

LIVERPOOL HEALTH AND ACADEMIC PRECINCT – MAIN WORKS

Archaeological Research Design and Excavation Methodology



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REPORT

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Susan Kennedy



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Prepared by:

RPS

Josh Madden
Senior Heritage Consultant

Level 13, 255 Pitt Street
Sydney NSW 2000

T +61 2 8099 3200
E josh.madden@rpsgroup.com.au

Prepared for:

Johnstaff

Shamma Hasan
Project Manager

Level 5, 9 Castlereagh Street
SYDNEY NSW 2000

T +61 415 111 867
E shamma.hasan@johnstaff.com.au

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1 INTRODUCTION

Johnstaff on behalf of NSW Health Infrastructure commissioned RPS Australia East Pty Ltd (RPS) to provide an Archaeological Research Design and Excavation Methodology in response to the State Significant Development (SSD) Approval Conditions for the *Liverpool Hospital – Integrated Services Building and Refurbishment Works Corner Elizabeth Street and Goulburn Street, Liverpool* (SSD-10389) (Main Works).

1.1 Project background

Liverpool Hospital is the district hospital for local catchment areas of Liverpool and Fairfield and is a tertiary referral hospital for all South Western Sydney Local Health District (SWSLHD). In June 2018, the NSW Government announced \$740 million of funding for the development of a health, research and academic precinct in Liverpool. The redevelopment would increase the inpatient numbers, in addition to expanding tertiary and quaternary services.

On 30 November 2020 the Acting Executive Director Infrastructure Assessments, as delegate of the Minister for Planning and Public Spaces granted approval for the redevelopment of Liverpool Hospital (Main Works) project located in Lot 501 in DP 1165217 and Lots 1 and 2 in DP 1236362 and Campbell Street.

1.1.1 Project documentation and Heritage NSW response

A Statement of Heritage Impact (SOHI) was prepared by RPS in January 2020 (RPS, *Liverpool Health and Academic Precinct – Integrated Services Building and Refurbishment of the Clinical Service Building: Statement of Heritage Impact*). The SOHI was referred to Heritage NSW (as delegate of the Heritage Council of NSW) on 25 May 2020.

On 17 June 2020 comments were provided on this assessment from the Heritage Council NSW. NSW noted:

- Additional assessment of archaeological potential and impacts for the Main Works project area was required;
- Additional assessment archaeological significance should be prepared; and
- Additional archaeological recommendations should be considered.

In response to these requirements RPS prepared an addendum, issued 7 August 2020 (RPS; *Liverpool Hospital Redevelopment (SSD-10389): Addendum to Statement of Heritage Impact and Response to Comments – Heritage NSW, Department of Premier and Cabinet*). This addendum responded to each of the above points made by Heritage NSW.

Additional comments from HNSW were provided on 13 October 2020. The main issues raised by the Heritage Council are summarised as follows:

- *Assessments of archaeological potential and impacts to those resources and their cultural values*

The SOHI found the potential for archaeological evidence within the project area to be generally low with some areas having a likelihood of no archaeology (nil) and some with moderate potential. Heritage NSW disputed this assessment and concluded that the project area was likely to encompass a more substantial and diverse resource. This evaluation was based on excavations undertaken in portions of this site in 1993 and 2007 and 2009.

- *Assessment of Archaeological Significance*

Heritage NSW noted that the principal assessment contained in the SOHI was for a number of nineteenth century drains rather than for the entire project area. A more substantial assessment of significance for the entire site was required by Heritage NSW.

- *Archaeological Recommendations*

Because of the limited assessment of the archaeological potential of the site, confined to the drains, the recommendations that arose from that evaluation were considered by Heritage NSW to be too limited. On this basis Heritage NSW requested that the strategies and outcomes of this SOHI be reviewed in light of a revised assessment.

1.2 Purpose of this report

The purpose of this document is to provide an Archaeological Research Design and Excavation Methodology (ARD&EM) in response to the following Conditions of Consent:

Schedule 2 Part B Prior to the Commencement of Construction

Archaeological Salvage – Historic Archaeology

- B23. Prior to the commencement of construction, except demolition works, a suitably qualified and experienced historical archaeologist, who meets Heritage Council of NSW's Criteria for assessing Excavation Directors, must be nominated to manage a historical archaeological program.
- B24. Prior to the commencement of construction, except demolition works, an Archaeological Research Design and Excavation Methodology must be prepared to the satisfaction of the Planning Secretary to guide the historical archaeological program. It must be prepared in accordance with Heritage Council of NSW guidelines and prepared in consultation with Heritage NSW. The final approved Archaeological Research Design and Excavation Methodology must be provided to Council.

Part C During Construction

Archaeological Salvage – Historic Archaeology

- C10. The historical archaeological program is to be undertaken in accordance with the approved Archaeological Research Design and Excavation Methodology under condition B24.
- C10. A final archaeological excavation report must be prepared within 12 months of the completion of archaeological excavation. The report must include details of any significant artefacts recovered, where they were located and details of their ongoing conservation and protection in perpetuity. Copies of the final excavation report must be provided to the Planning Secretary, Heritage NSW and Liverpool Council's local studies unit.

Unexpected Find Protocol – Historic Archaeology

- C33. If any unexpected archaeological relics are uncovered during the work, then all works must cease immediately in that area and Heritage NSW contacted. Depending on the possible significance of the relics, an archaeological assessment and management strategy may be required before further works can continue in that area. Works may only recommence with the written approval of Heritage NSW.

1.3 Objectives

The objectives of this report are to determine the strategies that will be implemented to manage archaeological resources that may remain within the Main Works area prior to or during the redevelopment of the site (the "methodology"). These strategies and outcomes have been developed in light of a revised statement of significance.

The objectives of this report may be summarised as follows:

- A clear definition of the scope of potential archaeological resources
- A succinct statement of significance for this resource

- Identification of realistic outcomes for managing this resource in terms of recording and research objectives
- The strategies that will be employed to achieve these outcomes
- The deliverables from this programme of work

This document draws from the several reports and addendums prepared for this project to provide a concise summary and assessment that will support the proposed research framework and methodology for ongoing management of archaeological resources.

This report should be read in conjunction with:

- RPS, May 2020. *Liverpool Health and Academic Precinct – Integrated Services Building and Refurbishment of the Clinical Service Building: Statement of Heritage Impact*. Report prepared for Johnstaff on behalf of NSW Health Infrastructure; and
- RPS, August 2020. *Liverpool Hospital Redevelopment (SSD-10389): Addendum to Statement of Heritage Impact and Response to Comments – Heritage NSW, Department of Premier and Cabinet*. Addendum prepared for Johnstaff on behalf of NSW Health Infrastructure.

1.4 Authorship

This report has been prepared by Joshua Madden (RPS Senior Heritage Consultant) and Wendy Thorp (CRM Principal). The report has been reviewed by Susan Kennedy (RPS, Heritage Manager, Sydney). References to works this ARD&EM draws upon are listed and referenced.

Updates to the methodology in Section 6 were made by Dr Gary Marriner (RPS, Senior Heritage Consultant).

2 SUMMARY OF PREVIOUS FINDINGS

The historical context and evidence for the project area has been exhaustively identified and examined through several reports beginning in 1993 with an assessment of the Moore Hall site through to the new information acquired in 2020 for the SOHI for the project area. Following is a summary of the principal phases and associations of the place.

2.1 Environmental context

The Main Works project area is located in the Sydney Basin and is part of the Cumberland Lowlands. The local geology is characterised by the Wianamatta Group which includes Bringelly Shales and Ashfield Shales and Minchinbury Sandstone. The soils that cover the area are broadly described as a Blacktown Landscape which encompasses a gentle, undulating topography. Soils are shallow to moderately deep with seasonal waterlogging, water erosion and low fertility. It is located near the Georges River. The pre-settlement flora encompassed a variety of micro regions that included grey box, red gum, ironbark woodland and banksia amongst others. Governor Phillip described the landscape in 1788 as “*singularly fine, or rising in small hills of a very pleasing and picturesque appearance. The trees growing at a distance of from 20 to 40 feet from each other and in general entirely free from brushwood*”.



Plate 2.1 Joseph Lycett’s view of Liverpool in 1824 showing the nature of the topography and remnant vegetation; the area defined by blue is the site of the hospital (NLA 7690903 with AHMS additions 2007)

2.2 Aboriginal occupation

The project area was part of the traditional lands of the Darug speaking language group. The Cabrogal were the local clan group. Contemporary sources describe them as hunters of arboreal animals such as the possum. They also harvested toredo worms along the banks of the Georges River. Six registered Aboriginal objects have been identified up to 1950 metres from the project area but none within 500 metres of it. Contact, disease and conflict in the early years of the nineteenth century reduced the local people; by 1821 there were no more than twenty still living in the area.

2.3 Establishing Liverpool

2.3.1 Forming the Town Plan

Liverpool was one of the several towns founded by Governor Macquarie; it was declared in 1810. A road from Parramatta to Liverpool was opened in 1814. By the 1820s, as with the other Macquarie towns, a town plan had been surveyed and several of the principal civic buildings had been constructed including a church, burial ground, hospital, granary, school, military barracks and gaol amongst others. The project area encompasses Section 42 of the town and a portion of the Section 43 on the eastern side of 42. The two were, at the formation of the town divided by a street, Forbes Street; this portion of that street was closed in 1926. The northern boundary was Campbell Street and the southern boundary Elizabeth Street. The western boundary along Section 42 was Goulburn Street. The eastern boundary of Section 43 was Drummond Street, not within the project area except for a small portion at the northern end now built over by a hospital structure. This portion of Drummond Street was closed in 1902. A small sliver of the north-western boundary of Section 44, on the eastern side of Drummond Street is the western boundary of the project area.

2.3.2 Drainage

A singular feature of almost all plans of the town show a substantial drain that runs through both Section 42 and 43 and further west through Section 41 before turning south to apparently run to the river. It also ran east across a garden associated with a nineteenth century asylum in Section 44; it appears to have been cut through by the introduction of the railway corridor. It was recorded on a parish map of 1890 and the drain was still present and visible into the twentieth century or at least some sections of it. A survey plan of 1939 shows the section in the former Asylum garden as well as branches from it to be present in what was then still largely undeveloped land.

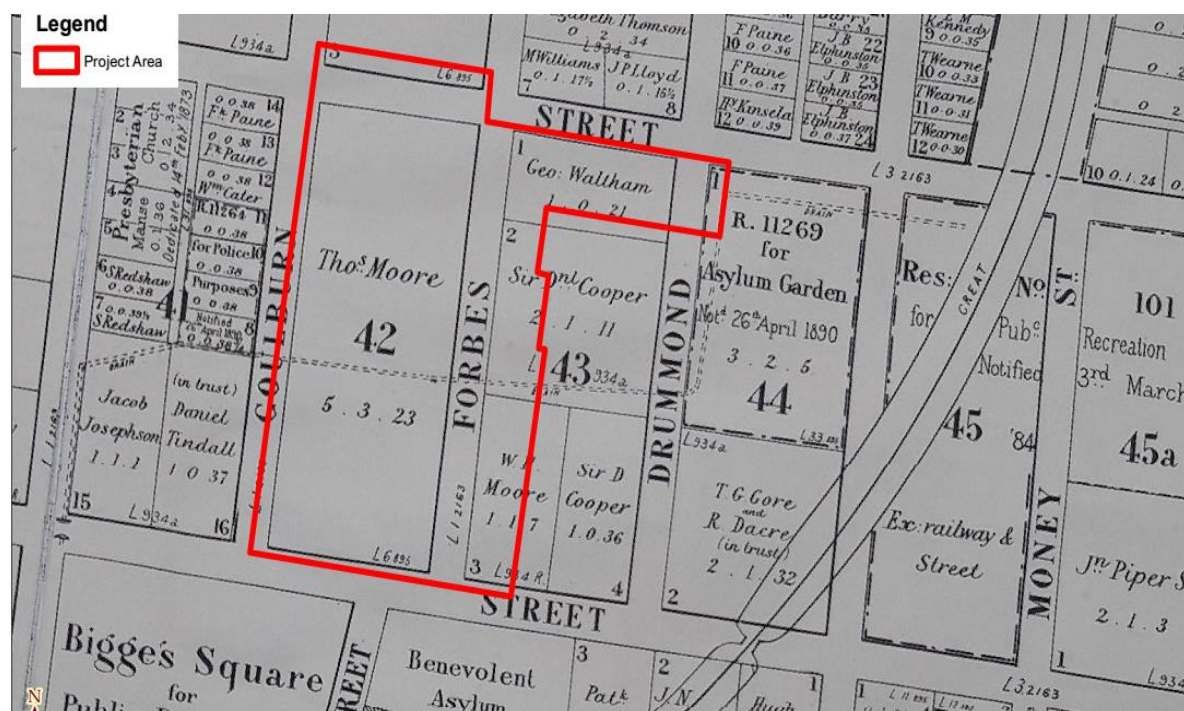


Plate 2.2 Detail of 1890 parish map showing the line of the drain, indicated by the dotted line, through the asylum garden, Sections 42 and 43 and the adjoining Section 41 before turning south along the street towards the river. At the eastern end it has been possibly cut by the introduction of the railway (LPI, Town Map 1890: Six maps viewer)

