



## **Pymont Bridge Road Compound – Historical Archaeological Research Design and Excavation Methodology**

<b>Project:</b> Westconnex 3A Construction	<b>Date:</b> 02 August 2018
<b>Project site:</b> Pymont Bridge Road Compound	<b>Author:</b> Jenny Winnett (Excavation Director – Historical Archaeology)
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### **Background**

The Westconnex 3A Construction program is part of the M4-M5 Link project. The overall M4-M5 Link project consists of tunnels connecting the M4 East at Haberfield (via the Wattle Street interchange) and the New M5 at St Peters (via the St Peters interchange), a new interchange at Rozelle and a link to Victoria Road (the Iron Cove Link). The Rozelle interchange also includes ramps and tunnels for connections to the proposed future Western Harbour Tunnel and Beaches Link project.

The scope of this document is the proposed Pymont Bridge Road Compound (hereafter referred to as PBR compound) located between Parramatta Road and Pymont Bridge Road at Annandale. The land is currently occupied by commercial and light industrial businesses, which will be acquired and demolished for the project. The PBR compound will be used to support tunnelling construction activities.

This Historical Archaeological Research Design and Excavation Methodology (HARD&EM) for the PBR compound outlines the archaeological methodology required to mitigate potential construction impacts to non-Aboriginal archaeological remains at the site, as required under the Minister's Conditions of Approval (CoA E168; see below for additional approval and legislative context). This document also complies with Revised Environmental Management Measure (REMM) NAH04, included in the Westconnex M4-M5 Link Submissions and Preferred Infrastructure Report (SPIR).

Where works significantly differ from those addressed in this document, this HARD&EM must be updated to account for revised impacts, or in response to unexpected finds. This HARD&EM does not include management for other areas of the Westconnex 3A Construction project.

### **Approval framework**

The M4-M5 Link project has been declared by Ministerial Order to be State significant infrastructure (SSI) and critical SSI under section 115U(4) and 115V of the Environmental Planning and Assessment Act 1979 (NSW) (EP&A Act).

An Environmental Impact Statement (EIS) for the M4-M5 Link project was prepared in 2017 to address the Secretary's Environmental Assessment Requirements (SEARs) issued by the Secretary of the NSW Department of Planning and Environment (DP&E). In accordance with Part 5.1 of the EP&A Act, the EIS presented an assessment of all potential environmental issues identified during

the planning and assessment of the project. The EIS, including detailed technical studies, was reviewed by DP&E and its independent technical peer reviewers as well as key NSW Government agencies, to confirm that the EIS addressed the SEARs, prior to it being finalised and placed on public exhibition from 18 August to 16 October 2017.

Condition of Approval (CoA) E168 of the Minister's Conditions of Approval states that prior to works that have a direct material impact on a Historical Archaeological Management Unit (HAMU),<sup>1</sup> a suitably qualified archaeologist whose experience complies with the Heritage Council of NSW's *Criteria for Assessment of Excavation Directors* (July 2011) (the Excavation Director) must prepare a HARD&EM.

CoA E169 states that the HARD&EM must be submitted to the Heritage Council of NSW (or its delegate) for review and comment prior to finalisation. The HARD&EM must:

- a) Be consistent with the *NSW Heritage Council's Archaeological Assessments Guideline* (1996) or as updated;
- b) Provide for the detailed analysis of any heritage items discovered during the investigations
- c) Include management options for discovered heritage items, whether known or unexpected finds (including options for avoidance, salvage, relocation and display)
- d) For unexpected finds that are determined to be relics, set out the assessment process that will determine an appropriate archaeological response to managing their significance
- e) Include procedures for notifying the Heritage Council of NSW (or its delegate) and Secretary of any relic findings
- f) If the findings of the investigations are significant, provide for the preparation and implementation of a Heritage Interpretation Plan (CoA E167).

CoA E170 states that where excavation works are required in the vicinity of potential archaeological sites, the Excavation Director must be consulted to advise on how the works are to be managed and any archaeological impact minimised. The Excavation Director must be given the authority to advise on the duration and extent of oversight required during excavation. CoA E171 states that works within the vicinity of a find must not recommence until the relevant requirements of the HARD&EM or advice on unexpected finds from the Excavation Director have been met.

## Historical Context

The following summary of historical development of the portion of the study area encompassing the PBR compound has been extracted from section 4.6, section 5.7.2 and section 6.7.4 of Appendix U (Technical working paper: Non-Aboriginal heritage) of the EIS (hereafter referred to as the Technical working paper).<sup>2</sup>

### Early land grant – the Camperdown Estate

The Annandale heritage study area is part of Governor William Bligh's 240-acre grant, made to him by Governor Philip Gidley King in 1806. In 1808, Bligh was overthrown as governor by a military coup, which marked the beginning of the 'Rum Rebellion'. The military remained in power until the arrival of Lachlan Macquarie, who assumed the position of governor in 1810. Bligh returned to

<sup>1</sup> GML Heritage Pty Ltd WestConnex – M4-M5 Link Technical working paper: Non-Aboriginal Heritage, August 2017

<sup>2</sup> GML Heritage Pty Ltd, August 2017

England that year for the court martial of Major George Johnston, one of the rebellion leaders. Bligh's wife died in 1813 and he died in 1817. His landholdings were passed on to his six surviving daughters.

By the 1840s, the Camperdown Estate was in the ownership of Sir Maurice O'Connell. Maurice was a Lieutenant Colonel in the 73rd Regiment and had married Bligh's widowed daughter, Mary Putland, in 1810. Mary was a headstrong woman who was openly hostile towards her father's opponents. To avoid any further discomfort, Macquarie arranged for the 73rd Regiment, including the O'Connells, to leave NSW in 1814. When they returned to NSW in 1838 Maurice was in charge of the colony's military forces. Soon after their return, Mary served ejection notices to residents and institutions of Bligh's Parramatta estate, claiming the land was part of her inheritance. A settlement was eventually reached whereby Mary forfeited her claim in Parramatta in exchange for the confirmation of her ownership of other estates within NSW, including the Camperdown Estate.

### Mid-nineteenth century subdivision

In 1842, the Camperdown Estate was subdivided and sold. Most of the blocks were villa allotments, up to two hectares in size but there were also smaller residential lots. The heritage study area is located within lots 34–37, purchased by E Phillips (34), L Gordon (35), and JB Jones (36–37).

During this period the PBR compound study area appears to have been used for residential occupation. One residence within the study area, 'Didliston' is mentioned in newspapers from 1868 as the home of John Booth Jones.

