URBIS

ATLASSIAN DEVELOPMENT

Archaeological Test Excavation Report - Lower Ground Floor, Adina Ramp and Upper Ground Floor/Platform 0

Prepared for

BOJV - DEXUS

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URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Balazs Hansel, Balazs Hansel, MA (Archaeology), MA (History), M. ICOMOS
Excavation Director	Mike Hincks, BA (Archaeology and Art Historu/Theory)
Consultant	Therese McCormick, Dip. (Art History), BA (Archaeology), MSc (Archaeological Practice)
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CONTENTS

No table of contents entries found.

FIGURES

TABLES

EXECUTIVE SUMMARY

The current report presents the results of the archaeological test excavations carried out as a result of the Historical Archaeological Assessment and Research Design (HAARD) undertaken for the Former Inwards Parcels Office located at 8-10 Lee Street, Haymarket, NSW, legally referred to as Lots 116, 117 and 118 in DP 1078271 and Lot 13 in DP 10662447. It also includes details of additional research, updated potential for the subject site, updated significance assessment and consequent recommendations to manage the archaeological resource through salvage excavation.

Archaeological Testing Results

- Test trenches LGF T1 and LGF T2 confirmed the results of the archaeological monitoring of structural test pits that was undertaken in December 2021 (AMBS Memo 19752 M2). The results of both investigations demonstrated that the construction of Ambulance Ave and the lower ground floor of the former parcels complex had completely removed the upper soil units of the nineteenth century landscape, and with it the possibility of finding direct evidence of day-to-day activities and almost all structural material (with the possible exception of wells, cisterns and other deeply constructed objects).
- Test trench UGF T3 encountered what is likely to be an intact A1 unit at around 3.8m below the rail ballast in the parcels shed dock. The soil contained an East India Company coin minted between 1844 and 1862, and a modified ceramic disc (often called a token and strongly linked to subaltern populations, institutionalisation and conditions of confinement). A sandy A2 unit was present below the A1 horizon and contained evidence of bioturbation and tool marks. The integrity of these units and the artefacts recovered confirm that archaeology associated with the Benevolent Asylum grounds is likely to survive in good condition in this area.
- Test trench UGF T4 encountered a brick and cyclopean concrete footing that is likely to be a part of the original Central Station parcels dock platform. The footing was constructed with an arched base in the location of UGF T4. The top of the footing was exposed to a length of 6m. Excavation ceased at 1.4m without the base of the footing being exposed. It was not possible to test for the presence of Asylum-period archaeology elsewhere in the dock without removing the footing. The footing is a part of the original fabric of Central Station and contributes to the heritage significance values of SHR item Sydney Terminal and Central Railway Stations Group (Item 01255).
- Adina Ramp test trench UGF T5 encountered a truncated A2 sand unit with evidence of near-surface bioturbation. However, the nineteenth century A1 unit was missing, and no cultural features or structural material relating to the Benevolent Asylum period was found in T5. The evidence of bioturbation suggests that the trench was outside the footprint of the shed, and that its foundations may still be present elsewhere beneath Upper Carriage Lane. However, the description of this structure as a shed, the truncation of the A2 unit, and the removal of the nineteenth century A1 unit means that there may not be any intact occupation material associated with the interior, or with outside surface activity.

Overall, archaeological testing has confirmed the results of the geotechnical boreholes with regard to the height and intactness of the naturally developed sand unit. In UGF T3, the test pit confirmed that artefact-bearing deposits associated with the asylum have the potential to occur up to 500mm above the intact sand units identified in the boreholes. As a result of the testing, updated assessments of areas of archaeological potential within the site and of the significance of the archaeology have been produced and are presented in this report.

Recommendations

A program of archaeological monitoring and archaeological salvage is recommended for the surviving resource at the site. Two areas of Moderate and Moderate to High potential have been identified at Upper Carriage Lane and beneath the former Parcels Shed and dock. An area of Low potential has been identified in Ambulance Avenue where remains of a well may survive. The remains have the potential to be State significant if discrete, intact, or substantial archaeology is found. Background scatters of artefacts, or artefacts from undifferentiated deposits may still have State significance at a contributory level.

- ***Non-Aboriginal Archaeological Monitoring***

  Archaeological monitoring for non-Aboriginal archaeology should be undertaken for all ground-breaking works in Ambulance Avenue, where there is the potential to encounter the remains of a well that was located in the basement kitchen of the asylum. Monitoring should be undertaken for all ground-breaking

works in areas of Moderate or High archaeological potential where the exact height of archaeological levels has not been confirmed.

- ***Non-Aboriginal Archaeological Salvage***

  Non-Aboriginal archaeological salvage is recommended for the areas of Moderate and Moderate to High potential. Archaeological salvage will be triggered for the area of Low potential in Ambulance Avenue if remains of the kitchen well are encountered.

  Archaeological monitoring and archaeological salvage will be conducted in accordance with the methodology detailed in the ARD and reproduced below. Additional methodological steps specific to the programming and site constraints have been addressed below.

1. INTRODUCTION

The Atlassian Central development at 8-10 Lee Street, Haymarket (Lots 116, 117 and 118 in DP 1078271 and Lot 13 in DP 10662447) was designated as a State Significant Development (SSD 10405) under Section 4.38 of the Environmental Planning and Assessment Act 1979 (EP&A Act) by the Minister for Planning and Public Spaces on 15 October 2021.

AMBS Ecology & Heritage (AMBS) has been commissioned by Urbis Pty Ltd (Urbis), on behalf of Atlassian, to prepare an Historical Archaeological Assessment and Research Design (HAARD) in accordance with the Conditions of Approval (CoA) of Development Consent under Section 4.38 of the Environmental Planning and Assessment Act 1979 (EP&A Act) for SSD 10405, issued 15 October 2021.

Specifically, this report addresses the following CoAs:

Table 1 – Relevant Conditions of Approval

Condition of Approval	Report Reference
E19. The Applicant shall nominate a suitably qualified and experienced historical archaeologist to manage both Aboriginal and non-Aboriginal historical archaeological programs (testing and open area salvage etc) according to the following conditions (Conditions E42 to E49). This person must fulfil the Heritage Council's Excavation Director Criteria 2019 for the excavation of State significant archaeological sites to the satisfaction of the Planning Secretary.	Section 7.2
Previously E44. (satisfied and removed from consolidated conditions) Prior to the commencement of archaeological test excavation, the Archaeological Research Design and Excavation Methodology prepared by Urbis for test excavation (ARD) shall be revised to guide the early works testing program. The ARD must be prepared in consultation with the Heritage Council of NSW (or its delegate) and submitted to and approved by the Planning Secretary. The ARD shall address Heritage NSW comments provided in response to the Response to Submissions dated 20 July 2021 including revision of test areas to investigate and understand the archaeological potential of key significant phases anticipated (including the Benevolent Asylum).	

This Archaeological Test Excavation Report has been produced to satisfy condition D70 of SSD 10405, which states that:

> *Following the archaeological testing program, a report documenting the finds including a reassessment of their significance and likely impact from the project, shall be submitted to and approved by the Planning Secretary in consultation with the Heritage Council of NSW.*

This report describes the results of test trenches LGF T1, LGF T2, UGF T3, UGF T4 and UGF T5 (Figure 7).

1.1. DESCRIPTION OF THE SITE

SSD 10405 refers to the site at 8-10 Lee Street, Haymarket, Lots 116, 117 and 118 in DP 1078271 and Lot 13 in DP 10662447. The site is known as 8-10 Lee Street, Haymarket. It is an irregular shaped allotment with a small street frontage to Lee Street; however, this frontage is limited to the width of the upper access road and that of Ambulance Avenue. The site location and boundary are shown in Figure 1.

The Site has an area of approximately 3,764sqm which includes 277sqm of air rights that apply from RL40.

Figure 1 – Site location and boundary.

Source: AMBS.

1.2. AUTHORSHIP

This report has been prepared by Mike Hincks Excavation Director and Senior Historical Heritage Consultant (AMBS), Therese McCormick Consultant Archaeologist (Urbis), and reviewed by Balazs Hansel Director of Archaeology (Urbis) and Mike Hincks.

1.3. LIMITATIONS

This report has been prepared based on the available information through historical records, analysis of previously conducted archaeological works in the vicinity and limited testing through the five test pits within the proposed development footprint. This report does not deal with Aboriginal cultural heritage and possible archaeological resources. Those requirements and associated proposed management measures are outlined in the Heritage Management Plan (HMP, Urbis 2022).

2. STATUTORY CONTEXT

The conservation and management of heritage items, places, and archaeological sites takes place within the framework of relevant Commonwealth, State or local government legislation. Non-statutory heritage lists and registers, ethical charters, conservation policies, and community attitudes and expectations can also have an impact on the management, use, and development of heritage items. The following statutory and non-statutory lists and registers have been reviewed to identify the location and significance of historic heritage items and places in the vicinity of the Site:

- World Heritage List (WHL)
- National Heritage List (NHL)
- Commonwealth Heritage List (CHL)
- State Heritage Register (SHR)
- Transport Asset Holding Entity (TAHE) Heritage and Conservation (Section 170) Register
- City of Sydney Local Environmental Plan (LEP) 2012
- National Trust of Australia (NSW) Register

No items within the Site are listed on the WHL, NHL or CHL. No historical archaeological sites are listed on the TAHE s170 Register, the City of Sydney LEP, nor the National Trust Register.

2.1. HERITAGE ACT 1977

The *Heritage Act 1977* (Heritage Act) provides protection for heritage places, buildings, works, relics, moveable objects, precincts and archaeological sites that are important to the people of NSW. These include items of Aboriginal and non-Aboriginal (historic) heritage significance. Where these items have particular importance to the people of NSW, they are listed on the State Heritage Register (SHR).

The former Inwards Parcel Office is listed on the SHR as part of the *Sydney Terminal and Central Railway Stations Group* (Item 01255) (Figure 2). The Inwards Parcel Shed is listed within the description of Precinct 3: Sydney Terminal as:

> *To the west of the southern end of Platform 1 is the Inwards Parcel Office. This was the loading dock for parcels and mail from the post office. The mail was loaded via a tunnel from the post office.*

The RailCorp Heritage & Conservation (Section 170) Register identifies *Central Railway Station and Sydney Terminal Group* (Item 4801296) as having '*technical heritage value in such elements as…. The early mail, parcels and luggage subway system'* which includes the use of the Inwards Parcels Office.

The Inventory for the former Inwards Parcels Shed attached to the *Central Station Conservation Management Plan,* prepared by Rappoport Pty Ltd in 2013 includes a Statement of Significance, which although it remains relevant, does not address the associated archaeology (see Section 6 below):

> *While containing much contemporary fabric and a c.2000 fit out as a Youth Hostel, overall, the former Inwards Parcels Shed continues to retain its original scale and form. Its significance is largely derived from its ability to document the c.1906 site and it also documents the history of the role of the Central Station site, and NSW Railways generally, in the development of postal services in NSW (Rappoport 2013: Part 7, Precinct 3, Item 318).*

Urbis is preparing a site-specific Conservation Management Plan for the Former Inwards Parcels Shed to satisfy the SEARS for the proposed project, that will include an updated Statement of Significance.

Approval under Section 4.12(8) of the Environmental Planning & Assessment Act 1979 was issued on 15 October 2021, and as such, approvals under Part 4 Sections 57 to 69 of the Heritage Act 1977 will not be required. However, a Research Design describing the works and archaeological methodology in accordance with Heritage Council guidelines has fulfilled the requirements of former CoA E44 (now removed from the consolidated conditions of consent) by assessing the potential for relics to be present, their significance, impacts and appropriate management.

An archaeological relic is defined as meaning *any deposit, artefact, object or material evidence that:*

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

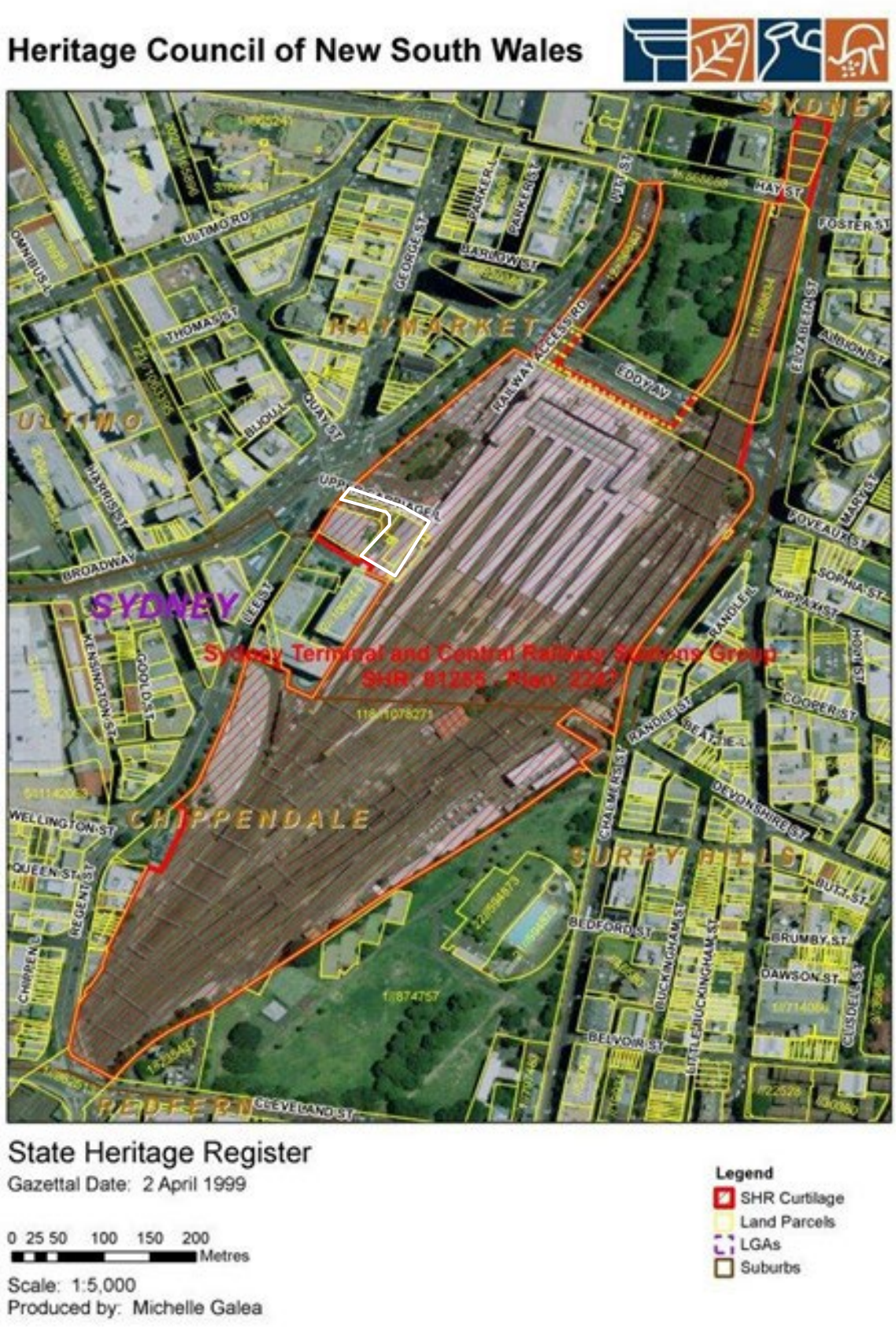

Figure 2 – The State Heritage Register curtilage of the *Sydney Terminal and Central Railway Stations Group*. The site boundary is shown with a white border.

Source: AMBS.

3. UPDATED HISTORICAL CONTEXT

Additional research has been undertaken to aid the interpretation of the testing results. The results at UGF T5 indicated that only the nineteenth century A2 horizon survives at that location. Further research was done to clarify the function and type of structure that was present there so that the significance of the remaining archaeology could be properly assessed in terms of what is likely to survive in the A2 unit. Likewise, the trench at UGF T3 found an intact A1 horizon containing a background scatter of small artefacts including an 1835 coin and a modified (ground) ceramic object. Agricultural marks in the A2 below indicated that the ground was once cultivated. Further research was done to determine specific activity areas within the grounds and to establish whether or to what degree inmates were involved in gardening and other work, so that the significance of the finds in that area could be properly assessed. In UGF T4, foundations that appear to be a part of the original configuration of the platforms and dock at the Inward Parcels Shed were encountered just below the rail ballast. Further research has been done to aid the significance assessment of this unexpected find.

3.1. THE BENEVOLENT ASYLUM

This section provides an updated historical context for the Benevolent Asylum based on the results at UGF T3 and UGF T5 and updated potential in Ambulance Avenue. Details of the excavation results for individual test pits are provided further below

A series of drawings that were produced as part of the proposed plans for the construction of Central Station were sourced at the State Library of NSW (SLNSW). The plans included an artistic interpretation of a birds-eye view of the Benevolent Asylum and cemetery. This drawing was produced between 1890 and 1899 and is the only known image that shows the grounds in full, and the relationships between buildings, their forms and the tree plantings and vegetation across the site. The testing locations are shown relative to the drawing in Figure 3. The drawing shows that UGF T3 and UGF T4 were located in two discrete areas fenced off from the asylum yard that probably included the kitchen garden in the area of UGF T4. Furrows appear to be depicted at the rear near the cemetery wall. UGF T3 was located at the periphery of the grounds. The segregation of the spaces around the yard and garden makes it unclear if this area would have been accessible to inmates. The location of UGF T3 in the landscaped part of the grounds is consistent with the results of the testing, which indicate a topsoil supporting vegetation and working of the ground. The apparent separation of this area from the kitchen garden suggests that plantings in this location may have been decorative only, although the function of different spaces may have changed multiple times over the 80 years of the asylum's use. Adina Ramp Trench UGF T5 was in the vicinity of an isolated structure that appears to be open on the side facing the asylum. Clarity around the nature of the structure at UGF T5 was further built upon by examining the Select Committee report into the Asylum in 1862.