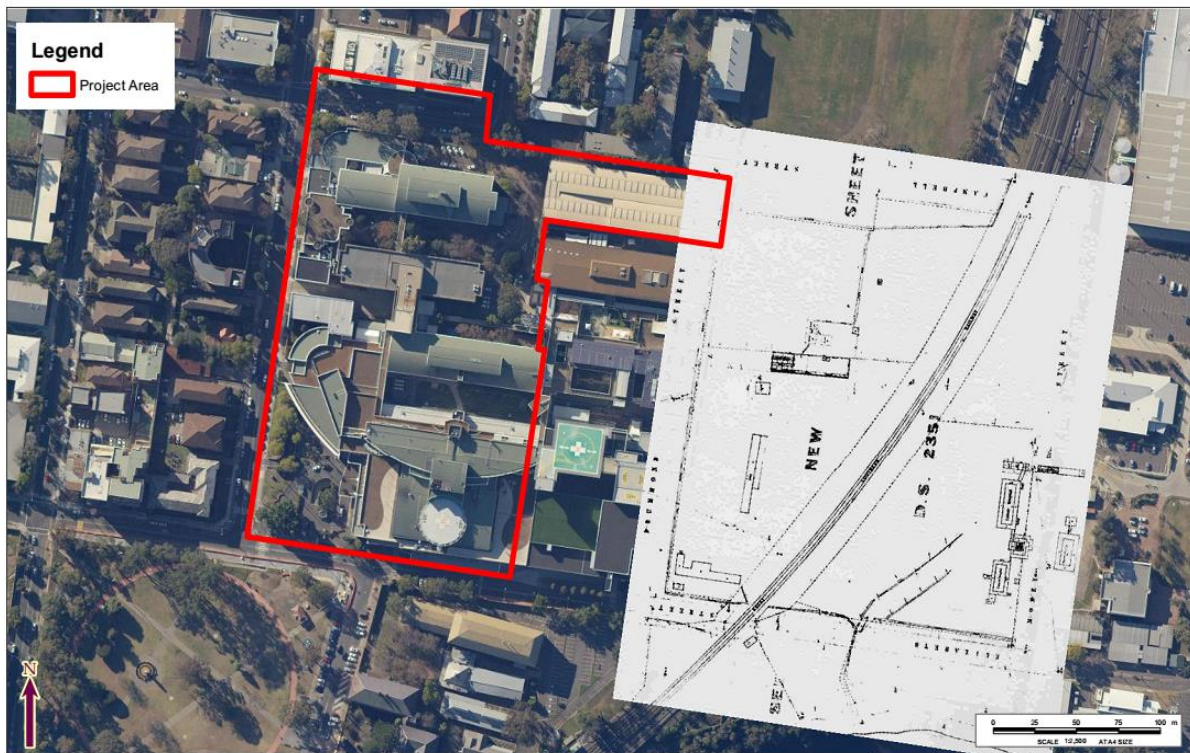


Plate 2.3 Liverpool survey 1939 showing the drain in the former asylum garden (Sydney Water Archives Plan DS2129), Liverpool Number 3 revised 1939

By 1943 aerial images show that the drain was still faintly visible in the landscape but largely as a depression in most of its route and completely obscured in others. This process accelerated as the twentieth century progressed and more development occurred on the hospital site. By the 1960s it is barely visible along any part of its length.

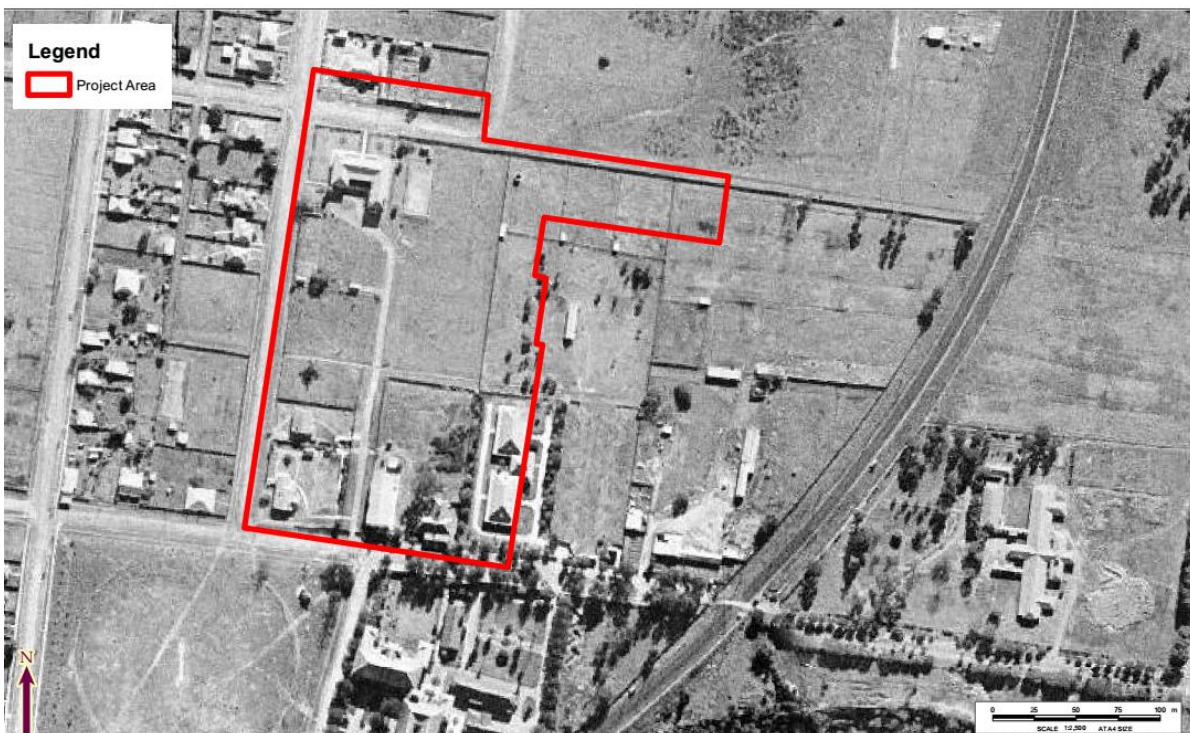


Plate 2.4 1943 aerial image showing traces of the line of the drain (Sixmaps)



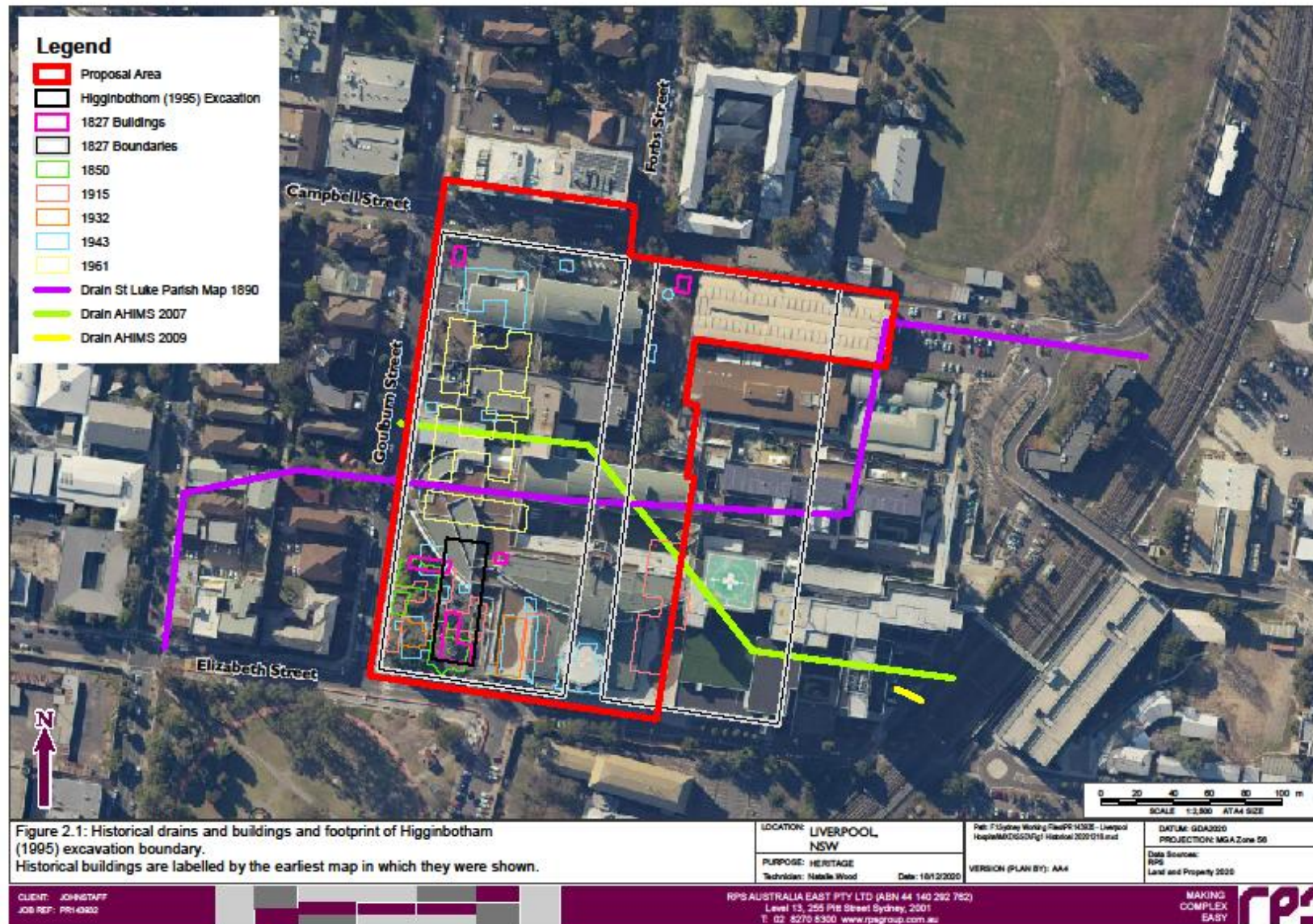
Plate 2.5 1961 aerial image showing traces of the line of the drain (LPI)

In 2007 an archaeological investigation within the hospital located and traced the line of another stone box drain also running east-west through the site and apparently to the river. More work in 2009 uncovered what appears to have been a fragment of a third box drain, possibly an off-shoot from the 2007 drain. The location of all three drains are shown in Figure 2.1.

The responsibility, date of construction and overall purpose of these drains has not been investigated to date in contemporary archival sources. The obvious comparison is to the town drainage systems documented in Parramatta undertaken between the 1820s and 1840s. Given the scale of the works evident in Liverpool and their construction through multiple properties, it is a reasonable assumption that these drains were part of early works to enable Liverpool to be settled. It also infers that the environmental conditions at least in this part of the town encompassed wet or boggy land that required remediation. The number of drains found during the excavation of Moore Hall in the south-western corner of the project area would add support to this conclusion.

REPORT

Figure 2.1: Historical drains within the Main Works project area



2.4 Early Historical Context

2.4.1 Section 42: Moore Hall

2.4.1.1 Thomas Moore

Thomas Moore, a magistrate of the Georges River area from 1810 to 1821 and one of its largest landowners, was one of the first settlers in the newly proclaimed town. He established a house for himself on a substantial land grant of five acres in c. 1820. He was described as a new resident in 1821. The property was located On Elizabeth Street, close to the intersection with Goulburn Street. It is within the south-western corner of the project area. It encompasses Section 42 of the original town plan. It was originally bound by Campbell, Elizabeth and Goulburn Streets and a now partly discontinued street, Forbes Street. As part of his development or possibly earlier during the establishment of the town, the site was cleared of most vegetation leaving only small stands of trees.

Moore occupied this house until his death in 1840. It comprised a two-storey brick building with a skillion on each side and substantial out-buildings. The earliest plan of the extent of the works is the town plan of 1827. This shows the principal house at the junction of Elizabeth and Goulburn Streets with a substantial building to the north of it and a smaller one close by. Another small building is shown at the junction of Goulburn and Campbell Streets. The property appears to be divided into paddocks.



