Barangaroo Station COP Archaeological Excavation Report

Prepared by AMBS Ecology & Heritage
for BesixWatpac

Final

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Executive Summary

AMBS Ecology & Heritage (AMBS) has been commissioned by BESIXWatpac on behalf of Sydney Metro, to undertake archaeological investigations for the Barangaroo Metro Station Construction Only Package (COP). The Barangaroo COP will involve fitout of the new Barangaroo Metro Station, installation and connection of services, and establishment of the new road surface on Hickson Road.

The Barangaroo COP project is a component of the Sydney Metro City and Southwest project, which is a new 30km-long rail system from Chatswood to Sydenham and includes a new crossing beneath Sydney Harbour, and new railway stations.

The Project was approved by the Minster for Planning on 9 January 2017 subject to a number of Conditions set out in Critical State Significant Infrastructure Sydney Metro & Southwest Chatswood to Sydenham Infrastructure Approval (Application no. SSI 15_7400) (Project Planning Approval). Documentation for the project-wide works included a *Non-Aboriginal Impact Assessment* (EIS Technical Paper 4) and *Sydney Metro Historical Archaeological Assessment and Research Design Report* (AARD), both prepared by Artefact Heritage. Minister's Condition of Approval (CoA) E18 refers to the archaeological investigations and reporting for the project:

> *Before excavation of archaeological management sites, the Proponent must nominate a suitably qualified Excavation Director who complies with the Heritage Council of NSW's Criteria for Assessment of Excavation Directors (July 2011) to oversee and advise on matters associated with historic archaeology and advise the Department and OEH.*
>
> *Where archaeological excavation is required, the Excavation Director must be present to oversee excavation and advise on archaeological issues. The Excavation Director must be given the authority to advise on the duration and extent of oversight required as informed by the provisions of the approved AARD and Excavation Methodology.*
>
> *A final archaeological report must be submitted to the Heritage Council of NSW within two (2) years of the completion of archaeological excavation on the project. The report must include information on the entire historical archaeological program relating to the CSSI.*

[redacted], Senior Heritage Consultant, AMBS was nominated as Excavation Director for the project and approved by Heritage NSW. Prior to the investigations, AMBS prepared an Archaeological Method Statement (AMS) in accordance with Condition E17 of the project approval. The investigations were carried out in accordance with the methodology set out in the AMS.

Works that had the potential to impact archaeology included trenching for condenser lines (running around the shore of Nawi Cove and into Barangaroo Headland), stormwater (between the station box and Nawi Cove), and power and water lines at Hickson Road South.

Testing was undertaken in three areas of Moderate to High archaeological potential: Hickson Road South, Barangaroo Headland and Nawi Cove. At Hickson Road South, impacts on archaeology were minimal. In most locations, the top of archaeology was exposed in the base of the trench but there were no impacts from the works. At Nawi Cove, considerable disturbance had occurred between the station box and the edge of the site, in both the stormwater and condenser trench locations. Only one small patch of intact wharf surface remained, which was excavated archaeologically in accordance with the AMS methodology. At

Barangaroo Headland, trenching for the condenser lines encountered intact archaeology including the remains of a seawall and wharf surface at the northern end of the excavation. However, to the south, later surfaces had been lost and only the wharf infill in the form of large quantities of clay, sand and sandstone remained in most areas. Archaeological monitoring followed by targeted excavation was undertaken in these locations where appropriate. Services and landscaping had removed much of the upper archaeology, but the remains of the lower courses of a seawall associated with the 1860s wharf, and several ships knees in various states of processing were recovered from the accumulated sands against the seawall.

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1 Introduction

1.1 Background

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1.2 Study Area

The study area is located at Hickson Road, Barangaroo, and Hickson Road, Millers Point, in the City of Sydney Local Government Area and includes Lot 100, DP 838323 and Lot 52, DP1213772. It comprises parts of Hickson Road and the Baranagroo foreshore including Nawi Cove (Figure 1.1). It is located within the Parish of St Philip and the County of Cumberland.

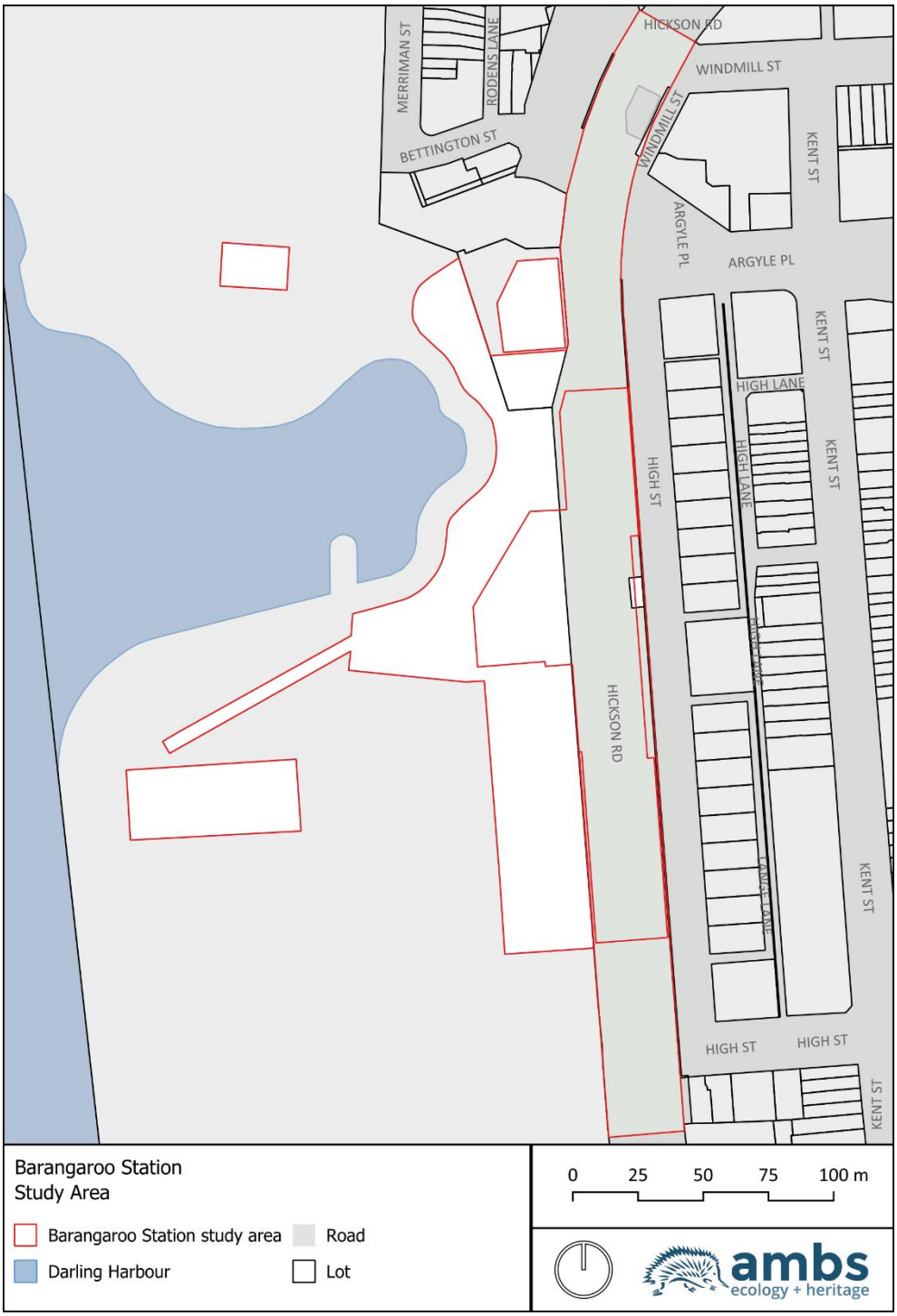

Figure 1.1: The study area excludes the station box which has already been archaeologically excavated.

1.3 Methodology

This report is consistent with the principles and guidelines of the *Burra Charter: The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance 2013* (Burra Charter) (Australia ICOMOS, 2013). The report has been prepared in accordance with current best practice guidelines as identified in the *NSW Heritage Manual* (Heritage Office and DUAP, 1996b) and associated publications including:

- *Archaeological Assessments Guidelines* (Heritage Office and DUAP, 1996a).
- *Assessing heritage significance* (Department of Planning and Environment, 2023a).

- *Assessing Significance for Historical Archaeological Sites and 'Relics'* (Heritage Branch, 2009).
- *Guidelines for preparing a statement of heritage impact* (Department of Planning and Environment, 2023b).
- *Investigating heritage significance* (Heritage NSW, 2021).
- *Material Threshold Policy* (Heritage NSW, 2020).

1.4 Authorship

This report was written by [redacted], Senior Heritage Consultant, AMBS, and Primary Excavation Director for the project. Additional historical research for Section 3 was undertaken by [redacted], Assistant Heritage Consultant and [redacted], Junior Heritage Consultant, AMBS. Artefact analysis and reporting, including contributions to research question responses was undertaken by [redacted]. This report was reviewed for consistency by [redacted], Heritage Team Leader, AMBS.

2 Historical Context

2.1 Overview

The study area encompasses Hickson Road from High Street to Windmill Street, and the eastern foreshore of Nawi Cove, almost all of which has been reclaimed from the waters of Darling Harbour. The development of the site has been greatly influenced by its topography, which allowed some parts of the study area to flourish, and others to remain largely undeveloped for most of its history. In 1911 the construction of Hickson Road dramatically altered the landscape and permitted easy access to the foreshore from different parts of the city. There are therefore two histories to the site – pre- and post-1911 – in some cases the latter completely obliterated any evidence of the former.

Table 2.1: Phases of development at the Barangaroo Metro Station site

Date	Overview of Development

Early 1800s	• Early occupation of Darling Harbour set on western ridge, related to military barracks (officer's quarters, magazine, etc.)
	• Original shoreline shown on maps and plans from 1788
	  ○ No buildings are shown on the 1807 or 1823 plans but the original foreshore had been subdivided into three grants
	• Millers Point became centre of small-scale shipbuilding
	• 1802: A track was established along the ridge to serve the allotments and premises on the shore of Cockle Bay
	• 1811: First wharf in Cockle Bay ordered in 1811 – Market Wharf
	  ○ Serviced Parramatta trade, provided shipping of food to the newly opened market on Market Street
	  ○ Located at the base of Market Street (outside of study area), began to move commercial activity away from Sydney Cove

1820s	• James Munn established the earliest yards, included a floating dry dock ○ Lawrence Corcoran took over after death
1830s	• Land at Millers Point granted – large grants along waterfront for maritime activities, smaller grants towards headlands for individual dwellings • 1830s parish maps show modified shoreline for wharfage • Government to improve roads, quarryman employed to cut into the western face of the hill • 1839: Kent Street passable along the whole length of Argyle Street • Numerous small quarries established along Millers Point, local buildings sought permissions to utilise local sandstone in construction • Surge of private wharf and warehouse building, wharves constructed through infilling shoreline • Australian Gas Light Company's works (est. 1843) was the exception to private development
1840s	• 1849: John Cuthbert bought waterfront south of Munn's
1850s	• 1856: Munn's property acquired by Cuthbert
Late 1800s	• Most wharves within Darling Harbour unsuitable for modern shipping and in dilapidated condition • 1870s: older wharves demolished for larger, modern facilities • Cuthbert's yard was first to be redeveloped, Thomas Dibbs acquired property and rebuilt for large-scale wharfage and goods storage • 1870s-1880s: small boat builders left the area as demands for wharfage grew
Early 1900s	• 1900: Bubonic Plague – Harbour side areas (The Rocks, Millers Point and Darling Harbour) put under quarantine

Date	Overview of Development

	• Government resumed and demolished houses and whares deemed substandard
	  ○ Allowed government to develop along Darling Harbour foreshore previously restricted by private property boundaries
	• Sydney Harbour Trust established – substantially altered the original landscape of Miller's Point
	  ○ Complete redevelopment of a number of areas
	  ○ 1901: older homes demolished including in Clyde and Merriman Streets
	  ○ 1910: forty buildings removed from Thornton, Munn and Argyle Streets for wharf expansion
	  ○ 1909 – construction of Hickson Road to link new wharves at Welsh Bay with new and existing wharves at Darling Harbour
	  • Works included decommissioning and dismantling gas works site, area without solid bedrock required pouring 15cm thick concrete foundation over 10cm thick blue metal
	  ○ 1924 – Hickson Road through gasworks complete, wharves nearing completion