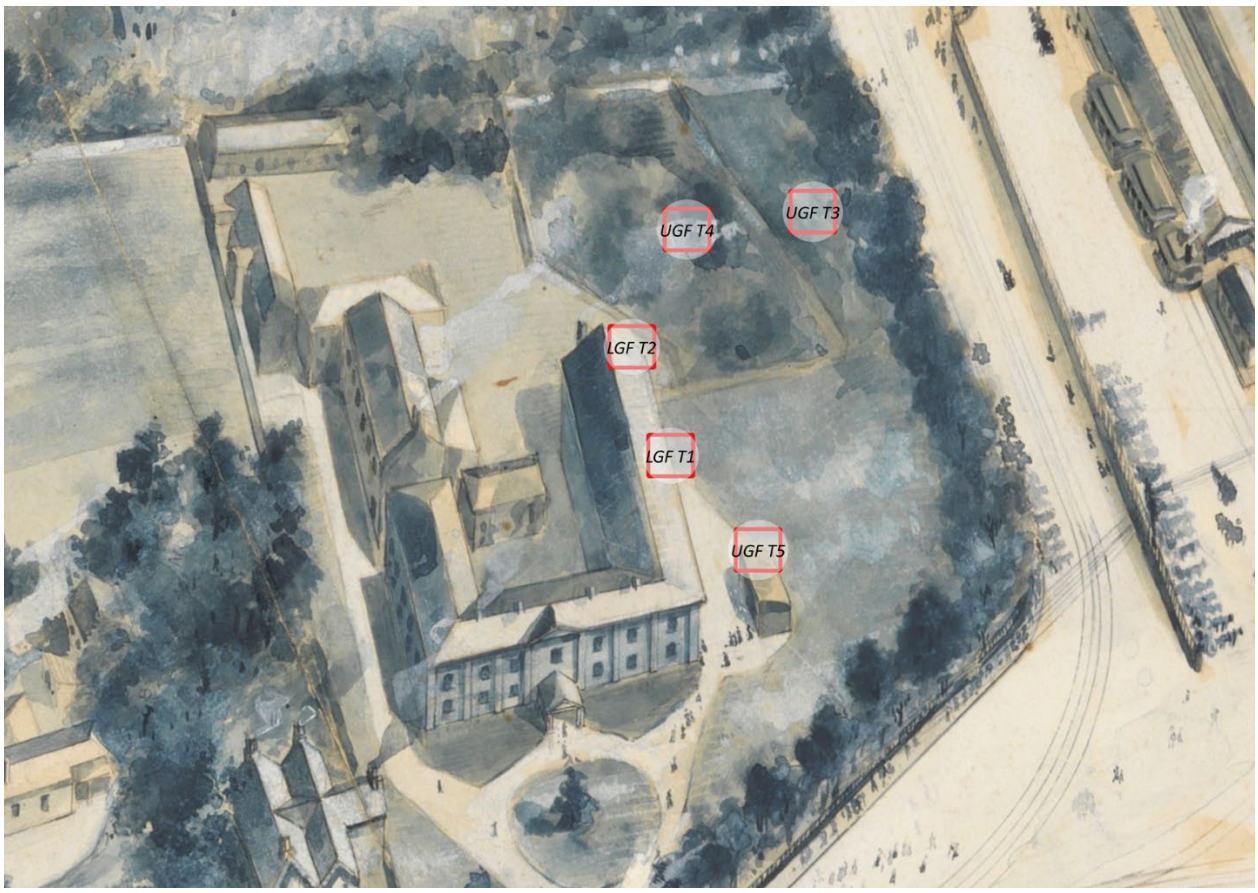

Figure 3 – A drawing imitating a birds-eye view of the asylum showing the relative testing locations.

Source: Bayliss & Selfe, 1890-1899

The evidence given to the NSW Legislative Assembly as part of the 1861-1862 report from the Select Committee on the Benevolent Asylum (NSW Parliament: Legislative Assembly, 1862b) contained information that has informed the interpretation of the testing results and the significance assessment for archaeology from the asylum period. Previously unseen plans of the asylum were also included in that report. The report has contributed significantly to our understanding of the conditions, the population and the social makeup of the residents, and the use of the buildings and land in the years leading up to 1862.

Key findings include:

- The building at the location of UGF T5 was named as a shed on plan. This is supported by the birds-eye drawing shown in Figure 3. The archaeological research potential of remains associated with this structure has therefore been downgraded from the assessment in the HAARD.
- The southern wing of the main building had a basement storey which included a kitchen with a well. The footprint of this part of the building is located in Ambulance Avenue, west of the areas that have been the subject of archaeological testing so far.
- The residents of the asylum were generally not fit or well enough to work in the gardens or grounds.
- The proximity to the burial ground had a profoundly negative effect on the living conditions at the asylum.
- Babies, children, and pregnant women were all resident at the asylum.

The plans of the asylum included in the report of the Select Committee are annotated to show the nature and function of areas of the asylum. As well as the shed at UGF T5, the plan shows the location of the basement storey in the southern wing, and the function of the rooms below ground. At the western end, below the dining hall, was the kitchen. Beneath the stairwell was the coffin store, and beneath the male sick ward at the eastern end of the wing was the straw and wood store. Trench T1, excavated by Artefact Heritage in 2021, was in the location of the basement wood and straw store, but found no evidence of the building. The cellar kitchen and coffin store were located to the west of this trench, where the ground of Ambulance Avenue rises to meet Lee Street. Trench LGF T1, excavated as part of the current testing program, was in the location of

the coffin store part of the basement. There was no evidence of the coffin store or basement foundations in LGF T1.

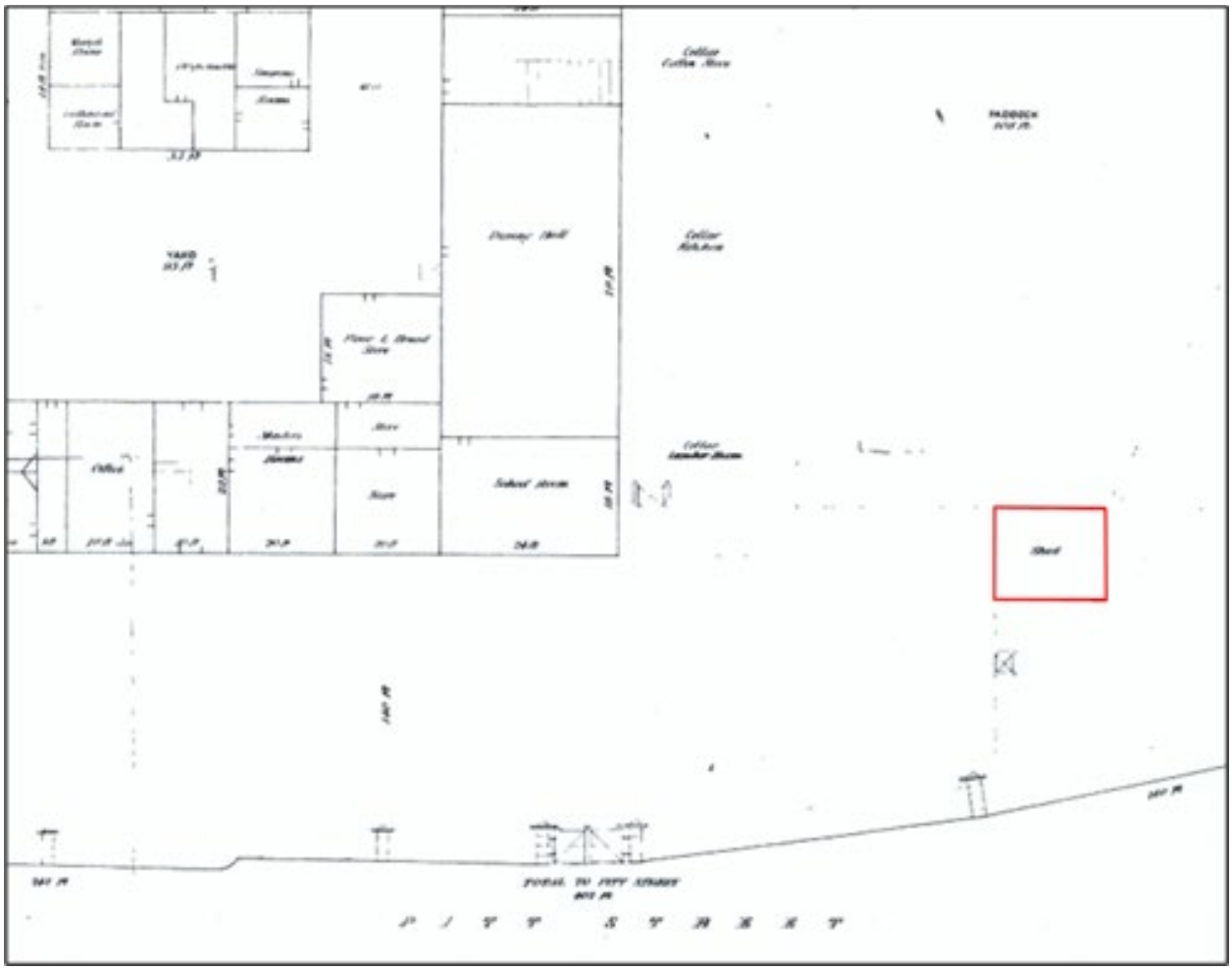

Figure 4 – Detail of the plan of the ground floor and grounds of the asylum showing the structure depicted on the 1855 plan and shown in the birds-eye view (Figure 3) as a shed (outlined red). Annotations describe the basement rooms beneath the dining hall and stairs. The plan is not to scale but instead shows distances between structures and dimensions of rooms.

Source: NSW Parliament: Legislative Assembly, 1862b

The documentary evidence for a basement storey increases the likelihood of remains surviving where the ground is higher. The report also mentions that there was a well in the basement kitchen, the deeper remains of which may still survive beneath the road in Ambulance Avenue, even though the foundations of the basement storey itself have been removed.

The reference to the well in the basement kitchen was part of a description of the unhealthy conditions of the building, and its proximity to the burial ground:

> *The sandy soil is a perfect filter for the juices of putrefying corpses; and during wet weather, the land of the cemetery being rather higher than that on which the Asylum stands, the water filtrates through, and washes portions of the decomposed bodies down to the Asylum. When I first visited there, I found that after rain the place beneath was flooded, and the cook told me that it took a man all day to bail out the place; that he bailed out 250 buckets of water… there was a well in the kitchen into which this water ran, and the smell arising from it was most offensive - most horrible (NSW Parliament: Legislative Assembly, 1862b, p. 1001).*

The proximity to the cemetery was considered to be harmful in many ways. It was noted that the smell that came from there discouraged the ventilation of the wards. When asked about the burials at the cemetery, a doctor at the asylum replied that:

> *Many are not two feet underground; I have seen some of the coffins almost close to the surface… as the ground is porous, these noxious exhalations escape (NSW Parliament: Legislative Assembly, 1862b, p. 1001).*

Perhaps not surprisingly, ill-health plagued the residents of the asylum long after they arrived, and there was a high mortality rate in the years leading up to 1861. There are several references in the Select Committee report that indicate that most, if not all of the residents of the Benevolent Asylum were not able to work in the grounds due to ill health. At one point, a committee member observed that 'the inmates are kept in a yard, in a state of compulsory idleness' (NSW Parliament: Legislative Assembly, 1862b, p. 997). When asked about the residents performing labour, the gardener replied that 'they are mostly cripples' (p. 946). Another staff member summed up the situation:

> *We consider that every person is bound to do what he can; but they are a poor set. If they were able to do much they would not be allowed to be there (NSW Parliament: Legislative Assembly, 1862b, p. 927).*

Residents included children but taking them in was avoided if possible. A staff member described the sad condition of some of them:

> *We do not take children into the Asylum if we can possibly help it. We almost invariably tell the parties when the application is made to us, that it is almost next to bringing them there to die. They are sent to us from the Police Office in a most filthy and degraded state. Sometimes, poor little infants not able to walk or speak are picked up in various parts of the town, and we cannot refuse to receive them… Sometimes they come to us in the last stage of disease, and we cannot refuse to admit them… There was great mortality in one year among them, but that was a year of mortality everywhere, - I think it was 1859 or 1860 - people died all around us; many persons were taken away, whom if you had seen a short time before you might have taken a lease of their lives (NSW Parliament: Legislative Assembly, 1862b, p. 924).*

Women also came to the asylum when pregnant, some repeatedly, for the purpose of 'lying-in'. As with the children, they were admitted because there was often no other option:

> *I do not think the institution was ever intended to take those persons in; but we have taken them simply because there was no other place for them to go to; and because we felt that if we refused to receive them there, many of them must die in the streets (NSW Parliament: Legislative Assembly, 1862b, p. 924).*

Hospitals did not have lying-in facilities, and so the Benevolent Asylum was relatively unique in this level of care. As a result, by the 1880s between 200 and 300 babies were being delivered in the Asylum and most deliveries were conducted with 'reasonable safety' (Purcal, 2008, p. 23). With such a record, the Benevolent Asylum became the first midwifery training facility in NSW (Purcal, 2008, p. 22).

Due to the ill-health of most of the residents and the relatively high numbers of pregnant women and children, archaeological evidence in the work areas of the grounds is unlikely to be representative of most of the lived experience of most of the people who stayed there. However, the artefacts in UGF T3 indicate that there may be indirect evidence of life in the asylum that may be able to contribute to the wider body of institutional archaeology in NSW.

3.2. CENTRAL STATION

This section provides an updated historical context for Central Station based on the results at UGF T4.

The initial designs for the station indicated that the platforms would be of standard construction, with brick retaining walls constructed in a vertical profile. Henry Deane, the Engineer in Chief for new railway construction decided on the addition of concrete foundations, moulded concrete coping, and a concrete deck as shown in Figure 5 (Australian Museum Consulting 2015, Appendix B:22).

The standard platform design employed at Central Railway Station (Figure 5) was employed in the construction of Platforms 1-15 of the station. The interior of the platforms were filled with sand and other materials, requiring the concrete footings and base of the brick walls to be buried beneath ballast on the track side, allowing the structure to act as a retaining wall.

Although the foundations of platform walls are not always well recorded, the fabric of platforms on the Sydney Trains network has been previously assessed (Australian Museum Consulting 2015), with the platform identified during testing being of a relatively common construction. Around 60% of extant heritage platforms on the network were built using brick masonry construction, and around two thirds of these have a vertical profile consistent with the design employed at Central Station.

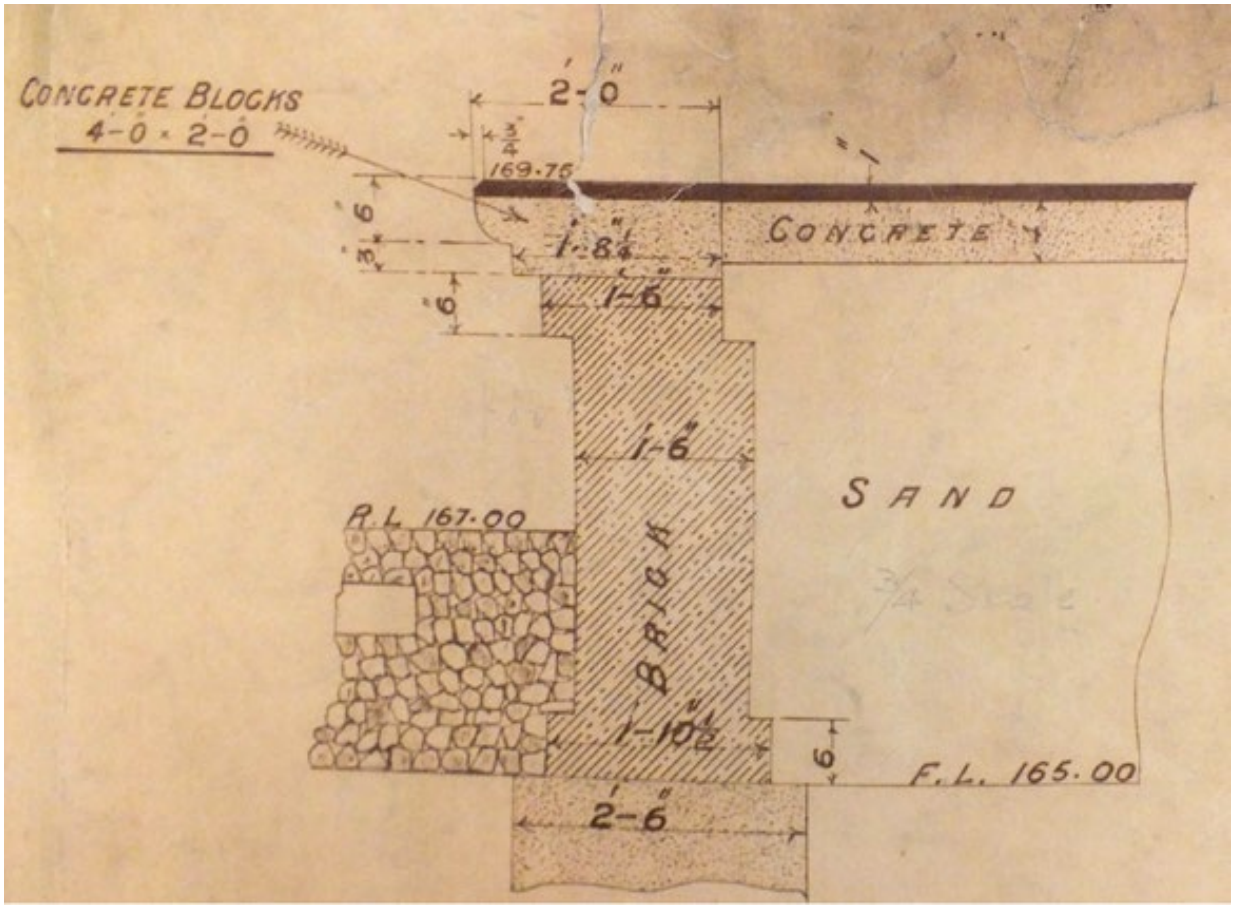

Figure 5 – Standard platform design for Central Railway Station construction, 1902.