### Late-nineteenth century suburban development

The land surrounding 'Didliston' was subdivided c1885, and the grounds of were subdivided and sold c1886. By 1890 Booth Street South (now Mallett Street) was laid out. Along Pyrmont Bridge Road, allotments appear to be residential.

At this time Parramatta Road contained a mix of residential and industrial development. The area between Mallett Street and Pyrmont Bridge Road included Bignell and Clark's Camperdown steam joinery works. Bignell Lane is named after the Bignell family.

'Florenceville' was located to the east of Bignell and Clark's Camperdown steam joinery works and occupied by the Pritchard family since at least 1880. There were also candlestick and soap manufacturers and carpenters along Parramatta Road. At the corner of Pyrmont Bridge Road and Parramatta Road is John Cahill and Co Australian Soap and Candle works.

### Early twentieth century

The trend of mixed residential and commercial use of the Annandale area continued into the early twentieth century. 'Didliston' was converted into two four bedroom residences in c1895. The allotments along Mallett Street had been owned by Charles B Vintner since the early 1900s. Vintner owned the terraces at 67 to 77 Pyrmont Bridge Road and established a store on the corner of Mallett Street. The Government Savings Bank of NSW was located to the west of this store, neighbouring a series of stores and residences with outbuildings, including 'Florenceville'.

To the west of 'Didliston' was Charles Ashdown's coach building workshop and warehouse. At this point in time, Ashdown also occupied the workshop behind that faced on to Pyrmont Bridge Road. The Pyrmont Bridge Road coach workshop was demolished by 1914. From Ashdown's workshop to Gordon Street are several smaller factories, cottages and blacksmiths facing Parramatta Road. The block on the corner of Pyrmont Bridge Road and Gordon Street is empty.

By 1921, Vintner had sold his landholdings within the Annandale heritage study area. The buildings along Mallett Street and on Parramatta Road, including the Government Savings Bank of NSW, were sold to Grace Bros. The bank was converted into an office and store. The terraces near the corner of Pyrmont Bridge Road and Mallett Street were purchased by Patrick Casey. Ashdown had purchased the land on the corner of Pyrmont Bridge Road and Gordon Street and built a two-storey workshop on the corner lot. Ashdown also leased out his Parramatta Road coach workshop.

### Mid-twentieth century

By 1924, the residential cottages along Parramatta Road, within the Annandale heritage study area, were being replaced with factories, stores, and shops. Florenceville and its two neighbours to the east were still standing but all the other buildings from Mallett Street to George Road were for commercial use. Didliston had been demolished and the double allotment was now occupied with two shops.

Ashdown's landholdings at the corner of Pyrmont Bridge Road and George Road were now owned by Crane & Watson, who had owned and occupied the adjacent corner block since 1914.

In c1930, Morris (NSW) Limited set up a garage and motor works on corner of Pyrmont Bridge Road and Bignell Lane. On the western side of Bignell Lane, the land was still unoccupied, however, between Pyrmont Bridge Road, George Road and Parramatta Road, the workshops, blacksmith and cottages had been replaced by a series of small warehouses.

In 1937, Bank of NSW purchased 164 Parramatta Road. The early buildings on the site, including a c1890 cottage, were demolished and replaced with a purpose built bank and car park. Minor alterations of the building were undertaken in 1955 and 1964, with major internal works undertaken by RS Hamilton in 1974.

### Twenty-first century additions

From the 1940s onwards, there has been minimal physical changes to the Annandale heritage study area. A garage was constructed to the rear of the Pyrmont Bridge Road terraces. This garage was used by Grace Bros, who still occupied the store located on the corner of Pyrmont Bridge Road and Mallett Street up until the 1960s. By 1975, the Grace Bros-owned store, garage and terrace on the corner of Pyrmont Bridge Road and Mallett Street had been demolished and replaced by a warehouse/store.

In 1988, Hahn Brewing Company purchased the warehouse on the corner of Pyrmont Bridge Road and George Road. It received financial support from Lion Nathan in 1993 and in 1998, Hahn Brewery was relaunched as Malt Shovel Brewery, after the James Squire original brewery tavern—'The Malting Shovel'. In 2010, Hahn Brewing Company purchased 188 Parramatta Road and 95 Pyrmont Bridge Road, back to back properties, in order to expand their business<sup>109</sup>. By 1994, the stores and warehouses adjacent to the former Bank of NSW were replaced by one large building, which is presently Camperdown Fitness. The buildings from 1994 remain externally unchanged today.

## Archaeological Context

In order to facilitate the management of archaeological remains, the Technical working paper divided portions of the M4-M5 Link project footprint into HAMU's. An assessment of archaeological survival within each HAMU was then undertaken. Based on this assessment the potential for archaeological remains to survive within each HAMU was designated as either nil, low, moderate or high. A preliminary heritage significance assessment for each HAMU was also completed. Each HAMU was ascribed either local or state heritage value in relation to the potential archaeological resources.

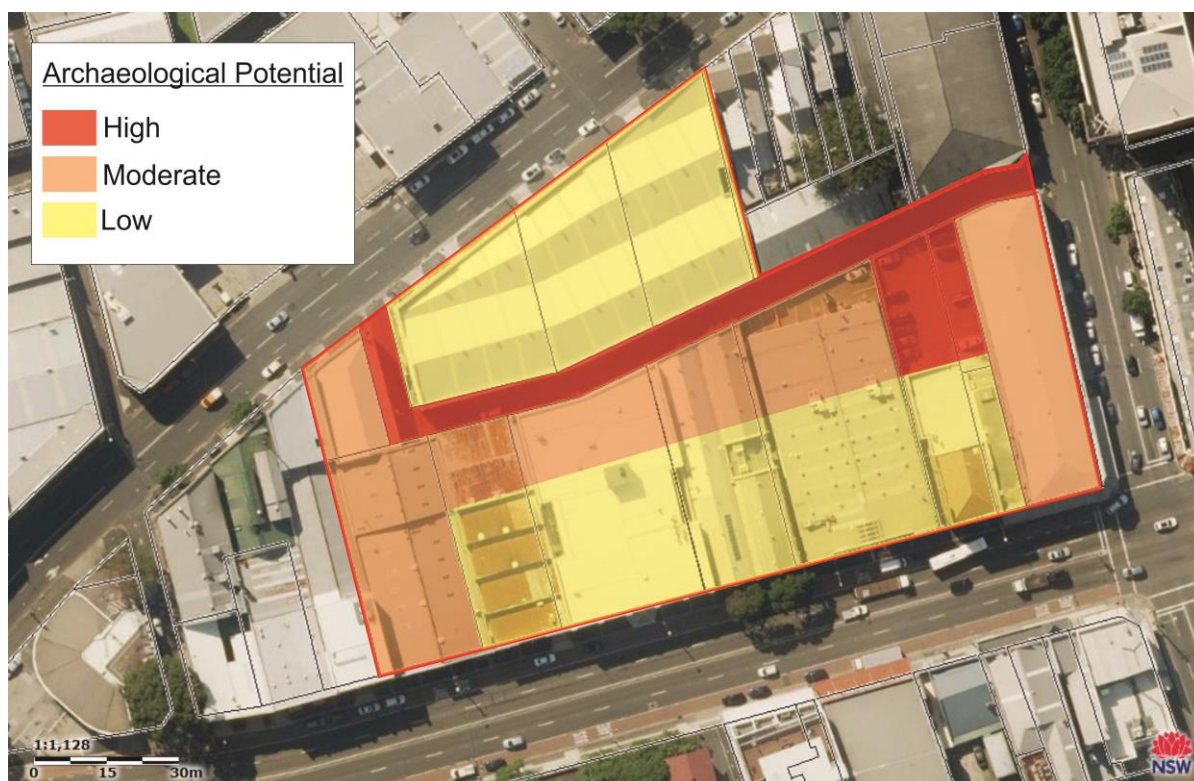
The PBR compound is located within HAMU's 10 and 11. The assessment of archaeological potential and significance undertaken for the Technical working paper has been summarised Table 1.