Late 1900s	• Post-war period: cargo transport by road, rail and container ship overtook smaller shipping
	  ○ Containers allowed faster loading and unloading, reducing need for warehouse space
	  ○ Required larger mechanized shipping terminals
	• 1950s: existing finger wharves infilled – creation of concrete decking, cranes and lighting for larger shipping facilities

2000s	• 2006: container terminal at Barangaroo shut down
	• 2008: redevelopment of Barangaroo foreshore
	  ○ Substantial construction to south
	  ○ Landscaping of headland after removal of port hardstand
	  ○ Area mixed urban precinct – public parkland, commercial buildings
	  ○ Barangaroo Central (former gas works) development planned

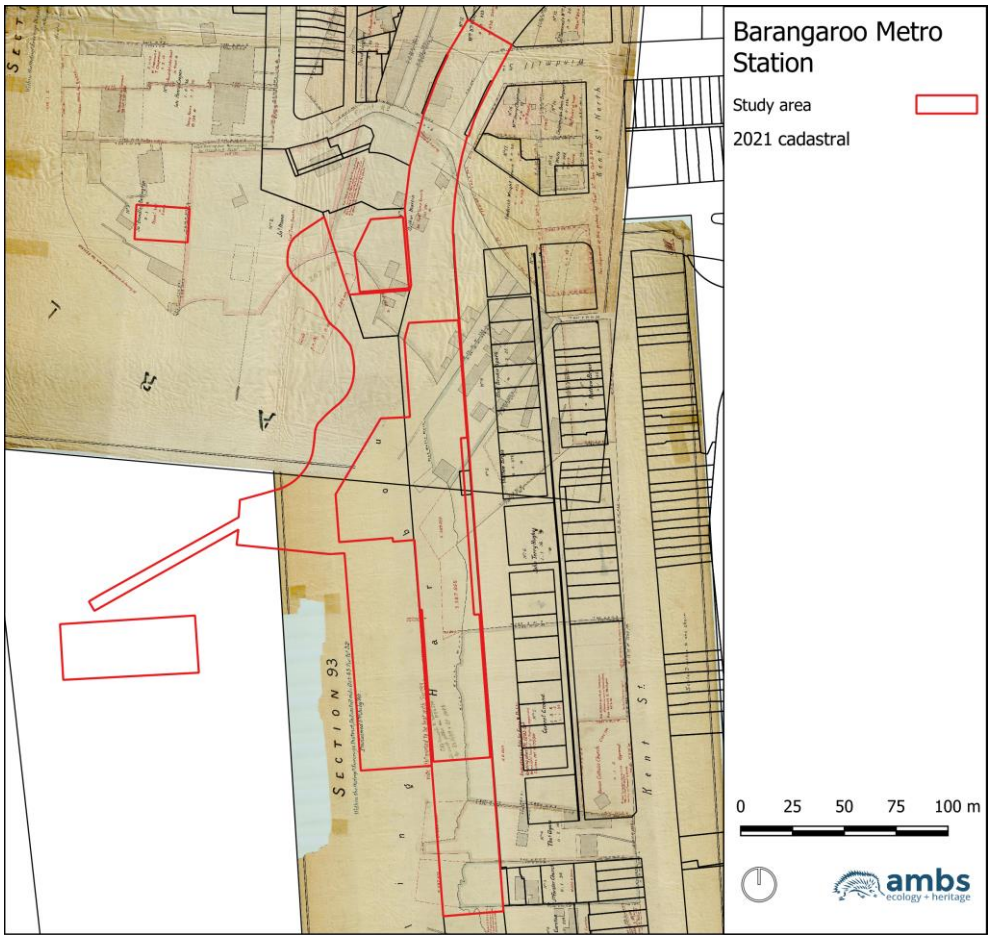

Figure 2.1; The study area shown relative to Sections 92 and 93 of the 1833 City of Sydney survey (City Engineer and City Surveyors Department, 1833).

2.2 Aboriginal Land and First Settlement

Aboriginal people have occupied Australia for at least 60,000 years with the archaeological record providing material evidence of a dynamic culture spread across the Australian continent. Prior to European land appropriation the inhabitants of Sydney comprised small family or clan groups, with fluid territorial boundaries (Attenbrow 2012, p.34). The first European accounts record Gadigal (Cadigal, Cadi) as the term used to describe the Aboriginal peoples inhabiting the southern shore of Port Jackson, from South Head west to the Darling Harbour area and the language spoken across Sydney is recorded as Darug (Darruk) (Attenbrow, 2010, p.31). Eora was also recorded as a term used to describe the Aboriginal people, likely a word used by the Gadigal people to refer to an Aboriginal person. Now the Sydney area is referred to as Eora Country, with Sydney Cove known as Warrane.

The topography and requirements for the new European colony dictated the pattern of settlement in Sydney Cove in 1788 and the burgeoning colony soon outgrew the limited resources and wharfage that Sydney Cove provided. The Baranagroo area saw little development in the first 20 years of European occupation, the topography of the area the main deterrence with two rocky eminences to the north. The earliest use of the area exploited the use of the high ground; signalling at South Head; defence at Port Philip and wind power to turn the windmills, later named Millers Point. The bay, then an unnamed cove that became known as Cockle Bay, and later Darling Harbour. Despite European settlement Aboriginal people were still very much present and active in the growing town with interactions recorded by some of the first settlers.

2.3 Aboriginal/European interaction

Millers Point (or nearby – the location is only described as "behind the point on which the Hospital is built" (White, 1790, p. 190)) is probably the place where there was an exchange of goods between Aboriginal and European people that was described by John White on 29 July 1788:

> *We gave them some bread, which they received with apparent pleasure, but did not eat any of it while in our presence. We likewise presented them with a looking-glass, but this they received with indifference, and seemed to hold in no kind of estimation. I gave one of the women a pocket handkerchief, which she immediately tied round her head, and shewed great satisfaction. She had a young child between her knees in the canoe (the way in which they always carry their infants), for whom she solicited something, in the most suppliant tone of voice I ever heard. The only thing I had about me was a narrow slip of linen, which I gave her; and, trifling as it was, she appeared to be perfectly satisfied with it, and bound it round the child's head. (White, 1790, p. 191)*

The journal entry is very early evidence of not only the exchange of goods, but also of selective use of and selective value attribution to foreign materials by Aboriginal people. It indicates that we can expect to find European cultural items in Aboriginal archaeological contexts from the earliest days of the colony. It also demonstrates that utility was not necessarily the prime motivator behind the acquisition of European material, and that we may find non-Aboriginal items in Aboriginal archaeological contexts that do not fall into familiar or intuitive use-categories.

Notably, in the same day's journal entry White records the spearing of a convict by Aboriginal people elsewhere on the waterfront (White, 1790, p. 189). The contrast between the two events is not remarked upon by White and we can only assume that to experience such extremes in relations in the same day was commonplace in the early months of the colony. Just shy of one month later, White describes the spearing and carrying away of a young goat by Aboriginal men (White, 1790, p. 213). The incident was also close to the hospital but probably nearer Dawes Point than the earlier encounter.

In the first year of the colony, the western side of the Cove was seemingly a porous edge of the settlement and was the location of both aggressive and friendly encounters between Aboriginal and European people. Cockle Bay was separated from the Cove by a high ridge that meant that the town expanded primarily to the south and east. This idea of the western ridge being a frontier or permeable boundary in the first years is echoed in paintings from 1802 and 1803. Both show the settlement from its western edge, and both depict a liminal space in which Aboriginal people are undertaking traditional activities alongside the buildings and people of the colony. Although the depiction of the Aboriginal people throwing spears in close proximity to the chatting and seated Europeans in Evans' painting appears fanciful, the choice of location and its cleared but uncultivated and undeveloped appearance is instantly recognisable as a frontier between wild and managed. The Aboriginal people depicted here are symbolic of that frontier, and of what lies on its other side. The use of colour and shade to emphasise the darkness of the untamed foreground and the light and order of the town beyond are easily read and understood by the viewer in both images.

Figure 2.2: An 1802 painting by Edward Dayes looking south-southeast from near Dawes Point (Dayes and Jukes, 1804).

Figure 2.3: An 1803 painting by G.W. Evans looking east from the high ridge that runs between Millers Point and Sydney Cove (Evans, 1803).

Understanding this context is useful for interpreting the only contact-period archaeological site in the vicinity of the Barangaroo COP works, which is located around 180m north of the study area at Moore's Wharf (Lampert and Truscott, 1984).

The Aboriginal archaeology consisted of the partial remains of a campsite. A 500mm x 500mm deposit of sandy brown soil averaging 310mm thick was excavated from within a natural depression in the bedrock. The excavated material contained 392 stone artefacts and was sealed by a midden layer 100mm thick. The midden material was in turn sealed by a rubble construction layer for the wharf buildings that were built in the 1830s. Four sherds of blue and white transfer print ceramic were found within the artefact-bearing soil beneath the midden (Lampert and Truscott, 1984, p. 1 Appendix 1). The ceramic was not modified, but this unexplained presence or utility is evocative of interactions of the kind described by White, and also of the liminal space depicted in the paintings of Evans and Dayes.

Aboriginal people undoubtedly continued to be present in Millers Point in the subsequent decades, as Kass (1987) has noted. Aboriginal people were employed in various ways in the colony, including the maritime trades that were centred around Millers Point and the harbour:

> *In 1845, Mahroot, one of the few survivors of the original inhabitants was interviewed during an enquiry into the state of the Aboriginal people. He lived by catching and selling fish. With the proceeds of this he bought clothes, meat, flour and sugar. He had never worn the traditional native dress but had always dressed in coat and trousers… To make some money, Mahroot had signed on for five or six whaling voyages (Kass, 1987, p. 11)*

The interactions that these activities would have generated were surely numerous, including Mahroot's descriptions of drinking with his European companions after coming ashore. However the probability of being able to identify the traces of these kinds of interactions archaeologically is slim to none.

2.4 Study Area North

The relatively unmodified shorelines of Lots 1 and 2 in Section 92, initially granted to Joseph Munn and Arthur Martin respectively; are partially represented within the study area. The development of the foreshore of these lots and their transformation through extensive reclamation and wharf building is the focus of the historical context of this part of the site. The establishment of Munn Street to the northwest allowed important road access to the foreshore and increased its usability and value. Access to Munn Street was paramount as it was the only reasonably traversable road to the high ground of Argyle and Kent Streets. It meant that the huge filled-in wharfs between Clyde Street and Munn Street were never subdivided, as access would be cut off from all but the northwestern parts. These wharfs, covering much of the northern part of the study area were utilised first by Cuthbert's shipbuilding business and later by Dibbs, who owned large portions of the foreshore by the 1880s.

In the extreme north of the study area, the footprint of the project crosses the original alignment of Windmill Point Road into William Henry Chapman's grant on Lot 12 of Section 92. However, as the study area has been cut down some 14m from its original height for the construction of Hickson Road in this location, Chapman's grant and its subsequent development is not relevant to this archaeological assessment beyond its destruction, and is therefore not discussed further. Likewise, the part of the study area (Work Zone 7) that is within Bettington's grant on Lot 3 is not discussed. Archaeological and historical analysis is of no benefit to this part of the site as works in this area are confined to connections within existing service pits.

Work Zone 10 is the site offices at Dalgety Bond Stores. Although there will be no excavation in this area, it has been included in the discussion of historical context because historical surveys and overlays are not always accurate, and some of the features and structures that appear to be within the footprint of this building may in fact be in adjacent areas of excavation. This includes early structures associated with Munn and Martin (**Figure 2.4**).