Source: Australian Museum Consulting 2015, Appendix B:23

The Inward Parcels Shed was constructed c1906 to the west of Platform 1 at its southern end (Figure 6). The structure of the shed was corrugated metal, reusing iron trusses and columns recycled from Redfern Station. Four dock platforms were constructed to accompany the shed to allow parcels, mail, and luggage to be loaded, and a loading dock and yard were constructed to the west of the building (Rappoport 2013).

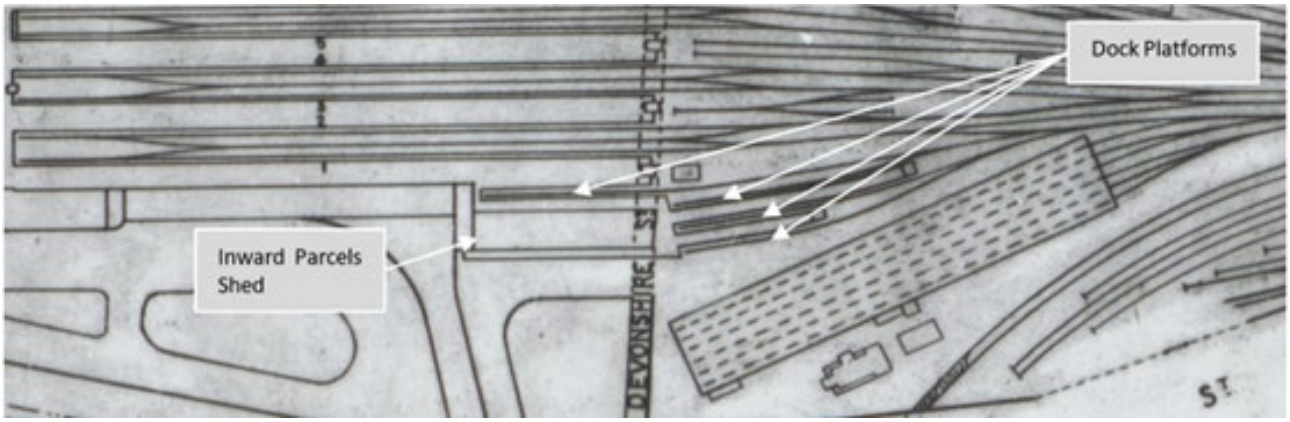

Figure 6 – Excerpt from 1922 plan of Central Station, showing the locations of the dock platforms and Inward Parcels Shed.

Source: State Library of NSW, FL421872

In 1913, the Parcels Post Office was opened to the west of the Inward Parcels Shed, and featured a set of luggage tunnels connected to the tunnels under the Sydney Terminus building (Rappoport 2013), removed in the late twentieth century.

4. TEST EXCAVATION METHODOLOGY

Archaeological remains can enhance the historical record and as such make a contribution to an understanding of the history and settlement of a local area. The proposed development at 8-10 Lee Street, Haymarket will have an adverse impact on the potential archaeological resources of the site; the excavation of two basement levels will remove the resource entirely in the areas of Low, Moderate and High potential. As identified in this report, if present with good integrity, the archaeological resource has high research potential and has been assessed as having state significance. Although the preferred management strategy is to retain archaeological resources in situ, a proposed development makes this option impossible, in which case an archaeological strategy for managing the archaeological resources must be developed; an archaeological research design.

4.1. RESEARCH QUESTIONS

The archaeological resources of any site are finite but have the potential to provide insights into everyday life that are not available from any other resource. To ensure that the research potential and significance is realised, archaeological investigations undertaken anywhere in the Site should aim to address substantive research themes.

Landscape & Environmental Archaeology

- Is there surviving evidence of the early local environment; early soils, fossil pollens and seeds?
- Is there surviving evidence of early land-use practices and what can this evidence tell us about the modification of the original landscape?

Structural Design and Material Culture

- What can the construction techniques, size, layout and form of buildings associated with the Benevolent Asylum tell us regarding their period of use and areas of activity?
- What can the contents of occupation deposits from beneath floors, wells, rubbish and/or cess pits (if present) tell us about the operations and practices of the Benevolent Asylum and the daily lives of its inmates, that may not be available from other sources?
- What can the artefact assemblage tell us about the minutiae of everyday life for the people working and living at the Benevolent Asylum? What do they tell us about population densities, gender and class?
- What information can be gleaned from a comparative analysis of the artefact assemblage of the Benevolent Asylum with artefact assemblages from similar sites? What are the similarities and differences in the nature of the artefactual material?

The above research questions are specific to the site and will inform the procedure for recording the archaeological resources during excavation, the recovery and storage of artefacts and provide a framework for the excavation. In addition, new questions are likely to arise during excavation and / or during the post-excavation analysis, which may provide additional insights into different aspects of the site that may not have been previously considered.

4.2. METHODOLOGY FOR ARCHAEOLOGICAL TESTING

Historical archaeological testing was carried out in areas of Moderate and High potential to confirm the presence of intact deposits which is suggested by the geotechnical borehole logs from the site. Archaeological testing was also undertaken in the area of Nil-Low potential within the footprint of the asylum main building. This was done to confirm the assessment of Nil-Low potential and to confirm that no evidence of the main building remains within the site. The Primary Excavation Director was present for all testing at the site.

Because the testing was conducted in some areas where no known structures, works or features were located, it was not always possible to directly test for the survival of those kinds of objects. Instead, archaeological testing was focusing on the deposits that were detected during the geotechnical coring, and aimed to establish their integrity, and the likelihood of objects of significance surviving in the vicinity. This was done through an assessment of the soil profile, its modification, truncation or disturbance, sample sieving for background artefact scatters, and evidence of intact features within the areas of testing. Further archaeological management of those areas will be informed by the results of the testing.

Testing was carried our in five locations across the Upper Ground and Lower Ground Floors. Within the footprint of the Benevolent Asylum main building, two trenches (LGF T1 and LGF T2, Figure 7) were excavated in the Lower Ground Floor to confirm that no remains of the main building survive within the site.

On the Upper Ground Floor, one 3m x 3m trench was excavated in the location of High potential (UGF T5, Figure 7) to look for remains of the 1855 structure. The trench was excavated from the level of Upper Carriage Lane. In T5 it was possible to test directly for remains of the 1855 structure and the potential natural sand deposit shown on geotechnical bore logs.

Two 3m x 3m trenches were excavated within the area of Moderate potential to investigate the nature of the remaining soil profile in that location, and assess the likelihood of survival of archaeological evidence of asylum activity (UGF T3 and UGF T4, Figure 7).

Figure 7 – Archaeological testing locations across the site.

Source: AMBS

5. MONITORING AND TEST EXCAVATION RESULTS

An application under Fast track section 60 of the Heritage Act 1977 was submitted by Built Pty Ltd for coring of existing brickwork and concrete flooring, partial removal of existing fabric, and structural test pits at Sydney Terminal and Central Railway Stations Group (State Heritage Register No. 01255).

A Section 60 fast track application for the works (Application no. 297) was approved on 19 October 2021. AMBS Senior Historical Heritage Consultant Mike Hincks attended site between 1 November and 18 November 2021 to monitor the excavation of test pits in archaeologically sensitive areas in accordance with the heritage management requirements of Condition 4.

5.1. CORING AND EXPOSING FOOTINGS IN THE LOWER GROUND FLOOR AREA

All test pits demonstrated that the construction of the existing building had reduced the ground surface considerably from its nineteenth-century levels. In all but one location (Test Pit 4.12), removal of the modern construction material revealed a truncated B-horizon of light grey clay stained with iron. TP4.12 contained deep, fine-grained dune sands typical of the Tuggerah soil landscape to a depth of 1.4m below the surface. No cultural material was recovered from any of the units below the construction material for the existing building.

The edge of an unidentified feature was encountered close to the surface in TP4.11. The feature displayed some of the characteristics that might be expected in a collapsed void, and it may have been natural in origin. There was no cultural material in the feature, and it contained only swirling lenses of uniformly-particled sandy clay.

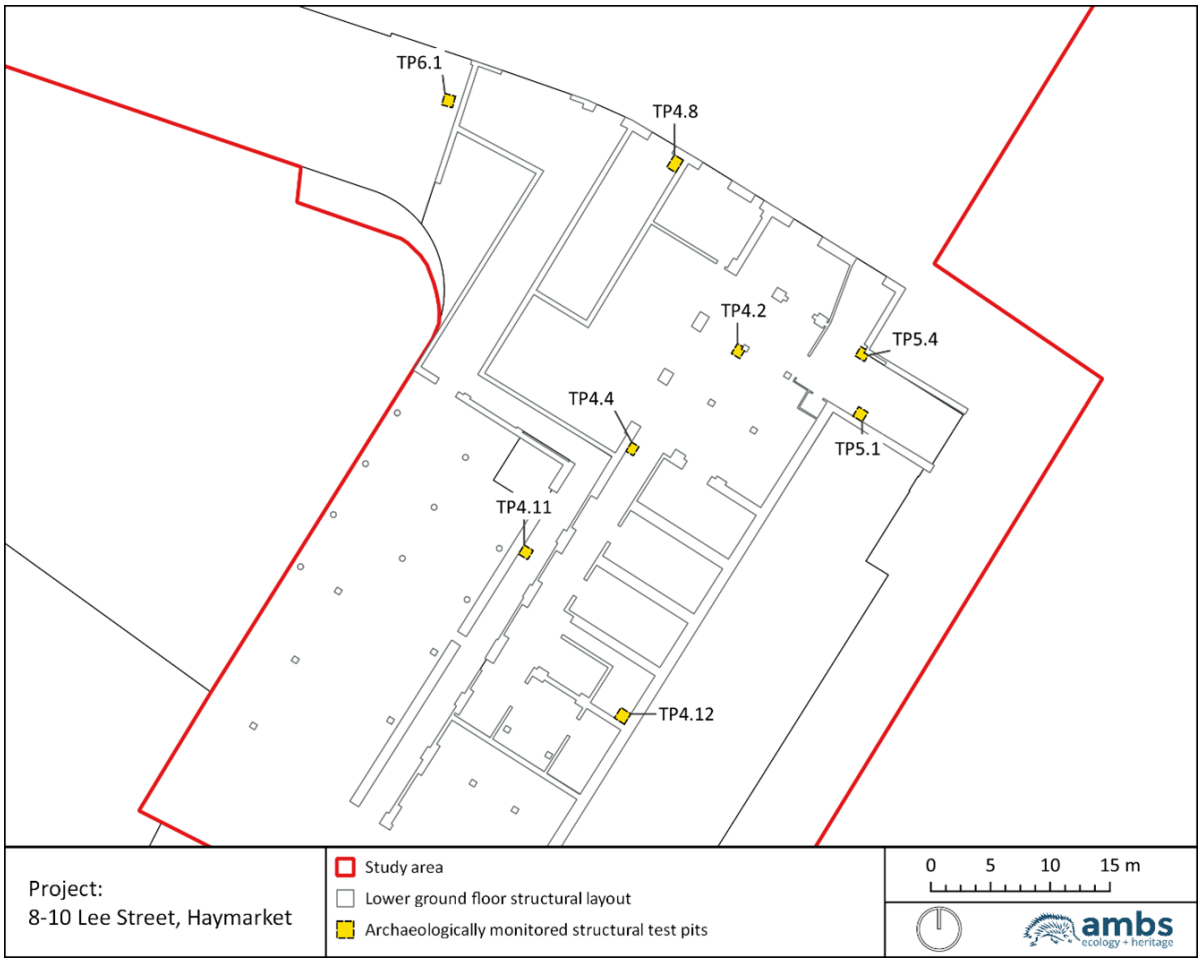

Figure 8 – Test pit locations at the lower ground floor level, 8-10 Lee Street.

Source: AMBS.

Table 2 – Test pit locations by coordinates

Test pit	Easting*	Northing*
TP4.2	333981.853	6249293.189
TP4.4	333972.958	6249285.011
TP4.8	333976.587	6249308.906
TP4.11	333964.056	6249276.312
TP4.12	333972.146	6249262.626
TP5.1	333992.081	6249287.891
TP5.4	333992.234	6249292.910
TP6.1	333957.385	6249313.589

*(GDA2020 MGA56)

Source: AMBS.

Test Pit 4.2

Test Pit 4.2 was 950mm long and 900mm wide and was excavated through the slab of the central open space of the lower ground floor, at a distance of 12m from the Ambulance Ave loading dock entrance. The start level for the excavation was 15.35m AHD. The pit was excavated to 180mm within the concrete slab bedding material, where excavation stopped due to the risk of undermining the column footing. No units that pre-dated the construction of the existing building were encountered in this test pit.

Figure 9 – Excavation stopped at this point because of the risk of undermining the column. TP4.2 was not excavation below the construction fills.

Source: AMBS.

Test Pit 4.4

Test Pit 4.4 was 1050mm long and 1040mm wide and was excavated through the slab against an internal wall on the lower ground floor. 440mm of slab and associated construction bedding material associated with the standing building was removed to reveal a truncated B-horizon consisting of strongly pedal clays.

The edge of a feature was present in the north-facing section. The feature was roughly semi-circular in profile, was 240mm deep and 310mm wide with blurred, bleeding edges at the top and an indistinct boundary with the iron staining at the top of the truncated unit. The feature was filled with medium to coarse-grained mottled sandy clay in swirling lenses. There was no cultural material or exotic soils within the feature. It is possible that the feature was natural in origin, representing a collapsed void. It was not able to be definitively interpreted from the limited evidence at the edge of the pit.

Table 3 – Contexts in TP4.4

Depth below surface	Description	Interpretation
0mm-110mm	Concrete slab.	Surface for the existing building.
110mm-410mm	Metal, builder's film, bedding sand, bitumen/metal mix.	Construction base for existing building.
410mm-440mm	Redeposited clay.	Construction base.
440mm-1080mm	Pale light grey clays, strong pedal structure, laminations of iron oxide between peds, iron discoloration increasing with depth and concentrated around the feature.	Very similar to Blacktown soil landscape unit bt4. Indicates several upper units have been removed from the site. Contains an unidentified feature.

Source: AMBS.

Figure 10 – The edge of a feature shown in the north-facing section of TP4.4.

Source: AMBS

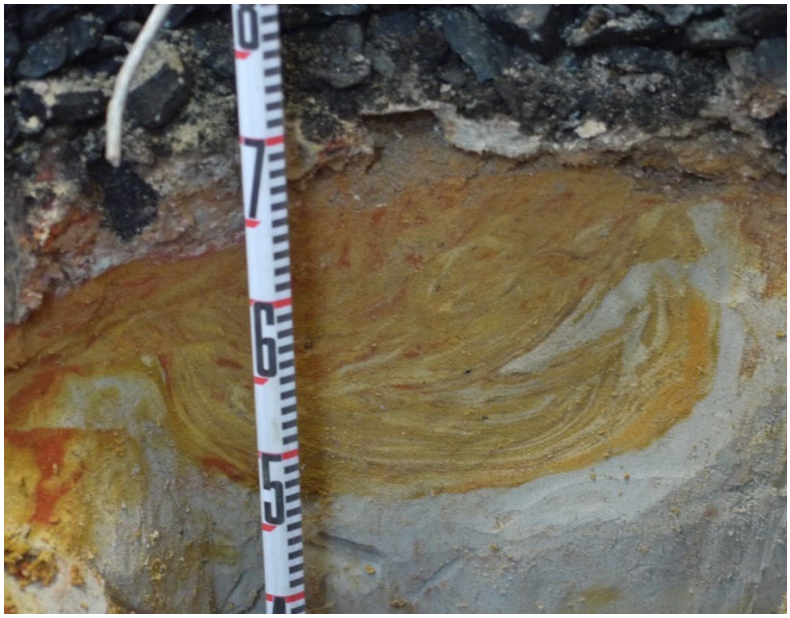

Figure 11 – Detail of the unidentified feature in TP4.4. Numbers are 100mm increments.

Source: AMBS

Test Pit 4.8

Test Pit 4.8 was 1200mm long and 900mm wide and was excavated through the slab floor of a 16m x 5m space fronting Ambulance Ave, on the lower ground floor. The start level for the excavation was 15.31m AHD. 180mm of slab and bedding material associated with the standing building was removed to reveal a truncated B-horizon consisting of strongly pedal clays. Degraded sandstone was encountered at 14.44m AHD (875mm below the surface), and excavation stopped at this depth. There was no cultural material below the modern construction fills.