Plate 2.6 The details of this plan are essentially those shown in an earlier image, painted in 1822 of the house and its nearest and largest out-building. There are, differences in the configuration of the house with more buildings close to it than shown on the later plan. The paddocks were defined by paling fences (SROS NW Plan of the Town of Liverpool 3339)

2.4.1.2 Leasing Moore Hall

Thomas Moore made provision in his will for the use of his house as a college, however, his Trustees considered the building in its current state unsuitable for that purpose and the house was leased to raise funds for that purpose. It remained rented until 1854 at which time it was described as having fallen into

disrepair. Repairs were carried out in 1855 including to the main building, replacement of timber out-buildings, repairs to fences and the garden.



Plate 2.7 Edward Mason (1822); *Moore Hall in the Town of Liverpool (SLNSW FL 1131005)* showing the principal house and its largest and nearest out-building.

2.4.1.3 Moore Theological College

Moore Theological College was opened in the newly repaired house in 1856. A chapel was added to the site in 1857, and later a dining hall, library, servant's quarters and twelve students' rooms. This work was completed by 1867. Additional repairs followed in the 1870s and 1880s. The college relocated to Sydney University in the 1880s.

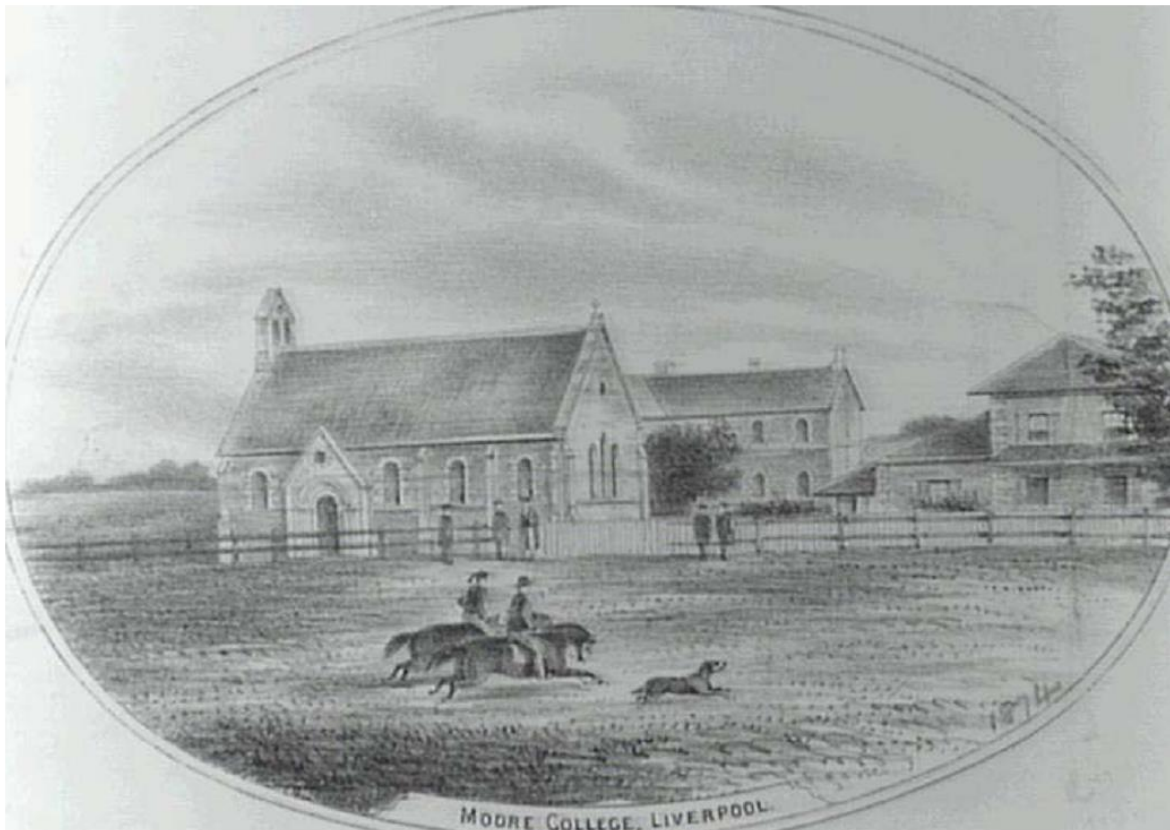


Plate 2.8 Moore College (ND) but after the addition of the chapel and other works; after 1867 and looking east (LLSC 0820)

2.4.1.4 Moore College Grammar School

After the removal of the college the site was then leased from the college to house a grammar school between 1889 and 1893. It closed due to financial difficulties.

2.4.1.5 Private Residence

In 1894 Moore Hall was leased to a private tenant (identity unknown) and from 1897 to 1921 it was the home of Dr J.A. Beatty. During his period of residence, the chapel was relocated to Moore College at the University of Sydney. The remaining college buildings were abandoned. After Dr Beatty the property was leased to Miss Calahan in 1923. At that time, it was described as being in considerable disrepair.

2.4.1.6 Demolition

In 1926 the State Government purchased the site. Forbes Street on the eastern boundary of the Moore Hall property was closed, thus combining Sections 42 and 43. Moore Hall and the other buildings were demolished.

2.4.2 Section 43

2.4.2.1 James Meehan

Section 43 of the Town of Liverpool, to the east of Moore's land was, in 1827, divided between three landholders. The northern portion, of which the land along Campbell Street and what had been Forbes Street is within the project area, was owned by the surveyor James Meehan. He owned a little over three acres.

It is unknown how long Meehan owned the land for; it was apparently purchased by the merchant and entrepreneur Daniel Cooper. The 1827 town plan shows a single building on the allotment at the intersection of Campbell and Forbes Streets. By 1890 the northern portion on Campbell Street was owned by George Waltham and the central section by Daniel Cooper.

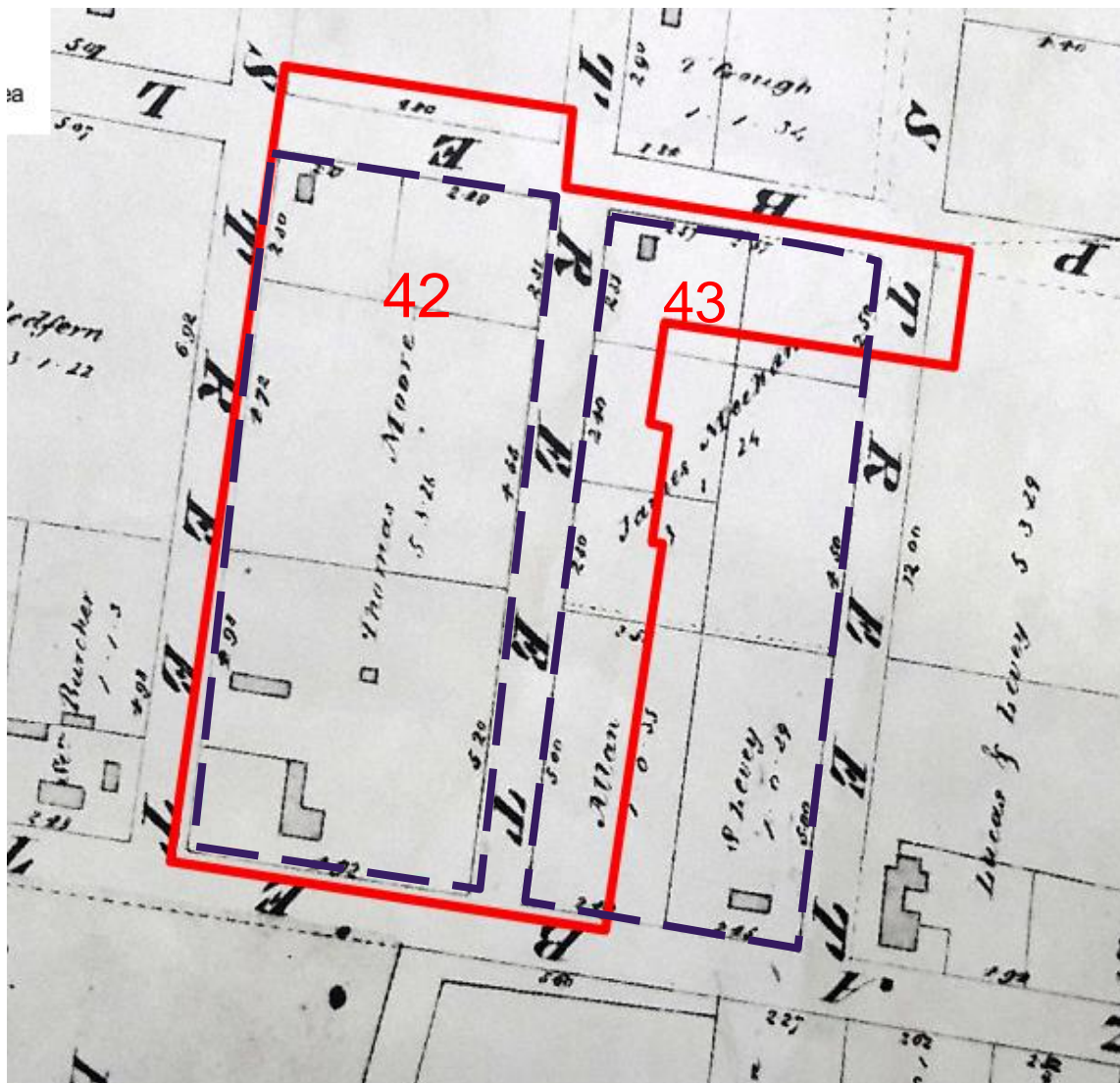


Plate 2.9 The 1827 town plan shows a single building on the allotment at the intersection of Campbell and Forbes Streets

2.4.2.2 Allan

In 1827 the southern portion of Section 43 was owned by “Allan” being a little over one acre. A claim was made in 1834 for this land by W.H. Moore. He stated that the lot had been granted to a Mr Moran by Governor Macquarie in 1812. The land was subsequently acquired by W. H. Moore. A town plan of Liverpool prepared in 1850 shows what appears to be this site apparently undeveloped and covered in vegetation.

The only feature shown in this plan is the potential drain running along the northern lot boundary, across the street and into Section 42.

2.5 Liverpool Hospital

2.5.1 The Benevolent Asylum

The first Liverpool Hospital was founded in 1813 on the banks of the Georges River. The brick building had accommodation for twelve patients. A second hospital was built in the 1820s. It provided care for both free settlers and convicts until 1848 when it was closed. It was reopened in 1851 by the NSW Benevolent Society as the Liverpool Benevolent Asylum. It provided shelter for aged, infirm and destitute men, one of several similar establishments managed by the Society. Management for the establishment was taken over by the government in 1862. From the later years of the nineteenth century the Asylum began to provide more complex medical services. In 1913 the Asylum was amalgamated with others under the control of the Department of Health. The Asylum buildings were located on land to the south of the project area.

Associated with the Asylum was a garden on the adjoining Section 44. A small portion of this garden is included in the project area. It encompasses a narrow strip along the former Drummond Street frontage. The garden was intended to provide produce to the Asylum. In the later nineteenth century it housed piggeries in addition to the gardens. There were support structures of iron sheds and concrete pens in the centre of the block. There were numerous drains and pits to manage wastes and surface water run-off.