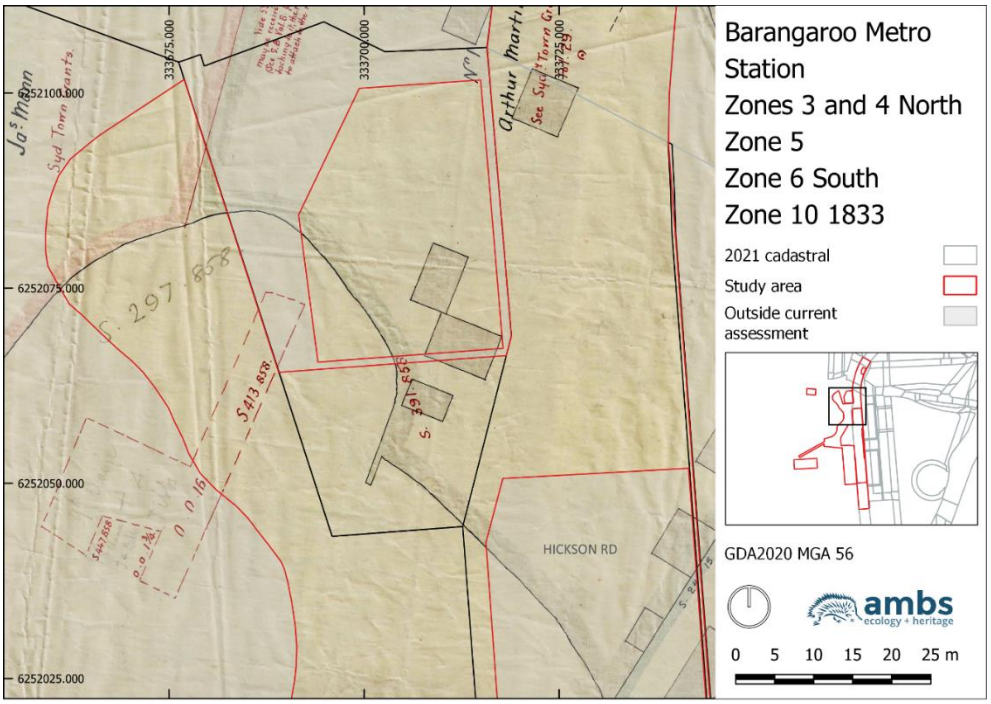

Figure 2.4: The 1833 foreshore of Munn and Martin's land showing up to five structures and a narrow jetty within the footprint of the study area (City Engineer and City Surveyors Department, 1833).

2.4.1 Early development of the shoreline

In 1833, a dispute between grantees Munn and Martin over land in Lot 2, Section 92 had been settled in Martin's favour , and Arthur Martin was afterwards in possession of three structures on the foreshore, along with a narrow jetty protruding southwest into the bay (Casey & Lowe, 2017, p. 54) (**Figure 2.4**). The construction of two of these structures had been commenced by Munn during his occupancy of the land (Casey & Lowe, 2017, pp. 54-55). A lime kiln in their midst (Casey & Lowe, 2017, p. 56), indicated these were probably utilitarian buildings. The 1833 survey (City Engineer and City Surveyors Department, 1833) positions the main structures and kiln around 15m distant from the high water line, and partly beneath the Dalgety Bond Stores (**Figure 2.5**). Contours recorded in 1887 give an indication of the slope in this part of the study area, which had probably changed little since 1833. The contours suggest that Martin's foreshore buildings and kiln were built on a strong slope of 27% (**Figure 2.5**). The largest of the three buildings was constructed across the slope and was surveyed as being around 8m x 6m. The contours indicate that the ground may have dropped considerably across the width of the building (possibly 1.5m if the slope was even), and so the structure may have had a partial basement, or have been built on land that was cut back into the slope to produce a level surface. In either case, it suggests that building on the Millers Point landform was not necessarily straightforward, and choices were probably deliberate and considered.

The 1833 survey shows that larger buildings on Martin's land that may have been residential were located further up the slope towards the present location of Argyle Street. With the exception of the narrow jetty, the foreshore appeared largely unmodified, and remained this way until after 1855 (**Figure 2.6**).

By 1855, development upslope had increased considerably. Wentworth Street and Unwin Street had been established, and residential buildings of modest size had begun to fill the space between. Some houses were depicted as small as 3m x 4m, they were tightly packed, and may have consisted of little more than a single room. Nine such structures flanked a yard 3m wide crossed by an open drain and shared two cesspits between them (City Engineer and City Surveyors Department, 1855).

The lack of development of the shoreline despite the crowded nature of Wentworth Street and Unwin Street at this time is symptomatic and indicative of the topography close to the shore. Despite the close proximity of the residences and streets to the water's edge, the significant difference in height limited its engagement with the residential neighbourhood above. This is well demonstrated by the results of the 2018 archaeological excavation in the station box (summarised in section 3.1.1), which show two very distinct levels of development at the foot of the slope. The change is embodied by the base of a deep cistern on Wentworth Street and the floor of a storehouse on the wharf occurring at a similar height (Casey & Lowe, 2019, pp. 44, Figure 3.64). It wasn't until Cuthbert acquired the land along the waterfront and began to construct his filled-in wharf that the shoreline was finally connected to the streets above by the circuitous route of Munn Street to the northwest.

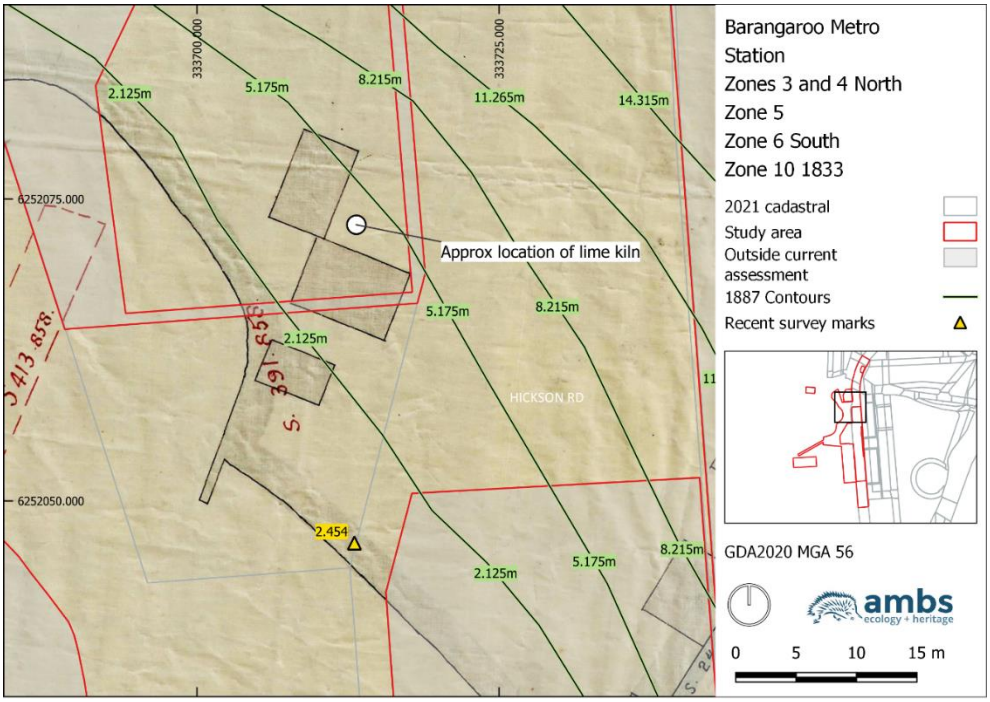

Figure 2.5: Contours recorded in 1887 (Moriarty, 1887) give an impression of the early landform and are shown here relative to structures surveyed in 1833 (City Engineer and City Surveyors Department, 1833) and a twentieth century survey mark at the level of Hickson Road (46693, 1988, LPI NSW).

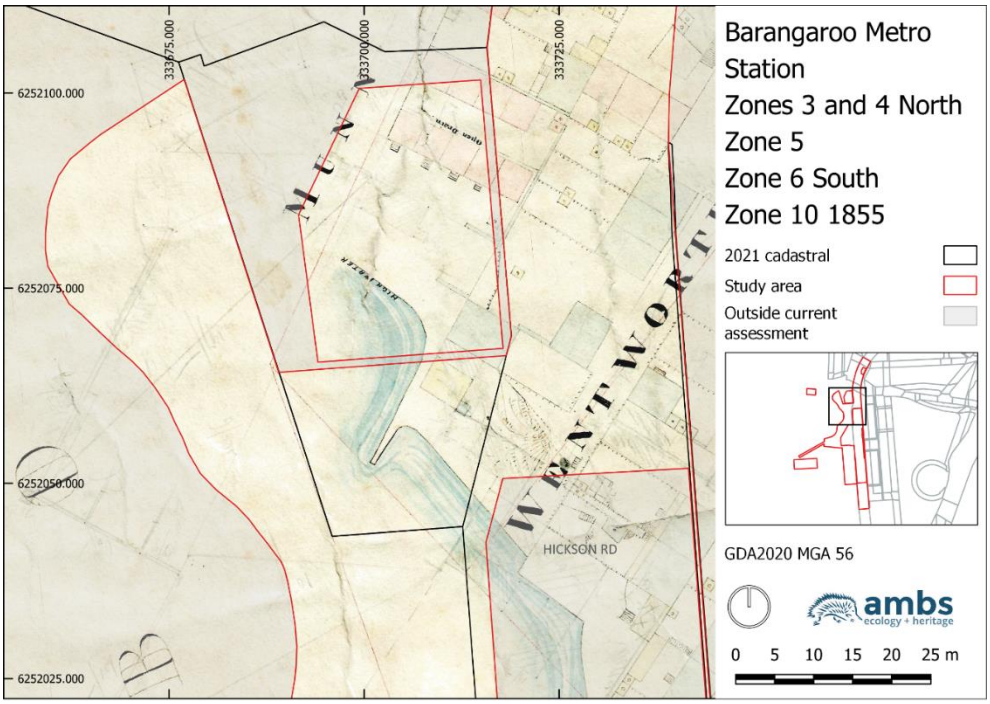

Figure 2.6: The foreshore in the northern part of the study area in 1855. Wentworth and Unwin (here shown as Munn) Street have already been established on the higher ground but the foreshore remains largely unmodified (City Engineer and City Surveyors Department, 1855).

2.4.2 Cuthbert's Shipbuilding Yard

Cuthbert's wharf was constructed in two stages. The first stage had been completed by 1863, when Cuthbert was granted the reclaimed land that formed the wharf (NSW LRS, Vol 1 Fol 192 1863). The first stage included a single slipway and a narrow dock 17ft 5in (5.3m) wide (**Figure 2.7**). Most of the narrow dock is included within the study area. Although constructed with long stone walls that would have required considerable expense and labour, the dock appears to have been short-lived. It was filled in to create a more extensive wharf within two years of the grant.

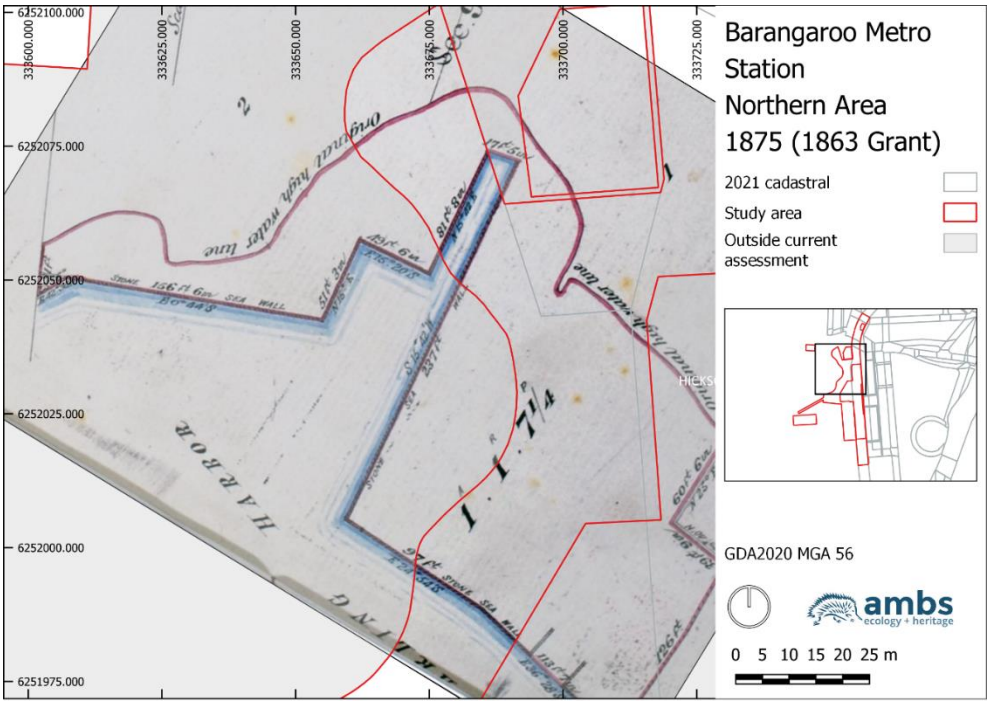

Figure 2.7: Cuthbert's 1863 grant of reclaimed land showing the narrow dock crossing the study area. This image is from an 1875 transmission of estate (NSW LRS, 1875) which shows measurements of the dock and the stone sea wall.