**Table 1: Summary of archaeological potential and significance in HAMU 10 and 11**

	HAMU 10 – Bignell Lane	HAMU 11 – Parramatta Road, Pyrmont Bridge Road
Listed archaeological items	None	None
Archaeological potential	<p>There is a moderate or high potential for archaeological evidence to be present associated with the following:</p> <ul style="list-style-type: none"> <li>Western half of the c1860s Didliston House (building footings and deposits)</li> <li>Footings and deposits associated with c1890s houses</li> <li>Early twentieth century services beneath Bignell Lane</li> <li>Early to mid-nineteenth-century property boundaries and garden/agricultural remains</li> <li>External structures and features associated with the Bignell and Clarke steam joinery works (the main building is outside of this HAMU).</li> </ul> <p>Given the size of the twentieth century buildings and the absence of basements within this HAMU there is potential for archaeological remains to survive beneath the existing floor slabs and between building footings</p>	<p>There is a low potential for archaeological evidence to be present associated with the following:</p> <ul style="list-style-type: none"> <li>Eastern half of the c1860s Didliston House (building footings and deposits)</li> <li>Footings and deposits associated with c1890s buildings</li> <li>Remains of the Bignell and Clarke Steam joinery works (main building)</li> <li>Early to mid-nineteenth century property boundaries and garden/agricultural remains.</li> </ul>

	HAMU 10 – Bignell Lane	HAMU 11 – Parramatta Road, Pyrmont Bridge Road
Preliminary assessment against the NSW Heritage Criteria for Assessing Significance for Historical Archaeological Sites and 'Relics' (2009).	<p>Archaeological research potential:</p> <ul style="list-style-type: none"> <li>Archaeological remains of Didliston House may have moderate research potential to contribute to our understanding of residential development along Parramatta Road in the mid-nineteenth century. ·</li> <li>If present, remains associated with the Bignell and Clark steam joinery could contribute knowledge on the industrial development of this area.</li> </ul> <p>Association with individuals, events, or groups of historical importance: ·</p> <ul style="list-style-type: none"> <li>Remains of the steam joinery would be of significance for its association with Bignell and Clark Company which was involved in the construction of major local buildings such as the Sydney Town Hall, Strand Arcade, and Bondi Aquarium.</li> </ul> <p>Aesthetic or technical significance: ·</p> <ul style="list-style-type: none"> <li>It is not currently known if significant structural remains of the steam joinery were located to the rear of the main building, and therefore it is not possible to determine if the archaeological remains may hold aesthetic or technical significance.</li> </ul> <p>Ability to demonstrate the past through archaeological remains: ·</p> <ul style="list-style-type: none"> <li>Structural remains and artefact bearing deposits of Didliston House and, if present, the steam joinery have the potential to demonstrate earlier uses of the site.</li> </ul>	<p>Archaeological research potential:</p> <ul style="list-style-type: none"> <li>Surviving structural remains are likely to be highly fragmentary and would have limited research value.</li> </ul> <p>Association with individuals, events, or groups of historical importance: ·</p> <ul style="list-style-type: none"> <li>Remains of the steam joinery would be of local significance for its association with the Bignell and Clark Company which was involved in the construction of major landmark buildings such as the Sydney Town Hall, Strand Arcade, and Bondi Aquarium.</li> </ul> <p>Aesthetic or technical significance: ·</p> <ul style="list-style-type: none"> <li>Remains of the Bignell and Clark steam joinery are likely to be highly fragmented and unlikely to contain evidence of technological processes and/or innovations.</li> </ul> <p>Ability to demonstrate the past through archaeological remains: ·</p> <ul style="list-style-type: none"> <li>Any surviving archaeological remains are likely to have been heavily disturbed by later developments and would not meet this criterion.</li> </ul>
Preliminary significance level	Local	Local

**Figure 1: Overview of the archaeological potential of the PBR site compound, adopted from the Technical working paper, mapped by Artefact Heritage**



### Assessment of significance

Preliminary assessment of the archaeological potential of the PBR compound undertaken for the Technical working paper identified the site had moderate to high potential to contain an archaeological resource of local significance. Archaeological remains may include evidence of late 19<sup>th</sup> century residences, including Didliston House and Florenceville, and evidence of late 19<sup>th</sup> century small-scale industrial development, including the Bignell and Clark steam joinery company.

The primary aim of an archaeological significance assessment is to identify whether an archaeological resource, deposit, site or feature is of cultural value and therefore, considered to be a 'relic'.<sup>3</sup> Historical archaeological sites typically contain a range of different elements as vestiges and remnants of the past. Such sites will include 'relics' of significance in the form of deposits, artefacts, objects and usually also other material evidence from demolished buildings, works or former structures which provide evidence of prior occupations but may not be 'relics'.<sup>4</sup>

Urban residences and warehouses dating to the late 19<sup>th</sup> century are rarely associated with a substantial artefactual resource, and it is noted that although archaeological remains of the type listed above may have local significance, there is limited potential that they will be identified within the PBR site.

Potential archaeological remains within the study area reaching the local significance threshold, and therefore considered to be 'relics' may include the following:

<sup>3</sup> Heritage Branch 2009: 4

<sup>4</sup> Heritage Branch 2009: 7

- Deposits containing artefacts associated with the use and abandonment of wells, cisterns and cesspits

Deposits within former wells and cesspits have the potential to contain substantial numbers of artefacts. These artefacts can be associated with discard practises during the life of the structure (identified in the archaeological record despite the introduction of regulations to ensure that they were regularly cleansed), and, more particularly, with backfill at the time of its abandonment.

