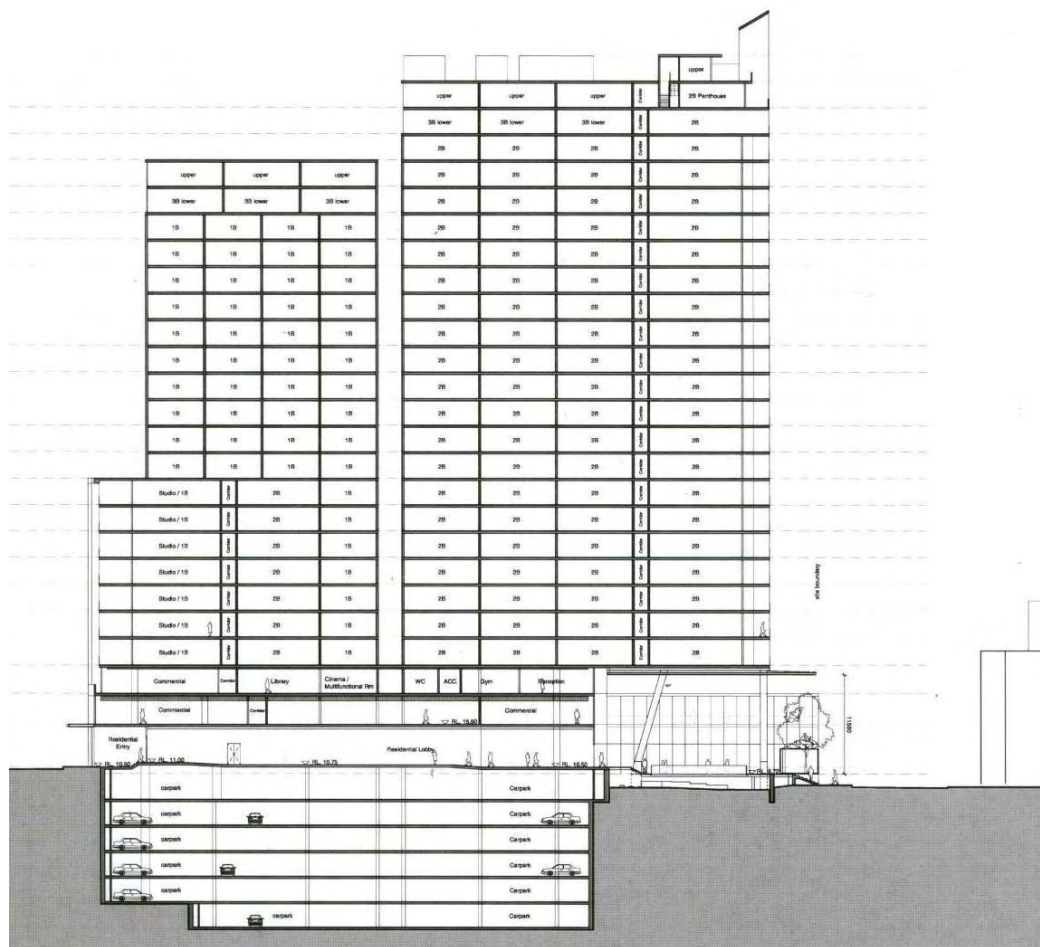


The two large openings in the plaza provide direct viewing of the archaeology

A “bridge” will span over the later archaeology between the two main conservation zones

An stair in the lower right hand corner provides access to the first floor Interpretation Centre

Cafes and retail space around the plaza increase opportunities for public interaction with the archaeology and provide interpretation opportunities