By 1865, Cuthbert had constructed a filled-in wharf of some 8581m^2 (calculated from the 1865 survey), incorporating three slipways, a timber jetty, and containing a large saw shed and numerous other wharf buildings. The wharf was fringed with a stone seawall that ran from Clyde Street in the southeast to Munn Street in the northwest. The impracticality of Clyde Street's gradient for use by the wharf is indicated by Cuthbert's decision to place his large saw shed at the point where the street met his wharf, effectively cutting off access between the two.

The study area includes the southeastern work area of Cuthbert's wharf, between the two southern slipways, as well as parts of several wharf structures at the periphery in the north and east (**Figure 2.9**). It was a part of Cuthbert's original (pre-1863) wharf, and as the largest open space at the time, and containing the only slipway, would have been the central work area. With the saw shed located in the southeast, this part of Cuthbert's wharf is likely to have been the favoured building location even after the wharf was expanded. The study area also encompasses what became the rear ground of the third slipway after the dock was filled in, and includes the footprint of a large structure that was built against the retaining wall of Munn Street. With the exception of the saw shed, this building was the largest on Cuthbert's wharf. A contemporary painting by Samuel Elyard (**Figure 2.8**) appears to show the structure in a stylised ramshackle state, with the Munn Street houses on the higher ground beyond. It is a tall open-sided structure with strong vertical supports and a large amount of timber stacked against it. This building was probably the store for cut timber, the large and long planks required for the biggest vessels would account for its oversized nature. The 1865 survey depicts it as around 18m long and 8m deep. Over 10m of this structure is included within the study area.

Figure 2.8: Painting titled *Boat Shed, Darling Harbour* by Samuel Elyard dating from 1862-1875 showing the large northern structure on Cuthbert's wharf in the centre of the image (Elyard, 1862).

The footprint of several more residences fronting Unwin and Wentworth Streets are also within the study area by 1865, in the present location of Hickson Road and the Dalgety Bond Stores. The remains of many of these residences are likely to have been removed during the construction of Hickson Road. The 1887 contours indicate that most of the structures on Unwin and Wentworth Streets were located over 3m above the twentieth century level of Hickson Road (2.454m AHD71 recorded at Dalgety Bond Stores at Survey Mark 46693, 1988 [LPI NSW]).

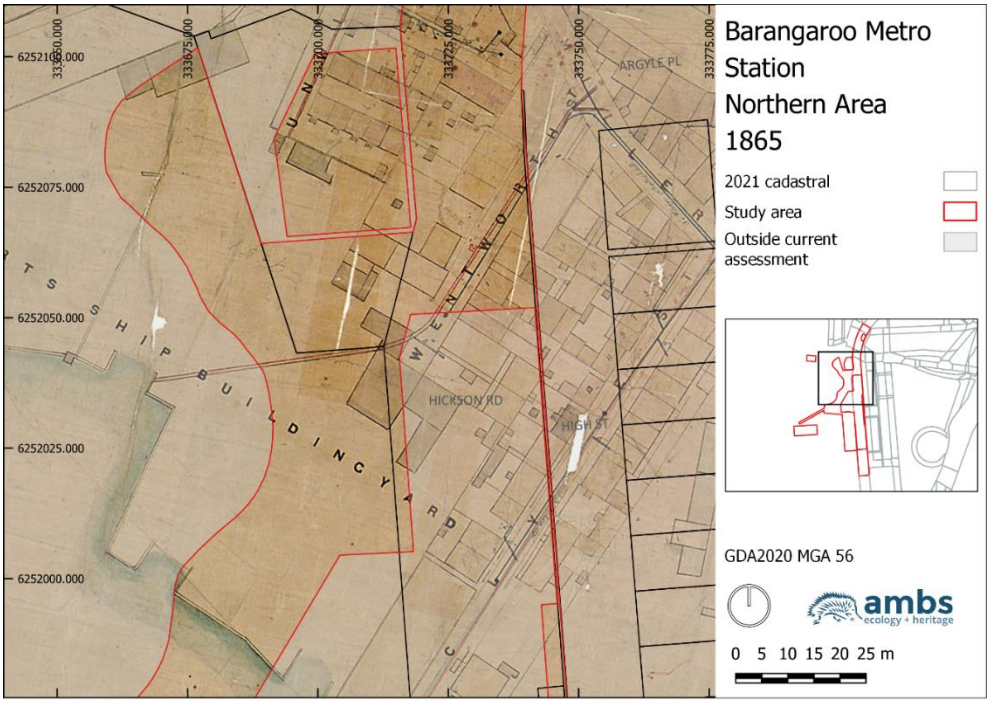

Figure 2.9: 1865 Plan of the northern part of the site showing part of Cuthbert's wharf (including the large northern structure) and residences on Unwin and Wentworth Streets within the study area (City Engineer and City Surveyors Department, 1865).

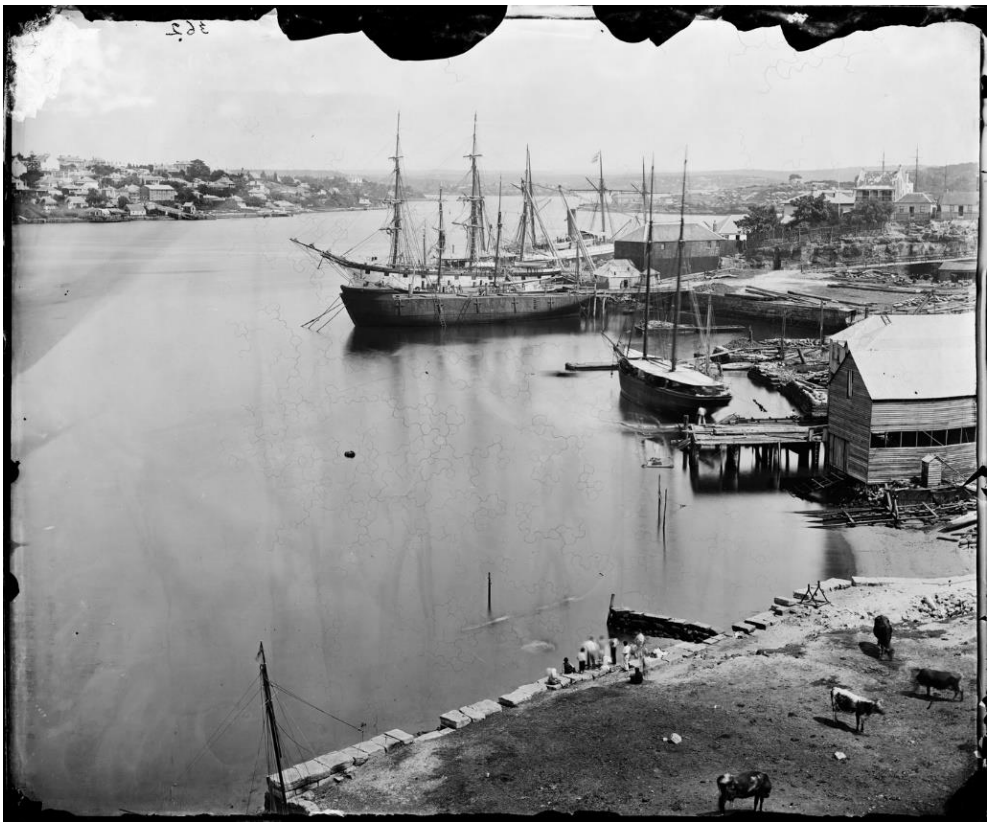

Figure 2.10: A c.1875 image looking northwest from Osborne's wharf, just south of Clyde Street. Cuthbert's shipbuilding yard is shown at the right beyond the boat shed (Mitchell Library, SLNSW, Shipyards at Millers Point looking across to Balmain, digital ID: a2825073).

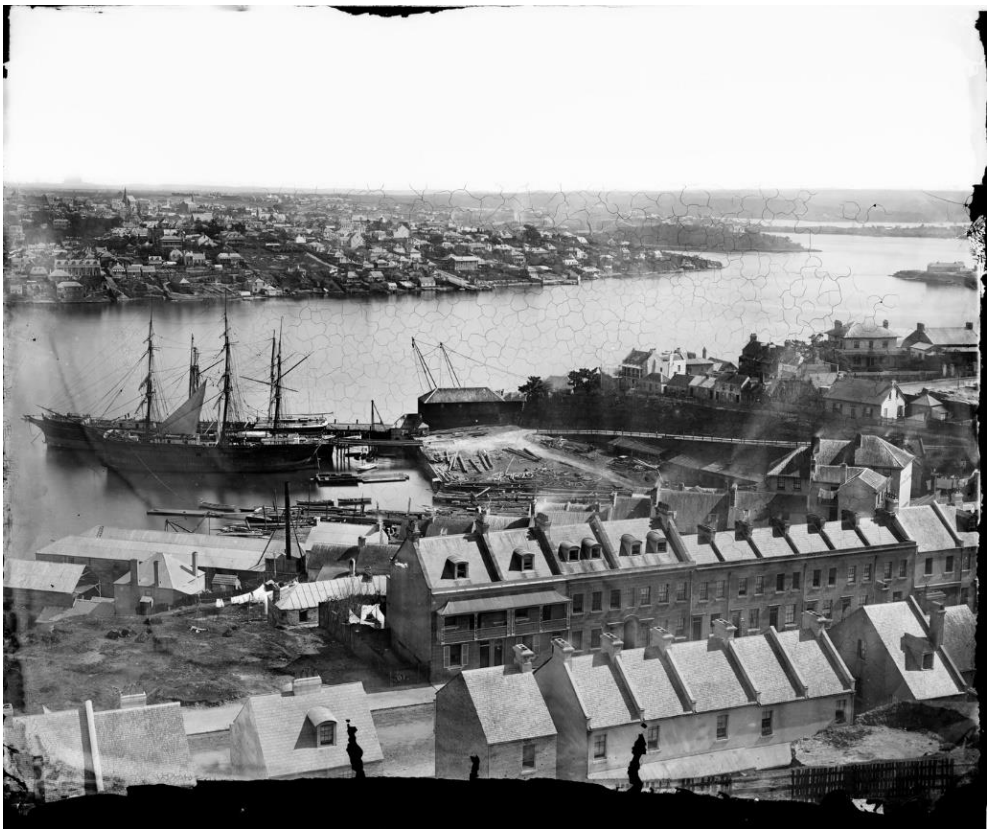

Figure 2.11: Looking over Cuthbert's yard from Observatory Hill sometime between 1870 and 1875. This image can be compared with Figure 2.13, taken from the same vantage point some 10 years later (Mitchell Library, SLNSW, Miller's Point and Balmain from the Observatory, digital ID: a2824955).

2.4.3 Dibbs' Wharf and Gibbs Bright & Co.

By the late 1870s Thomas Alwright Dibbs was occupying and modifying Cuthbert's wharf. Cuthbert had constructed a flat filled-in wharf with three slipways and only a short jetty. It was purpose-made for shipbuilding but had no berths at which ships of deep draught could load or unload. Upon possession of the wharf, Dibbs began constructing long finger wharfs which projected out into deep water and which were suitable for receiving and loading goods (**Figure 2.12**). The large structure in the north was either converted to or rebuilt as a flour store and was recorded as 'iron' suggesting that the open sides of the shed had been covered in with galvanised sheeting.

In 1894 a survey of the bond stores in Sydney (Mahlstedt, 1894) recorded several substantial structures on the wharf, which was by this time being operated by Gibbs Bright & Co. A large brick woolstore dominated the northern end of the wharf and had replaced Dibbs' iron flour shed. In addition, two small stone structures were located at the rear of the wharf near the current location of Dalgety's stores, and a large iron shed stood in the location of Cuthbert's narrow dock (**Figure 2.15**).