Table 4 – Contexts in TP4.8

Depth below surface	Top of unit (m AHD)	Description	Interpretation
0mm-180mm	15.31	Thin slab and loose metalling, bitumen.	Construction base and surface for the existing building.
180mm-650mm	15.13	Pale light grey clays, strong pedal structure, laminations of iron oxide between peds.	Unaltered soil unit. Very similar to Blacktown soil landscape unit bt4. Indicates several upper units have been removed from the site.
650mm-875mm	14.66	Degraded fragments of sandstone stained heavily with iron in strong pedal clay matrix. Iron becoming more prevalent.	
875mm	14.44	Sandstone bedrock with heavily weathered surface, stained with red iron oxide; splits along shallow horizontal planes with moderate applied force.	

Source: AMBS.

Test Pit 4.11

TP4.11 was excavated through the slab in the fire escape corridor. The slab had a moderate gradient and was found to be suspended above a second (original) slab. The pit was not excavated further and encountered no archaeological material.

Test Pit 4.12

TP4.12 was the southernmost test pit and was located 42m within the building from the Ambulance Ave entrance. It was the only test pit to contain remains of the sandy soil profile that is thought to have characterised the landscape in the nineteenth century. Around 1m of clean, bleached, apedal sands were located beneath the construction fills for the existing building. The presence of the sands at this depth might indicate a change in the original landform, which may have sloped down to the south, preserving some of the higher soil units in this location.

Table 5 – Contexts in TP4.12

Depth below surface	Description	Interpretation
0mm-150mm	Reinforced concrete slab.	Construction base and surface for the existing building.
150mm-220mm	Builder's film and bedding sand.	
220mm-430mm	Bitumen/metal mix, redeposited clays and sand.	
430mm-1350mm	Bleached, loose apedal sand. No inclusions.	Unaltered soil unit typified by Tuggerah soil landscape unit tg2.

Source: AMBS.

Figure 12 – TP4.12 showing bleached sands beneath the construction fills.

Source: AMBS

Figure 13 – Detail of the east-facing section showing bleached sands beneath the construction fills in TP4.12. Numbers are in 100m increments.

Source: AMBS

Test Pit 5.1

TP5.1 was located in the rail access corridor on the southern side and measured 950mm x 550mm. Excavation encountered red and light grey strongly pedal clays below 240mm of concrete slab and construction fill. There was no evidence of activity that pre-dated the construction of the existing building.

Figure 14 – West-facing section of TP5.1 showing grey and red clays beneath the slab and construction fills. Numbers are in 100mm increments. Red and white scale 500mm.

Source: AMBS.

Test Pit 5.4

TP5.4 was located in the rail access tunnel, 6m in from the Ambulance Ave entrance to the lower ground floor. There were two concrete slabs in this location, totalling 210mm, and several layers of construction fill, the lowest being a yellow-brown sandy clay. Beneath this was a truncated light grey B-horizon, stained with iron oxide. There was no cultural material below the construction fills for the existing building.

Table 6 – Contexts in TP5.4

Depth below surface	Description	Interpretation
0mm-95mm	Upper concrete slab.	Construction base and surface for the existing building.
95mm-210mm	Lower concrete slab.	
210mm-385mm	Metal/gravel, builder's film, bitumen/metal mix.	
385mm-430mm	Sandy clay fill.	
430mm-755mm	Pale light grey clays, strong pedal structure, laminations of iron oxide between peds.	Unaltered soil unit. Very similar to Blacktown soil landscape unit bt4. Indicates several upper units have been removed from the site.

Source: AMBS.

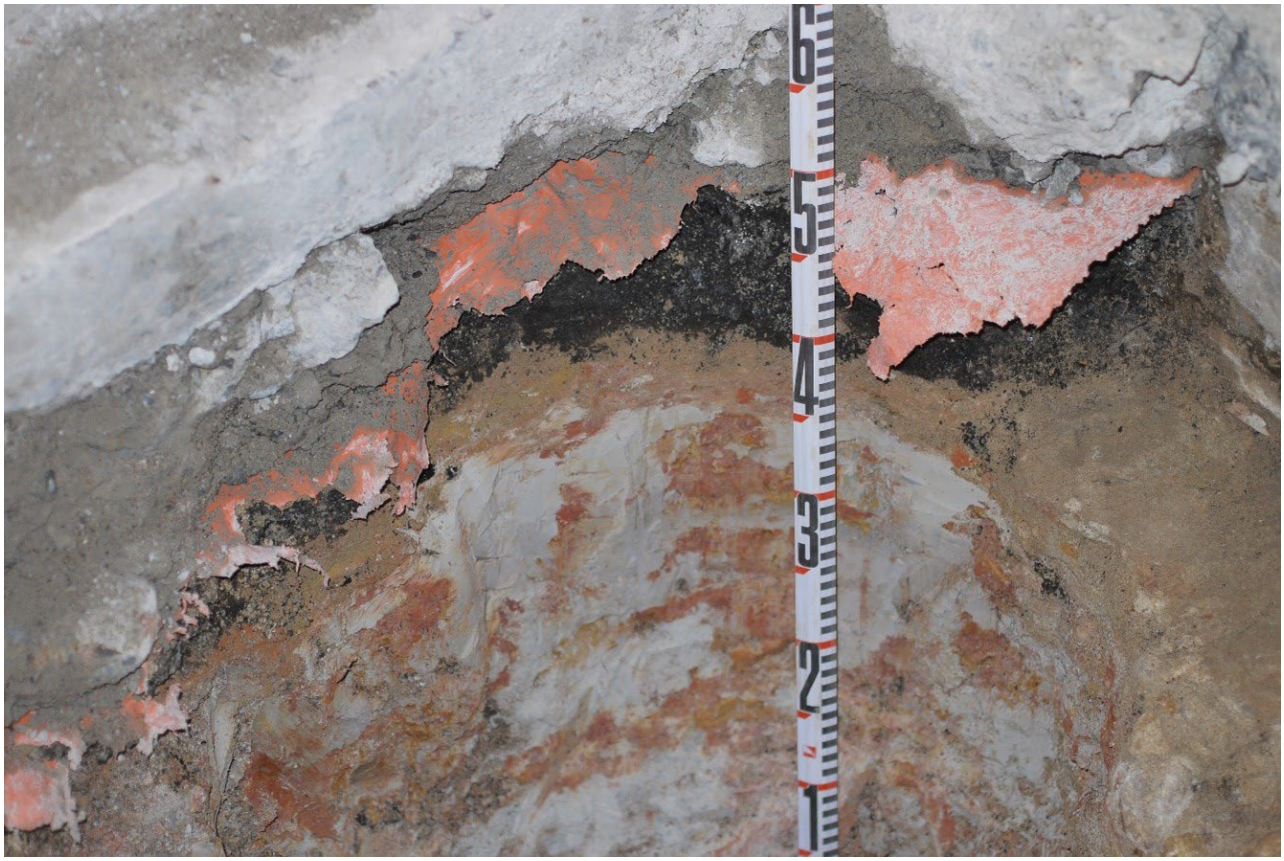

Figure 15 – Truncated B-horizon clays beneath construction fills in TP5.4.

Source: AMBS.

Test Pit 6.1

Test Pit 6.1 was 850mm long and 800mm wide and was excavated through the driveway entrance to the Adina Hotel carpark at a depth of 4m, off Ambulance Ave. The sandstone block kerbing lining the walls of the carpark entrance had been identified as significant fabric. The pit was therefore offset, and the sandstone block was partially undermined to avoid damage and removal.

150mm of reinforced concrete slab and 320mm of coarse-grained construction bedding sand was removed to reveal a truncated B-horizon consisting of strongly pedal clays at 470mm below the surface. 530mm of the

clay unit was removed to a total depth of 1000mm, and excavation stopped at this depth. There was no cultural material below the modern construction fills.

Figure 16 – Sandstone kerbing pre-excavation.

Source: AMBS.

Figure 17 – Sandstone kerbing post-excavation.

Source: AMBS.

Figure 18 – North-facing section in TP6.1 showing 320mm of construction sand bedding beneath the concrete slab.

Source: AMBS.

Test Pits not requiring archaeological management

Two test pits did not require archaeological management. Test Pit 6.2 was located in the basement carpark and was excavated through the concrete slab at start levels of 13.40m AHD. This elevation is approximately 2m below the level of Ambulance Ave, and 4m below the level of the archaeology encountered in Casey & Lowe's testing. This area has no archaeological potential. Test Pit 1.4 was excavated at the level of Platform

0 at an elevation of 21.31m AHD. The platform has been constructed on up to 3m of ground-raising fill and has no archaeological potential at the level of the platform foundations.

5.2. LOWER GROUND FLOOR

Lower Ground Floor Trench 1 (LGF T1)

Trench LGF T1 was excavated in a lower ground floor storage room. The storage room had an interior space of 15.6m x 4.5m and a single entrance to Ambulance Avenue on the northern side. The trench was excavated through the concrete slab floor in two parts (north and south) due to a live service in the centre of the storage room.

Table 7 – Contexts in LGF T1

Context	Description	Thickness	Depth	RL
1	Concrete slab.	120mm-150mm	0-150mm	15.31-15.34
2	Coal tar and broken stone aggregate.	150mm-180mm	150mm-330mm	15.18-15.21
3	Truncated red, orange and grey clays.	Unknown	330mm+	15.03-15.07
4	Remnants of crushed sandstone and sandstone rubble.	30mm-120mm	330mm+	15.07
5	Parallel, shallow cuts and fill containing homogenous yellow-brown clayey sand. Concave in profile and up to 60mm deep. Appears to be the remains of a service trench or similar. May be where tracks used as re-bar were laid (context 6).	up to 60mm	330mm+	15.08
6	Cut sections of railway tracks laid on clay and within context 2, used as reinforcement. Laid in a haphazard way, and only in some locations (which appear random). Most likely used opportunistically rather than by design.			

Source: AMBS.

Figure 19 – Linear impressions containing crushed and fragmented sandstone in the truncated clays in Trench LGF T1.

Source: AMBS.

Figure 20 – Sandstone rubble and crushed sandstone embedded in the truncated clays in the south-east corner of Trench LGF T1.

Source: AMBS.

Figure 21 – Mix of sandstone rubble, crushed sandstone and clay embedded into the truncated red-orange clays in LGF T1. View to the south. Scale 500mm.

Source: AMBS.

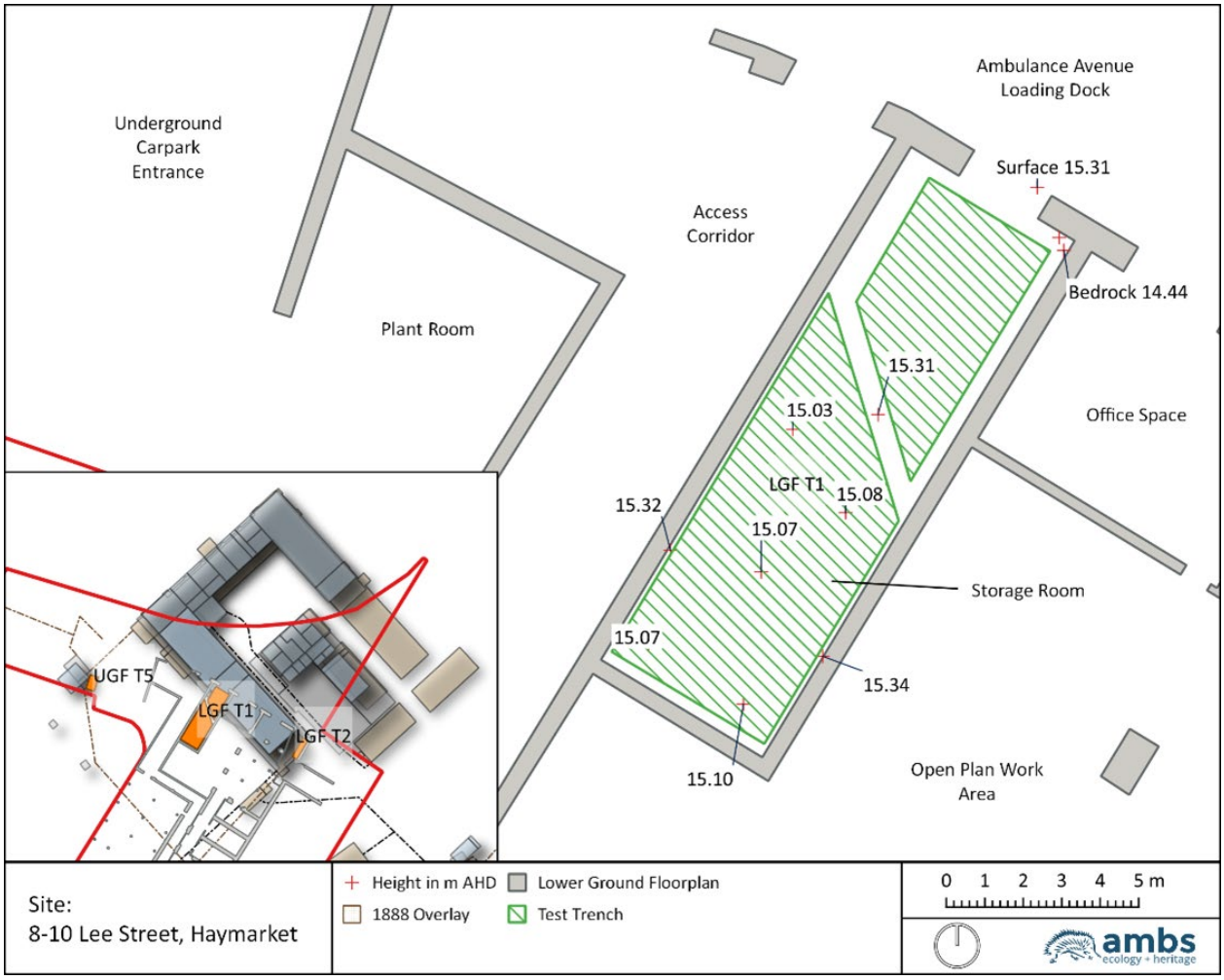

Figure 22 – Locations and final depths of Trench LGF T1.

Source: AMBS.

The slab and underlying construction fill were the same across both parts of the trench and consisted of 120mm-150mm of concrete poured over a 150mm-180mm thick base of coal tar and broken stone aggregate. In some locations, cut sections of steel rail (railway tracks) had been set into the concrete to act as reinforcement. These were inconsistently placed and seemed to have been used opportunistically rather than by design.

Truncated red, orange and grey clays were encountered at 15.07m-15.10m AHD, immediately below the coal tar/aggregate fill. This was consistent with the results of Structural Test Pit 4.8 (STP4.8) which had been excavated in one corner of the same space in December 2021.

In the southern part of the trench, remnants of crushed sandstone and sandstone rubble were pressed into the clay in three parallel lines at intervals of 1.4m. As the foundations of the Asylum building were almost certainly constructed from sandstone, there is the possibility that these remains represent the demolition of the structure. The lines were on a very similar alignment to the southern wing of the main building of the Benevolent Asylum, but were 7.5m from the projected location.

There is always a degree of inaccuracy when aligning historical surveys with current cadastral data, and the slight difference in alignment can be easily accounted for by this process. However, shifting the overlay of the building 7.5m to the southwest to match the finds in LGF T1 would mean that the sandstone remains encountered by Casey & Lowe in 2009 (Central Station Western Forecourt, 56m to the north) could not be part of the same building. As the 2009 remains included a cut, sandstone rubble and sandstock brick, they are a more convincing archaeological representation of a foundation than those in LGF T1, which means that the lines of crushed sandstone and rubble encountered in the current investigation must be interpreted as being outside the footprint of the main building.

The rough linear arrangements were around 1.4m (4.5ft) apart, centre to centre, and they were not clean and distinct, but were connected with other amorphous impressions of sandstone and clayey sand. Fragments of rubble were present in clusters adjacent to the lines. It is possible that these lines represent truncated evidence of cart ruts, drag marks, or similar features associated with the removal or import of bulk materials during the extensive ground reduction and subsequent construction that occurred after the demolition of the Asylum building. Many less-substantial impressions are in close association and have similar but less-distinct linear characteristics, which supports the interpretation of a moderately trafficked track or path leading from the interior of the site to the entrance on Pitt Street, upon which loads were dragged or carted. The exchange and displacement of intrusive (non-clay) materials and their interaction with the surrounding B-horizon is more consistent with a muddy, near-surface or surface event (or series of events) than with a deep cut and fill context like a foundation trench.

Comparing the ground height of these features with the footing depth found by Casey & Lowe in 2009 (15.07m and 17.22m respectively) suggests that the chances of this being a near-surface or surface event associated with the occupation and use of the Benevolent Asylum is almost zero, and that these features are more likely to have been made after the Asylum was demolished and the ground had been cut down close to its current levels.

Lower Ground Floor Trench 2 (LGF T2)

Trench LGF T2 was excavated in the lower ground floor emergency access corridor. The trench measured 4400mm x 1100mm. It was located to correspond with the eastern end of the southern wing of the main building of the Benevolent Asylum as depicted on the Rygate & West 1888 survey.

The concrete slab floor in this location was 330mm thick. Beneath the slab was a thin (25mm-90mm layer of coal tar and broken stone aggregate. Underlying the construction fill were truncated red and grey clays, consistent with the culturally sterile unit encountered in the structural test pits and in LGF T1. No remains of the Asylum foundations or other material were encountered in LGF T2.