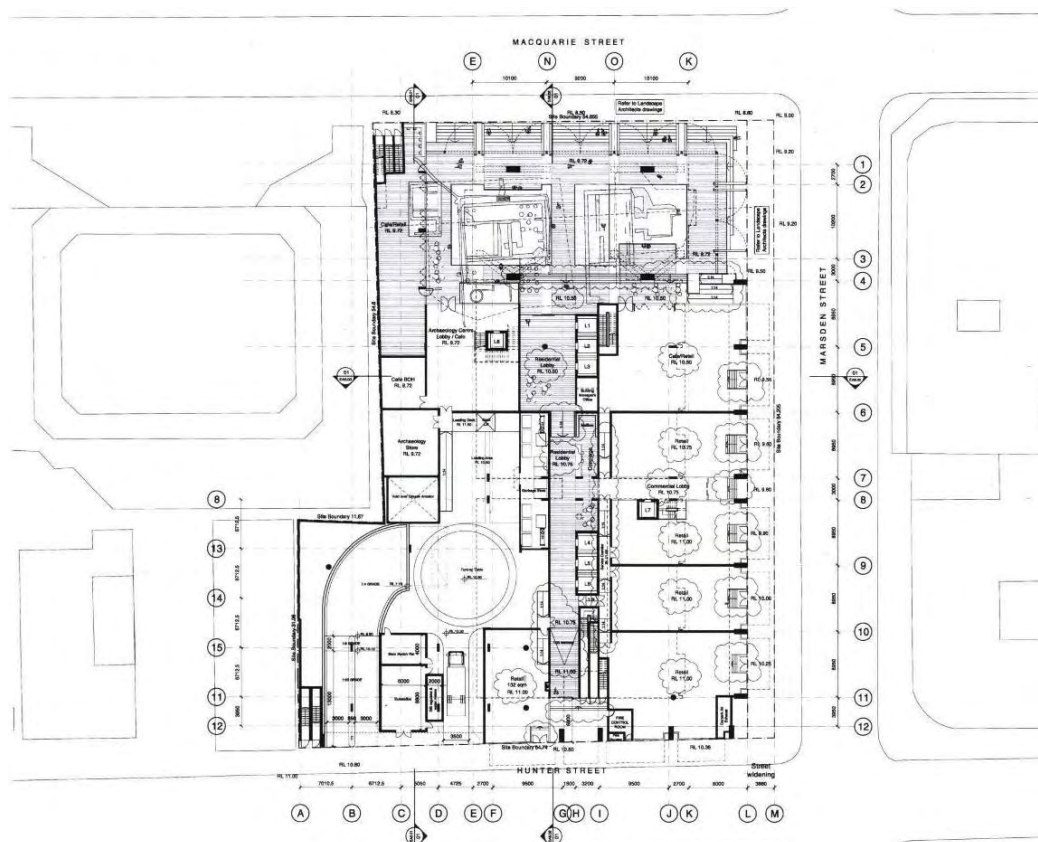


The general layout of the public plaza with high level canopy on the Macquarie Street frontage of the development. Notable features include the underground "dam" around the archaeology comprising of the basement carpark and deep perimeter walls to prevent overland water flow and control the extent of rising moisture levels, and the spayed columns to minimise the impact of the main structure on sensitive areas of the archaeology.

11.2 The Overall Development

The overall development is described in drawings prepared by Bates Smart Architects.

The archaeological plaza on the northern, Macquarie Street, frontage is a vital component of the public face and civic imagery of the building.



Ground Floor Plan



Macquarie Street Elevation



Marsden Street Elevation

11.3 The Urban Context of the Subject Development

The subject site is surrounded by medium to high rise commercial buildings. The proposed new development will be erected into this medium to high rise urban context.



Looking north west from the subject site towards the high rise Government office building in the distance



View looking south east at the medium scale commercial buildings to the south of the subject site



View looking directly south across the empty expanse of the subject site

11.4 Urban Heritage Context of the Subject Development

With the exception of the archaeological provisions of the LEP, the subject site is effectively vacant and is not listed as a heritage item.

There are several heritage items in the vicinity of the site that need to be taken into consideration when considering the likely impact of the proposed new building.

- 195 Church Street – St John's Pro-Cathedral + Verger's cottage + Parish Hall
- 197 Church Street - Shop & potential archaeological site
- 41 Hunter Street, Two-storey residence

The only listed heritage item in the immediate vicinity is the Edwardian house on the SE corner of Marsden and Hunter Streets. St Johns Cathedral is located at some distance to the east and is visible along the axial length of Hunter Street.

197 Church Street is sufficiently removed from the subject site and screened from it that there will be no adverse impact on its significance.