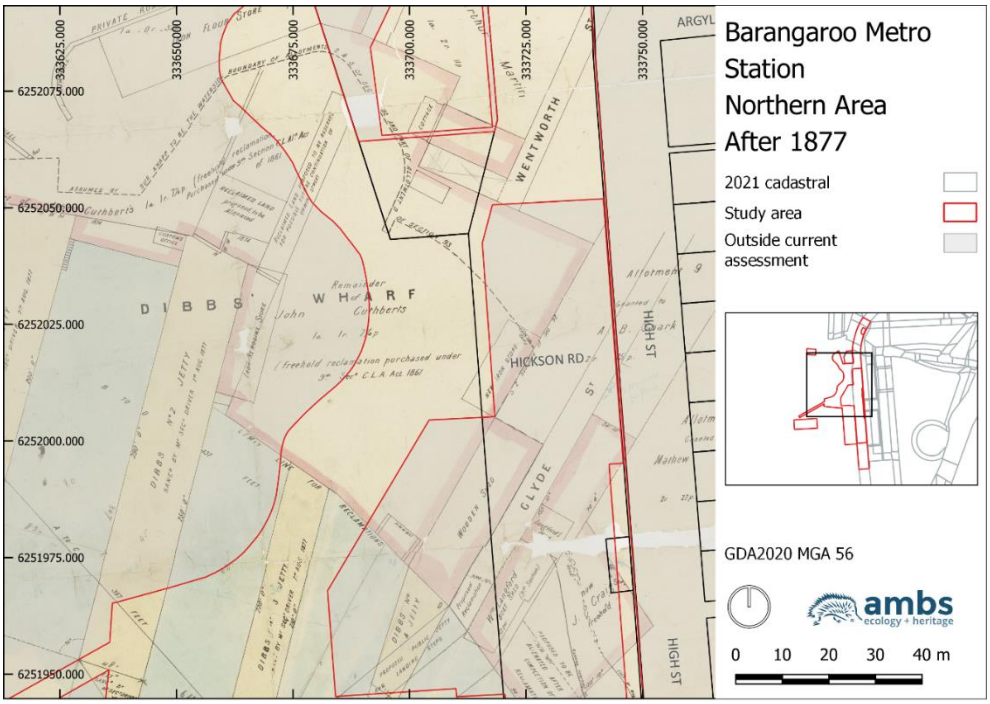

Figure 2.12: A c. 1877 plan showing Dibbs' modifications to Cuthbert's wharf including constructing long jetties and filling in the slipways (Norton and Co, 1877).

Figure 2.13: an 1882 photograph looking over Dibbs' wharf from Observatory Hill towards Balmain. The large iron-clad flour store can be seen at the right (City of Sydney Archives, A-00016724, https://archives.cityofsydney.nsw.gov.au/nodes/view/574116).

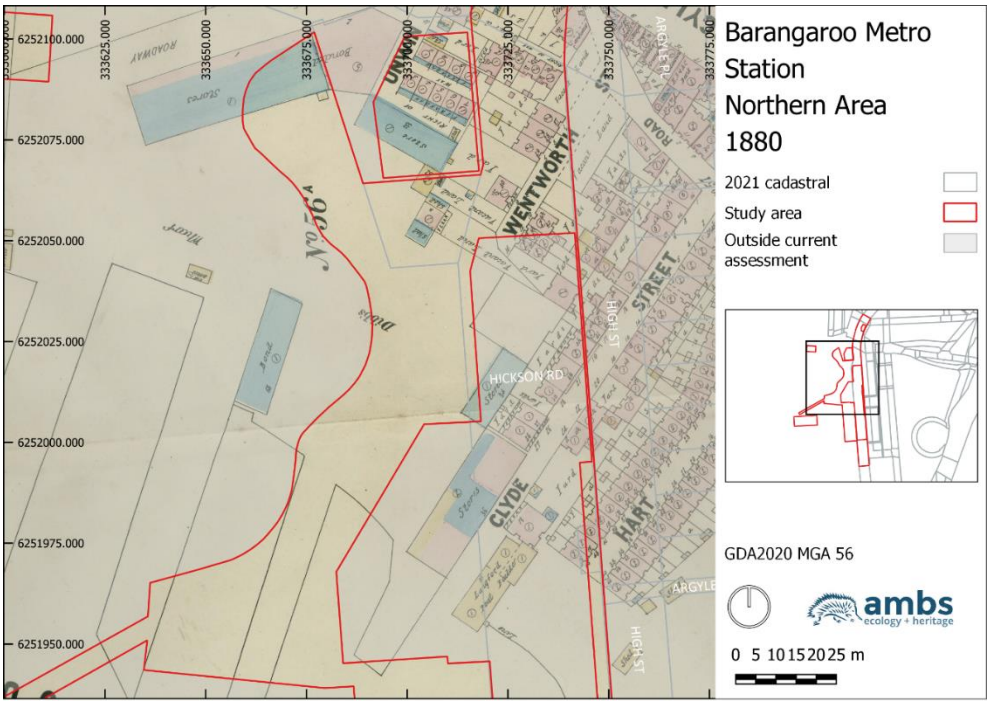

Figure 2.14: Dove's 1879-80 survey showing Dibbs' wharf and finger jetties (Dove, 1879).

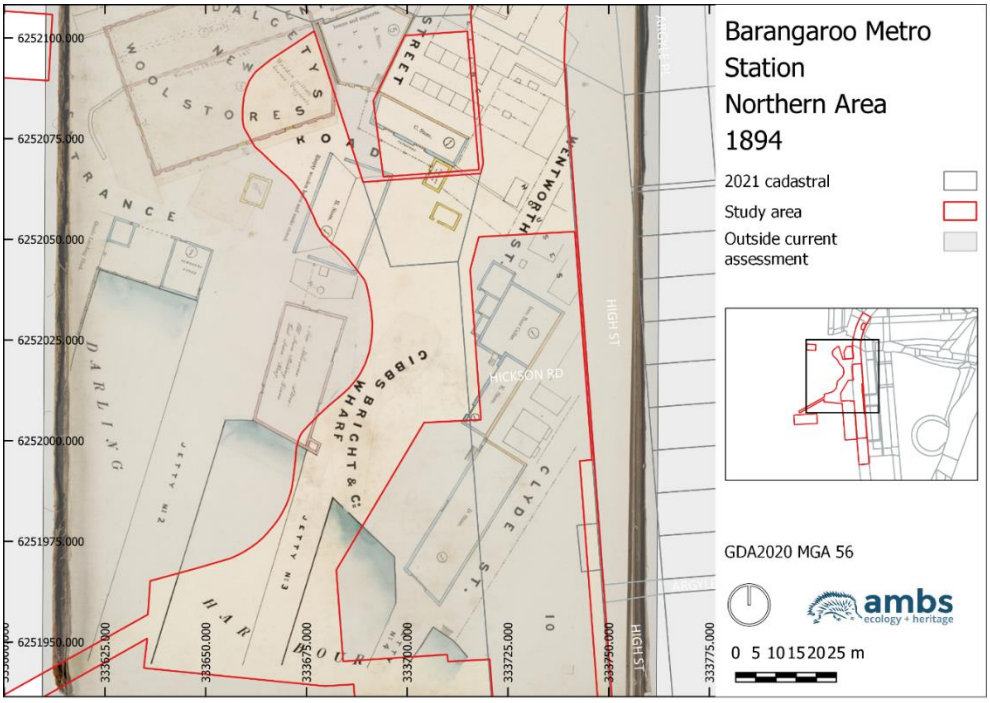

Figure 2.15: Mahlstead's 1984 survey of the wharf showing substantial stores occupying the former shipyard (Mahlstedt, 1894).

2.5 Study Area South

To the south of the study area, the steep and rocky topography of the slope from the top of the Kent Street ridge to the shoreline of Darling Harbour significantly affected the development of this part of the site. The ground was no steeper than that to the north, but without the kind of access that Munn Street provided for the shoreline in Section 92, the waterfronts were cut off from the streets on the ridge above, and were not fully developed until the construction of Hickson Road in 1911.

2.5.1 Early development

Within the study area are the shoreline portions of Lots 3, 4 and 5 of Section 93. Initial grants of lots 3 and 4 were to John Forster Church and Thomas Agars respectively. By 1833, Agars had constructed a projecting filled-in jetty that was depicted by the survey as 7m wide and extending 21m into the bay from what appeared to be a rocky shore. The 1887 contours indicate that the slope of the land closest to the shore was similar to that on Martin's parcel, and Agars constructed two buildings at about 3-4m above high water at a distance of around 26m from his wharf, on a strong slope of around 21%. Like Martin to the north, Agars had also built what was probably a residence on the much higher ground fronting Kent Street.

On Lot 3, John Church had not begun to develop the waterfront part of his property by 1833, and it was drawn on survey as rocky and protruding into the bay. However, he had constructed a considerable-sized building on the lower parts of his land and left the higher street frontage vacant, suggesting that this was the more important part of his property.

Lot 5 was reserved as government land and the higher ground close to Kent Street was quarried from an early date. The portion of this lot within the study area remained almost completely undeveloped until the construction of Hickson Road commenced in 1909. The foreshore remained a beach that by 1887 had a relatively gentle slope that was exposed at low water across the study area.

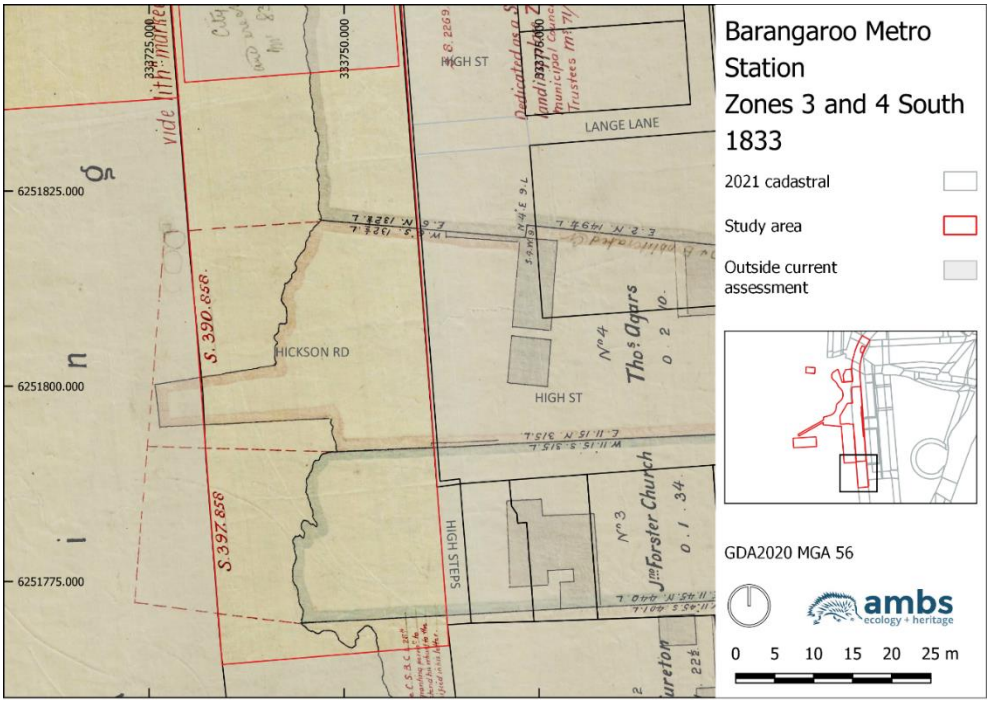

Figure 2.16: 1833 survey of the shoreline portions of Lots 3, 4 and 5 of section 93 (south to north) (City Engineer and City Surveyors Department, 1833).

2.5.2 Mid-century boat sheds and wharfage

By 1855, Thomas Agars had passed away and his land was put up for auction in 1853. In the following decades the land was continually subdivided, with a general division remaining between the higher ground close to Kent Street and the portion which addressed the water. Annotations to the 1855 plan indicate that activity intensified along the shoreline after Agars' death, and three structures were added to the jetty before the compilation of the 1865 survey. Church's foreshore to the south is depicted as rocky and steep and remains undeveloped in 1855, but annotations indicate that structures were built at the water's edge shortly after (Figure 2.17).

By 1865 there was still no substantial wharfage at either property, but several structures had been built at the waterline. Their depiction on plan at high water indicates that they were probably sheds on stilts. Steps are drawn indicating the steepness of the slope at the water's edge. Annotations indicate that a northern extension was added to the jetty after the survey was complete (Figure 2.18).

In 1876, Staunton Spain applied to reclaim 17 perches at the edge of Agars' grant. By 1880, the boat sheds had been demolished and adjoining filled-in wharfs covering a total of 800m^2 fronted the properties at Lots 3 and 4. By the time the land was resumed by the government in 1901, the Lot 4 wharf had been extended by a further 574m^2 to the north and west, and a dotted line at the end of the Lot 3 wharf suggested that a similar extension was underway at the time of resumption (Figure 2.21).