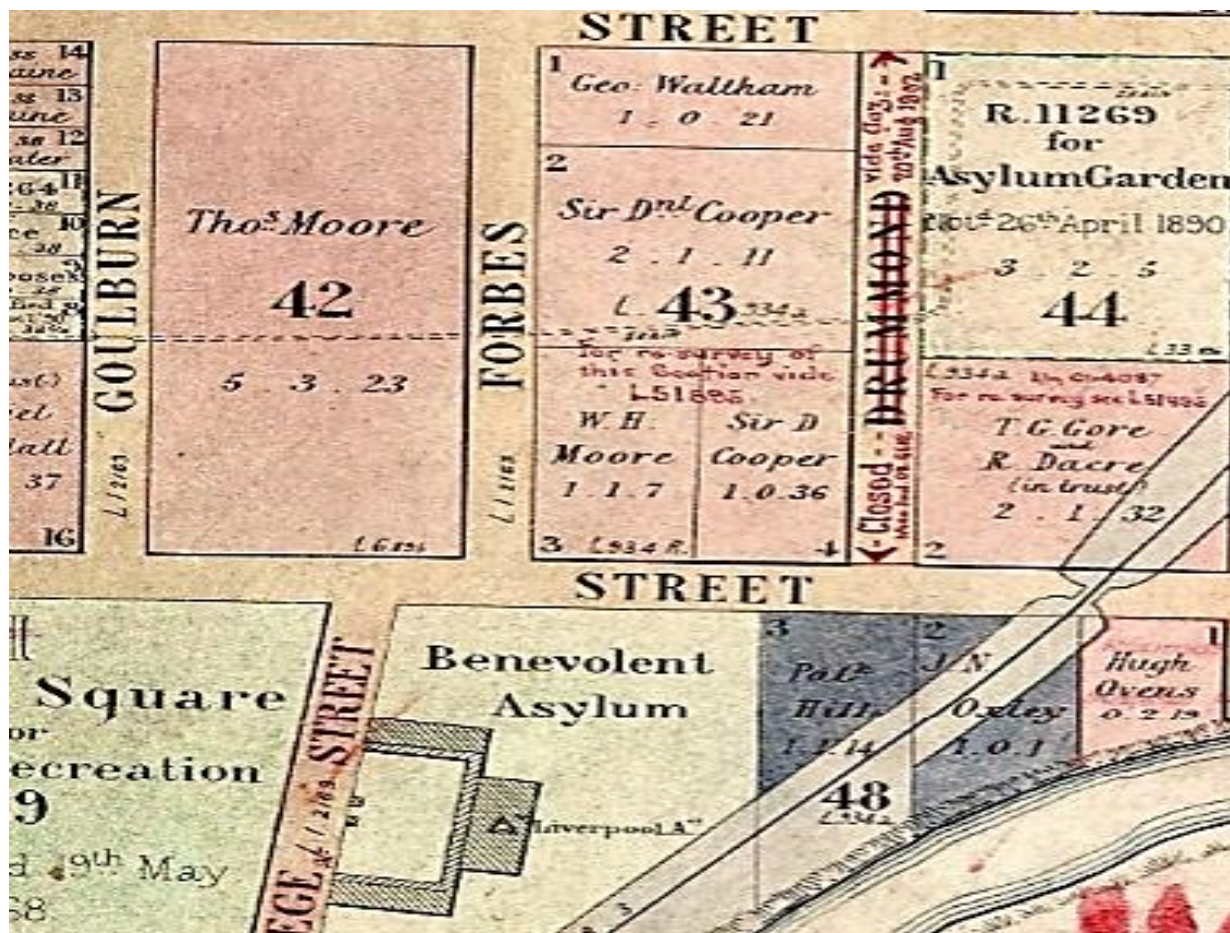


Plate 2.10 Detail from 1890 town plan showing the relationship of the Benevolent Asylum to Section 42 and 43; the asylum garden was located to the east of Section 43 (Town Plan of Liverpool 1890; LPI Six Maps Viewer)

The earlier drain that runs through these sections came across from Section 43, through Drummond Street and then turned at a sharp angle to the north to run along this frontage before again turning sharply to run along the Campbell Street frontage and into the street. The piggeries remained in use to 1951 with the addition of a larger one near a pond. By 1915 the site of the former Moore Hall and the college buildings were still intact were proposed for demolition. The southern portion of Section 42 had also been developed by this date.



Plate 2.11 Detail town survey of 1915 showing the redevelopment of the Moore Hall site with hospital buildings (SRO Plan)

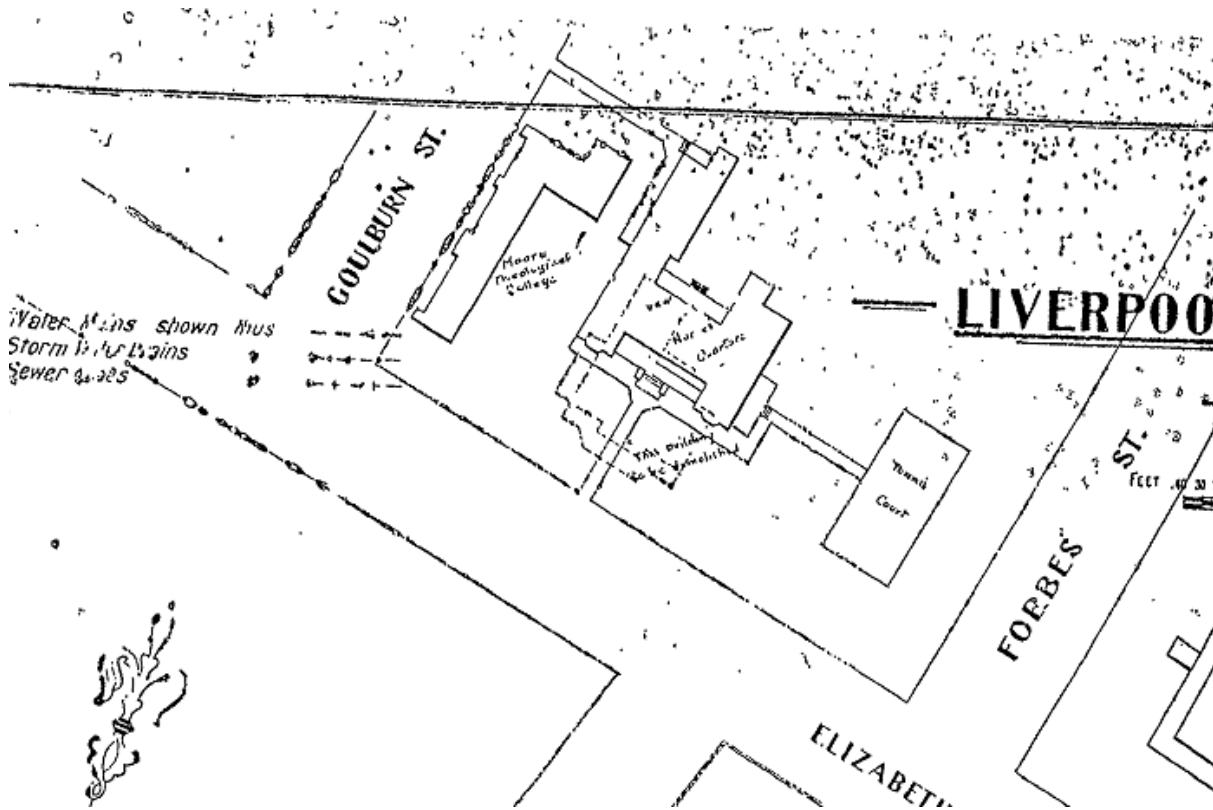


Plate 2.12 Detail of an Asylum plan showing the extant Moore Hall buildings prior to demolition (PWD Plan SH2/152)

2.5.2 Liverpool State Hospital and Asylum

In 1917, with an additional resumption in 1924, the land that encompasses the project area was acquired by Liverpool Hospital. Liverpool Hospital provided care for many returned soldiers from WW1 and the facilities were stretched to meet the demand for these men as well as the local needs. For several years programmes of upgrades and additions were made on the site to meet these demands. These included an operating theatre, new outpatient department, wards and a morgue amongst others.

The closure of Forbes Street in 1926 allowed for a major new entrance to be made through this former thoroughfare from Elizabeth Street. In this year, the majority of all works on Section 42 were still located on the former site of Moore Hall and those on Section 43 in the south-western corner.

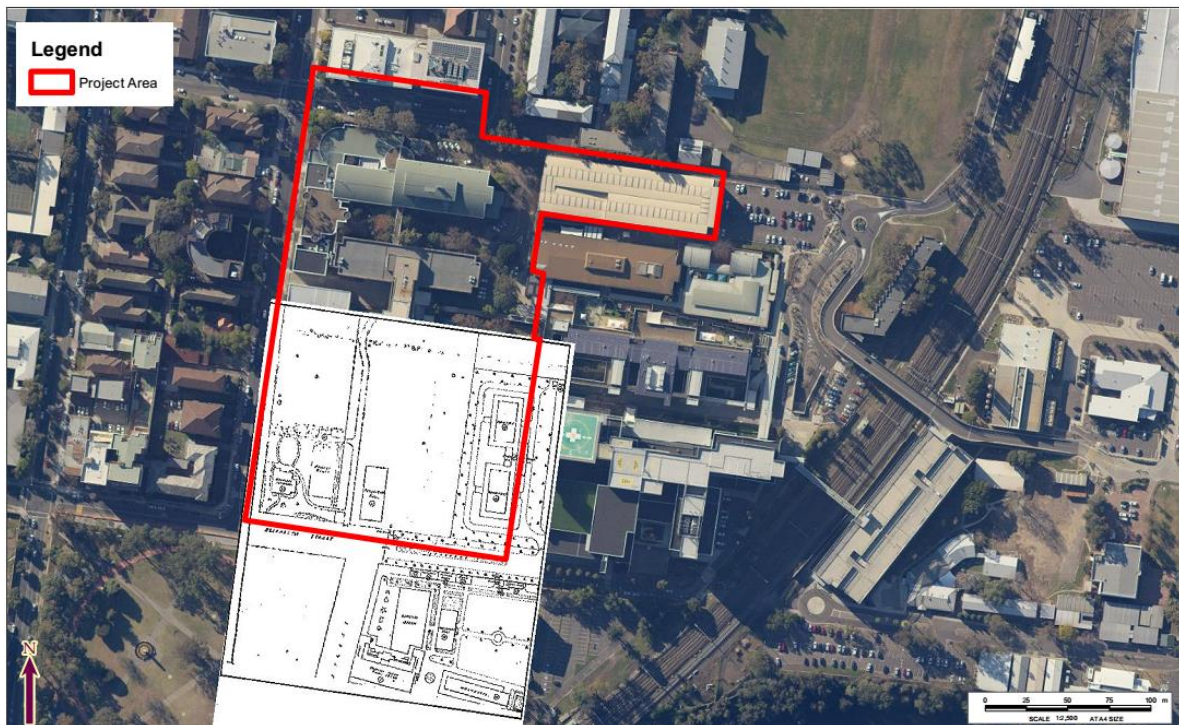


Plate 2.13 Plan of 1932 showing the new entrance from Elizabeth Street and the works along the southern boundary including those over the former Moore Hall (PWD Plan SH2/151)

2.5.3 Liverpool Hospital District Hospital

Despite all these works, by 1955 the facilities of Liverpool State Hospital were inadequate to the needs of the area. The older works were also difficult to refit for new purposes and technology. In August of this year land to the north of the hospital was gazetted as the site for a new hospital. In 1957 after the construction of the new principal building the old Liverpool State Hospital was closed for service. The new hospital opened in 1958. The new hospital encompassed the entire project area.

Additional facilities continued to be added to the site, although several fires destroyed some of the older works. In the mid-1960s a multi-storey hospital building was approved and in the following decade other additional wings and specific-purpose buildings were added to the site. The hospital is now one of the largest hospitals in NSW and is the principal teaching hospital for two universities.

3 THE ARCHAEOLOGICAL PROFILE

3.1.1 The Archaeological Evidence

The evidence presented in several assessments, discussed in the SOHI prepared for the present work as well as the research undertaken for that SOHI has provided a comprehensive dataset for determining the scope of improvements within the project area. This may be summarised as follows:

- Environmental evidence of the pre-settlement landscape as well as impacts and changes made to it through European clearance and occupation. This could include pollen from both the unaltered vegetation of the region as well as imports and weeds. It could also include evidence of the impacts of change including land clearance through burning or environmental outcomes such as erosion. The evidence of substantial drains suggests that the site may have been wet or boggy
- The earliest identifiable additions made by European settlement within the project area may have been a drain that ran through the centre of the site and then, in Section 44, running north and east towards the present-day railway line. It also ran west through the adjoining town section and then south towards the river. The date of its construction is unknown but its location through several properties argues for it, and others within the hospital, being part of the seminal town development, draining wet or swampy land as similar works were undertaken in Parramatta and Windsor for the same purpose. If this was the case, then this work was likely undertaken as a public work under government management
- The project area encompasses portions of two streets that were part of the early Nineteenth century town plan of Liverpool. These were Forbes Street between Sections 42 and 43 and Drummond Street between Section 43 and Section 44. Both streets were closed in these areas in the early years of the twentieth century. Forbes Street became part of a new entrance to the hospital from Elizabeth Street in the early years of the twentieth century. Neither street is visible in early twentieth century aerial images and the locations have since been incorporated into the hospital
- The first privately owned and managed works are those associated with the construction of Thomas Moore's house, out-buildings and other works. The focus of this work was in the south-western corner of the project area at the junction of Elizabeth and Goulburn Streets. One small structure is known to have been built in the north western corner of the property at the junction of Goulburn and Campbell Streets. Its purpose is unknown. This site was built over in the early decades of the twentieth century. Apart from the buildings Moore Hall is known to have been divided into paddocks with timber fences and was landscaped. These improvements with major additions and some excisions remained on the site into the twentieth century. These works are encompassed within Section 42.
- From the 1850s through to the 1890s Moore Hall was extended with the addition of several substantial buildings to become Moore Theological College. These additions included a chapel (later removed from the site) dormitories and other works. These works, as far as can be determined from primary archival sources, were all located at the southern end of Section 42. There is no evidence for any major works on the northern half of the allotment. It contains a portion of what may be the early nineteenth century drain running east-west through the middle of the site
- During the first half of the nineteenth century the land encompassed by Section 43 within the project area was undeveloped except for a small structure at the corner of Campbell and Forbes Street; its purpose was unknown. The date at which this building was removed is unknown. Throughout the twentieth century this site was largely part of open paddocks and gardens associated with the piggery. Aerial images of the 1940s through the 1950s show a structure of some kind on this location. The site has since been built over for hospital buildings. Section 43 also contains a section of the what may be the early nineteenth century drain running through the middle of the allotments from east to west
- The small portion of Section 44 encompassed by the project area, a narrow part of the street frontage at the junction of Campbell and the former Drummond Street appears to have always been open or undeveloped; it became part of the Asylum garden from the mid-nineteenth century and remained open until it was built over for the hospital. It contains a portion of the drain that may have been part of the early town plan
- Some later nineteenth century hospital buildings were located on the southern portion of Section 43 close to Forbes Street. These were substantial buildings, but the sites have since been redeveloped.