The nearest heritage listed property to the subject site is located at 41 Hunter Street, on the south east corner of Marsden and Hunter Streets, diagonally opposite the subject site.



The most important heritage item in the vicinity of the subject site is St John's Church. The church is located at some distance to the east and is visible on the axis of Hunter Street, which forms the southern boundary of the subject site

This axial view is a recognised Historic View that must be conserved in accordance with Section 7 of Parramatta City Centre DCP 2007

12.0 Proposed Archaeological Conservation Works

12.1 Protective Measures within the Proposed Development

The key components of the proposed development that respond to the conservation needs of the archaeological remains include:

- **Placement of the building on the site** – Building up-slope of the archaeology prevents overland flow across the site and onto the remains.
- **Dam wall** – Proposed sheet piling on the west and north sides of the site may lower the water table and help to manage ground water table levels.
- **Car park excavation** – The excavation for the underground car park may lower the water table and help to manage ground water table levels.
- **Building above** – Design of the building above the remains will enable there to be minimal intervention during construction of the development.
- **Column placement** – The careful design of the building's structural system has allowed there to be only one structural column within the identified archaeological protection zones, thereby reducing the impact on the archaeological remains.
- **Roof over the plaza** – The plaza awning/roof will prevent rainfall directly onto the remains.
- **Plaza deck** - The position of the remains below the plaza deck will help to moderate changes in moisture content and temperature of the ambient air. Furthermore, the open remains under the decking will assist in establishing a micro-climate around the remains whereby a cooler temperature is maintained. The proposed height of the deck over the remains will also allow sufficient headroom for safe maintenance access.
- **Plaza deck overhang** – The overhang of the plaza deck will provide some protection to the remains from fluctuations in air quality.
- **Balustrades** – The balustrades around the viewing openings in the plaza deck will not only prevent physical access to the remains by the public, but will also serve to buffer the remains from prevailing winds.
- **Plaza gates and fence** – Operable gates at the top of the plaza stairs will serve to control access to the site after hours.

12.2 Schedule of Conservation Works

Although the new development will provide protection for the remains and will contribute to the preventive conservation of the archaeological site, there are also a series of physical conservation and maintenance works that must be carried out during the various stages of the project. In addition, preventive conservation strategies can be further refined throughout the development process to better address the needs of the archaeological remains.

Below is a detailed schedule of conservation works that are recommended for each phase of the development: design development, construction, post occupancy and in the long term. It is important to understand that conservation works (either preventive, physical or maintenance works) do not occur at one time, during one phase of the project; rather they are

often iterative, responding to changing conditions of the remains or of the development itself. In some instances, specific works must be carried out during all phases of the project and into the long-term.

Please note that the associated document named *"Recommendations for Protection of Archaeological Remains during Construction"* presents the detailed conservation considerations and works for the stages of the project associated with the construction phase (ie. site prep, initial structural works). For purposes of the schedule below, these works have been grouped into the one "construction phase".

	CONSERVATION WORKS	Design Development	Construction	Post Occupation	Long-term	Preventive	Physical	Maintenance
	Seek geotechnical advice on the likely impact of surrounding piling and other ground works on water table levels.							
	Carry out analysis of predicted wind patterns within the plaza area to understand the extent to which prevailing winds will access the remains below the deck.							
	Investigate optimum size and orientation of openings in plaza deck to give best balance between visibility of the remains and stability of the microclimate around the remains.							
	Detail design of surrounding deck to prevent water ingress.							
	Allow for future make-up or draw-down options for ground water table below remains.							
	Document possible options to facilitate managing soil moisture into current design details. Concepts discussed include gravel surface treatment to ground, spray or drip irrigation systems, below grade sump pumps.							
	Document protection of the archaeological remains during construction. Include methodology and implementation strategy.							
	Design and document environmental control devices (and provision for future devices if required).							
	Assess condition of remains – analysis and recommendations for any remediation works.							
	Management of ground moisture content.							
	Monitor condition of remains – observation and recording							
	Eliminate biological growth.							
	Remove higher plant material							
	Implement temporary structural stabilisation of remains during construction (see protection documentation)							
	Remove protection after construction							
	Monitor protection during construction							
	Clean-up of remnants - o Biological growth - o Mud							
	Consolidate fabric of remains e.g. timber, mortar, brick, stone							
	Reinstate / repair elements with original materials - o Brick - o Stone - o Timber							