Table 8 – Contexts in LGF T2

Context	Description	Thickness	Depth	RL
1	Concrete slab.	300mm-330mm	0-330mm	15.32
2	Coal tar and broken stone aggregate.	25mm-110mm	300mm-330mm	
3	Truncated red, orange and grey clays.	Unknown	355mm-420mm	14.9

Source: AMBS.

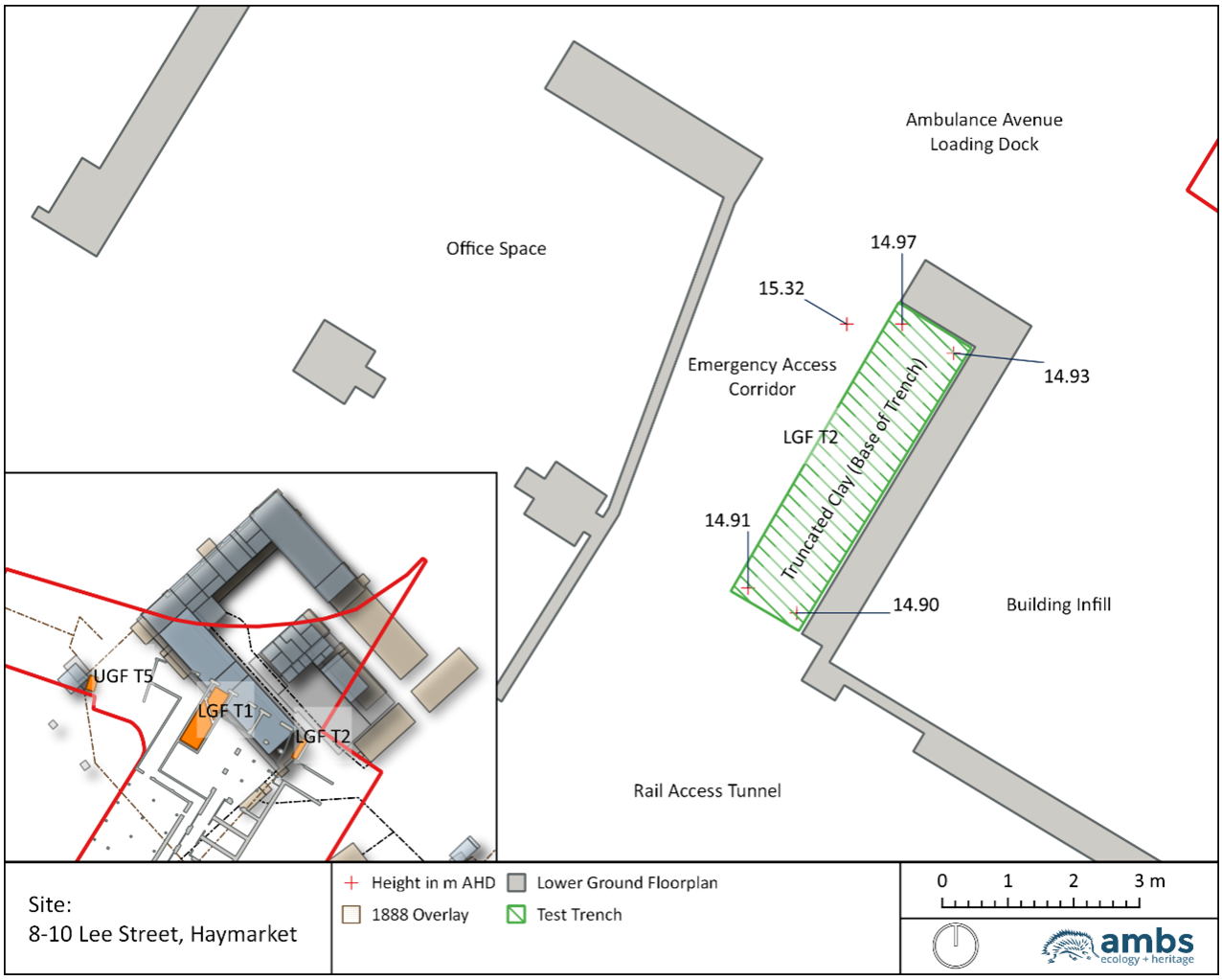

Figure 23 – Locations and final depths of Trench LGF T2.

Source: AMBS.

Figure 24 – Base of Trench LGF T2 showing truncated clays beneath the coal tar levelling fill. View to the south. Scale 500mm.

Source: AMBS.

5.3. UGF ADINA RAMP

Adina Ramp Trench UGF T5

Adina Ramp Trench UGF T5 was located on Upper Carriage Lane, near the northeast corner of the Adina Hotel building, and around 2m south of the location of geotechnical borehole BH111. The test trench was designed to be centred on the location of the structure that appeared on the 1855 and 1861 plans of the institution. However, the maintenance of emergency vehicle access required the trench to be shifted a short distance to the east. The aim of the trench was to confirm the presence of intact soil units detected during the geotechnical investigations, and to test the assessment of high archaeological potential for those units. The trench did not find any evidence of the mid-century structure, but did confirm the presence of a nineteenth century near-surface soil unit (an A2 horizon), which has the potential to contain remains from the institution. The unit is likely to be present across the area of Upper Carriage Lane west of the underground carpark entrance. The top of the unit was encountered at 16.29m AHD, which is comparable with the predicted levels from borehole BH111 (16.7m AHD).

The A1 unit had been completely removed from the location. An artefact-bearing fill (context 012) may represent redistributed material from the asylum or the local area after the demolition of the institution. It

contained fragments of brick, glass and bone that had manufacturing dates spanning the lifetime of the asylum. Glass included fragments of gin/schnapps bottles, and one-piece dip moulded black glass beer and wine bottles. The brick fragments were low quality (poorly mixed and overfired) sandstocks. A fragment of coarse earthenware salt glazed pipe (typically sewer) was also in the mix. Bone fragments included sheep and cattle.

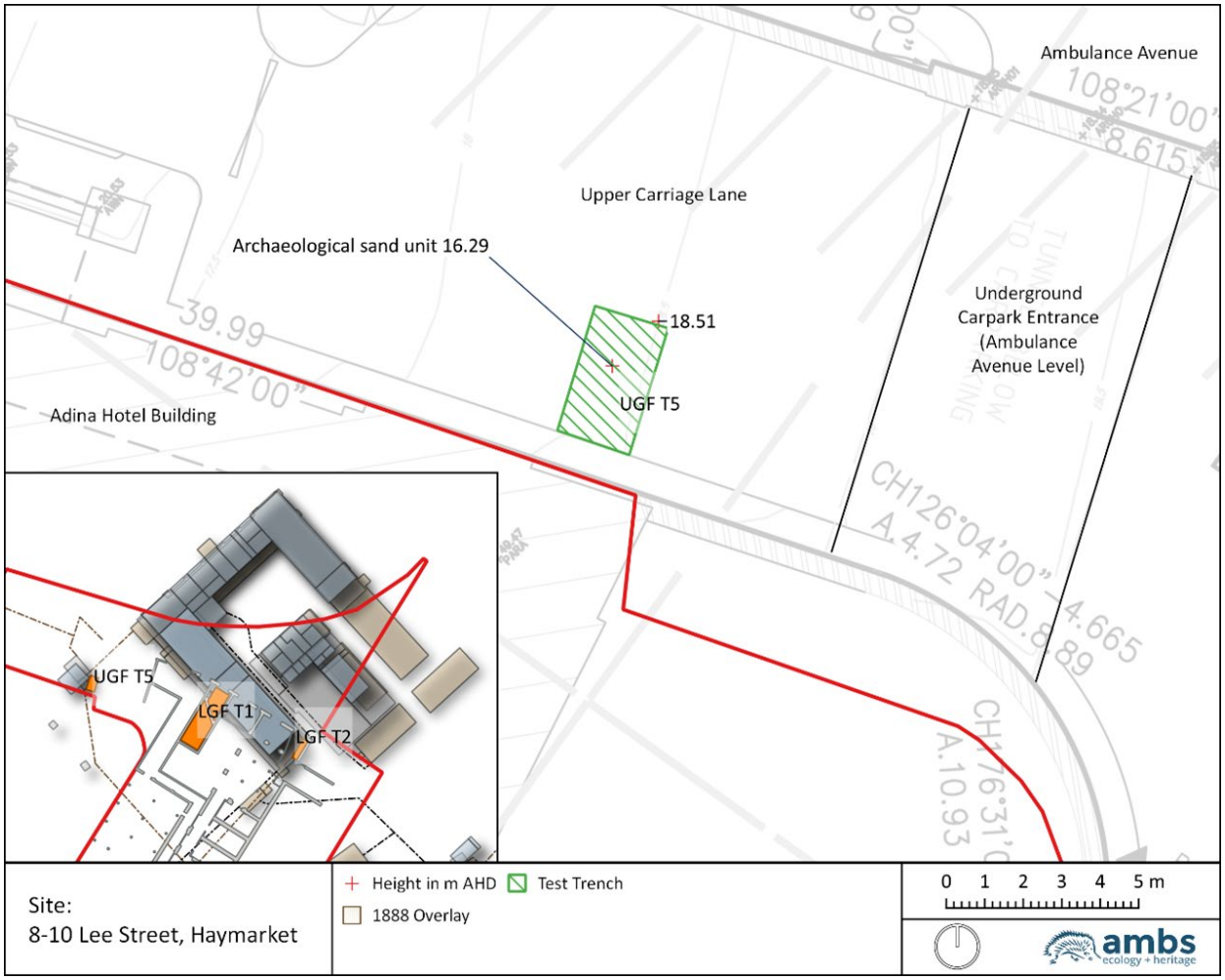

Figure 25 – Location of Adina Ramp Trench UGF T5.

Source: AMBS.

Table 9 – Contexts in Adina Ramp Trench UGF T5

Context	Description	Thickness	Depth	RL
007	Bitumen road surface.	70mm	0-70mm	18.51
008	Metal road base and coal tar or similar bonding material.	130mm	70mm-200mm	
009	Sandstone rubble fill.	230mm	200mm-430mm	
010	Mixed clay and sand fill.	750mm-800mm	430mm-1230mm	

Context	Description	Thickness	Depth	RL
011	Very compact layer of clay, sand and silt. Mid-brown with some pale red content. Contains rounded river pebbles. Bonded like a mineral pan.	300mm	1200mm-1500mm	17.28
012	Loose, brown-black sandy fill containing charcoal, brick, glass and bone.	250mm-300mm	1500mm-1800mm	16.98
013	Loose, bleached grey-white sand.	400mm-450mm	1750mm-2200mm	16.71

Source: AMBS.

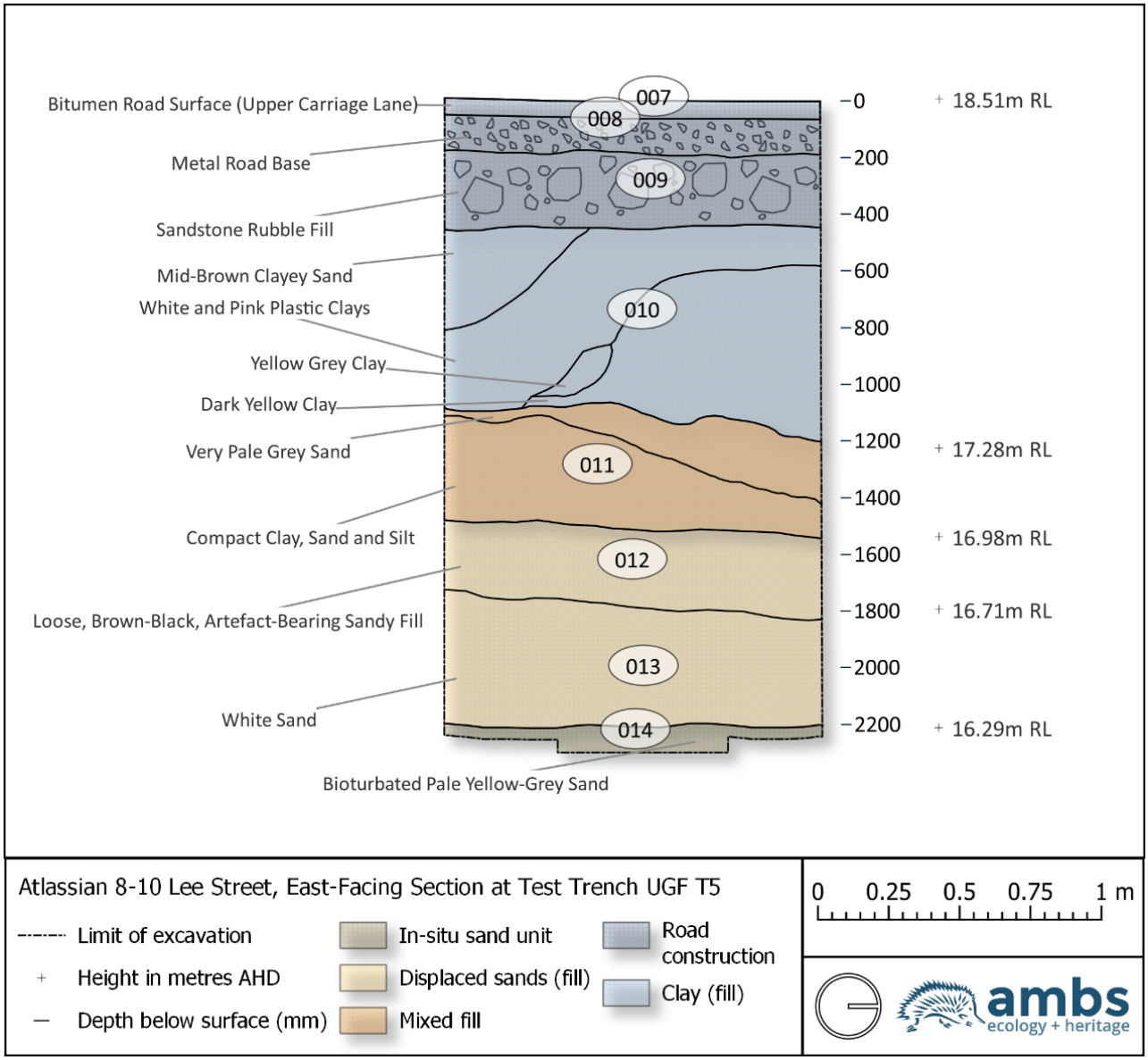

Figure 26 – East-facing section of Adina Ramp Trench UGF T5 to the top of the nineteenth-century near-surface soil unit (context 014).

Source: AMBS.

Figure 27 – East-facing section of Adina Ramp Trench UGF T5 at -1300mm. Numbers are in 100mm increments

Source AMBS.:

Figure 28 – South-facing section of Adina Ramp Trench UGF T5 at -1200. Numbers are in 100mm increments.

Source: AMBS.

Figure 29 – Mixed sandy fill at -1300mm in Adina Ramp Trench UGF T5. View to the north.

Source: AMBS.

Figure 30 – Bioturbated sands at -2200mm that are thought to represent a near-surface nineteenth century soil unit. Scale 500mm. North is at the top of the image.

Source: AMBS.

Figure 31 – Exposed intact sand unit at -2200mm (base of historical archaeological investigations). View to the north.

Source: AMBS.

5.4. UPPER GROUND FLOOR – PLATFORM 0

Upper Ground Floor Trench 3 (UGF T3)

Trench UGF T3 was located in the former parcels dock on the upper ground floor of the parcels complex. The parcels dock was constructed at the same level as Platforms 1-15 of Central Station. The trench was around 3m east of the location of borehole BH2 where sand with inclusions had been recorded at 16.00m AHD. The test trench was designed to test for and confirm the presence of an intact sandy soil horizon.