In Sydney, cesspits tend to be associated with pre-c.1850/60s development, or, when dating to the later 19<sup>th</sup> century, with lower socio-economic conditions. The first sewers were constructed in the 1850s and discharged raw sewage directly into the Harbour at Fort Macquarie (now Bennelong Point). The study area is likely to have contained several privies for residents and employees. However, it is unknown if the privies were linked into the existing wastewater system (a system that was often slow to be implemented due to its high cost), were used as cesspits, or were using the pan-toilet system, where waste was regularly removed by night-men. Overall, the survival of artefacts is dependent on the toilet system/s adopted.

Wells and cisterns were often backfilled with refuse on their abandonment. Cisterns, however, are likely to have been located within the study area, collecting run-off from sheds and roofs.

Overall, should artefact-rich soil deposits be identified, based on archaeological results obtained from similar sites, analysis is likely to provide data which can contribute to our understanding of the life-ways, preferences, socio-economic standing, gender and ethnicity of the occupants and employees of the site. Analysis of soil and pollen samples from similar contexts in Sydney has also provided evidence of vegetation in the vicinity, and foods being produced and consumed.

In summary, deposits within former wells and cesspits containing an artefactual resource with the ability to respond to research agendas and provide useful information regarding former life-ways would have archaeological research potential, and reach the local significance threshold.

- Deposits containing artefacts associated with rubbish pits, bottle dumps, or other primary deposition contexts

In colonial Sydney citizens were expected to dispose of their own refuse. The population and size of the town was relatively small and domestic waste was mostly organic – kitchen slops, sewage, broken crockery, old shoes and worn out clothing. For many, the solution was a cesspit or privy which was dug into the yard space behind the main house (as discussed in the previous section), or purpose-excavated rubbish pits.

The artefacts found within rubbish pits can also provide data, as outlined in the previous section. Small rubbish pits are also likely to have been in use for short periods of time and can therefore provide useful dating information.

Deposits within rubbish pits pre-dating the early 20<sup>th</sup> century, and containing an artefactual resource with the ability to respond to research agendas and provide useful information regarding former life-ways, would have archaeological research potential, and reach the local significance threshold.

- Occupation deposits containing artefacts below former flooring, verandahs and working surfaces in yard areas.

The study area has the potential to encounter underfloor or occupation deposits that may have accumulated beneath floorboards, verandahs or within former yard areas. The potential for a former



structure to be associated with an underfloor deposit, however, is dependent partially on construction techniques that were used at the time. The introduction of tongue-and-groove flooring, for example, has been found to significantly reduce the amount of accumulated refuse under floorboards and therefore limits the potential for occupation deposits. Occupation deposits can contain minute traces of evidence of former inhabitant, in the form of broken crockery and glassware, food scraps, discarded, broken or lost jewellery, toys, smoking pipes, gaming tokens, pins, buttons and beads. The careful excavation of deposits of this type can recover data that may be utilised in the analysis of interior spaces, life-ways and in the identification of activities within particular spaces.

Should intact occupation deposits be encountered, they would have archaeological research potential, and reach the local significance threshold. Underfloor deposits have the potential to respond to research questions regarding the life-ways of former inhabitants of the property, including activities that occurred in different parts of the house, and food and lifestyle preferences.

## Proposed Works

The PBR compound would be used to support tunnelling construction activities. The site would be utilised for a number of purposes, including temporary site offices, a workshop and storage facilities, a stockpile and laydown area, entry and exit points for construction traffic, a temporary substation, temporary ventilation for the tunnels, a temporary water treatment plant and sediment pond, workforce amenities and car parking.

Key construction activities to be carried out at and supported by the PBR compound are illustrated in Figure 2 and Figure 3 and would include:

- Demolition of existing buildings and structures
- Utility works including protection and/or adjustment of existing utilities, removal of redundant utilities and installation of new utilities
- Establishment of site offices, amenities and temporary construction hoarding (including acoustic hoarding if required)
- Temporary realignment of Bignell Lane to ensure property owners have ongoing access to properties during construction and operation
- Construction of a driveway along the Parramatta Road frontage to enable access into the site for heavy vehicles
- Provision of a temporary signalised intersection or other temporary traffic control measures along Pyrmont Bridge Road to provide for heavy vehicle egress and light vehicle ingress and egress
- Construction of an acoustic shed
- Construction of a temporary access tunnel for tunnelling works
- Tunnel excavation of the northbound and southbound mainline tunnels
- Spoil handling and haulage
- Excavation of cross-passages, longitudinal egress passages and niches in the tunnels
- Civil tunnel fitout works (including pavement and drainage works)
- Installation of mechanical and electrical services within the mainline tunnels and fitout of the tunnels with additional infrastructure (eg signage)

- Rehabilitation including works to prepare the site for a future use in accordance with the Residual Land Management Plan

Should additional activities be required that differ significantly from the proposed works, an update to this document would be required.

### Archaeological Impact Assessment

Based on the assessment of archaeological potential and significance included in the Technical working paper, the PBR compound has been identified as having low to high potential to contain an archaeological resource reaching the local significance threshold.

Excavation works will occur throughout the compound. The works required to prepare the site for use during construction may require deep excavation in areas where archaeological remains may be present. In particular, excavation for the tunnel drive will result in substantial impact to archaeological remains should they be present.

Activities requiring minor excavation or levelling may result in minor to moderate impacts to archaeological remains, dependent on their location and extent, and the integrity of the archaeological resource.

Overall, the potential archaeological resource within the PBR compound is likely to be impacted to some degree across the site.