	CONSERVATION WORKS	Design Development	Construction	Post Occupation	Long-term	Preventive	Physical	Maintenance
	Reconstruct elements - o Brick - o Stone - o Timber							
	Design and document access to remains for - o Maintenance - o Interpretation							
	Carry out long term structural stabilisation of remains, including: - o Foundations - o Reconstruction of footings - o Pinning of cracked elements - o Mortar joints							
	Desalination of porous masonry elements if required							
	Develop biological growth control programme – what / how / when / where / who							
	Install environmental control devices, such as: - o Monitors - o Sprinklers / drippers - o Heater / AC							
	Install surface finishes around remains							
	Reconstruct for interpretive purposes							
	Install interpretive elements - o Signs - o Lights - o Other							
	Prepare monitoring and maintenance manual including schedule programme and procedures							
	Ongoing cleaning of remains - o Dust - o Litter - o Biological growth - o Access traces							
	Follow up and review of monitoring and maintenance manual							
	Operate biological growth control program							

13.0 Proposed Interpretive Principles and Themes

13.1 Introduction.

The resources for interpretation and display include all the physical, graphic and documentary evidence, relating to the site. The resources fall into a number of categories:

Primary Evidence.

- The physical remains of the site, as it survives today.
- The artefact assemblages from each archaeological site.
- Building materials recovered from the site, to be used for conservation and reconstruction.
- Original historical documents, held by various archives.

Secondary Evidence.

- The excavation report.
- Photographs (digital, colour slide and black and white prints).
- Plans (original site plans and computer graphics).
- Site records (context sheets and artefact catalogue).

The site has provided the first substantial opportunity to conserve a 'convict hut' in situ. Given the significance of this site, its role in interpretation and display should extend beyond the site to the context of other archaeological and heritage sites in Parramatta. The site should provide a central role in cultural heritage.

While other sites in Parramatta have provided limited display opportunities, it is considered important that the displays on this site should reflect a thematic approach, as described in more detail below. Displays that concentrate on the contribution of archaeological evidence to our understanding of the past tend to remove the focus from aesthetics to historical and archaeological significance, thus broadening the scope for the display of less aesthetic, but more meaningful artefacts.

13.2 Archaeological Evidence of Research Importance

Physical evidence discovered during the archaeological excavations in 2005 provides useful resources that contribute important knowledge of the historical development of Parramatta. The presentation and discussion of these resources will form a key aspect of the overall site interpretation.

- The location of "convict huts".
- 'Convict huts', their construction, additions and alterations.. New evidence for longevity of 'convict huts'.
- Archaeological evidence for historical persons and their careers.
- Predicting the archaeological resource.
- The appearance of the "Wheatsheaf" and 'Shepherd' Inns.
- The dating of the archaeological remains on Allotment 17-18.
- A 'convict hut' on Allotment 17?
- A detailed understanding of the construction sequence on Allotment 16.
- Buildings on Allotment 26.
- The archaeological investigation on Allotments 26 and 27.

13.3 Artefact Assemblages

13.3.1 The use of artefacts in interpretation and display.

The long-standing tradition of museology is to display artefacts of aesthetic, historical or archaeological significance. Existing displays of archaeological remains and artefacts in Parramatta have followed this tradition. The contrast between museum cabinets crammed with row upon row of similar artefacts as opposed to the display of a few key artefacts is not at issue. The concern is that the focus of the displays to date is on aesthetic significance, rather than historical or archaeological significance.

The existing displays have not taken the opportunity to address how archaeologists use artefacts to reveal historical lives. This is an extremely important area in which archaeology is beginning to make a substantial contribution. It is recommended that the interpretation and display of the artefacts and assemblages should address this theme as a matter of priority.

It is standard practice on archaeological excavations to catalogue all the artefacts that are found. Each artefact is described in detail and is also given a functional descriptor, based on the interpretation of their primary use. These functional categories are used to assess the social and economic standing of the occupants of archaeological sites. It is a tool that can be used on a comparative basis between sites, localities, regions and even states. In other words, it is a tool that can be used at a macro level, as well as the micro level of within site analysis. Examples of this approach are included below.