3.2 Analysis of Archaeological Evidence

Several programmes of archaeological investigation have been undertaken at Liverpool Hospital since 1994. The evidence from these works is summarised in the following sections.

3.2.1 1994: Investigation of Moore Hall and environs (Edward Higginbotham and Associates)

This work was located in the south-western corner of Section 42 and within the project area. It sought to investigate, and document evidence of Thomas Moore's c. 1820 home of Moore Hall, associated structures and additions made for the subsequent use of the place as Moore Theological College and a private residence. The excavation was confined to four test trenches placed over the site of the former Moore Hall (which lay under a later site of a tennis court) and extended north to include the site of one of the out-buildings shown on the 1827 survey.

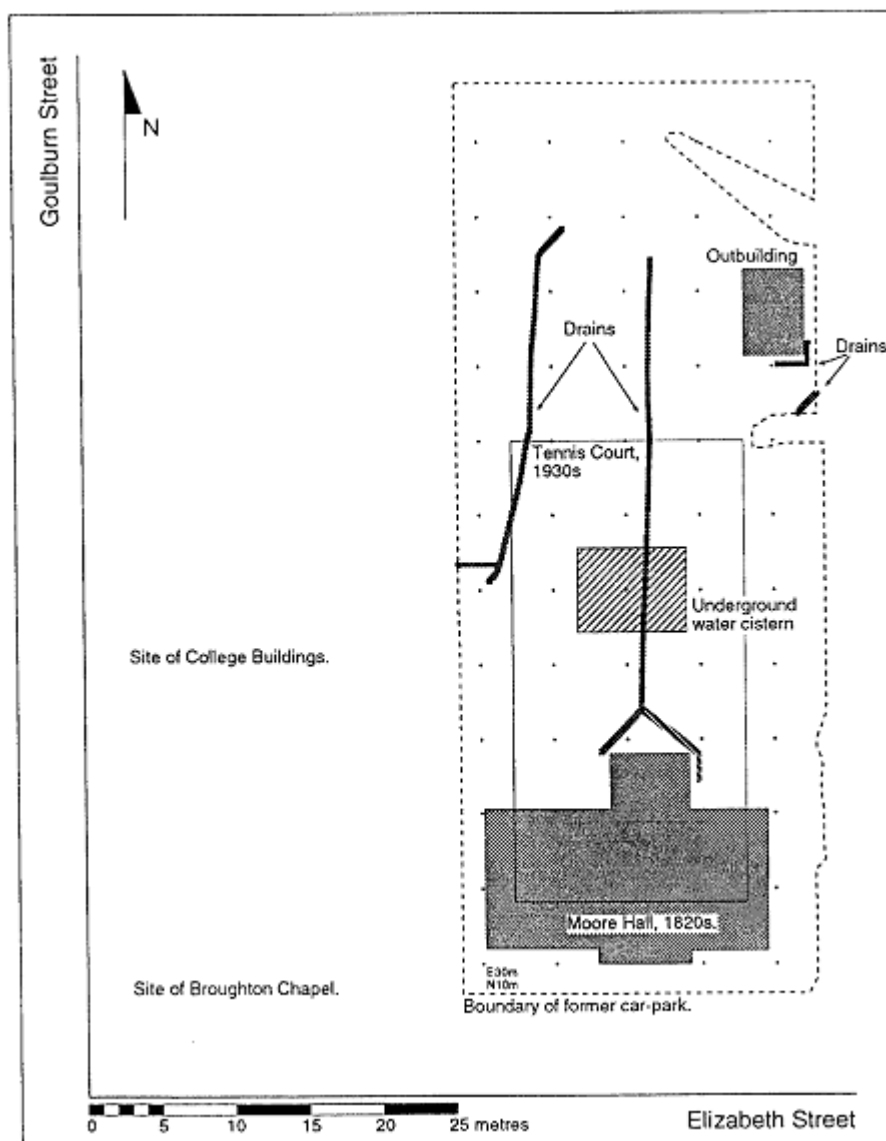


Plate 3.1 Plan of the excavation area of the Moore Hall investigation (Edward Higginbotham and Associates 1994; *Report of the Archaeological Excavations of Moore Hall and College on the Site of Proposed Extensions to Liverpool Hospital, Elizabeth Street Liverpool*; 04)

The excavation revealed some evidence that may have been associated with the initial clearance of the site. Structural evidence of Moore Hall remained but the majority of the building had been destroyed; evidence of

the eastern and western skillions did survive. Part of one of the out-buildings recorded on the 1827 plan was documented and some evidence of the gardens around the building was found. There were a number of pits with artefacts that covered a long range of occupation and use including into the twentieth century. Evidence of timber buildings probably of the nineteenth century were located behind the house and a building associated with the 1930s tennis court was found. A substantial number of drains of several different periods were located and an underground water cistern was found behind the house. A well was also documented in this programme.

The conclusions from this work were:

- The upper layers of the topsoil have been removed thus removing evidence of occupation and development; this was through the construction of a tennis court and, later, a car park
- That the remains of Moore Hall were likely to survive but in very poor condition; likely to be confined only to deeply cut features such as lower wall footings, wells, cisterns, pits.
- Some evidence of timber out-buildings might survive but these would be confined to truncated post-holes
- The sites of the theological college buildings towards Elizabeth Street may be more intact including footings from those buildings
- Evidence of the theological college buildings further north on Goulburn Street are less likely to survive

3.2.2 Archaeological Assessment, Research Design and Excavation Methodology Liverpool Hospital Site (AHMS 2007)

This work reviewed earlier results and provided a new assessment for the entire campus of the hospital on both the eastern and western sides of the railway line. Subsequently small test excavations were undertaken on the site outside the present project area. The conclusions of the assessment and excavation, in respect of the present project area were:

- That there was likely to be some evidence of the pre-settlement environment in terms of soil deposits and palynological evidence
- The remnant soil profiles contained fragmentary evidence of nineteenth century structures, mainly in the form of post-holes
- A substantial sandstone box drain, separate to that recorded on later nineteenth century plans was found to run through the site
- There was also evidence of drainage ditches associated with the piggery located on the former Asylum garden

3.2.3 Liverpool Hospital Test Excavation and Monitoring Final Report (AHMS 2009)

A small programme of test excavation was undertaken on the eastern portion of the western campus adjacent to the railway line, outside the present project area. It was intended to examine the evidence for an early nineteenth century building as well as the subsequent development of this place. The results of the work may be summarised as follows:

- The ground was open and used for agricultural purposes in the later nineteenth century and was divided by timber fences
- It was used to dump wastes from the hospital boilers and other sources
- There were drainage ditches which were considered to demonstrate issues with water retention
- There was some small evidence of the early nineteenth century building
- The sandstone box drain was at least 1.2 metres below the present surface and had later additions to provide access to it. It had similarities to the town drainage system of Parramatta. It was not dated but the similarities to the Parramatta example suggested a pre-1850 period of manufacture

3.3 Past Impacts

The evidence from the several programmes of archaeological investigation undertaken at Liverpool Hospital from the 1990s has provided evidence that the most substantial impacts have all occurred as a result of the several periods of development of the hospital in the twentieth century. These impacts have been variable from the minimal reduction of older evidence by the construction of a tennis court in the south-western corner of the project to the complete removal of the entire profile by the excavation of multi-level basements.

Figure 3.1 shows the position of those basements as well as the outline of the principal buildings on the site. In respect of the latter, where there are no basements associated with the structures it is still likely that any remnant profile within these footprints has been removed or thoroughly fragmented through a combination of site preparation and the introduction of services.

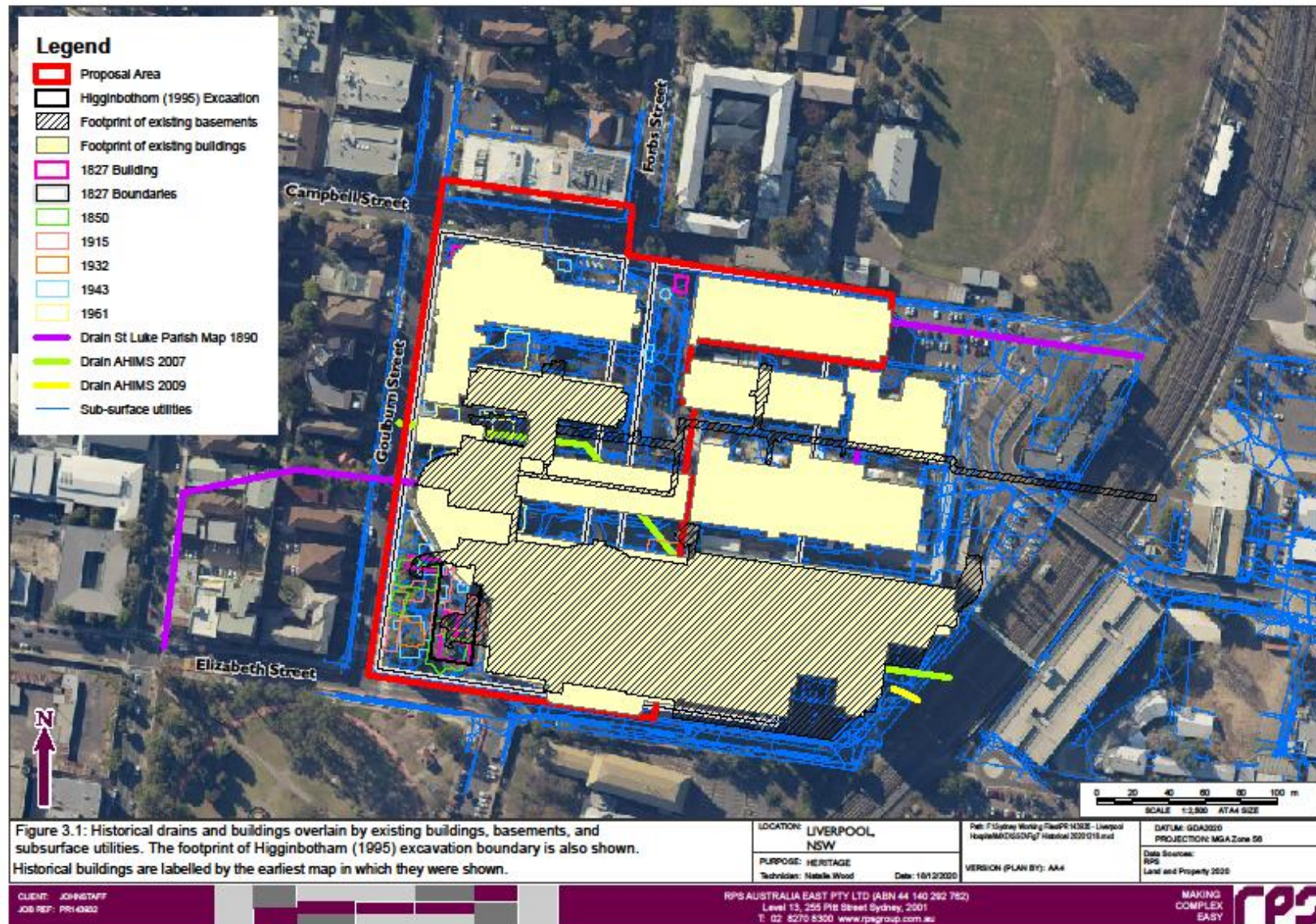
In addition to these major excavations and works the ground surrounding all these buildings has been subject to localised disturbance by the introduction of services, usually multiple trenches in each open space. The plan below shows the combination of existing buildings, basement excavations and service trenches as far as these are known.

The site of the 1994 archaeological investigation of Moore Hall has documented all evidence within the confines of its small salvage programme. This site has now been largely built over. It is shown on the following plan in relation to the existing buildings. There remains a substantial amount of open ground here in the area of the former house and college buildings.