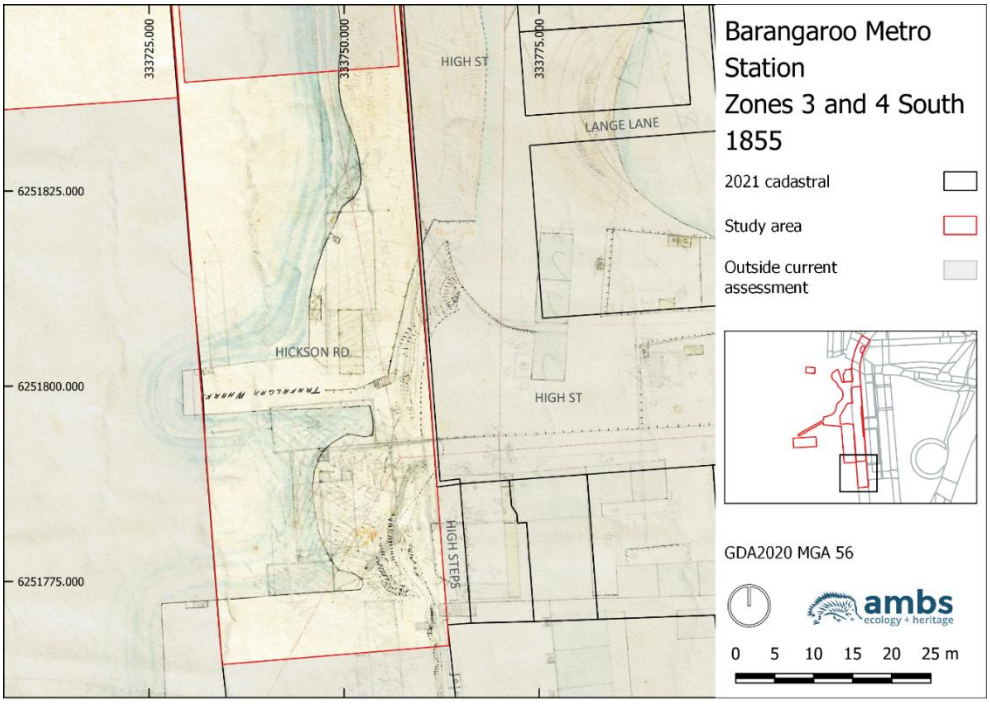

Figure 2.17: 1855 plan showing development of the foreshore in the south of the study area (City Engineer and City Surveyors Department, 1855).

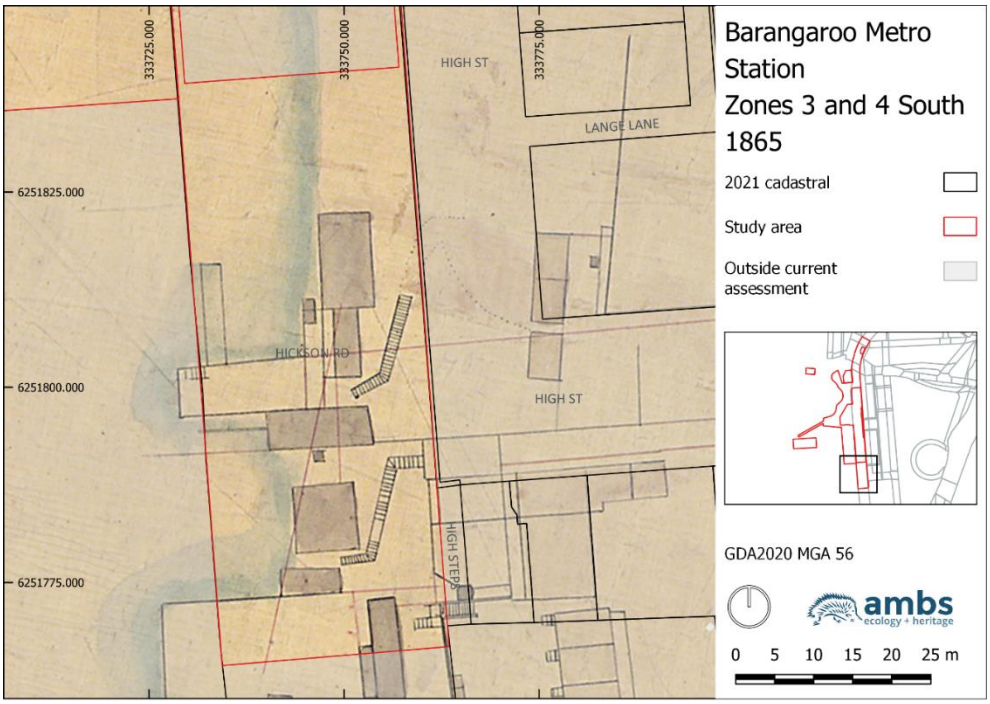

Figure 2.18: 1865 Trig Survey showing boat sheds at the water's edge on Lots 3 and 4 (City Engineer and City Surveyors Department, 1865).

Figure 2.19 c.1870 artist's painting of Darling Harbour (Allotment 5/Government Ground/Quarry left of image) (SLNSW, View of Miller's Point and Darling Harbour, ca. 1870/ artist unknown, digital ID: 825789).

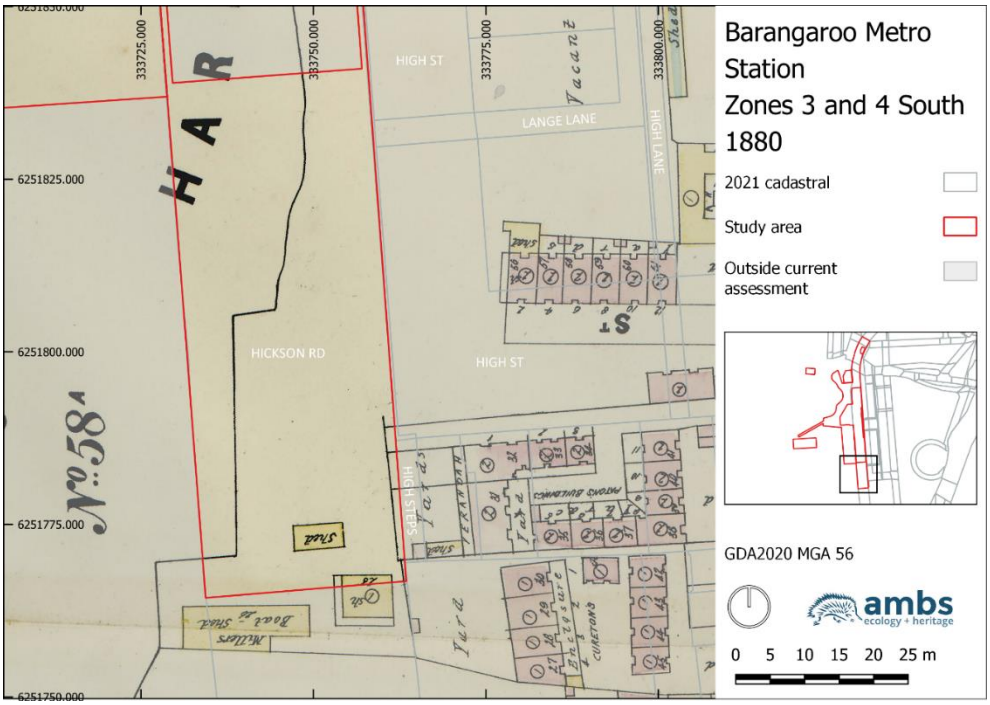

Figure 2.20: Dove's 1879-1880 survey showing an amalgamated wharf fronting Lots 3 and 4 (Dove, 1879).

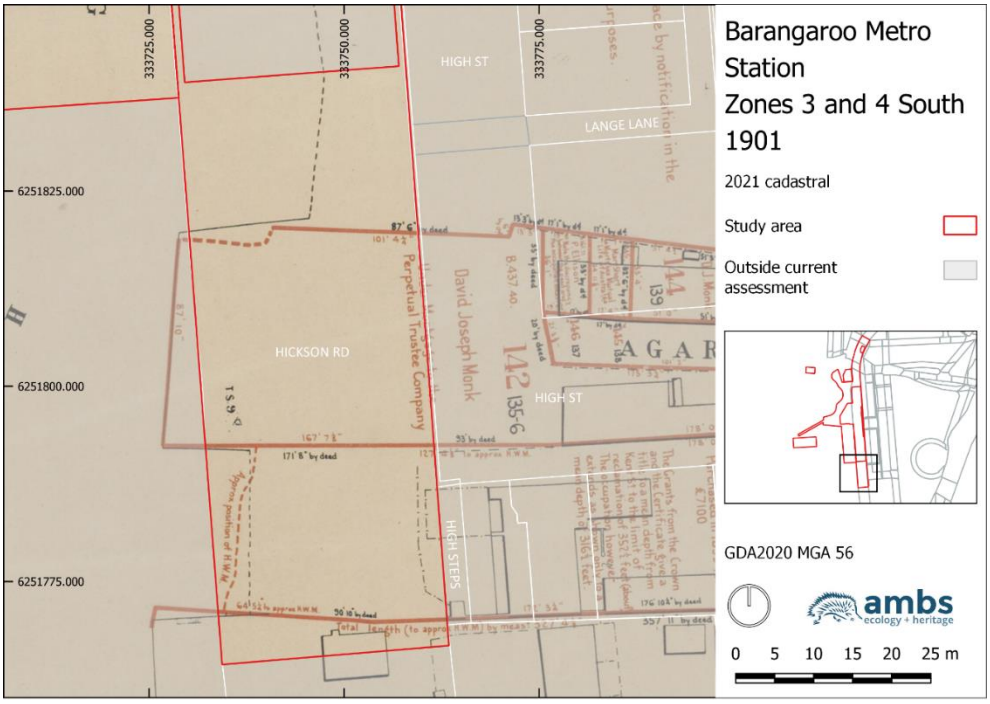

Figure 2.21: 1901 resumption plan showing extensions to the wharfs in Lots 3 and 4 are underway (Gullick, 1901).

2.5.3 Construction of Hickson Road

The construction of Hickson Road followed the resumption of wharfage along the eastern shore of Darling Harbour after an outbreak of bubonic plague in 1900. In combination with the road construction and the cutting back of the rock face along Hickson Road, the upgrades of the wharfs resulted in a total transformation of the study area.

Throughout the nineteenth century, the nature of development along the northeastern shore of Darling Harbour had been determined by the topography and the rocky quality of the steep slopes. The ground was not easily modified, and the street layouts were forced to follow the ridgelines or else create roads and lanes that were too difficult for carts to use. The creation of Hickson Road at wharf level, and cutting a straight line north along the shore, changed the way in which the properties addressed the harbour and formalised the divide between high and low ground that many of the lots had struggled to overcome.

In the north of the study area, much of the intermediate ground between Argyle Street and the waterfront was removed to level the 28m-wide road. In some locations up to 12m of rock and soil was removed to keep the road at wharf-height. The new wharfage was suspended on substantial piles and rat-proofed with Monier plates (**Figure 2.23**).

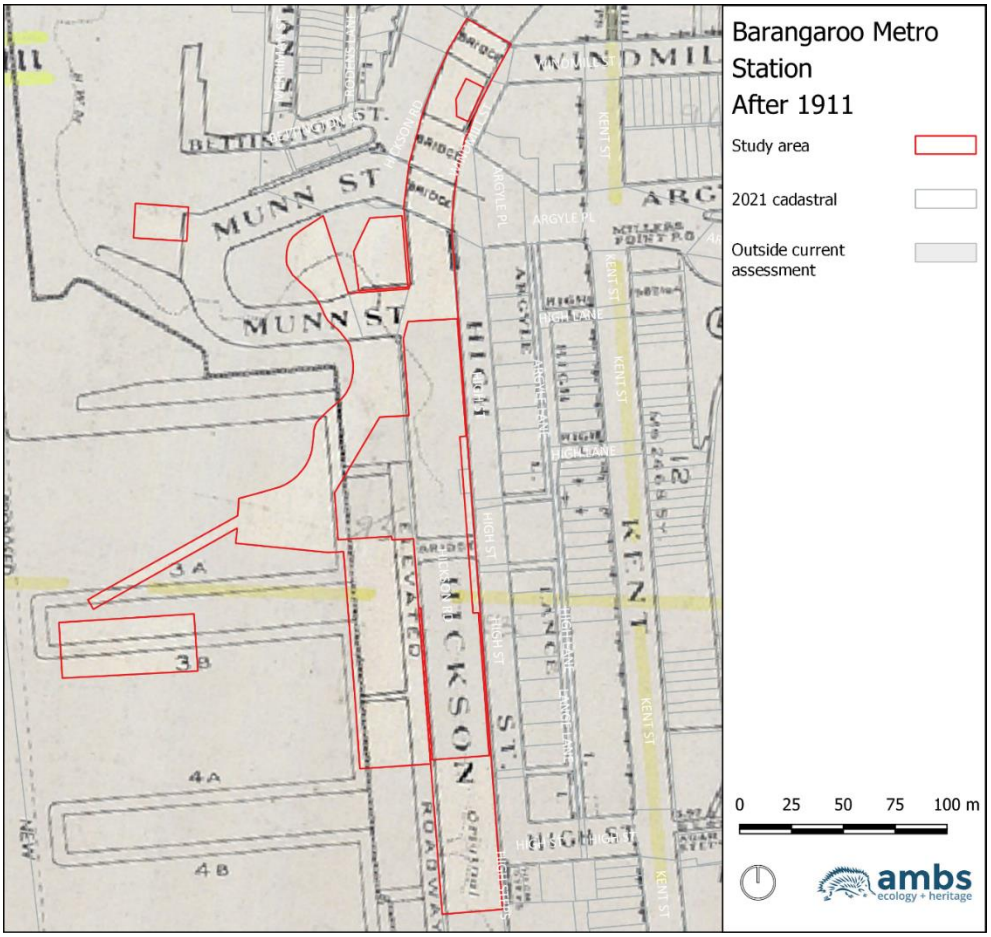

Figure 2.22: An undated parish map of St Philip showing the orientation of the wharfage after the construction of Hickson Road.