Once this overall assemblage analysis has been completed, further analysis can then proceed at the artefact level, either as part of the work that goes into the excavation report, or by research projects undertaken after the completion of the report.

It is appropriate that artefacts are displayed for their aesthetic, historical and archaeological significance, but a place should be given in the interpretation and display to explore how artefacts and assemblages are used by archaeologists to reveal historical lives.

The use of this theme reveals other concepts for display. For example, artefacts belonging to a single function category can be grouped together in one space. The viewer can then be directed to other spaces showing other function categories. The viewer is also directed to a space that explains how the range of function categories contributes to an understanding of the social and economic standing of the owners and occupants of the site.

A display theme that focuses on function categories:

- Removes the need to concentrate on aesthetic significance and values.
- Provides a potential theme for artefact displays throughout the building.
- Focuses attention on the archaeological methodologies for interpretation of a site.
- Reveals the social and economic standing of the historical persons who occupied the sites.
- Provides a reminder that the same methodology can be used today to assess social and economic standing – do not let an archaeologist go through your garbage bin!

The display of artefacts in their function categories is only one approach. Rather than display a collection of artefacts from a site, it is preferable that each display follows a particular theme. This approach is further described in the following sections. These themes will relate closely to the contribution that artefact studies make to archaeology and history.

Themes include:

- The social and economic standing of the historical occupants and owners of archaeological sites.
- Methodologies used by archaeologists to investigate social and economic standing of historical households.

- The social and economic standing of the occupants and owners of Allotment 16 and how it provides a useful tool to understand the ebb and flow of the fortunes of the households throughout the 19th century.
- The social and economic standing of the historical occupants and owners of archaeological sites.

There are interpretation opportunities arising from the collection of artefacts recovered during the excavations. These include:

- The social and economic standing of the owners of Allotment 16 and other allotments.
- Archaeological evidence for historical persons and specific uses.
- Archaeological evidence for construction techniques in 'convict huts' and later buildings.
- Archaeological evidence for convict and other industries.
- Archaeological evidence for trade connections with China.
- Archaeological evidence for changing standards of behaviour.
- Archaeological evidence for women, children and literacy.
- Archaeological evidence for other aspects of domestic and urban life.
- Archaeological evidence for transport and work.
- Parramatta and its natural setting and how the landscape changed during urban development.
- Aboriginal settlement in the Parramatta area.
- Other historical and archaeological sites in Parramatta.
- Media and community response to archaeological excavations.
- The stage by stage process leading to conservation in situ.

13.4 Additional Historical Research Opportunities

Detailed historical research questions have been identified by Dr. Edward Higginbotham as part of the archaeological research work undertaken during and subsequent to the excavations.

These research topics can be summarised as follows:

- The foundation of the town.
- Convict accommodation.
- The life paths of the occupants of the town allotments.
- Changes in the town plan of Parramatta.
- Later development of the town allotments, amalgamation and redevelopment.
- Understanding the sequence of development on Allotments 17-18.

13.5 Summary of Interpretation and display themes.

The following table summarises the interpretation and display themes. Those themes having the broadest application are listed first, followed by those which relate more closely to the site itself.

13.5.1 International Themes – World Heritage

- Convict Transportation.
- The Penal System.