Figure 2: Plan of proposed works

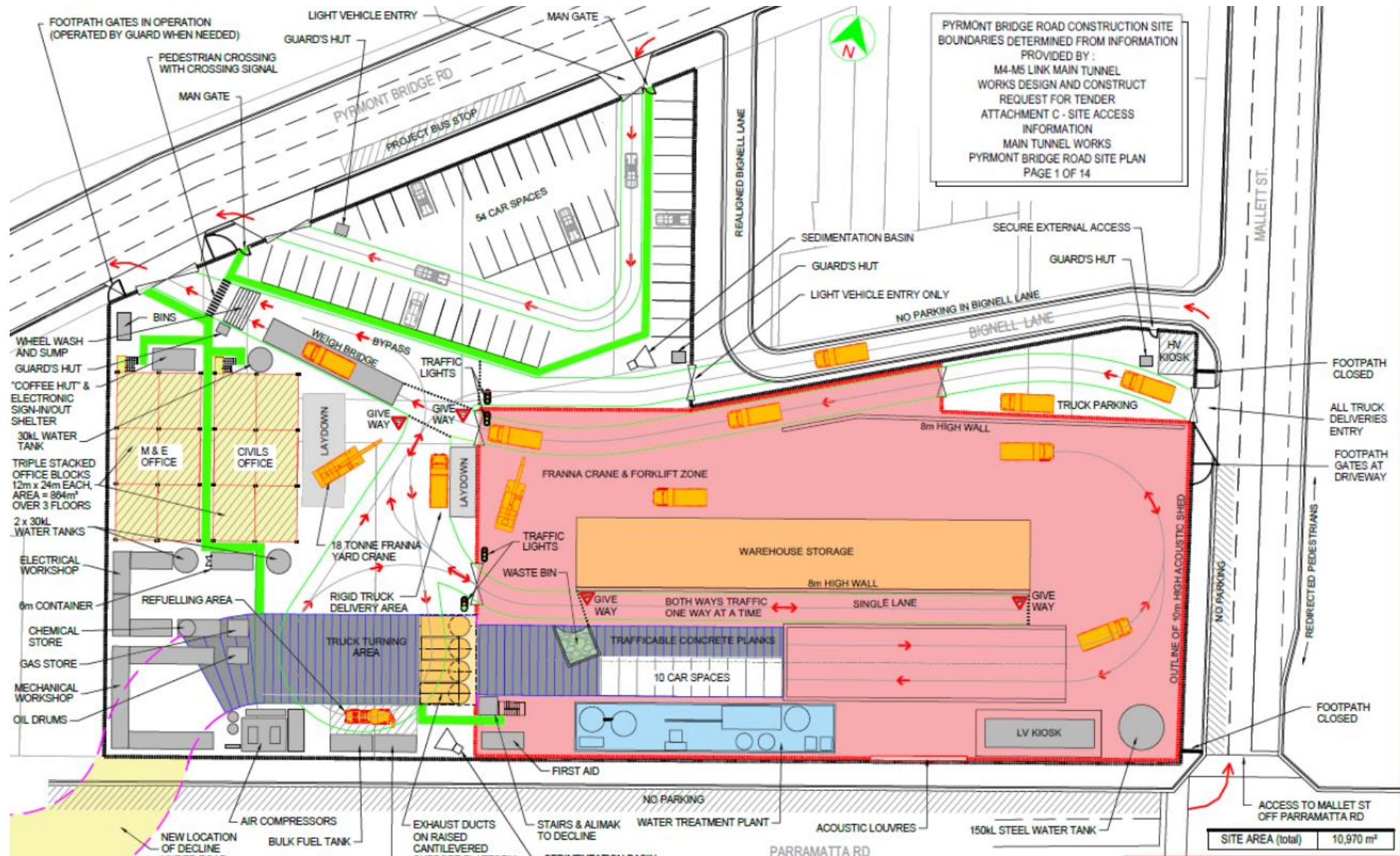
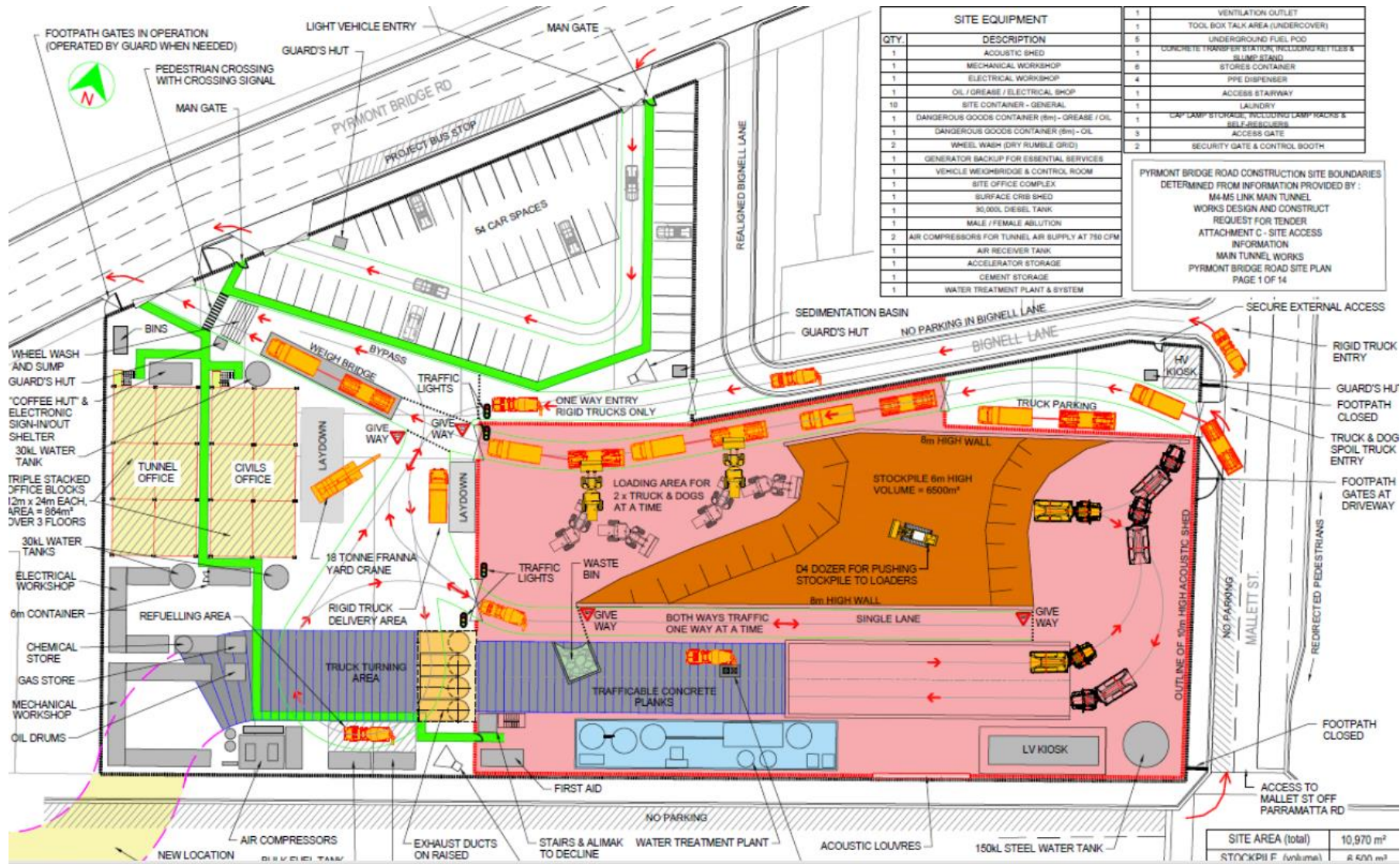


Figure 3: Plan of proposed works



## Archaeological Research Design

The significance of a potential archaeological resource lies in its ability to respond to research agendas in a meaningful way, rather than duplicating known information, or information that might be more readily available from other sources such as documentary records or oral history. Therefore, the aim of the following research questions is to ensure that the proposed archaeological investigation is focused on genuine research needs.