The result of these multiple impacts is that there are few areas within the project area that could possibly retain some more intact elements of the archaeological profile. The majority of the site is likely to be either sterile of archaeology or retaining only fragmented elements.

REPORT

Figure 3.1: Existing basements, buildings and sub-surface utilities and Higginbotham (1995) excavation boundary



3.4 Comparative Analysis

The evidence that may survive within the site with some degree of integrity and, thus, with some potential to address research questions or issues can be defined in terms of three principal issues:

- **Environmental evidence:** evidence of the pre-settlement landscape and environmental conditions with particular reference to this site. In particular there is some evidence to date to indicate that this part of the town was particularly wet or boggy. Investigation of remnant evidence may provide hard evidence of these or other conditions. If evidence suggest that the upper limits of the natural soil profile has been truncated there may be remnant evidence to identify the impacts of early European settlement including methods of land clearance and changes to indigenous vegetation through the introduction of exotic plants and weeds. In connection with this aspect it might also be possible through palynological evidence to examine some aspects of the Asylum garden established in the second half of the nineteenth century

The early town plan and development: the principal issues that might be addressed through this aspect is that of road formation and drainage. There is evidence already recorded of extensive drains that appear, in comparison to those recorded in Parramatta and Windsor, to be of a similar date and purpose. Specifically, these are large sandstone box drains that were used to collect and channel water away from living and/or farming areas towards the river. There are specific similarities with those recorded in several places in Parramatta; in these cases, the drains have been dated to a period of construction between c.1820 and 1840.

The second aspect of town development that may be possible to investigate is that of road formation. A substantial portion of Forbes Street, one of the original streets in the town, is included in the project area (Area 3). It has been extensively disturbed through the introduction of services but there are areas between which may preserve evidence of the preparation and subsequent development of this road.

- **Early occupation:** the best-documented and also partly investigated occupation within the Main Works project area is that of Thomas Moore and his development of a house on Section 42. The site of the house and several of its outbuildings have been investigated but at least two more sites of buildings associated with this phase might yield additional evidence of Moore's occupation (Area 1, Area 2). The principal area of possible investigation will be those buildings associated with the development of Moore College.

4 CULTURAL SIGNIFICANCE

The *Assessing Significance for Historical Archaeological Sites and 'Relics'* (OEH 2009) OEH legislative guideline outlines the four assessment criteria in assessing the significance of archaeological and potential archaeological sites.

4.1.1 Significance assessment

Associations with individuals, events or groups of historical importance (Criteria A, B & D)

The Main Works project area is part of the original Liverpool town plan part of which contains two original streets separating Section 42 and Section 43 (Forbes Street and Drummond Street) which were closed in the early Twentieth century. The Main Works project area is likely to contain evidence of a system of drainage comparable to those of other early settlements (including Parramatta) which was archaeologically identified along the eastern boundary of the Liverpool Hospital Academic Precinct (LHAP) in 2007 (AHMS, 2009). The possible system of drainage was designed and constructed to alleviate environmental conditions to facilitate settlement and agricultural practices. Such evidence might indicate a concerted effort by the government to encourage settlement and agricultural development during the early and mid-Nineteenth century in the Liverpool region.

The Main Works project area is associated with several historical figures important in the development of Liverpool and New South Wales in the early Nineteenth century (see Section 3.3 of the SOHI; RPS, 2020):

- Thomas Moore: was made master boatbuilder at Port Jackson in 1796 and held the title until 1809, Moore moved to his land grant in Liverpool in 1809 becoming the first European settler in the Liverpool area, he was Liverpool magistrate with responsibility of allocation of allotments within the early Town until 1820 and became the magistrate of NSW in 1821.

Moore's house (and later improvements) is an early and significant example of European occupation in the town of Liverpool (see Thorp 1993 and Higginbotham 1995).

- James Meehan: in 1812 Meehan was appointed deputy-surveyor of lands, and in 1814 he became collector of quitrents and superintendent of roads, bridges and streets and was granted a block in the north of Section 43.
- Daniel Cooper, merchant, miller and distiller, whose establishment on Levey and Lucas' land (on the adjacent Section 44) was one of the larger structures in the early town.

The project area is also the site of both the Moore Theological College and the Liverpool Benevolent Asylum, both of which helped to shape the town of Liverpool during the Nineteenth and Twentieth centuries. The role that these institutions had on the immediate area and the wider region is considerable in particularly the Benevolent Society. The Liverpool Benevolent Asylum was a significant component of the social responses to healthcare and the treatment and care of the homeless. It also supports the significance statement of the Former Liverpool Hospital (SHR listed item) which notes that the asylum is rare in the :Liverpool, State and Country.

4.1.2 Significance of the potential archaeological remains

Archaeological research potential (Criterion E)

Although the potential for archaeological remains for the area has been identified varyingly as nil, low and moderate, the archaeological remains that may be preserved, in part, within the site have value for several reasons. The Main Works project area has the potential to provide physical connections and evidence of some of these important early associations such as with Thomas Moore, the Liverpool Benevolent Asylum, the Moore Theological College and colonial responses to land and environmental management.

The Main Works project area has the potential to provide hard evidence unavailable through other means to address issues such as town planning and significant aspects of occupation and social responses to

facilitate European occupation and agriculture. These have had little opportunity to be explored in the limited profile of archaeological work undertaken across LHAP and the Liverpool CBD to date.

Archaeological remains associated with the above have archaeological research potential at a local and potentially state level.

Aesthetic or technical significance (Criterion C)

Currently, with the varying levels of archaeological potential, assessing the aesthetic and/or technical significance of any potential archaeological remains is difficult to determine with any certainty. This would need to be addressed if/when archaeological remains are identified.

Ability to demonstrate the past through archaeological remains (Criteria A, C, F & G)

As identified in previous archaeological investigations (Cultural Resource Management, 1993 and Higginbotham, 1995) in areas where mid to late-Twentieth century hospital development was minor, the potential for intact archaeological remains is high. The results of these early to mid-1990s archaeological investigations confirmed that archaeological remains, specifically those associated with the early Moore residence (and later additions), can demonstrate the past and clarify the extent of past utilisation not specifically outlined in the historical record.

Later archaeological investigations (undertaken after the 1990s redevelopment) undertaken as part of the redevelopment of the LHAP in the early 2000s (AHMS 2007; AHMS 2009) found that archaeological remains associated with development and use of the LHAP area from the early Nineteenth century to the early Twentieth century were fragmentary. These remains included early drainage systems and agricultural evidence associated with the Asylum. Although archaeological remains uncovered in 2007 were fragmentary and truncated, the remains were able to demonstrate past government responses to environmental and land management not previously recorded in the area.

The potential archaeological remains identified within Main Works project area are associated with the archaeological evidence abovementioned and outlined in the archaeological research potential. The potential remains have the ability to demonstrate the extent of the colonial town layout and the early to mid-Nineteenth century government responses to environmental management. The archaeological remains can further demonstrate the pattern of occupation and development from the early occupation by Moore and later uses of the area by the Moore Theological College and the Liverpool Benevolent Asylum.

Integrity of potential archaeological remains

Archaeological investigations undertaken within the LHAP in 2007 found a disturbed profile that had resulted in the truncation and likely removal of evidence associated with the use of the area from the early-Nineteenth century to the mid-Twentieth century. However, prior to the redevelopment of the LHAP in the 1990s and early 2000s archaeological evidence found that, although disturbed in the upper profiles, intact archaeological resources associated with the early Nineteenth century (and later additions) remained.

Based on the evidence of previous archaeological investigations and the extent of development across the Main Works project area it is likely that the late Twentieth and early-Twenty-first century redevelopment has removed archaeological evidence from the vast majority of the Main Works project area. However, if present, archaeological remains are likely to be severely truncated and fragmentary.

4.1.3 Statement of Cultural Significance

Liverpool was declared by Governor Macquarie in 1810 and is one of several key towns he declared in NSW including Windsor and has connections to Parramatta. The Main Works project area is therefore valuable as a comparative place to observe how contemporary views of planning were put into practice and the variations made for local conditions.

The Main Works project area is associated with several historical figures important in the development of Liverpool and New South Wales in the early Nineteenth century including Thomas Moore who was a key figure in the development of Liverpool. Previous archaeological investigations recovered the remains of

Moore's original residence which were identified as being significant for the town of Liverpool and to the state of NSW.

The Main Works project area was also the site of the Liverpool Benevolent Asylum. As previously identified The Liverpool Benevolent Society is rare in the :Liverpool, State and Country both for the social responses to healthcare and the treatment and care of the homeless. Any archaeological remains associated with the Asylum have the potential to be of significance at a local or state level.

The Main Works project area has the potential to provide truncated evidence of colonial and early to mid-Nineteenth century town planning, including early drainage systems. Such evidence might indicate a concerted effort by the government to encourage settlement and agricultural development during the early and mid-Nineteenth century in the Liverpool region. This evidence has the potential to be significant at a local level and dependant upon the integrity of the remains, at a state level.

4.1.4 Contextual Values

Archaeological investigation should consider physical evidence associated with the historical development and use of the area within a broad thematic context as well as within a local and site-specific context (Heritage Council NSW 2001).

A historical theme is a research tool which can be used at the national, state or local level to aid in the identification, assessment, interpretation and management of heritage places (AHC 2001:1). The redevelopment of the Proposal area can be assessed in the context of the broader historic themes defined by the Heritage Council of NSW and Australian Heritage Council (AHC). In accordance with the Heritage Council of NSW and AHC framework of historic themes, the themes in Table 4.1 are relevant to the Project Area and locality.

Table 4.1: Historic Themes

Australian Theme	Sub-theme	New South Wales Theme	Notes
Peopling Australia	Promoting settlement		
Developing local, regional and national economies	Providing Health Services	Health	Activities associated with preparing and providing medical assistance and/or promoting or maintaining the wellbeing of humans
	Developing Primary Production	Agriculture	Activities relating to the cultivation and rearing of plant and animal species, usually for commercial purposes, can include aquaculture
	Developing Primary Production	Pastoralism	Activities associated with the breeding, raising, processing and distribution of livestock for human use
	Altering the Environment		
	Feeding People		
Building Settlements and Towns	Planning urban settlements	Towns, suburbs and villages	Activities associated with creating, planning and managing urban functions, landscapes and lifestyles in towns, suburbs and villages

Australian Theme	Sub-theme	New South Wales Theme	Notes
	Supplying urban services	Utilities	Activities associated with the provision of services, especially on a communal basis
	Developing institutions		
	Living with slums, outcasts and homelessness		
Educating	Establishing Schools	Education	Activities associated with teaching and learning by children and adults, formally and informally
Governing	Administering Australia – providing services and welfare	Welfare	Activities and process associated with the provision of social services by the state or philanthropic organisations

5 ARCHAEOLOGICAL RESEARCH DESIGN

This ARD&EM has been prepared to respond to the SSD Development Consent Conditions issued on 30 November 2020 (see Section 1).

A research design is an important prerequisite for an archaeological investigation. A research design is a set of research questions developed specifically for a site within a wider research framework to ensure that, when archaeological remains of the site are destroyed and/or uncovered without destruction by excavation, their information content is preserved and can contribute to knowledge about the past. An archaeological research design aims to ensure that the excavation of an archaeological site is managed in a way to recover information available through no other technique.

A fundamental requirement of an archaeological research design is that the questions posed must be responsive to the nature of the archaeological evidence that is likely to be encountered. However, the nature of archaeological remains cannot be accurately determined until excavation commences. It is therefore essential that the research design is adaptable and can be revised as the nature and extent of the resources within the area become better understood. With better understanding of the archaeological remains, more informed management of the remains can be undertaken.

5.1 Research Framework & Historical Themes

5.1.1 Research Questions

This research design is developed considering the results of the SOHI and this addendum which identifies the historic development of the Main Works project area, the heritage values and significance of potential archaeological remains and associated research potential.

The following research questions have been established to guide the archaeological investigations. The research questions have been prepared with consideration to the questions prepared for the archaeological excavation undertaken directly south of the Main Works project area in 2007 as part of the redevelopment of the Liverpool Hospital.

Relevant research questions identified are:

5.1.1.1 Environmental Issues

- Is there evidence that will allow a more detailed description of the pre-settlement landscape and vegetation of the project area and its environs?
- Is there evidence of environmental qualities specific to the project area, particularly issues concerning drainage or water ponding?
- Is there evidence of the European impact on the pre-settlement landscape including clearance and the appearance of exotic vegetation?

5.1.1.2 Evidence of Aboriginal Occupation or Contact with European Settlement

- Is there evidence of pre-contact Aboriginal land use across the archaeological investigation area?
- If so what does the evidence imply about Aboriginal use or occupation of the project area or environs?
- Is there evidence of contact between Aboriginal people and early European settlers?