13.5.2 National and State Themes – National and State significance

- First Settlements.
- The town Plan of the Penal Settlement.
- Town Plan and the planning of the first settlements.
- Convict Accommodation in Parramatta.
- Construction methods of 'convict huts'. Additions and alterations.
- Changes in the town plan as Parramatta grew into a market town.
- Leases of Town Allotments, 1796 onwards.
- The development of Parramatta from 'Gaol Town' to Market Town, from 1790 to 1823 and later.
- Aboriginal settlement of the Parramatta area and the history of contact and relations between the Aboriginal peoples and historical settlers.
- The natural setting and the changing landscape after historical settlement.
- The nature of housing construction in Parramatta up to the 1850s.
- The surviving condition of the archaeological sites of 'convict huts' in Parramatta.
- The dating of the structures and buildings along the Macquarie Street frontage.
- The description and interpretation of the building sequence on Allotment 16.
- The description, explanation and interpretation of the physical remains of the "Wheelwright's Workshop".
- Trades in Parramatta, as illustrated by John Walker, wheelwright.
- The dating of the first building on Allotment 17.
- The dating of the cellar on Allotments 17-18.
- Innkeepers in Parramatta, as illustrated by John Graham and later licensees of the "Wheatsheaf" and 'Shepherd' Inn, and also by John Hindle with his grog-shop on the corner of Hunter and Marsden Streets (Allotment 26).
- The shopkeepers, innkeepers and tradesmen, who each played a role in the development of Parramatta.
- Life in the penal colony of New South Wales.
- The life paths of the convicts, the came free and the native born in and around Parramatta.
- The life paths of the native born or currency lads and lasses.
- The living and working conditions of convicts in Parramatta.
- The development of local industries, including bone button manufacture.
- The development of local industries, including brick making, tile manufacture and pottery.
- The development of local industries, including blacksmithing or metalworking.
- Trade connections of early New South Wales and the role of the NSW Corps and Sydney merchants in the development of trade.
- The social and economic standing of the occupants and owners of Allotment 16 and how it provides a useful tool to understand the ebb and flow of the fortunes of the households throughout the 19th century.
- The social and economic standing of the historical occupants and owners of archaeological sites.

- Methodologies used by archaeologists to investigate social and economic standing of historical households.
- Predicting the archaeological resource.
- The correlations between historical lives and archaeological sites.
- Archaeology and history work together to provide a more complete or balanced understanding of our past.

13.5.3 Local Themes – Local Significance.

- The mid 19th to late 20th century development of the town allotments in the context of Parramatta growth and change.
- The later development of Allotment 16.
- The later development of Allotment 17.
- The later development of Allotment 18.
- The archaeology of alcohol consumption. Changing habits and social standards associated with alcohol consumption.
- The archaeological evidence for household furnishings, as an indicator of social and economic standing.
- The archaeological evidence for room sizes or living space per person, as an indicator of social and economic standing.
- The workplace, working conditions and transport.
- Domestic life, husbandry, personal attire and belongings, medications, pastimes and household services.

13.5.4 Other Themes – National, State and Local Significance.

- Migration from Europe, as illustrated by the Malouf family from Lebanon.
- The role of the Malouf family in the amalgamation of the allotments.
- Amalgamation of the properties, leading to demolition of historical buildings and first attempts at modern development.
- Public interest in the archaeological excavations, as revealed by volunteers, the media and the Open Day.
- The process of archaeological investigation, followed by the process of ensuring the conservation of this significant site in Parramatta.

14.0 The Proposed Interpretation Plan

14.1 Display of the In-situ Archaeology

The primary form of interpretation for the archaeology at 45 Macquarie Street will be for the display of the in-situ archaeological remains within the main northern entry plaza.

The display and its associated interpretation will focus on the very early and highly significant archaeology but also include display and interpretation of the physical evidence of subsequent layers of historical development.

It will be necessary, as discussed elsewhere in this report, for some reconstruction and rebuilding of the current archaeological remains to overcome deterioration and flood damage after the site was excavated in 2005. The conservation and presentation works related to this phase will be undertaken under the supervision of an archaeologist.

14.2 Permanent Storage of the Artefact Collection

- Storage space for the artefact collection
- Space for working on the artefact collection. The space should be sufficient for sorting large numbers of artefacts, potentially all artefacts of one type (for example ceramics) or from one location on the site.
- The same space for sorting artefacts and other materials for changing of permanent or temporary exhibitions.
- Storage space and potential working space for materials and equipment used in the conservation and maintenance of the archaeological site.

The Storage and Working area should be located in relative proximity to the main Interpretation Centre to facilitate the development of joint display and conservation programmes and to achieve staff efficiency.