### Research questions

The assessment of archaeological significance, in combination with the NSW Historic Themes<sup>5</sup> have provided the basis for the following research design framework. Archaeological resources within the study area have the potential to answer several research questions. Additional research questions may be added if the archaeological resource allows for further, or more in-depth, investigation.

The archaeology within the study area has the potential to contribute to research areas such as:

- Domestic occupation and material culture in the 19th century
- Industry.

The following research themes and questions would guide the proposed archaeological investigation.

#### **Domestic occupation and material culture in the 19<sup>th</sup> century**

Plans from the late 19<sup>th</sup> century indicate that a number of residences occupied the site. Evidence of these residences is likely to consist of brick or stone footings and foundations and postholes associated with timber structures and outhouses. There is some potential for PBR compound site to contain occupation deposits, such as underfloor deposits and yard scatters. The site may also contain evidence of cottage gardens, the layout and use of yard areas, artefact scatters and refuse pits associated with former residents.

Remains of this type have the potential to provide information on the lifeways of former residents of the site.

Material culture studies is a research area that is utilised by archaeologists to better understand the ways that gender, social standing, ethnicity, and religion are expressed through artefactual remains. Our knowledge of the day-to-day life of lower and working-class individuals is typically lacking in the historic written record. Archaeological investigation has the ability to identify the 'lifeways' of these individuals in a meaningful way. Archaeological evidence relating to identity could include personal artefacts such as clay pipes, sewing equipment, and toys. This type of assemblage is often found in underfloor deposits.

Evidence of domestic occupation and identity would relate to the NSW Historic Theme of 'Domestic life', 'Accommodation' and 'Utilities'.

The overarching aim of the proposed archaeological program is to be able to interpret the archaeological results in terms of broader research themes. The intention is to compare the results

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<sup>5</sup> Heritage Council, 2001.

of the program, wherever possible, to results from other relevant sites, projects and current research agendas, and therefore into broader research frameworks.

Potential research questions relating to the lifeways of these individuals include the following:

- Do any intact under floor deposits provide useful spatial information, identify discrete activity areas or provide spatial data on the range of tasks undertaken within the cottages over time?
- Is there evidence that the employees were engaged in recreational activities? (gaming, smoking, sewing, etc)
- What food were the residents of the cottages consuming? Is there evidence of the cooking methods, brand or food preferences?
- What evidence is there of gardens, and the layout and use of the yard areas?
- How do the archaeological remains compare to other late 19<sup>th</sup> century sites excavated in Sydney? Is the site typical of a mid-late 20<sup>th</sup> century light industrial and residential site?
- Historical industrial environments are typically viewed as being spaces representing men. Does the archaeological resource support this or is there evidence for the presence of women and children? Does this provide information about family dynamics in late 19<sup>th</sup> century Sydney?
- Does the archaeological resource provide evidence of social standing and status? Does this support the notion that the area was working class? Is there evidence that former inhabitants of the site displayed their social standing or ethnicity through items of personal adornment or preferences for certain consumables?

## Industry

The study area contained the Bignell and Clarke steam joinery works, as well as a number of small-scale industrial warehouses. Archaeological remains of these structures may provide information related to the development of industry. Evidence could include building footings, artefact deposits, refuse pits relating to industry, postholes from timber structures, and flooring surfaces. Evidence of the development of industry within the study area would relate to the NSW Historic Theme of 'Industry', 'Labour', 'Transport', and 'Commerce'.

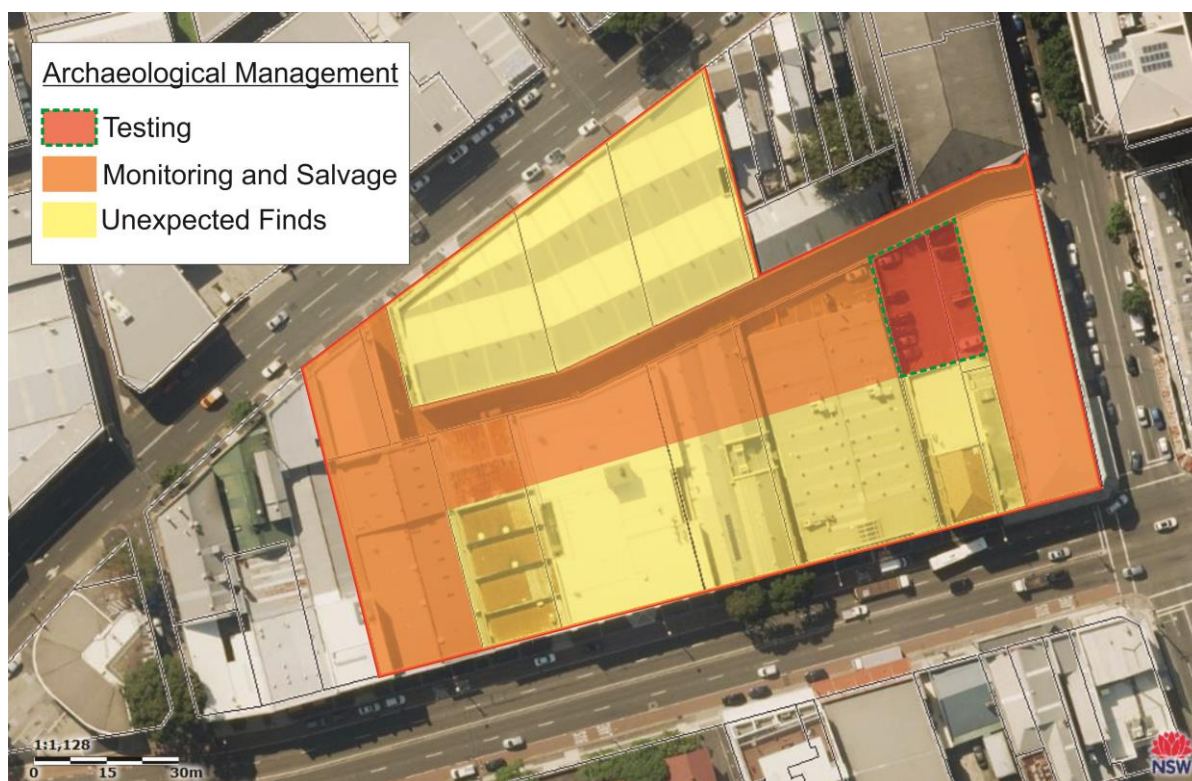
- Is there evidence of the division of labour spaces, yards and sheds within the industrial buildings? How does this reflect the people occupying these spaces?
- If evidence of rubbish disposal practises are encountered within the formerly industrialised portions of the site do they contain assemblages that differ dramatically from those in more domestic environments? Are those individuals working at the warehouses disposing of the same rubbish/materials that they would at home in addition to industrial waste?
- Can the archaeological resource provide us with information regarding the day-to-day life of workers in the late 1800s? Is there evidence of consumer choices and preferences or gender-specific artefactual remains that may provide information on the lives of working class men and women?