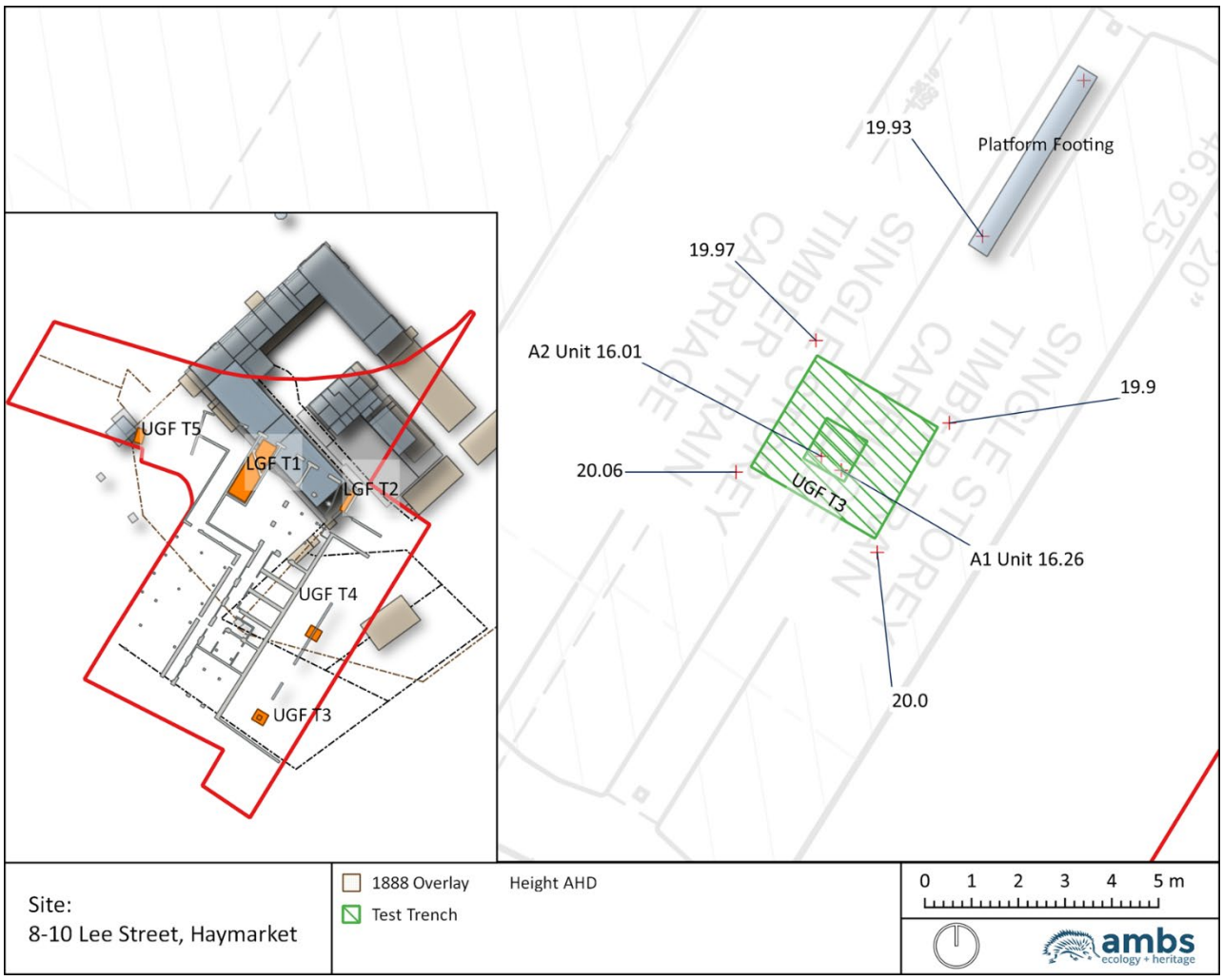

Figure 32 – Location of UGF T3.

Source: AMBS

The trench was excavated to 3m below the surface through a number of bulk fills largely comprised of clay, crushed sandstone and sand. The fills exhibited steep tip lines and were dumped in large quantities consistent with the bulk infill process that would have been required to construct the station. At 3m below the surface, a 1m x 1m hand dug test pit was excavated into the remainder of the bulk fills. Around 200mm of clayey fill was removed to expose horizontal spreads of industrial waste and sand that were more characteristic of levelling fills than a large-scale construction process. The levelling fills were around 500mm deep and contained a small number of glass and ceramic fragments (context 018) .

Beneath the levelling fills was a silty soil (context 019) with a high content of fine clay particles, fine to medium grained sands and charcoal fragments. Silty material dominated the mid to dark grey soil at the top. With depth the sand content increased, and the colour became significantly paler, which is consistent with a naturally developed soil exhibiting a strong mineral content near the surface and transitioning to an A2 unit within 200mm. The unmodified soil landscape in this location is notably devoid of clays and silts near the surface. The fine clay particles that dominate the upper part of this unit are most likely the result of importing clayier soils to fertilise the ground. The soil was homogenous in texture and colour, with the exception of the natural transitions that occurred with depth. Within this soil unit was an East India Company 1835 half anna coin, and a modified ceramic fragment with ground edges. At the base of the unit, fine clay particles had all but disappeared, and the soil had transitioned to a very pale A2 sand unit. At this level there was evidence of bioturbation in the form of small rootlet channels and straight-sided features consistent with tool marks working the ground.

Table 10 – Contexts in UGF T3

Context	Description	Thickness	Depth	RL
015	Mixed fill of grey-brown plastic clay and coarse grey-brown sand.	200mm	3.0-3.2m	
016	Industrial waste fill, loosely consolidated.	135mm	3.2m-3.33m	
017	Lensed sandy fill (light and dark grey medium and coarse grained sands). Some silt content. Lenses of industrial waste, charcoal and other small fragments.	150mm	3.33m-3.48m	
018	Fill of sand and industrial waste. Contains small fragments of brick, glass and ceramic.	180mm-200mm	3.48m-3.68m	
019	Deposit of silty sand. Very high silt content at top. Mid grey, homogenous and fine particled. Sands are fine to medium grained. Becomes sandier and lighter in colour with depth. Contains 1835 coin and shaped ceramic fragment.	250mm	3.68m-3.93m	16.26
020	Pale grey sand with darker grey evidence of bioturbation (rootlet size) and straight-sided tool marks.	>70mm	3.93m->4.0m	16.01

Figure 33 – Silty soil (context 019) at RL 16.26 in UGF T3. View to the south.

Source: AMBS

Figure 34 – Sandy A2 unit (context 020) exposed at RL 16.01m in UGF T3. View to the south.

Source: AMBS

Figure 35 – Tool marks in the sandy A2 unit at RL 16.01m. Scale 500mm.

Source: AMBS

Figure 36 – 1835 East India Company half anna found in context 019. Scale in mm, numbers in cm.

Source: AMBS

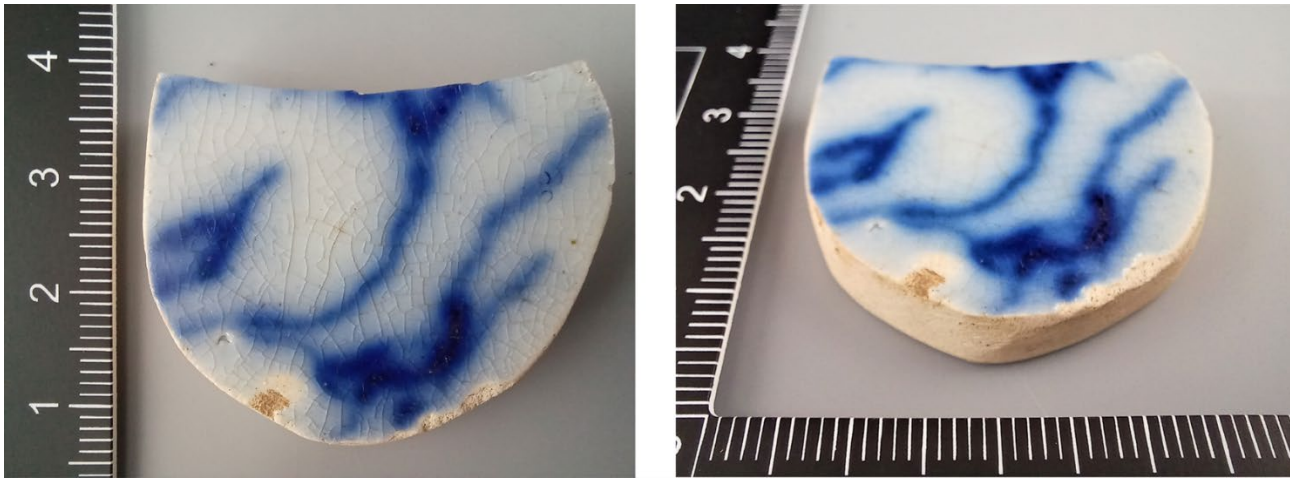

Figure 37 – Modified ceramic object found in context 019. Scale in mm, numbers in cm.

Source: AMBS

The 1835 half anna coin was produced by the East India Company between 1835 and 1862, with a fixed date. It was worth 1/32 of a rupee. Its slightly smaller size (29.5mm as opposed to >30mm), suggests that it was minted in Bombay not Madras. The Bombay Mint produced the fixed-date coins from 1844 onwards (Australian Bureau of Statistics, 2012). A shortage of currency in the NSW colony meant that a variety of foreign currencies were in use in the early 1800s, including the Indian rupee, pagoda, and Portuguese johanna. In 1825, the British Government had issued an Order-in-Council insisting on the sole use of English currency in the Colony. The adoption of sterling and of English coins proceeded gradually, and foreign currency was still in use until the 1830s (Australian Bureau of Statistics, 2012). However, it is possible that the relatively late minting date for the coin meant that it was not useable in NSW by the time it arrived here.

The ground-edge ceramic is an object that has been modified after it has been broken. These objects have been found in many nineteenth-century institutional settings, and represent resourcefulness in the face of poverty and deprivation. Jones (2018) notes that these objects are traditionally termed ‘counters’ or ‘tokens’, and interpreted as being used as gaming pieces or two-sided dice, trade items, or an alternative form of currency (Jones, 2018, p. 51). She suggests that they are also evidence of subversive behaviour in settings where people are incarcerated or confined. Over 200 of this type of artefact were recovered from archaeological contexts at the former Parramatta Girls Home/Industrial School/Orphanage School complex at North Parramatta in 2017. The ground edge can also be a result of scratching or etching of marks into brick or stone surfaces – activities that are well-documented in institutional settings.

The location of this trench is at the periphery of the asylum grounds. In the 1890s birds-eye view (Figure 3) the location is shown as between the kitchen garden and the tree-lined palisade fence along Devonshire Street. It is worth noting that at this time the asylum was operating as a midwife training school and that the

majority if not all of the residents were pregnant women and children. During the earlier parts of the century, more of the grounds may have been given over to kitchen gardens, work areas or yard spaces to be used by the inmates. The artefacts may date from a period when the grounds were differently configured.

Evidence from the Select Committee report has shown that most of the inmates of the asylum were not fit enough to work in the grounds or gardens of the asylum, and that most were kept in a state of 'compulsory idleness' in the yards. This may suggest that the artefacts that were found in the topsoil were part of a secondary deposition, through the spreading of rubbish, cess, or other material sourced from within the asylum on the gardens and at the peripheries of the grounds. The modified ceramic fragment is however a strong indicator that the artefacts are from within the asylum and associated with the behaviours and activities of the inmates.

Upper Ground Floor Trench 4 (UGF T4)

Trench UGF T4 was located in the former parcels dock on the upper ground floor of the parcels complex. The parcels dock was constructed at the same level as Platforms 1-15 of Central Station. The trench was around 3m southeast of the location of borehole BH104 where sand with inclusions had been recorded at 16.40m AHD. The test trench was designed to test and confirm the presence of an intact sandy soil horizon.

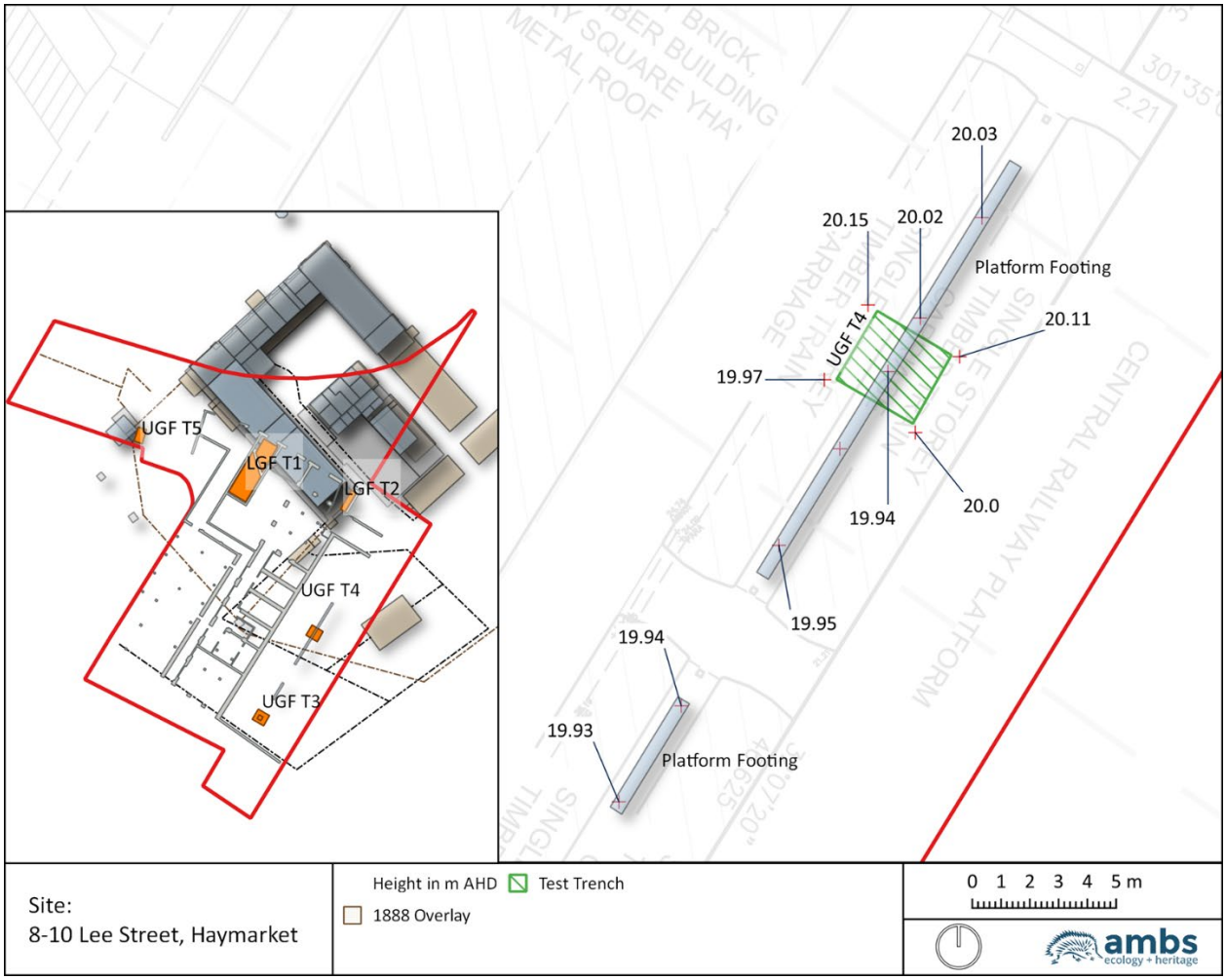

Figure 38 – Location of Trench UGF T4.

Source: AMBS

Test trench UGF T4 encountered a brick and cyclopean concrete footing that is likely to be a part of the original Central Station parcels dock platform. Excavation removed bulk fills of clay and sand from around the footing. Excavation ceased at 1.4m without the base of the footing being exposed. It was not possible to test for the presence of asylum-period archaeology elsewhere in the dock without removing the footing.

The footing had an arched base constructed with formwork (Figure 39 and Figure 40). Based on its location, the structure was identified as being the base of the wall for the original dock platform on the eastern side of the Inward Parcels Shed, adjacent to Platform 1 of Central Railway Station.

Figure 39 - Platform wall base identified in UGF T4.

Source: AMBS

Figure 40 – Exposed cyclopean concrete (L) and underside of the arch showing timber formwork impressions (R).

Source: AMBS

The foundation consists of a cyclopean concrete footing with a low wide arch in its base, constructed using timber formwork. Three courses of brick were set on the footing, with the remainder of the platform wall having been removed.

This construction is consistent with the standard platform design employed at Central Railway Station as demonstrated in Figure 5, and employed in the construction of Platforms 1-15 of the station. The width of the concrete footing in UGF T4 (765mm or 30.12 inches) and the remains of the stepped brick superstructure (585mm or 23 inches in the lower part and 465mm or 18.3 inches in the upper) are only marginally deviant (less than half an inch) from the measurements shown in Figure 5.

The presence of an intentionally formed arch is an unusual aspect of the footing, and not a standard component of this platform design. The exposed section of the arch has a low, wide profile and was constructed with timber falsework based on the impressions left by the timber in the concrete (Figure 40). The profile of the arch is similar to other arches observed throughout Central Station, and in particular the surviving luggage tunnels underneath the station (Figure 41). It is possible that the arch in the footing was created to accommodate a tunnel or services beneath, which may never have been realised or may have been redesigned for construction elsewhere in the station.

Figure 41 – Typical view of tunnels originally constructed beneath platform level to move parcels and baggage around.

Source: Rappoport 2013

5.5. SUMMARY OF RESULTS

5.5.1. Overview of Testing Results

Test trenches LGF T1 and LGF T2 confirmed the results of the archaeological monitoring of structural test pits that was undertaken in December 2021 (AMBS Memo 19752 M2). The results of both investigations demonstrated that the construction of Ambulance Ave and the lower ground floor of the former parcels complex had completely removed the upper soil units of the nineteenth century landscape, and with it the possibility of finding direct evidence of day-to-day activities and almost all structural material (with the possible exception of wells, cisterns and other deeply constructed objects).

Test trench UGF T3 encountered what is likely to be an intact A1 unit at around 3.8m below the rail ballast in the parcels shed dock. The soil contained an East India Company coin minted between 1844 and 1862, and a modified ceramic disc (often called a token and strongly linked to subaltern populations, institutionalisation and conditions of confinement). A sandy A2 unit was present below the A1 horizon and contained evidence

of bioturbation and tool marks. The integrity of these units and the artefacts recovered confirm that archaeology associated with the Benevolent Asylum grounds is likely to survive in good condition in this area.

Test trench UGF T4 encountered a brick and cyclopean concrete footing that is likely to be a part of the original Central Station parcels dock platform. The footing was constructed with an arched base in the location of UGF T4. The top of the footing was exposed to a length of 6m. Excavation ceased at 1.4m without the base of the footing being exposed. It was not possible to test for the presence of Asylum-period archaeology elsewhere in the dock without removing the footing. The footing is a part of the original fabric of Central Station and contributes to the heritage significance values of SHR item Sydney Terminal and Central Railway Stations Group (Item 01255).