14.3 The Interpretation Centre

The Interpretation Centre will have a number of core functions:

- An outlook onto the in-situ architectural relics, from an elevated location
- Interpretation of the adjoining archaeological site and display of selected artefacts
- Presentation of information, research and questions regarding the history of the site and the locality
- Presentation of the conservation requirements and processes for the archaeology
- A focal point for site tours
- A visitor information centre including for the nearby World Heritage Site and the general archaeological and cultural heritage of Parramatta
- A visitor centre for the sale and/or circulation of information and souvenirs.

There is some potential for the Interpretation to build productive links with associated operations and organisations such as the Parramatta Council operated Parramatta Heritage Centre, the National Trust, NSW Historic Houses Trust and the Parramatta Park Trust.

The potential role of the Interpretation Centre for cultural tourism in the Parramatta region is far greater than for any of the other archaeological displays elsewhere in the city centre. Many of these are limited to static or passive displays of the remains within the context of

building forecourts or foyers. No other archaeological site in Parramatta has the potential to fulfil this role with a similar potential for success.

14.4 Long Term Management Sustainability for the Interpretation

Key Issues for consideration in the development of the Interpretation Centre include:

- Management options, either within the strata management owners corporation or as leasehold
- Integration of the facilities of the Interpretation Centre with those available or planned for elsewhere in Parramatta.
- Integration of the archaeological sites in Parramatta with interpretation and display
- Providing best outcomes for the proposed development
- Planning ahead for the preparation, opening and operation of the Centre

Long term funding to ensure the sustainability is an essential aspect of the Interpretation and its staffing. While links can and must be made with associated organisations and agencies, such as the Parramatta Archaeological Resources Centre, Parramatta Council, the NSW Heritage Branch etc, a form of long term secure finance should be identified and committed as part of the development.

One idea is for the area allocated to the Interpretation Centre and associated Storage Area to be expanded within the strata title subdivision to include some of the adjacent retail space. Lease income from that space will assist in the long term financial security of the Interpretation activities.

The actual archaeological relics should be incorporated into the common property of the Owners Corporation to ensure that there is a long term allocation of funds for its conservation, monitoring and maintenance. Suitable provisions should be included in the Owners Corporation Rules and Statutes to ensure this outcome.

14.5 Use of Artefacts in Interpretation and Display

To enable the artefacts to be used in the displays and throughout the development, the collection should be sorted into three categories, in accordance with recent practice, as follows:

- Display – artefacts suitable for museum display
- Research – artefacts that would repay further analysis and study
- Public Distribution – artefacts of no further value after cataloguing. These may be used for public purposes, including education and public art. This is normally the largest part of the collection.

The artefact collection from the 2005 archaeological excavations has been fully catalogued. The process of sorting and culling the collection into the three categories described above should be undertaken with NSW Heritage Branch approval.

Themed displays of artefacts in a decorative or didactic manner may be located throughout the building to engage with occupants and visitors in more than just the ground floor foyer areas.

14.6 Further Research

A large number of further research opportunities exist for the archaeological site. These will ensure a lively programme of ongoing research and activity on the site and in the proposed interpretation centre.

These opportunities may be divided up into:

1. Excavation.
 - The well on Allotment 16. This was only partially excavated. The remainder of the well shaft remains unexcavated and has the potential to provide well preserved artefacts, relating to the occupation of the 1830s cottage.
 - Within the concrete footings of the 1890s house on Allotment 17 are the only surviving remains of the house shown on this allotment in 1823. The building survived until at least 1854. Was this building originally a 'convict hut'? Further archaeological investigation may reveal an answer to this question.
2. Ongoing research of the artefact collection.
 - A whole range of research themes are available for the artefact collection.

In addition to the above two categories, there will also be numerous opportunities for expanding knowledge on the archaeology and heritage of Parramatta. This process should involve all the heritage agencies and organisations in Parramatta.