## Archaeological Management

As the PBR compound may contain archaeological remains, it is proposed that management of the potential archaeological resource include the following processes (illustrated on Figure 4). These are discussed in more detail under the relevant sections.

- Heritage induction
- Stage 1 - Test and salvage in areas of high potential
- Stage 2 - Monitoring in areas of moderate and high (Bignell Lane) potential
- Unexpected find in areas of low potential.

**Figure 4: Overview of archaeological management**



### Heritage induction

Archaeological heritage would be included in the general project induction for all personnel. At a minimum, this would include an overview of the projects and employee obligations, archaeological management and the role of the archaeological team.

### Stage 1 - Archaeological testing and salvage

It is proposed that archaeological testing be undertaken in the parking area illustrated in Figure 4, and assessed as having high potential to contain archaeological remains associated with late 19<sup>th</sup> century residences. This is the only portion of the PBR compound site accessible prior to the demolition of the buildings on the site. This area has high potential to contain an archaeological resource associated with the late 19<sup>th</sup> century residence 'Florenceville'.

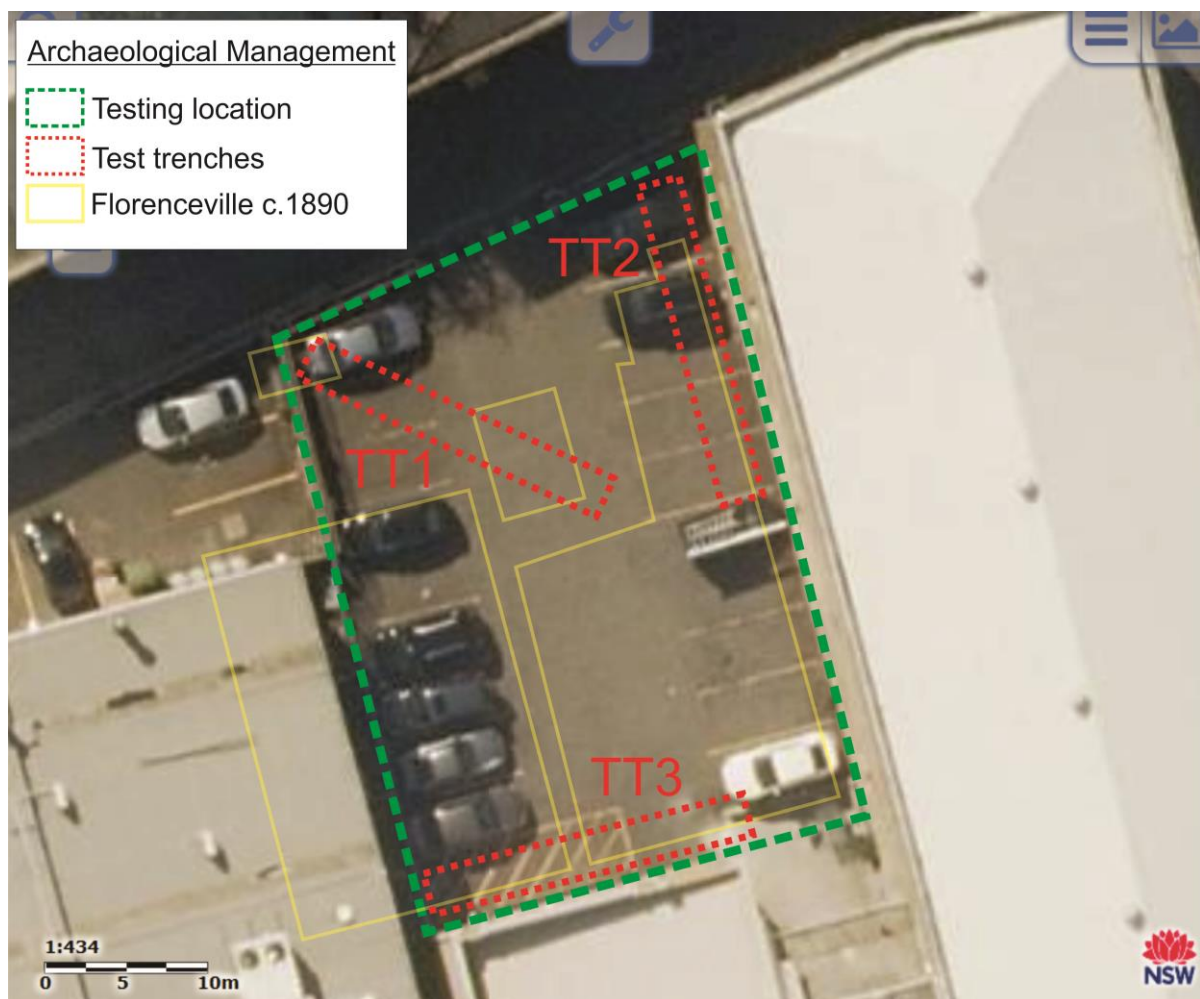
Prior to commencing excavation, the area would be inspected by service locator contractors to ensure that existing services would not be impacted by the archaeological works. Should services be located in the proposed works area, test trench locations would be amended by the Excavation Director.

The process of archaeological testing will involve the excavation of defined areas once overburden has been removed by machine. Manual excavation would be undertaken using hand tools, by a qualified archaeological team. The archaeological remains would be cleaned by hand, investigated (excavated) and recorded in detail by the archaeological team. In urban archaeological sites careful machine excavation may also be employed to assist the detailed archaeological excavation process.

The testing program will focus on those areas with the highest potential to contain archaeological relics i.e. the former rear yard area, where external privies and a kitchen were located, and the location of the original frontage of the residence. Three test trenches measuring 1.5-2 metres by 14 metres be excavated in these areas (see Figure 5). Test trenches will be excavated to the depth of the archaeological resource, or the top of natural deposits. Should substantially intact and significant relics be identified, the test trenches would be extended to best record the archaeological resource, under direction from the Excavation Director.