Adina Ramp test trench UGF T5 encountered a truncated A2 sand unit with evidence of near-surface bioturbation. However, the nineteenth century A1 unit was missing, and no cultural features or structural material relating to the Benevolent Asylum period was found in T5. The evidence of bioturbation suggests that the trench was outside the footprint of the shed, and that its foundations may still be present elsewhere beneath Upper Carriage Lane. However, the description of this structure as a shed, the truncation of the A2 unit, and the removal of the nineteenth century A1 unit means that there may not be any intact occupation material associated with the interior, or with outside surface activity.

Overall, archaeological testing has confirmed the results of the geotechnical boreholes with regard to the height and intactness of the naturally developed sand unit. In UGF T3, the test pit confirmed that artefact-bearing deposits associated with the asylum have the potential to occur up to 500mm above the intact sand units identified in the boreholes.

5.5.2. Response to Research Questions – Testing and Monitoring

Landscape & Environmental Archaeology

- Is there surviving evidence of the early local environment; early soils, fossil pollens and seeds?
  - The presence of intact soil units in UGF T3 and UGF T5 indicates that pollen may survive. Excavation of the dune close to the boundary with the cemetery may reveal evidence of shifting mineral pans in the historical period, which has the potential to inform about groundwater levels and the likelihood of material from the graveyard washing down through the soils of the site.
- Is there surviving evidence of early land-use practices and what can this evidence tell us about the modification of the original landscape?
  - Tool marks from working the ground that were recorded in UGF T3 are most likely related to the asylum period. Patterns of tool marking over a large area may tell us about activity areas or the patterning of space generally in the grounds of the asylum.

Structural Design and Material Culture

- What can the construction techniques, size, layout and form of buildings associated with the Benevolent Asylum tell us regarding their period of use and areas of activity?
  - All structural material associated with the main building, yard and yard structures has been removed from the area of Ambulance Avenue and the lower ground floor. Foundations of a shed beneath Upper Carriage Lane may still survive. However, remains of this structure are likely to be insubstantial and not representative of the asylum's design, function or use. Remains of unknown structures may be present in the garden or peripheral areas of the asylum grounds where there is Moderate to High potential. However, these structures are likely to be insubstantial, not directly connected with inmates of the asylum and are unlikely to represent the heritage values of the asylum as a whole.
- What can the contents of occupation deposits from beneath floors, wells, rubbish and/or cess pits (if present) tell us about the operations and practices of the Benevolent Asylum and the daily lives of its inmates, that may not be available from other sources?
  - No occupation deposits, underfloors, wells or rubbish pits were encountered during the testing. The testing program found what appears to be a background scatter of artefacts associated with the asylum in a nineteenth-century intact soil unit. A modified ceramic object was recovered that was

almost certainly made and used by an inmate of the asylum. Similar artefacts would have the ability to tell us indirectly about the resourcefulness of those who lived there, and something of their daily lives. The artefact alone has limited research potential but does tell us that inmates had few possessions and were resourceful in manufacturing objects that could be used for currency, gaming, or graffiti.

- What can the artefact assemblage tell us about the minutiae of everyday life for the people working and living at the Benevolent Asylum? What do they tell us about population densities, gender and class?
  - The artefact assemblage is too small to draw meaningful conclusions at this stage.
- What information can be gleaned from a comparative analysis of the artefact assemblage of the Benevolent Asylum with artefact assemblages from similar sites? What are the similarities and differences in the nature of the artefactual material?
  - The potential artefact assemblage (even if limited to a background scatter) may still have meaningful comparative value with assemblages from other institutions. The artefact assemblage has the potential to identify patterns of behaviour, resourcefulness and response to conditions that may be echoed at similar institutional sites across NSW and Australia.

6. ARCHAEOLOGICAL SIGNIFICANCE

The physical evidence of past activities is a valuable resource that is embodied in the fabric, setting, history and broader environment of an item, place or archaeological site. The above evaluation of the site has identified the potential for relatively intact archaeological resources in some parts. The value of this resource to the community can be evaluated by assessing its cultural heritage values. 'Cultural heritage significance' and 'heritage value' are terms used to express the tangible and intangible values of an item, place or archaeological site, and the response that it evokes in the community.

Archaeological resources can provide information regarding the daily and working life of a local area or a specific site that may not be available from other sources. An item will be considered to be of state or local heritage significance if, in the opinion of the Heritage Council, it meets one or more of the following criteria.

As a result of archaeological test excavations, the assessment of archaeological significance for the site has been updated. The original assessment and statement of significance from the HAARD are provided in Sections 6.1 and 6.2 below. The updated assessment and statement of significance are provided in Section 7.

6.1. ORIGINAL ASSESSMENT OF ARCHAEOLOGICAL SIGNIFICANCE

Historical archaeological relics assessed as having State or local significance should be managed under the 'relics' provisions of the NSW Heritage Act 1977.

Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area);

The potential archaeological resource of the Site, if present with good integrity, would likely make an important contribution to specific research themes concerning:

- Health: activities associated with promoting or maintaining well-being,
- Accommodation: activities associated with the provision of housing,
- Welfare: activities associated with the provision on social services be the state or philanthropic organisations, and
- Domestic life: activities associated with creating, maintaining, living in and working around houses and institutions.

These research themes can provide insight into the operations of benevolent institutions in New South Wales throughout the nineteenth century. Documentary resources associated with asylums are scarce, and those that are available, largely focus on the personal records of the inmates. The potential artefact assemblage of the Benevolent Asylum that may be present in unrecorded structures, cesspits, wells or cisterns has the potential to reveal information regarding the operations of the Benevolent Asylum (c.1819-1901) and may provide some insights into the daily life of the residents.

If such evidence survives, the archaeological resource would meet the criteria for State significance.

Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area);

The archaeological resource at the site is unlikely to meet the threshold for local or State significance under this criterion.

Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);

It is unlikely that the remains of the main structure of the Benevolent Asylum are present within the Site; as such, the remains would not meet the threshold for inclusion against this criterion.

Criterion (d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area);

While no consultation has been undertaken with the local community in relation to the values of the archaeological resource, it is acknowledged that local and wider communities are interested in the archaeology of their local area and its development. Should substantial and intact archaeology be uncovered

within the Site, it may have value to the local community. It is likely that if the public are made aware of the archaeology through the media or an Open Day, community appreciation of the physical remains of their past will provoke considerable interest.

The threshold for significance against this criterion has not been met at this time.

Criterion (e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area);

Comparison of the artefact assemblage from the Benevolent Asylum with similar benevolent institutions in Sydney, would contribute to an understanding of the daily life of the infirm and destitute and the operations of such institutions.

The potential archaeological evidence of the site, if present with good integrity would have high research potential and as such, would likely meet the threshold to satisfy the criterion for State significance.

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

Archaeological excavation of the Benevolent Asylum has the potential to reveal an insight into the daily workings of the first such asylum in colonial Sydney. The artefact assemblage could provide an insight into the daily lives of those living and working at the asylum that may not be available from any other resource. As such the site has the potential to reveal a rare insight into Sydney' colonial past.

The archaeological resources in the Benevolent Asylum site, if present with good integrity, would meet the threshold for state significance.

Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area);

The incomplete nature of the resource at the site means that the resource is unlikely to meet the threshold for significance under this criterion.

6.2. ORIGINAL STATEMENT OF ARCHAEOLOGICAL SIGNIFICANCE

The potential archaeological resource of 8-10 Lee Street has the potential to provide information to contribute to research themes associated with the development of colonial Sydney. In addition, the archaeological resource has the potential to enhance an understanding of the early site formation processes and landscape modifications, as well as the historic development of the local area from the early nineteenth century.

Physical evidence of the Benevolent Asylum (c.1819-1901), as well as artefact assemblages from occupation deposits (contained within cesspits or rubbish pits) may have the potential to provide indirect insight into life at the asylum. Evidence from the archaeological resource such as personal artefacts, have the potential to be compared with assemblages from benevolent asylums in the local vicinity and beyond, particularly the Liverpool Hospital and Hyde Park Barracks, whose historic developments are inextricably linked with the Benevolent Asylum. This comparison would contribute to addressing research questions relating to the treatment of the infirm and destitute through the operations of benevolent institutions as well as the material culture, social interactions and living conditions of such sites.

The potential archaeological resource within the site, if present with good integrity, is likely to have a high level of research potential and would meet the threshold for state significance. Areas of archaeological potential at the site are mapped in Figure 42.

7. UPDATED ASSESSMENT

7.1. UPDATED ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

- Excavation of LGF T1 and LGF T2 and the monitoring of all Structural Test Pits confirmed that the areas of investigation have all been reduced to the level of the lower B-horizon and that all in situ foundational and occupation material relating to the Benevolent Asylum main building and ancillary structures has been removed from Ambulance Avenue and the lower ground floor area. Only the possibility of encountering deep subsurface structures such as wells, cesspits, or cisterns remains in these locations. An area of Low potential in Ambulance Avenue has been identified as having potential for the remains of a well to survive.
- Excavation of UGF T3 identified the presence of intact nineteenth century soil units representing an A1 and A2 horizon, and tool-like marks in the A2 which are consistent with cultivation and the use of this area as a kitchen garden for the asylum. A modified ceramic disc typically associated with behaviours of marginalised, subaltern, and institutionalised people (Panich et al., 2018; Jones, 2018) was found in the A1 unit. The potential for asylum-period archaeology to survive in the dock and platform area has therefore been upgraded from Moderate to Moderate-High. The limitations caused by excavation at depth and the presence of a platform footing (see UGF T4), means that only a small area could be investigated, and despite the presence of intact units in UGF T3, a designation of High potential for asylum-period archaeology cannot be confidently attributed to the whole area.
- Excavation of UGF T4 exposed a platform footing associated with the original configuration of the parcels shed dock. The potential for structural remains of Central Station construction-period archaeology is therefore High in the platform and dock area.
- Excavation of UGF T5 encountered an intact A2 soil unit in the vicinity of a mid- to late-nineteenth century shed associated with the asylum. The removal of the upper A-horizon from this area and the insubstantial and ancillary nature of the structure means that the archaeological potential for asylum-period archaeology in this area has been downgraded from High to Moderate.
- Two Areas formerly assessed as having Low potential have been downgraded to Nil-Low based on observations made during the testing program:
  - The area of Low potential north of the Parcels Dock Area has been revised down after inspection of the stairwell in that area which has been constructed below the lower ground floor slab level
  - The area of Low potential at the foot of Upper Carriage Lane has been revised down due to observations made during the excavation of UGF T5. The Upper Carriage Lane area has been found to have less potential than originally considered, and the whole ramp area has therefore been downgraded.

Mapping of the original assessment of archaeological potential for the site is provided at Figure 42. Mapping of the updated assessment of archaeological potential is provided at Figure 43.

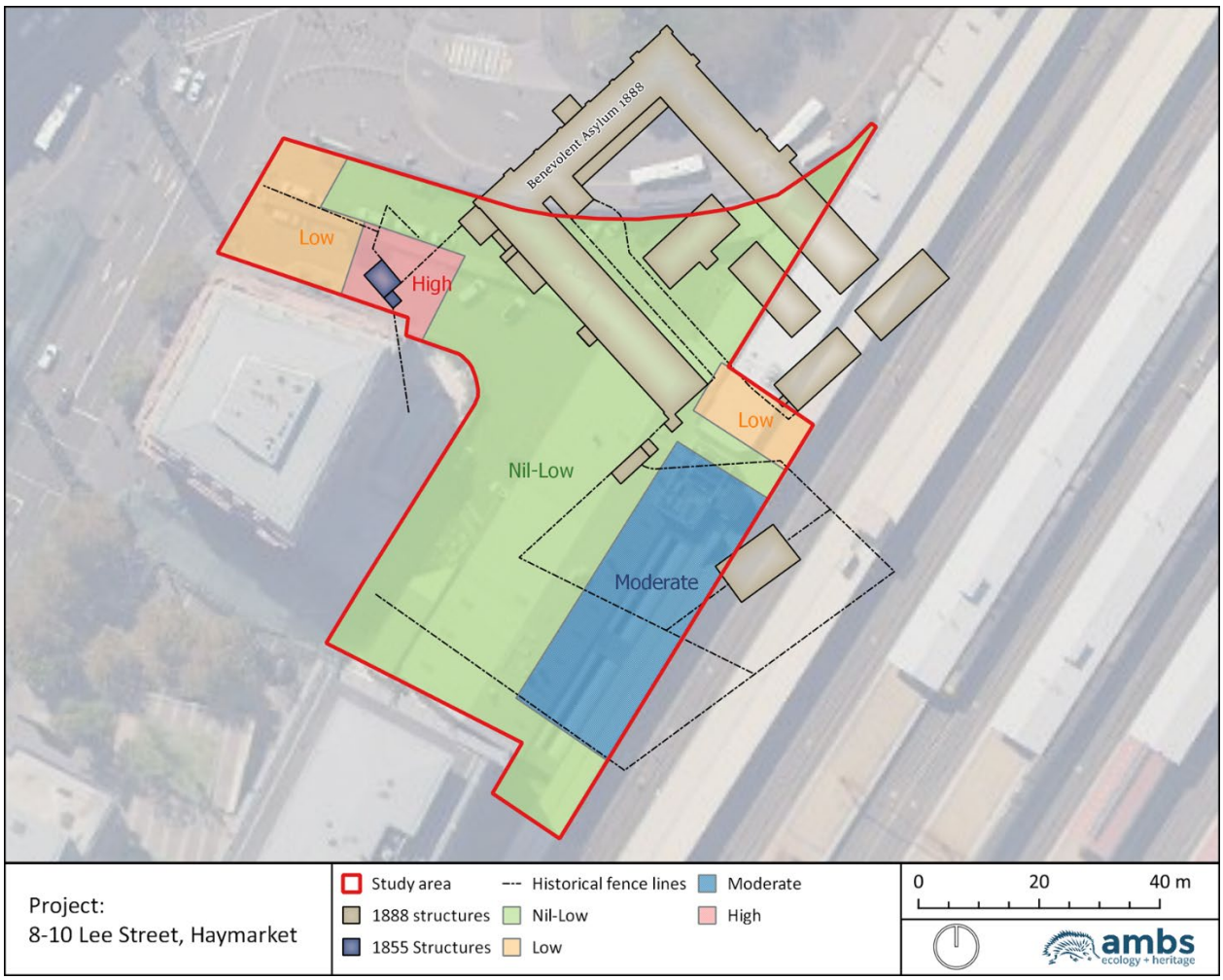

Figure 42 - Original assessment of potential prior to testing.

Source: AMBS

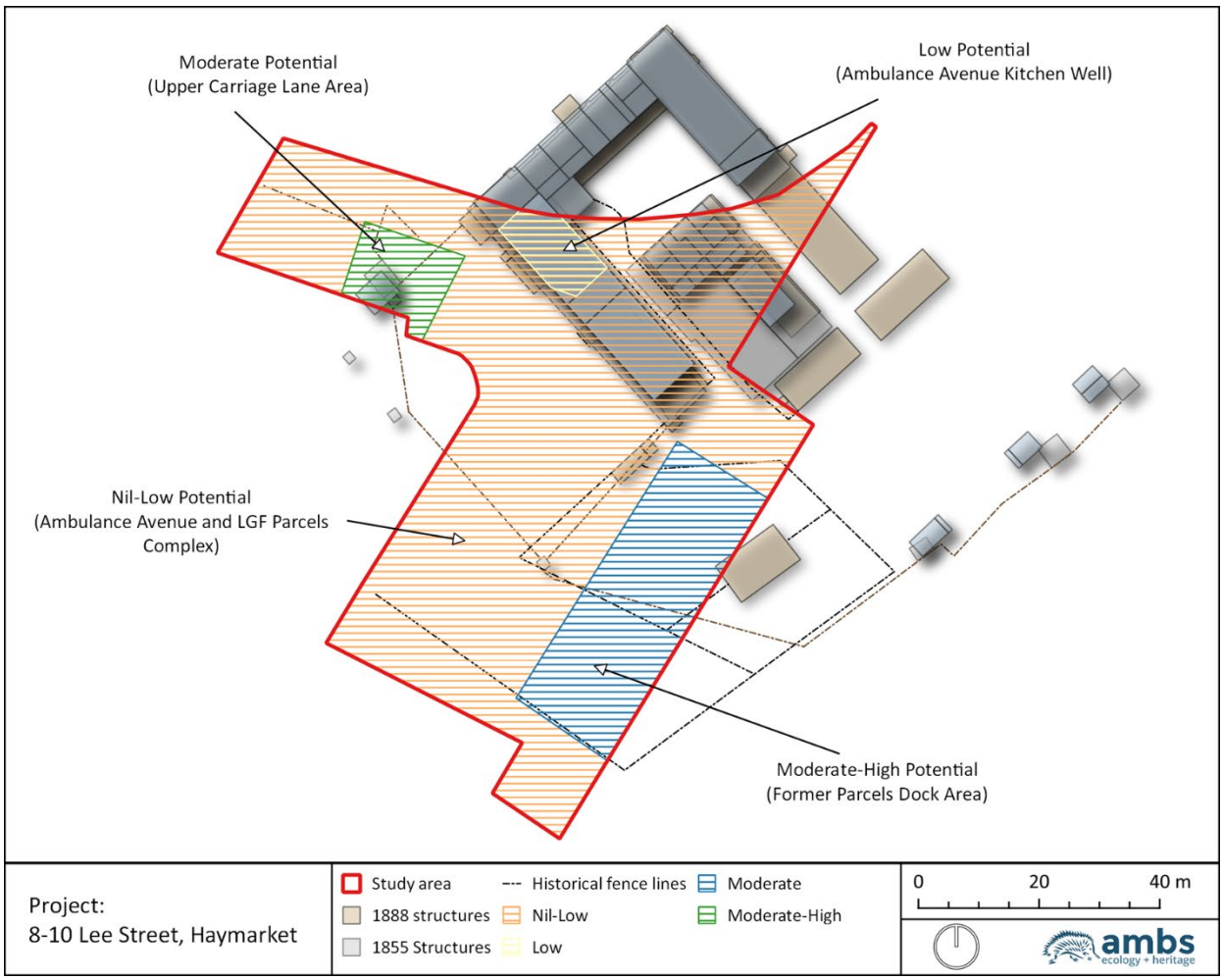

Figure 43 - Revised areas of potential after testing.