5.1.1.3 Settling and Planning Liverpool

- Is there evidence of the early town plan in terms of original road alignments and surfaces or property boundaries (fences etc)?
- Is there evidence of a large-scale programme land rehabilitation through a programme of drainage works and, if so, can this be attributed to a particular time?

- Is there evidence in the drainage works that can be compared to those found in comparable settings and environments in places such as Parramatta or Windsor
- Is there additional evidence of Moore Hall and its improvements on Section 42 and, if so, how do they compare to those already excavated. Do they provide more evidence for the scope of these works and the cultural activities within the place and its landscape and services?

5.1.1.4 Moore Theological College and Grammar School

- Is there evidence of the mid-nineteenth century Moore Theological College?
- If so, how does it compare to what is known of this place from archival sources
- Is there evidence of the use of the place as Grammar School in terms of additions that would relate to this time period?

5.1.1.5 Later Domestic Use

- Is there evidence of the use of the former Moore Hall as a rental property for private use in the later part of the nineteenth century/early twentieth century
- Is there evidence of the dilapidation of this place referenced in primary archival sources

5.1.1.6 Public Uses

- Is there specific evidence within the project area that can be identified with the various phases of public use, specifically the Liverpool Benevolent Asylum (and its garden), the Liverpool State Hospital and the Liverpool District Hospital?
- What was the impact of these phases of occupation on those earlier periods of use? Is there evidence of some shared uses?

6 EXCAVATION METHODOLOGY

The primary aim of the archaeological investigation is to identify the location and fabric of the early to mid-Nineteenth century structures within the archaeological investigation area. Previous archaeological excavation programs within proximity to the archaeological investigation area have identified the remains of comparable structures marked on the same historic plans of Liverpool. As such, a phased archaeological programme incorporating archaeological testing (Phase 1), archaeological salvage (Phase 2) and archaeological monitoring (Phase 3) is recommended.

6.1 Potential Areas of Investigation

The extent of twentieth century impacts means that there are no areas within the project area that will be undisturbed or minimally disturbed and thus able to substantially address an over-arching research programme. There are, though three areas that, on the basis of available evidence have been relatively less ground disturbance and which have the potential to contain relics. These areas are outlined below.

6.1.1 Area 1: South-west corner: Moore Hall and Theological College

This area adjoins the 1994 test excavation site, now largely built over, of Moore Hall. The largest out-building associated with the house is also contained here partly built over by hospital works. It also contains the sites of the principal identified nineteenth century college buildings. These have been partially built over on the early decades of the twentieth century by hospital buildings. Further north in a narrow gap between the hospital building and Goulburn Street is the route of the large sandstone box drain that runs through the project area and east towards the Asylum garden (see Figure 7).

6.1.2 Area 2: North-west corner: Thomas Moore; out-building and paddocks

There is a very small portion of partly open land at the north-western corner of the project area. It has been impacted by the construction of a single storey structure for the hospital but because this is a relatively small and light building the potential is recognised for some evidence of the early nineteenth century building (see Figure 7).

6.1.3 Area 3: Part of the former alignment of Forbes Street and Thomas Moore's paddocks and possible town drainage works

This area encompasses a substantial portion of the closed nineteenth century alignment of Forbes Street, from the original town plan as well as a portion of Section 42. The latter was largely untouched throughout the nineteenth century which suggests that some more intact environmental evidence may survive here as well as the potential for more drainage works. It also contains a portion of the asylum gardens (see Figure 7).

Phase 1 Archaeological Test Excavation

The three areas identified in this report (Areas, 1, 2 and 3) (Figure 6.1) were locations identified as areas of archaeological potential. The results of monitoring in Area 1 for hazardous materials has demonstrated that the impact of construction for the hospital is likely to have removed all elements of the archaeological profile. Therefore, we would recommend reverting to the original strategy of monitoring excavation to identify and document any elements that might have survived from this substantial impact. A letter submitted to the Department of Planning and Environment regarding this change in methodology is included in Appendix A

Area 1: All excavation to be subject to archaeological monitoring. If archaeological features and or relics are identified during the Phase 1 works, mechanical excavations would cease, and detailed archaeological investigations would be undertaken in accordance with Phase 2.

Area 2: test to see if the little bit of the building in the north-western corner of Section 42 survives and the impacts of the structure that now occupies most of that space.

Area 3: test across the former road surface to determine whether the profile of this road exists back to the original town, construction, drainage etc

If archaeological features and or relics are identified during the Phase 1 works, mechanical excavations would cease, and detailed archaeological investigations would be undertaken in accordance with best practice standards as outlined in Phase 2 below. An assessment of the archaeological remains would be undertaken by the Excavation Directors.

The archaeological test trenches would be excavated mechanically using an excavator between 5 and 9 tonnes depending upon arm reach relating to the required test trench depths and control required. The excavator would be fitted with a flat/mud bucket. The controlled excavations would continue to depths in accordance with Phase 2 below.

Phase 2 Detailed Archaeological Investigation

Phase 2 works would include the comprehensive manual identification and excavation which would be undertaken and overseen by an appropriately qualified archaeologist in accordance with best practice standards. The Phase 2 investigations should continue until;

- The appropriately qualified archaeologist is satisfied that the research potential of the subsurface deposits/archaeological remains has been realised; or
- Culturally sterile deposits have been encountered; or
- The maximum depth of excavation required for the ground disturbance works has been reached.

All Phase 1 and Phase 2 investigations would be recorded as follows:

- A site inventory would be prepared for the entire Main Works project area;
- each stratigraphic unit would be given an inventory number for the appropriate recording of the archaeological investigation area;
- scale photographs would be taken;
- each context would be recorded individually with associated contexts identified;
- all archaeological remains (whether a cut, fills, feature or relics etc) would be defined, manually excavated, recorded and given an appropriate site inventory number as outlined below:
 - all archaeological remains would be recorded on individual recording sheets;
 - all archaeological remains would be drawn to scale with scaled plan and section drawings also produced across each Phase 2 excavation area and across the archaeological investigation area;
 - a photographic record would be undertaken across the study area with a focus on all archaeological relics and features identified. All photographs associated with each context, cut, feature and/or relic would also be recorded on the corresponding record sheet;
 - all surfaces contexts, cuts, fills, features and relics would be recorded by a surveyor providing accurate spatial and temporal data across the Main Works project area;
 - all recovered artefacts would be cleaned, bagged and archived according to the contexts from which they were recovered;

- All archaeological excavations would be surveyed in by an RPS surveyor in consultation with the RPS Excavation Director. Survey data would incorporate the spatial and temporal extent of archaeological investigations, the location of separate features, contexts, works and relics identified.

In the unlikely event potential State significant relics are exposed discussions would be held with Heritage NSW with regards to the appropriate management of such relics.

Phase 3 Archaeological Monitoring

Phase 3 would involve the monitoring of bulk mechanical excavations outside of the three test and salvage excavation areas (Phase 1 and Phase 2). If fragmentary and/or intact remains are identified the Excavation Director and suitably qualified archaeologists would undertake detailed archaeological investigations in accordance with best practice standards as outlined in Phase 1 and Phase 2. An assessment of the archaeological remains and associated contexts would be undertaken by the Excavation Director.

Excavation Directors

The proposed excavation directors for the archaeological programme are:

- Wendy Thorp (CRM, Principal). Wendy has been recognised by HNSW as an excavation director on numerous s140 and s60 permits.
- Dr Gary Marriner (RPS, Senior Heritage Consultant). Gary has been recognised by HNSW as a secondary excavation director on Section 140 permits.

The Excavation Directors would be supported by appropriately qualified archaeologists.

Artefact Cataloguing and Storage

All recovered artefacts would be recorded within their context and, discrete and well stratified assemblages such as sub-floor units, pits etc. All artefacts would be cleaned on-site.

All recovered artefacts from the Project Area would be catalogued with reference to the Guide to: The EAMC Archaeology Database (Penny Crook and Tim Murray). All artefacts would be catalogued and recorded by specialists appropriate to their speciality.

Where appropriate the artefact specialists would subject significant artefacts to materials conservation.

Once cataloguing and analysis is completed, the Liverpool Hospital would need to provide a repository in perpetuity for the storage of all artefacts from this excavation.

Post Excavation Reporting

Throughout the archaeological programme, weekly summaries would be provided to Health Infrastructure and HNSW.

A 500-word summary and overview report would be prepared within one month of the conclusion of archaeological investigations and submitted to HNSW.

The results of all historical archaeological investigations would be collated into one over-arching historical excavation report in accordance with the relevant conditions of consent. The archaeological investigation report should be submitted to HNSW within 12 months of the completion of all archaeological investigations. It is noted that the post excavation report would be prepared to answer the research question outlined above.

Heritage Interpretation Strategy

Upon the completion of the archaeological investigations a Heritage Interpretation Strategy and Plan (HISP) will be developed. The HISP will incorporate the history of the Main Works area and the results of all archaeological investigations.

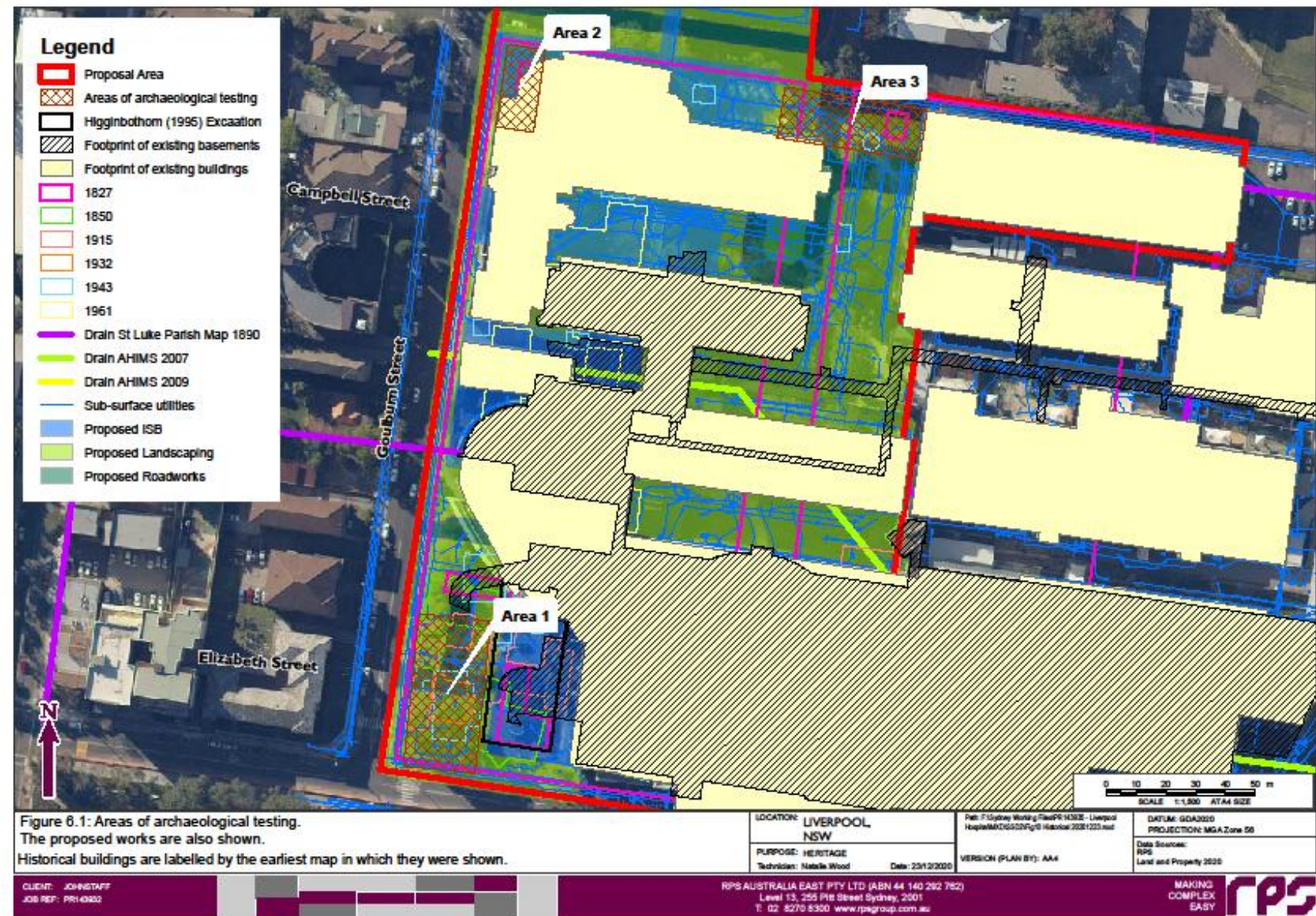


Figure 6.1: Areas of Archaeological Testing

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Appendix A

Letter from RPS to DPE to notify of proposed changes to the excavation methodology



Our ref: PR141576

Unit 2A, 45 Fitzroy Street
Carrington NSW 2294
T +61 2 4940 4200

Date: 25 January 2022

Matt Wood
Department of Planning, Industry & Environment
GPO Box 39
Sydney NSW 2001

c/o
Claire Muir
Town Planning Advisor
NSW Health Service – Health Infrastructure Division
via email: claire.muir@health.nsw.gov.au

Dear Mr Wood,

Update to the Excavation Methodology at the Liverpool Health and Academic Precinct (LHAP) (SSD 10389)

RPS Australia East Pty Ltd (RPS) have been engaged by Lendlease on behalf of NSW Health Infrastructure to manage the historical archaeology program for the State Significant Development (SSD) *Liverpool Hospital – Integrated Services Building and Refurbishment Works Corner Elizabeth Street and Goulburn Street, Liverpool* (SSD 10389). Our recommended programme was for monitoring works but Heritage NSW (17th June 2020) required a programme of test excavation and the preparation of an Archaeological Research Design and Excavation Methodology (ARDEM) for the site.