15.0 Assessment of Heritage Impact

15.1 Beneficial Outcomes for the Significant Archaeology

1. An opportunity will be provided within the context of the new development to overcome the current situation, in which the archaeological relics from the 2005 excavation campaign are located within a series of sheds without any active programme of protection, stabilization or environmental management.
2. Additional archaeological excavation prior to development will recover the significance of the sites and make that information available in report or publication form to the general public.
3. The interpretation and display of the results of the excavation within the proposed development will enable the public to appreciate the heritage significance, history and archaeology of the site.
4. For the first time in Parramatta, there will be an opportunity for the in-situ preservation and display of the physical remains of a "convict hut".
5. The resources available for display will include artifacts, elements of buildings conserved in situ or reconstructed, historical documents, historical and archaeological information.
6. Retention in situ of all state significant archaeological remains will be accompanied by an active programme of conservation, preservation, stabilisation and monitoring within their new environment.
7. Enhanced interpretation and public engagement opportunities will be provided, within the Parramatta context, if the nearby Parramatta Park and Governors Domain are inscribed on the World Heritage List as part of the convict sites serial nomination.

15.2 Impacts on the Less Significant Archaeology

The worst impact on the potentially state significant archaeological relics within the defined protection zones at the Macquarie Street end of the site will be the loss of material arising from the excavation for the one proposed column base that cannot be avoided. The excavation and construction works will be carefully archaeologically supervised and managed to minimise damage and to recover relics that would otherwise be lost. The presence of the new column within the relics zone will have a visual impact within the context of the overall high level canopy covering the main pedestrian plaza.

Some impacts will occur from the new environmental conditions when the site context of the archaeology changes from the current sheds on the edge of an open informal car park to the northern plaza of the new development. Additional impacts within the protection zones will arise when the relics are stabilised and conserved in a manner that prepares them for presentation to the public.

Secondary impacts will arise with regard to the northern archaeology in general from the excavation and construction works associated with the new development. In general these have been located outside the nominated protection zones and will only impact on archaeological relics considered to be of lesser significance.

Impacts will also result from the removal of all archaeological relics from the central and southern portions of the site. Relics in this area are not regarded as highly significant.

15.3 Impacts on the Nearby Heritage Items and View Lines

In terms of Clause 35 of Parramatta City Centre LEP 2007, the subject development will have no unacceptable adverse impacts on the heritage significance of the two listed heritage items in the vicinity of the site.

The heritage listed house at 41 Hunter Street, diagonally opposite to the south east, will not be physically affected by the development and already exists in an evolving urban environment that is very different to that into which it was erected in the early 20th century

St John's Church Group is well removed to the east and although visible from the southern footpath of the subject site, is well separated from the development by other buildings on the intervening city blocks. There will be no adverse impacts on this listed item.

In terms of Clause 35A of the Parramatta City Centre LEP and Parramatta City Centre DCP 2007, there will be no interruptions to or adverse impacts on the scheduled historic view looking east down Marsden Street towards St Johns Church.

15.4 Conclusions and Recommendations

The project proposal responds well to Item 4 European Heritage of the Director General's Requirements (MP 09 0167) issued as part of the Part 3A process for the project.

European Heritage

The Environmental Assessment shall provide a Heritage Impact Statement prepared by a qualified Heritage Consultant in accordance with relevant guidelines listed below. The assessment is to provide the following in relation to the heritage and archaeological impacts and/or benefits associated with the project and should provide specific detail regarding:

- a) Intended opportunities for the display, preservation and interpretation of the relics.*
- b) An assessment of the physical and materials conservation requirements for the extant structural remains and archaeological fabric of the site, including recommended actions to mitigate impacts. The report should provide an indicative schedule of materials conservation needs of the archaeological remains.*
- c) Construction management and services reticulation (including waste and stormwater disposal) strategies to minimise impact on the site's archaeological remains.*
- Section 6 sets out the requirements for the preservation, stabilisation and conservation management of the archaeological relics.
- Section 11 sets out the proposed display of the archaeological relics within the context of the proposed development.
- Section 12 sets out the proposed archaeological conservation and preservation works, including the proposed management and mitigation works
- Sections 13 and 14 set out the proposed interpretation themes and techniques for the archaeological relics.

The response to item c) in the DGRs is contained as the appendix to this Report, *Recommendations for Protection of Archaeological remains During Construction*.

On the basis that there are no adverse impacts on the various heritage listed items in the vicinity of the site, or on the scheduled historic view looking east down Marsden Street, the proposal is considered to be satisfactory under the heritage provisions of the Parramatta City Centre LEP 2007 and Parramatta City Centre DCP 2007.