Should hazardous materials or contaminants be identified during archaeological excavation, ground excavation would cease until appropriate controls or remediation is conducted.

**Figure 5: Approximate location of proposed archaeological test trenches**





### Transition from machine excavation to hand excavation

It is proposed to remove the car park bitumen, overburden and fills with a machine (flat bucket) to reveal the extent of any potential archaeological remains within the test trench. Upon encountering archaeological material, mechanical excavation would cease and test excavation using hand tools would be undertaken by archaeologists trained in on-site historical excavation methods, under the guidance of the Excavation Director.

Should any intact and deep structural features be encountered it may be necessary to remove any demolition or fill material within by mechanical excavation under the supervision of an archaeologist. Any material removed by excavator would be examined for artefacts by the archaeologists.

In the event that unexpectedly intact archaeological remains, or significant remains not identified in the archaeological assessment, are encountered during the monitoring and salvage program, work in the vicinity of the find would cease and the Heritage Division be consulted.

### Monitoring and salvage

It is proposed that archaeological monitoring and salvage (if necessary) be undertaken during excavation works in those portions of the site identified as having moderate potential to contain archaeological remains of local significance (see Figure 4).

Archaeological monitoring is where an archaeologist is in attendance and supervising construction excavation work with potential to expose or impact archaeological remains. As construction excavation work will be taking place in a number of locations concurrently during different phases of the project, it is likely that multiple archaeologists will be required on site at any one time.

If archaeological remains are identified during monitoring, they will be recorded by the on site archaeologist/s. Localised stoppages in the construction work may be required to facilitate this process. Works would not recommence in the immediate area of the find until the monitoring archaeologist has completed recording and is satisfied that further investigation is not required. During localised stoppages, however, excavation work can continue elsewhere within the site, under the supervision of an archaeologist as required.

It is recommended that fills in areas identified as having moderate archaeological potential are excavated systematically, using a flat machine bucket where possible. This allows the archaeologist to have a clear view of underlying stratigraphy and prevents damage to archaeological remains during excavation should they be present.

In the event that unexpectedly intact archaeological remains, or significant remains not identified in the archaeological assessment, are encountered during the monitoring and salvage program, work in the vicinity of the find would cease and the Heritage Division be consulted.

### Recording

A record of archaeological investigation would be made in accordance with the following methodology:

- A site datum would be established
- Survey and scaled plans of the area, trench locations and any significant archaeological features uncovered in the monitoring, test and salvage program. The plans would include elevations recorded with a dumpy level. Should a large amount of archaeological resources be identified during the excavation, the site would be digitally surveyed and recorded

- Scaled section drawings where appropriate
- Photogrammetry where appropriate
- Digital photography, in RAW format, using photographic scales and photo boards where appropriate. A photographic record of all phases of the work on site would be undertaken
- A standard context recording system will be employed: The locations, dimensions and characteristics of all archaeological features and deposits will be recorded on a sequentially numbered context register. This documentation will be supplemented by preparation of a Harris matrix showing the stratigraphic relationships between features and deposits
- Artefact collection by context. Large or redundant artefactual materials from individual contexts would be sample collected. Hazardous material would not be collected.
- Registers of contexts, photos, samples and drawings would be kept.

### Artefacts

Artefacts are likely to be uncovered during archaeological investigations. Artefacts from secure or in situ contexts would be collected and recorded (by context).

Should diagnostic or significant artefacts be present within imported levelling deposits (out-of-context), a sample would be retained as part of the archaeological record.

Retained artefacts would be cleaned processed, catalogued and analysed by an archaeologist experienced in historical artefact assemblages. Artefact analysis would include production of a database in accordance with best practice archaeological data recording. The resulting information would be included in the final excavation report.

Artefacts recovered from the archaeological investigations would be the property of Roads and Maritime Services and would retained in a suitable repository following completion of post-excavation analysis. In accordance with CoA E172 a copy of the Archaeological Excavation Report will be retained with any assemblage at all times.

### Curation of archaeological material

Following excavation, all collected artefactual material would be stored by Artefact Heritage in order to conduct post-excavation material analysis. Once post-excavation analysis and salvage excavation reporting has been completed, ongoing curation and long-term care of the collection would be at the discretion of Roads and Maritime Services. Archaeological materials may be incorporated into interpretative or public display depending on the nature of recovered finds.

Large archaeological items, or items that require special care (i.e. material that is in danger of deterioration post-excavation), would be stored in appropriate facilities co-ordinated with and managed by Roads and Maritime Services.

### Contaminated materials

Urban sites have the potential to contain in-ground contaminants and controlled archaeological excavation would be undertaken in accordance with the specified work health and safety protocols established for the site, prior to the commencement of works on site. Should the discovery of contaminants on site potentially result in harm to archaeological staff working on site, there may be a requirement to deviate from the proposed archaeological methodology, in order to ensure health and

safety. This may include the use of protective clothing, face masks, and specified gloves, additional washing protocols, through to the need to cease hand excavation on site.

Should the requirement to employ mechanical excavation rather than hand excavation arise due to contamination, archival recording of archaeological material would need to be taken in the form of photographic, and possibly 3D scanning, from a safe distance (as specified by any work health and safety requirements of contamination/remediation specialists).

### Archaeological Excavation Report

A preliminary findings report would be prepared following completion of stage 1 and stage 2 of archaeological investigation. These reports would outline the main archaeological findings, post-excavation and analysis requirements, and identify if further archaeological work would be required in each location, or if results would be appropriate for public interpretation.

In accordance with CoA E172, a final Archaeological Excavation Report, including artefact analysis and the identification of a final repository of any finds, would be prepared and submitted to the Secretary within 12 months of completing the archaeological investigations. The Archaeological Excavation Report will also be submitted to the Heritage Council of NSW, the local library and the local Historical Society.

### Unexpected Finds Procedure

It is recommended that areas with low potential to contain a locally significant archaeological resource be managed under the Roads and Maritime Services Unexpected Heritage Finds Procedure (March 2015)

### Archaeological Team

The archaeological team would comprise:

- Excavation Director – Jenny Winnett (Principal, Artefact Heritage)
- Site Director – Josh Symons (Principal, Artefact Heritage)
- Archaeologists – Adele Zubrzycka (Senior Heritage Consultant, Artefact Heritage), Duncan Jones (Senior Heritage Consultant, Artefact Heritage), HollyMae Steane Price (Heritage Consultant, Artefact Heritage), Jessica Horton (Graduate Heritage Consultant, Artefact Heritage) and other subconsultants as needed.

The Excavation Director meets the requirements of CoE 168 and NAH05.