Source: AMBS

7.2. UPDATED ASSESSMENT OF SIGNIFICANCE

Criterion (a) an item is important in the course, or pattern, of NSW's cultural or natural history (or the local area);

The European history of the site, and its archaeological remains can be divided into two main phases: that of the Benevolent Asylum (1821-1901) and that of Central Station (1901-present). Both of these phases represent important themes in the history of NSW.

The asylum was administered by the Benevolent Society of New South Wales but was built by the government at the direction of Governor Macquarie. The institution represented a number of aspects of early nineteenth century society in Australia: the division between rich and poor, what was seen as the social and moral responsibility of the higher classes, and the fear of what was considered to be a 'malady' of pauperism, 'capable of infecting the entire society' (O'Brien, 2011, p. 41).

Without any form of government assistance, charitable institutions like the Benevolent Society provided the only form of relief for those that were considered to be the 'deserving poor'. O'Brien (2011, p. 42), observes that 'perceptions of pauperism were heightened by the fact that there was no poor law for 'the undeserving': charities were in the anomalous position of having to discern the 'deserving' from the 'undeserving', while knowing there was no other institutional assistance for those rejected'.

The Benevolent Asylum was the physical embodiment of these nineteenth century attitudes and their complexities. By the 1860s, the institution was suffering from overcrowding. The poor health and illness that drove people into the asylum's care was exacerbated by the conditions there. Mortality was high, standards were low, and care was extremely basic or non-existent for many inmates. After the 1860s, the institution

shifted its focus to women and children, and by the 1880s was NSW's first midwifery training school. Archaeology relating to the asylum is therefore potentially of State significance under criterion (a) for its ability to represent the social afflictions, attitudes, and attempts to resolve inequality that were embodied at the institution.

The archaeological resource relating to the asylum period that remains at the site is limited to external and peripheral areas that are unlikely to represent many of the aspects of the Benevolent Asylum that make it State significant under criterion (a). The yards, wards, work rooms, WCs, medical and administrative spaces are all either located outside the study area or else have been removed from the site by the construction of Ambulance Avenue and the lower ground floor of the parcels complex. If remains of the kitchen well survive beneath Ambulance Avenue, any deposits, food waste and artefacts that survive would have the potential to indirectly reveal something of the conditions, hygiene, standards and working of the institution.

The evidence of the Select Committee report indicates that it was not common for inmates to work in the grounds. However, excavation in the peripheral areas of the asylum property has encountered evidence of the inmates' resourcefulness in the form of a modified ceramic object. It is possibly the result of loss during rare work events, subversive behaviour, or secondary deposition. Such evidence may indirectly contribute to the historical values of the Benevolent Asylum under criterion (a) at a State significant level. If substantial, the evidence may contribute in a general way, by representing the activities of people who were marginalised by society and are underrepresented in the historical record.

Evidence of the shed that may remain within the A2 horizon on Upper Carriage Lane is unlikely to contribute to the State significant values of the asylum under criterion (a). This is largely due to its peripheral location and function in relation to the asylum as a whole, and the absence of an A1 unit which may contain evidence of its use.

The remaining archaeology at the site relating to the asylum period is therefore likely to have a contributory value at a State significant level, but may not in itself reach the threshold for State significance under criterion (a).

The Central Station phase of the site has State significance for its historical values under criterion (a). The site represents over 150 years of railway operations in the same place, making it the oldest and the longest continuously operated yard in Australia.

The Central Station site contains evidence of the first phase of railway construction in NSW and has the ability to demonstrate the evolution of changes in the NSW railways and in railway technology over the past 150 years, from steam to electric, reflected in the changes in yard layout and in signalling work practices.

The *Central Station Conservation Management Plan (2013)* states that:

> *The Central Station site contains extant 19th and 20th century fabric, spaces and components (including the archaeological resource) which are of considerable value in demonstrating evidence of the three Sydney stations and the evolution of changes in the railways and rail technology in NSW over the past 150 years. (Rappoport and NSW Government Architects Office, 2013, p. 84)*
>
> *The former Parcels Post Office and associated parcels shed and docks, demonstrates the historical importance of the railway in delivering postal services in NSW. (Rappoport and NSW Government Architects Office, 2013, p. 86)*

The archaeological evidence of the original parcels dock configuration found in UGF T4 has contributory value to the historical significance of the Central Station complex under criterion (a). The platform footing is a representation of the original layout of this part of the station, and also of the construction methods of the platforms across the station. The platform footing would meet the threshold for State significance under criterion (a) as an element with a Moderate grading, which has little heritage value but which contributes to the overall significance of the item.

Criterion (b) an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the local area);

The archaeological resource at the site is unlikely to meet the threshold for local or State significance under this criterion.

Criterion (c) an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);

All structural evidence of the main building of the asylum has been removed from within the site by the construction of Ambulance Avenue and the lower ground floor of the parcels complex. The archaeological remains of the shed that have the potential to survive beneath Upper Carriage Lane would not meet the threshold for local or State significance under criterion (c).

The footing for the parcels dock platform does not meet the threshold for local or State significance under criterion (c).

Criterion (d) an item has strong or special association with a particular community or cultural group in NSW for social, cultural or spiritual reasons (or the local area);

While no consultation has been undertaken with the local community in relation to the values of the archaeological resource, it is acknowledged that local and wider communities are interested in the archaeology of their local area and its development. Should substantial and intact archaeology be uncovered within the site, it may have value to the local community. It is likely that if the public are made aware of the archaeology through the media or an Open Day, community appreciation of the physical remains of their past will provoke considerable interest.

The threshold for significance against this criterion has not been met at this time.

Criterion (e) an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the local area);

The archaeology from the asylum period at the site has the potential to reveal what life was like at the asylum for those who were unfortunate enough to end up there. The people who resided at the asylum are poorly represented in the historical record. Archaeological evidence of their daily lives and the conditions in which they lived at the asylum would be of State significance under criterion (e) for its ability to reveal information about marginalised people which is not available from any other source.

The context from which the artefacts have been recovered so far from UGF T3 is a relatively homogenous soil unit and not a discrete feature. The artefacts may represent a background scatter in the upper A-horizon without further distinction. Artefacts from such an assemblage would contribute to our general knowledge about life and activity in the asylum but may not be attributable to a particular period, and are unlikely to be attributable to an individual or a group of individuals as opposed to the general population of the institution. Likewise, an accumulation of artefacts in topsoil may indicate the repetition of a number of similar events, but is unlikely to be able to be attributed to an isolated event or single activity. The research potential of artefacts in undifferentiated contexts is therefore limited to being of contributory value.

If substantial and intact discrete artefact-bearing or otherwise meaningful contexts are encountered they may reach the potential for State significance under criterion (e).

Comparison of the artefact assemblage from the Benevolent Asylum with other institutions from the period would augment the growing body of knowledge about institutional life in NSW in the nineteenth century.

If the remains of the kitchen well have survived beneath Ambulance Avenue it may contain artefacts and deposits directly related to the kitchen environment and indirectly related to conditions at the asylum in general. If such remains exist they may reach the threshold for State significance under criterion (e).

The platform footing encountered in UGF T4 does not meet the significance threshold under criterion (e).

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

Archaeological excavation of the Benevolent Asylum has the potential to reveal an insight into the treatment of marginalised peoples at the first such asylum in colonial Sydney. The artefact assemblage could provide an insight into the daily lives of those living and working at the asylum that may not be available from any other resource, or that is substantially different from assemblages recovered from similar institutions. As such the site has the potential to reveal a rare insight into Sydney' colonial past and may be State significant under criterion (f).

Criterion (g) an item is important in demonstrating the principal characteristics of a class of NSW's cultural or natural places or cultural or natural environments (or the local area);

The incomplete nature of the resource at the site means that the resource is unlikely to meet the threshold for significance under this criterion.

7.3. STATEMENT OF ARCHAEOLOGICAL SIGNIFICANCE

The archaeological resource at the site has the potential to provide information to contribute to research themes associated with the development of colonial Sydney. In addition, the archaeological resource has the potential to enhance an understanding of the early site formation processes and landscape modifications, as well as the historic development of the local area from the early nineteenth century.

The archaeological resource relating to the asylum period that remains at the site is limited to external and peripheral areas. The yards, wards, work rooms, WCs, medical and administrative spaces are all either located outside the study area or else have been removed from the site by the construction of Ambulance Avenue and the lower ground floor of the parcels complex. If remains of the kitchen well survive beneath Ambulance Avenue, any deposits, food waste and artefacts that survive would have the potential to indirectly reveal something of the conditions, hygiene, standards and working of the institution and may be State significant under criteria (a), (e) and (f). Artefacts or features found in the peripheral areas and gardens of the asylum grounds are unlikely to be representative of most of the people who lived at the asylum. However, evidence of rare work events, subversive behaviour, or even secondary deposition may indirectly contribute to the historical values of the Benevolent Asylum under criterion (a) and (e) at a State significant level. The evidence may contribute in a general and comparative way, by representing the activities of people who were marginalised by society and are underrepresented in the historical record.

Evidence from the archaeological resource such as personal artefacts in secondary depositions, have the potential to be compared with assemblages from other institutions in NSW to produce meaningful research outcomes. This comparison would contribute to addressing research questions relating to the treatment of the infirm and destitute through the operations of benevolent institutions as well as the material culture, social interactions and living conditions of such sites.

The archaeological evidence of the original parcels dock configuration has contributory value to the historical significance of the Central Station complex under criterion (a). The platform footing is a representation of the original layout of this part of the station, and also of the construction methods of the platforms across the station. The platform footing would meet the threshold for State significance under criterion (a) as an element with a Moderate grading, which has little heritage value but which contributes to the overall significance of the item.

Despite the peripheral and limited representational nature of the archaeology that remains at the site, the resource is likely to have a high level of research potential and would meet the threshold for State significance at a contributory level.

8. RECOMMENDATIONS AND PROPOSED METHODOLOGY

A program of archaeological monitoring and archaeological salvage is recommended for the surviving resource at the site. Two areas of Moderate and Moderate to High potential have been identified at Upper Carriage Lane and beneath the former Parcels Shed and dock. An area of Low potential has been identified in Ambulance Avenue where remains of a well may survive. The remains have the potential to be State significant if discrete, intact, or substantial archaeology is found. Background scatters of artefacts, or artefacts from undifferentiated deposits may still have State significance at a contributory level.

8.1. NON-ABORIGINAL ARCHAEOLOGICAL MONITORING

Archaeological monitoring for non-Aboriginal archaeology should be undertaken for all ground-breaking works in Ambulance Avenue, where there is the potential to encounter the remains of a well that was located in the basement kitchen of the asylum. Monitoring should be undertaken for all ground-breaking works in areas of Moderate or High archaeological potential where the exact height of archaeological levels has not been confirmed.

8.2. NON-ABORIGINAL ARCHAEOLOGICAL SALVAGE

Non-Aboriginal archaeological salvage is recommended for the areas of Moderate and Moderate to High potential. Archaeological salvage will be triggered for the area of Low potential in Ambulance Avenue if remains of the kitchen well are encountered.

Archaeological monitoring and archaeological salvage will be conducted in accordance with the methodology detailed in the ARD and reproduced below. Additional methodological steps specific to the programming and site constraints have been addressed below.

8.2.1. Proposed Salvage Methodology

Areas of Moderate-High Archaeological Potential: Former Parcels Dock and Platforms

This area contains Moderate or High potential for two types/phases of archaeology:

- The gardens and peripheral grounds of the Benevolent Asylum
- The construction of the platform for the original parcels dock at Central Station

The platform footing will be fully exposed and archivally recorded with survey, photography, and elevation drawing where appropriate. The footing will be exposed in stages if it is unsafe to expose whole. Demolition of the footing may also be recorded in locations where it is likely to reveal an unusual or significant construction method.

The archival recording will be carried out in accordance with How to Prepare Archival Records of Heritage Items (NSW Heritage Office, 1998) and Photographic Recording of Heritage Items Using Film or Digital Capture (Heritage Office, 2006).

The final excavation report will detail the history and significance of the object, relevant findings from the archival recording, and an overview of the relationship of the object to the Central Station complex.

The top of intact soil units and artefact-bearing topsoil associated with the Benevolent Asylum have been identified at 16.26 in UGF T3. The archaeological levels across this area of Moderate-High potential are up to 4m from the current surface. Perimeter piling is required prior to removing the bulk fills so that the deposits can be accessed safely, and excavated in an archaeological best-practice manner.

After piling, bulk fills will be removed from the southern end of the area adjacent to the Devonshire Street tunnel, gradually exposing the platform footing and the deeper archaeological units as excavation proceeds to the north, and battering the remaining bulk fills to create safe access. Where present, the intact A1 and A2 units will be surveyed for non-Aboriginal archaeological material. If no distinct features are discernible in the A1 unit, the topsoil will be sample-excavated with hand tools to recover artefacts from the undifferentiated unit. Sample areas will be appropriate to the total area of the deposit remaining, and will focus on the most intact or representative locations. The A1 unit will then be removed with a small excavator and batter bucket to expose the A2 unit below, and any features that may be present within it. After the area has been cleared of any non-Aboriginal archaeological features, Aboriginal archaeological testing of the A2 sand unit will proceed. If unanticipated or substantial State significant archaeological remains are encountered, works will

cease and an s146 notification under the Heritage Act 1977 will be submitted to Heritage NSW. An Archaeological Relics Management Plan will be prepared and the find will then be managed in consultation with Heritage NSW.

Areas of Moderate Archaeological Potential: Upper Carriage Lane

The top of the intact A2 unit at Upper Carriage Lane is located up to 2.2m below the current road surface. The road construction fills will be removed by excavator, exposing the top of the archaeological unit across the area of Moderate archaeological potential. The exposed unit will be surveyed for intact non-Aboriginal archaeological features and deposits. Non-Aboriginal archaeology will be salvaged prior to the program of Aboriginal archaeological testing of the sand unit. If unanticipated or substantial State significant archaeological remains are encountered, works will cease and an s146 notification under the Heritage Act 1977 will be submitted to Heritage NSW. An Archaeological Relics Management Plan will be prepared and the find will then be managed in consultation with Heritage NSW.

Areas of Low Potential: Ambulance Avenue

Works to install new stormwater pipes in Ambulance Avenue may encounter the remains of a well that was located in the basement kitchen of the asylum. All ground-breaking works in Ambulance Avenue that have the potential to impact remains of the well will be archaeologically monitored. If remains of the well are encountered and impacts cannot be avoided, the well will be archaeologically excavated and recorded in accordance with the excavation methodology detailed in the ARD.

Areas of Nil-Low Potential: Lower Ground Floor

Areas of Nil-Low potential for non-Aboriginal archaeology will be managed under the project unexpected heritage finds procedure.

8.2.2. Research Questions

1. Artefacts from institutional settings often have non-normative or multiple uses and meanings (Jones, 2018). Can the assemblage be analysed in terms of layered significance and function to their past owners? How does the assemblage compare to similar collections from institutional settings? Does the assemblage from the Benevolent Asylum indicate different behaviour patterns to other institutions?

2. The surviving archaeology at the site is limited to peripheral spaces that are outside the main block of buildings and the central yard. Is there evidence of subversive behaviour, or patterns of activity that are not picked up by studies that have focussed on the core wards and yards in other nineteenth century institutions? What does it tell us about these peripheral parts of institutions that are generally considered to be low in archaeological potential relative to the main areas of confinement and control?

3. The 1862 report of the Select Committee stated that poor health at the institution was exacerbated by proximity to the cemetery and the flow of toxic groundwater through the asylum grounds. The area of Moderate-High potential under the parcels dock is close to the boundary of the cemetery. What environmental evidence is there for groundwater changes and the development of soils and organic content in the dune during the asylum period?

4. If remains of the well survive, what can it tell us directly about the kitchen environment and conditions, and the conditions, diet and standards generally in the asylum? Is there evidence of the poor quality of the water in the well and a build-up of toxic material in the base?

5. Peripheral spaces in any built environment often attract activities such as the dumping of waste, the long-term storage of building materials, seldom-used or redundant equipment, and in this case may include materials or structures that have been deliberately kept inaccessible to inmates. Is there evidence of this in the archaeological remains at the site and what can it tell us about the asylum?

6. The Benevolent Asylum underwent a distinct change in the second half of the nineteenth century that saw a focus on midwifery, pregnant women and children. Is there evidence for this change in the artefact assemblage, features or deposits at the site?

The above research questions are specific to the site and will inform the procedure for recording the archaeological resources during excavation, the recovery and storage of artefacts and provide a framework for the excavation. In addition, new questions are likely to arise during excavation and / or during the post-excavation analysis, which may provide additional insights into different aspects of the site that may not have been previously considered.

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