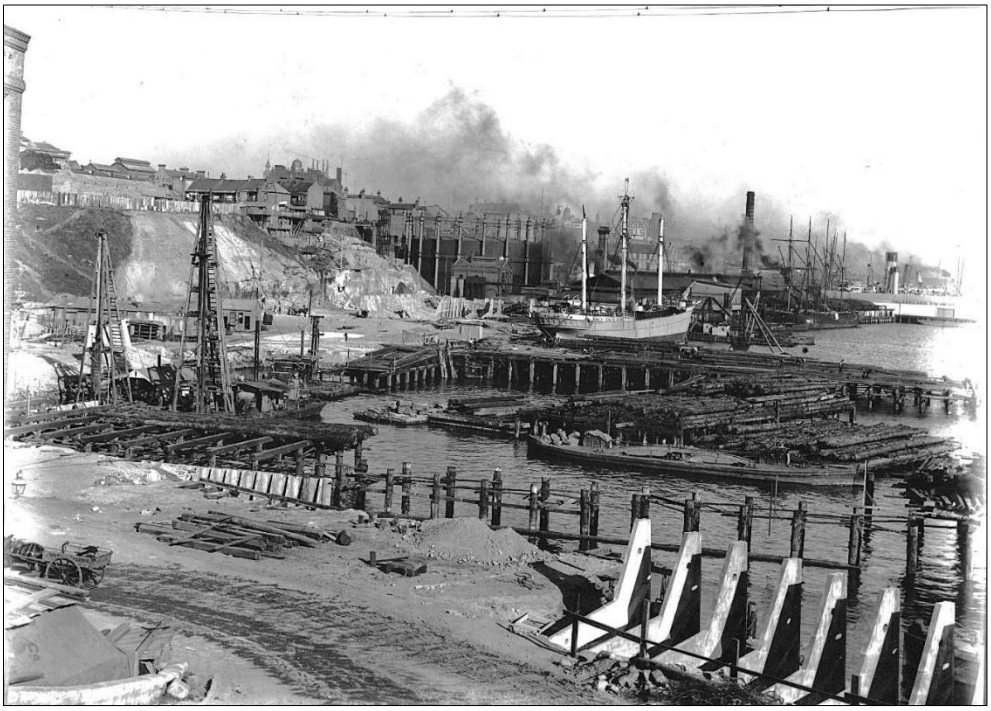

Figure 2.23: 1909 East Darling Harbour (from approximately Munn Street) (City of Sydney Archives, A-00077313, https://archives.cityofsydney.nsw.gov.au/nodes/view/698395).

Figure 2.24 1930s Hickson Road looking southwest from near the Argyle Street Bridge (City of Sydney Archives, A-00077266, https://archives.cityofsydney.nsw.gov.au/nodes/view/698327).

3 Archaeological Context

3.1 Archaeological Excavations at Barangaroo Headland and Barangaroo Station

Two large-scale open area archaeological excavations have taken place within and adjacent to the study area in the last 8 years. In 2013 Austral Archaeology undertook archaeological investigations within Hickson Road and to the northwest of the study area as part of the construction of Nawi Cove. In 2018, Casey & Lowe undertook open area investigation of the station box for Barangaroo Metro station (Figure 3.1).

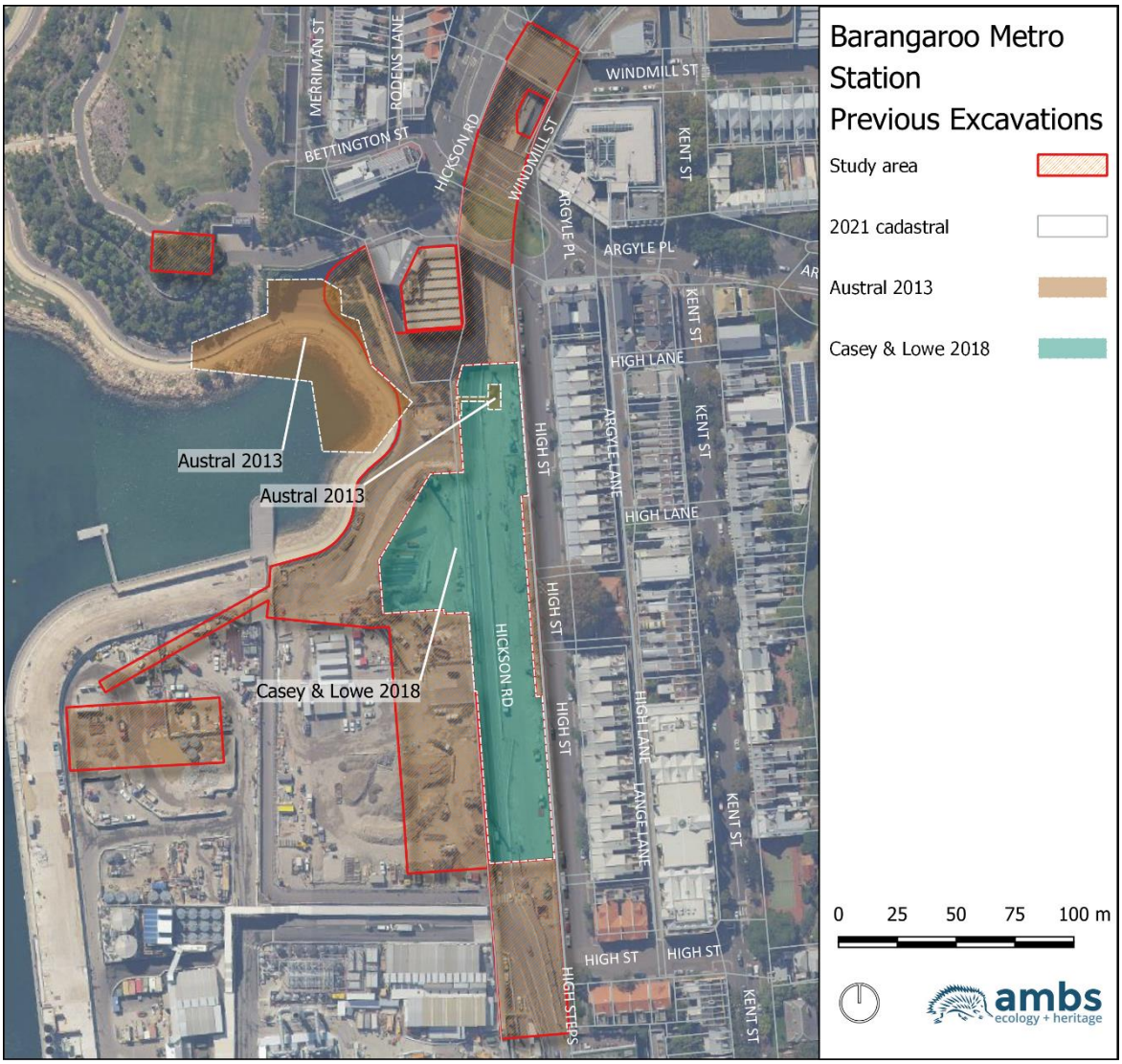

Figure 3.1: Previous archaeological investigations within and adjacent to the study area.

3.1.1 Barangaroo Metro TSE Works: Barangaroo Station Archaeological Investigations (Casey & Lowe, 2019)

Casey & Lowe were commissioned by AMBS Ecology and Heritage, on behalf of John Holland CPB Ghella JV, to undertake historical archaeological investigations at the Barangaroo Station site, in accordance with the conditions set out in Critical State Significant Infrastructure Sydney Metro & Southwest Chatswood to Sydenham Infrastructure Approval (Application no. SSI 15_7400). The following summary has been based on the preliminary results report (Casey & Lowe, 2019). The final report is in progress at the time of writing (May 2021).

The staged excavation was undertaken wholly within the footprint of the station box for the Barangaroo Metro Station. The archaeological remains included evidence of mid-nineteenth century wharfage, an 1830s house, seawalls, a slipway, and the remains of a wrecked abandoned vessel (Unidentified Darling Harbour Boat 1 [UDHB1]).

In Areas R and T (immediately adjacent to Work areas 1 and 2 in the current project), the investigations found evidence of Cuthbert's shipbuilding yard and wharf (1854-1875) and Dibbs's seawalls and wharfage (c.1875-1899). The remains included timber debris, extensive evidence of woodworking and distinct areas of activity on Cuthbert's wharf surface. Cuthbert's seawalls and a slipway, and piles for suspended wharfage were also found in good condition. Modifications to the walls and slipway that were undertaken by Dibbs, and contemporary public steps and paving were found at the termination of Clyde Street. Cuthbert's wharf and shipbuilding yard, and buildings associated with Dibbs' use of the wharf are also partly located within Work Zones 1, 2 and 5 of the current project.

The remains of a rocky and sandy intertidal zone that predated the extension of Clyde Street was found beneath Hickson Road (in Area X), next to the foundations of an 1830s house. Partly buried by the beach sand was the remains of a 30ft boat that had been abandoned prior to the construction of Cuthbert's wharf. Similar intertidal environments are thought to have existed within the current study area adjacent to boatbuilding businesses in Work Zones 3 & 4 South.

In Areas Y and Z were the remains of late nineteenth century wharf structures, built on the outcropping sandstone and reclaimed land beneath Hickson Road. The truncated remains of a well or cistern associated with housing on Wentworth Street was located in Area Z adjacent to Work Zones 3 & 4 North, and Work Zone 6.

Figure 3.2: Orthophoto of Area T showing timber debris on Cuthbert's Wharf (Casey & Lowe, 2019, p. 18)

Figure 3.3: Remains of vessel UDHB1, Area X (Casey & Lowe, 2019, p. 36)

Figure 3.4: Foundations and floors of late nineteenth century wharf structures, Area Z (Casey & Lowe, 2019, p. 43)

3.1.2 Barangaroo Headland Park Historical Archaeological Excavations (Austral Archaeology 2016)

Austral Archaeology (Austral) was engaged by Laing O'Rourke and Baulderstone (later Lend Lease) on behalf of the Barangaroo Delivery Authority to complete archaeological investigations as part of the Barangaroo Headland Park project. Austral completed archaeological investigations on site in 2013, working in two broad areas across the site, the Wharves Site, at the northern end of the Headland, and the Shipyards Site, within and adjacent to the present Nawi Cove.

Two of Austral's excavation areas overlap or are directly adjacent to the current study area: The Northern Cove Excavation Area and the Hickson Road Excavation area.

Archaeological excavations within the Northern Cove Excavation area primarily identified remains associated with shipbuilding and maintenance and land reclamation, firstly, relating to Munn's (1824-1848) occupation of the site, then to Cuthbert's Shipbuilding Yard (1854-1875). Following this was the construction of Dibbs' Wharves (c.1875-1899), then the resumption of the land followed by the establishment of a concrete seawall (1900-1907) (Austral 2016a: 9-10).

The eastern portion of the excavation area overlaps with the boundary of the current study area adjacent to Nawi Cove. Along the eastern boundary of the site, a thick deposit of wooden shavings was identified in the large slipway, the deposit was of varying thicknesses, with a maximum recorded depth of 530mm. Its extent continued to the north and east beyond the excavation area. Underlying this deposit near the eastern boundary of the site was a timber boardwalk overlying a grey sand deposit. Under the sand deposit was a packed sandstone and bluestone rubble deposit in the slipway, which in turn overlay a grey silty sand fill on the natural sandy shore (Austral 2016b: 149-156).