Construction works have commenced, and soil testing for hazardous materials was undertaken. Under the direction of Ms Wendy Thorp, Dr Gary Marriner attended the site to monitor this testing. Based on the results of the archaeological monitoring, RPS (on behalf of Ms Wendy Thorp, nominated excavation director) seeks to make the following changes to the approved ARD:

Existing ARD	Proposed Change
Phase 1 Archaeological Test Excavation The three areas identified in this report (Areas, 1, 2 and 3) (Figure 6.1) are locations identified as areas of archaeological potential where truncated and/or intact archaeological profiles may survive. The purpose of the testing programme is to investigate three key locations across the Main Works project area with each of the three locations addressing aspects of the research design. Area 1: <i>test over the sites of Moore's large out-building, the theological college buildings and the yard spaces between to determine the scope and integrity of the potential resource.</i>	Phase 1 Archaeological Test Excavation The three areas identified in this report (Areas, 1, 2 and 3) (Figure 6.1) were locations identified as areas of archaeological potential. The results of monitoring in Area 1 for hazardous materials has demonstrated that the impact of construction for the hospital is likely to have removed all elements of the archaeological profile. Therefore, we would recommend reverting to the original strategy of monitoring excavation to identify and document any elements that might have survived from this substantial impact. Area 1: <i>All excavation to be subject to archaeological monitoring. If archaeological features and or relics are identified during the Phase 1 works, mechanical</i>

Our ref:

Existing ARD	Proposed Change
	<i>excavations would cease, and detailed archaeological investigations would be undertaken in accordance with Phase 2.</i>

1.1 Background

In 2021 RPS prepared ARDEM for the site in response to specific Conditions of Consent for the development being the implementation of a testing programme¹. This research design identified three areas for archaeological investigation on the basis that these were the only places that relics of local significance as assessed under the OEH legislative guidelines might survive within the site².

Under the current construction program, it is planned that Area 1 will be excavated in February 2022, with Area 2 and Area 3, to be completed at a later date (currently scheduled during 2024). This letter concerns Area 1 only which is identified in Section 6.1.1 of the ARDEM as *South-west corner: Moore Hall and Theological College*. This is a 25 x 50m area in the southwest corner of the site. The ARDEM included a comprehensive Excavation Methodology for works on the site.

Under the ARDEM, Phase 1 archaeological testing would be undertaken to investigate the key locations across the area addressing aspects of the research design. In Area 1 it was proposed to *test over the sites or Moore's large out-building, the theological college buildings and the yard spaces between to determine the scope and integrity of the potential resource*.

The three trench locations were specified in the ARD at this time. If archaeological features or relics were identified during testing, then archaeological works would be progressed to archaeological salvage excavation (Phase 2). As part of the assessment of the site's potential, the excavations undertaken on the adjacent site by Edward Higginbotham and Associates in 1994 were consulted. The results of this excavation indicate that the construction of a tennis court in the 1930s and later car-park removed most historic topsoil at the site. During the preparation of the ARD only limited information about the works to be undertaken in this area was available. There had been no environmental investigation at that time.

1.2 Changes to Construction Scope

In January 2022, RPS was engaged to undertake archaeological works in accordance with the ARDEM. As part of this engagement, plans have since been provided by Lendlease (site contractor) that show the maximum excavation depth across almost all of Area 1 is limited to 0.5m below the current surface.

Further, since the submission of the ARD a large (~21 x 21m) part of Area 1 has been designated as a tree protection zone (TPZ) and will not be subject to any major excavation works. This means archaeological excavation is no longer required in this area as there will be no impacts to any potential archaeological resource. The exclusion of the TPZ decreases the size of Area 1 by 35% (Appendix 02). Testing or monitoring was limited to the remaining area.

1.3 Results of Archaeological Monitoring (January 2022)

As part of the preliminary works prior to any archaeological excavation, Lendlease required test pits to be excavated across the entire site including within Area 1 for the recovery of samples for geotechnical soil classification. Dr Gary Marriner, Senior Heritage Consultant RPS, attended the site on 24th January 2021 to monitor the excavation of two test pits (TP05 and TP08) that were located within Area 1. TP05 was initially to

¹ W. Thorp & J. Madden for RPS, 2021, *LIVERPOOL HEALTH AND ACADEMIC PRECINCT – MAIN WORKS*, Archaeological Research Design and Excavation Methodology, report to Johnstaff

² Assessing Significance for Historical Archaeological Sites and 'Relics' (OEH 2009) OEH

Our ref:

be dug within the TPZ but was relocated to the northwest as no excavation was allowed with the zone. The approximate locations of these test pits are in Error! Reference source not found.. This work also enabled a sample to be documented on the soil profile of relevance to the archaeological assessment of Area 1.

Based on the results of these two test pits, re-examination of the area, and the maximum depth of excavation being 0.5m below the surface RPS no longer recommends a program of archaeological testing and instead suggests that monitoring is an appropriate methodology for Area 1 of the site.

Figure 1 - Location of the TPZ and TP locations within Area 1. Note, TP5 was relocated to be outside the TPZ. The blue line is the approximate edge of the concrete roadway.



1.3.1 Test Pit 05

Test pit 05 was excavated 5.5m north of the TPZ in the approximate centre of Area 1. It was moved to the northwest so as not to impact the trees. The pit measured 3.2 x 1.3m and was excavated to a maximum depth of 1.15m. A 20th century building foundation consisting of a portland cement concrete with dry-pressed bricks was located at the southern end of this trench running east to west. Around 300mm north of this on the same alignment was a ceramic service pipe which had portland cement mortar joints and a metal water pipe. A further 1m north was a larger concrete stormwater pipe, again on the same alignment. No cuts for these services were visible within the upper 0.5m of the profile and all appeared to have been cut through to the underlying B horizon clay. This clearly indicates that the upper 0.5m of the profile which will be disturbed by future works has been deposited after these services were laid during the mid-later twentieth century. The section profile consisted of:

Depth	Thickness	Description
0 – 0.25m	250mm	Medium compacted dark brown sandy silt topsoil with frequent rooting and rare rounded gravel
		Current topsoil

Our ref:

Depth	Thickness	Description
0.25 – 0.50m	250mm	Mixed lenses of 3-8mm subrounded dark greyish green gravel, mottled grey/yellow/pink clay with rare broken and crushed sandstone and dry-pressed brick and crushed sandstone Imported 20 th century fill
0.50 – 0.80m	350mm	Medium compacted dark blackish brown silty sand with fine rooting. Services visible in this layer. 19 th century lower A horizon
0.80m+	>350mm	Moderately compacted brownish yellow sandy clay B horizon

1.3.2 Test Pit 08

Test pit 08 was located around 8m north of TP05 adjacent to the edge of the extant concrete road surface. It measured 2.5 x 2m and was excavated to a maximum depth of 0.8m. As with TP05 numerous services were located within the TP; they were closer to the present surface. The concrete footing of the extant road surface was exposed at the northern end. It consisted of a substantial >400mm thick reinforced concrete slab with services laid immediately adjacent to it. This concrete slab is large and covers around a third of the remaining excavation area. It was not possible to directly examine the depth of the slab as an electrical cable was found adjacent to it however as it did not easily move when pulled by a 5t excavator it is likely to be thicker than the 400mm examined. These features indicate that this portion of the proposed test area has also been extensively removed and disturbed at depth by the mid-later twentieth century works. The section profile consisted of:

Depth	Thickness	Description
0 – 0.3m	300mm	Mixed loose dark brown sandy silt, with 20 th century building rubble and rooting Recently truncated current topsoil
0.3 – 0.7m	400mm	Slightly compacted mixed brown sandy silt with patches of 3-7mm rounded gravel, rare dry-pressed brick fragments and wood fragments Imported 20 th century fill
0.7 – 0.8m	100mm	Light greyish brown clayey sand with rooting 19 th century lower A horizon
0.80m+	-	Moderately compacted brownish yellow sandy clay B horizon

Our ref:**1.3.3 Northern end of Area A**

Whilst attending site to monitor the two geotechnical trenches it was also possible to examine the rest of Area 1 which highlighted other areas that have less archaeological potential than initially assessed.

During the creation of the ARD, the c.1980s rampway in the northwest corner of Area 1 was initially included within the excavation area. At the time of the inspection, part of the rampway had already been removed and the ground level here already was excavated to well below the remainder of the area. This indicates that any archaeological resource in this area had already been removed during the construction of the rampway, and therefore there is no potential in this part of the site. The rampway, and a small area to the north of it at the same level, accounts for approximately 14.5% of the total excavation area.

As noted, the concrete slab that was exposed in TP08 was at least 400mm thick and included multiple layers of reinforcing bar. It is unusual for a road surface to be so substantial, however given that it was likely built-in conjunction with the basements, it may have been constructed to a more robust standard than usual. This would have had a significant impact on the archaeological resource. Standard construction methods for concrete roadways such as this can include excavation of existing material and replacement with imported fill which could have further truncated the underlying historic fills. The extant concrete road covers around 32.5% of Area 1.

1.3.4 Summary

Of the 1250m² identified in the ARD as Area 1 only 18% still retains its initially assessed and reported potential. This corresponds to approximately 220m² (Table 1) along the eastern part of the area.

Table 1 - Summary of the impacts on Area 1

Initial size	1250	100
TPZ	441	35
Down ramp	182	14.5
Concrete area	407	32.5
Remainder	220	18

The ARD provided an overlay of the locations of known historical buildings within Area 1 (Appendix 1). Only one building dating to the theological college was identified to be wholly within the Area. It was located in the NW corner beneath the rampway and would have already been entirely removed. Another building from this period was partially within the Area along the northern boundary but this also would have been removed by the rampway. All other identified buildings within the Area date to the 20th century.

1.4 Conclusions

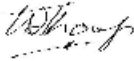
Excavations across Area 1 will almost entirely be to a maximum depth of 0.5m below the present surface. In both geotechnical test trenches the upper 700-450mm of the profile consisted of imported 20th century fills and the current surface material. This indicates that the area was stripped down in the recent past, most likely during construction works for the adjacent basement and then backfilled to the present surface height. Beneath this only a 100-350mm thick partial lower A horizon was seen atop an intact B horizon.

The only part of Area 1 that is marked for deeper excavation is the space around the rampway in north of the area. The has already been stripped down, demonstrated by the profile on site, and has no archaeological potential. The extant concrete roadway will be removed during the landscaping works. This roadway appears to be at least 400mm thick and its construction will likely have disturbed the surface it sits on. The evidence from the rampway, extant concrete road and TPZ collectively means that only 18% of the initially assessed area has any remaining archaeological potential. Both geotechnical test trenches were located within this 18% and both demonstrate that the upper ~500mm of this area has been replaced in the recent past and hence has no archaeological potential.

Our ref:


Given the evidence seen in these two test pits RPS does not plan to undertake any other excavations or testing in the area. Machine excavation and the removal of the concrete slab will be monitored by a suitably qualified and experienced historical archaeologist.

Yours sincerely,
for CRM



Wendy Thorp
Principal
wendy@culturalresourcesmanagement.com.au
+61 2 411 500 484

for RPS AAP Consulting Pty Ltd



Dr Gary Marriner
Senior Heritage Consultant
gary.marriner@rpsgroup.com.au
+61 2 4940 4231

Our ref:

Test Pit 05 Plan view

View to the north



Our ref:

Test Pit 05 Section

East facing section



Our ref:

Test Pit 08 Plan View

View to the east



Test Pit 08 Section

East facing section