The eastern slipway wall also extends north-east through the excavation area, continuing beyond its eastern extent, suggesting it may still be extant within the current study area (Austral 2016b:160). To the east of the slipway wall a working area was identified, comprising a series of layered occupation deposits, with few identified archaeological features except for disturbance from later services. The occupation deposits were assessed as being indicative of a working area within the shipyard, as evidenced by an orange brown sandstone and clay surface, which may have been used as a solid surface to support working structures (Austral 2016b: 349).

Archaeological monitoring was undertaken in the Hickson Road monitoring area, with Austral noting that the nature of the works, which related to modifying and introducing new services, meant that many of the trenches they monitored were very narrow and deep. Across the area, the upper strata consisted of asphalt road surface overlying concrete or finely crushed gravel. In the eastern part of the monitoring area, missed fills and demolition rubble were present to a depth of over 2m, overlying sandstone rubble fill and bedrock. The western part of the study area contained layered fills overlying a concrete surface which was poured over a brick floor. One brick footing was also identified along with a small sump in the concrete surface. Underlying the brick floor was sandstone rubble, a disturbed deposit with building materials, and then bedrock. All features were identified as being associated with twentieth century uses of the study area, with the brick and concrete features forming part of a basement to an early-twentieth century warehouse. It was also identified that no nineteenth century 'shaping' was identified in the bedrock, which appears to have been truncated in the twentieth century (Austral 2016b:302-304).

Figure 3.5: Dibbs' seawall to the northwest of the study area (Austral Archaeology, 2016, p. 99)

Figure 3.6: Dibbs' seawall looking northeast towards Dalgety stores (Austral Archaeology, 2016, p. 99)

4 Results of the Archaeological Excavation

4.1 Methodology

The Archaeological Method Statement (AMS) recommended archaeological testing in areas of Moderate-High potential to establish the depth of archaeology and to confirm its integrity in those areas. The AMS recommended that if archaeology was encountered within the zone of impact, then open area stratigraphic excavation would proceed to salvage all archaeological remains within the affected area.

Three trenches of 10m x 2m were proposed to be excavated within areas of Moderate to High archaeological potential (Figure 4.1).

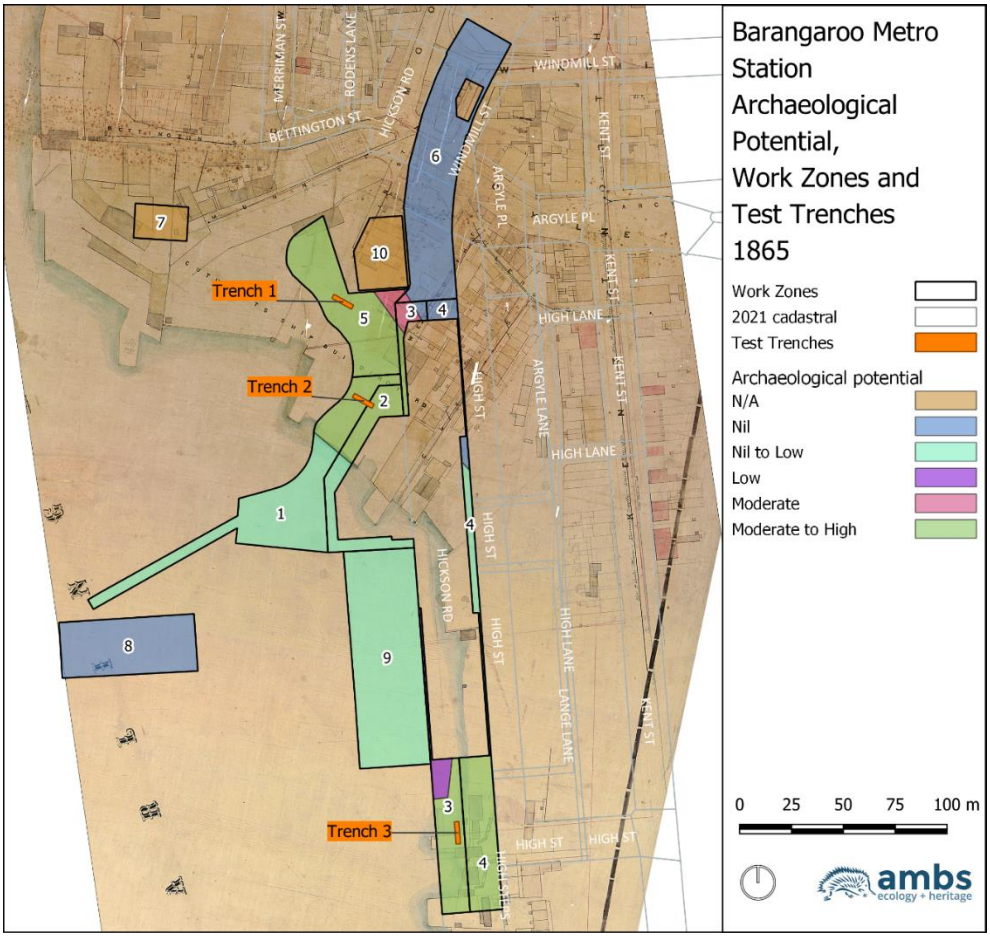

Figure 4.1: Proposed archaeological test trenches in areas of Moderate-High potential as recommended in the AMS.

Archaeological monitoring was recommended in areas of Moderate archaeological potential. Open area stratigraphic excavation would proceed if archaeology was encountered during monitoring.

Open area excavation was recommended where a significant archaeological resource with good integrity was exposed.

Sampling strategies were developed for the following features based on previous excavation results:

4.1.1 Wharfs and jetties

All wharf surfaces will be exposed and recorded. Activity areas will be identified where possible and any large scale working surfaces or yard deposits will be sample excavated and recorded. All significant features will be fully excavated and recorded. Artefacts from large scale wharf deposits, wharf fills or surfaces will be sampled to demonstrate the variety and type, favouring diagnostic and datable items. Not all artefacts will be collected from these contexts. Elevations of sea walls will be drawn in representative sections and in sections which demonstrate change, repair, modification or unusual use of methods or technology.

Positions of piles and remains of other timber fittings will be recorded and sampled where appropriate.

4.1.2 Early shorelines and areas of low water

Intertidal zones and areas of low water will be sample excavated by machine to investigate the possibility of buried early structures or degraded or abandoned vessels, evidence of rubbish accumulation and tidal deposition of artefacts and shipbuilding discard.

4.1.3 Buildings and sub-surface structures

All footings will be exposed and recorded and dateable materials (such as bricks and mortar) will be sampled. Interior occupation or working surface deposits will be hand excavated and artefacts will be 100% recovered. In the unlikely event that underfloor deposits are present within the structures, all underfloor areas will be excavated within a 500mm grid, using 50mm spits, and wet sieved. Cesspits and rubbish pits (if present) will be excavated along tip lines (if identifiable).

All excavation following testing or monitoring was conducted in accordance with the following methodology:

- Establish a site datum and lay out a grid as appropriate;
- Record significant features in detail and excavate manually under the supervision of the excavation director
- All significant archaeological deposits, features and relics that are exposed during the excavations will be recorded in accordance with heritage best practice standards.

  Recording will include:
  - Cleaning features to facilitate photographic recording;
  - Scale plans;
  - Elevations of features, if relevant;
  - Digital photographs (in JPG and RAW format); and
  - Photogrammetry
  - Site survey; and
  - Detailed description of the feature, deposit or relic to ensure that a clear and comprehensive record of the archaeological resource of the site is preserved for the future.
- Sequential numbering of features and deposits to facilitate preparation of a Harris Matrix and artefact labelling;
- Preparation and development of a Harris matrix, to show stratigraphic relationships between all recorded archaeological features and deposits;
- All information regarding the location, dimensions and characteristics of all recorded archaeological features and deposits will be recorded on pro-forma context sheets;
- Collection of all significant artefacts for analysis, except from non-significant unstratified fill. Samples of bricks and mortar will be collected from each structure, as relevant;

If present, soil samples will be taken from topsoils, cesspits and other relevant deposits for analysis by a palynologist. The results of the analysis should provide an insight into the indigenous and introduced flora of the locality and diet of the local community.

There were impacts in three areas of Moderate to High potential, which were excavated with a combination of test pits, monitoring and targeted open area excavation methods.

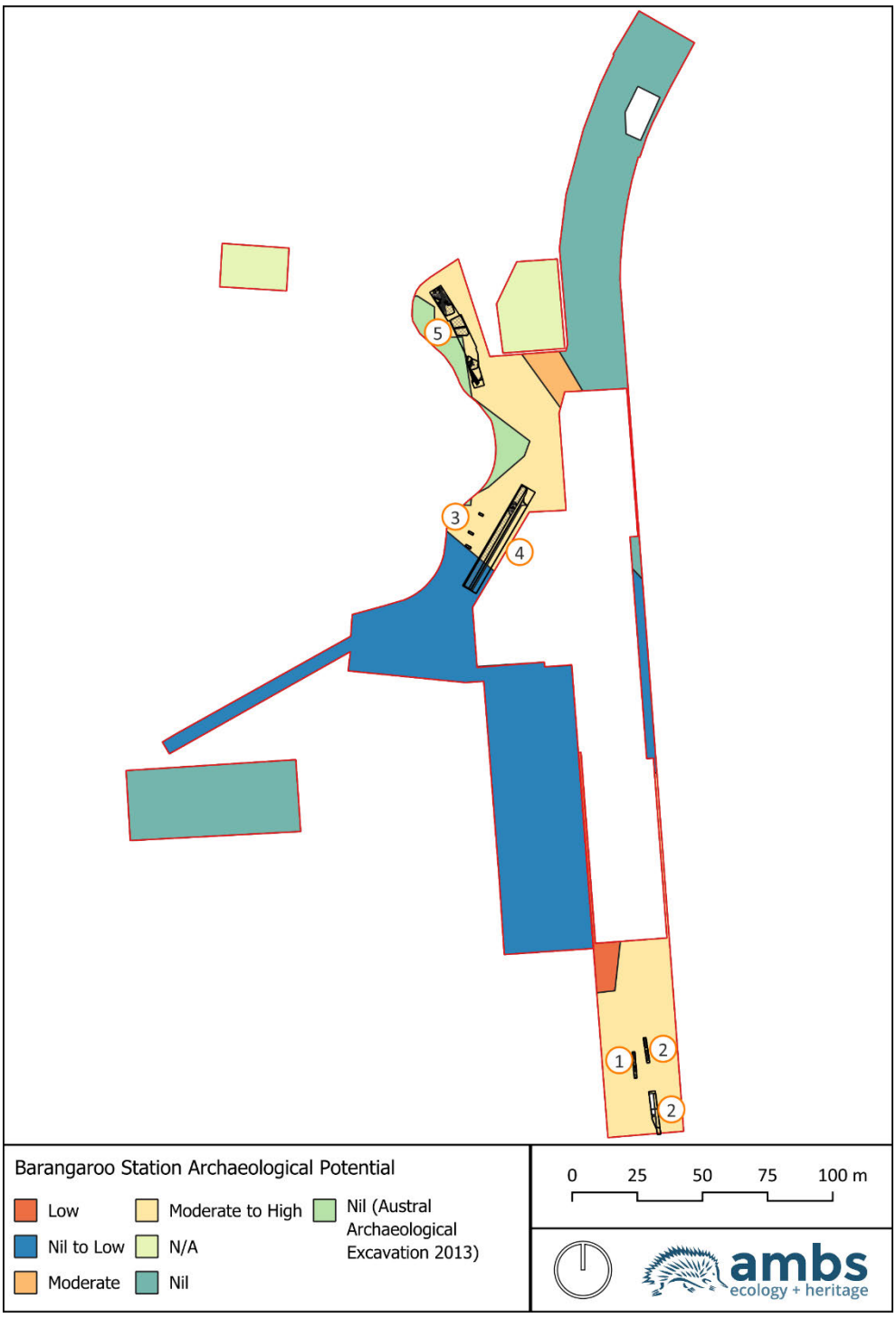

Figure 4.2: Trenches as excavated relative to assessed archaeological potential

4.2 Results

4.2.1 Overview

Works that had the potential to impact archaeology included trenching for condenser lines (running around the shore of Nawi Cove and into Barangaroo Headland), stormwater (between the station box and Nawi Cove), and power and water lines at Hickson Road South. There were five areas of archaeological investigation (Figure 4.3).

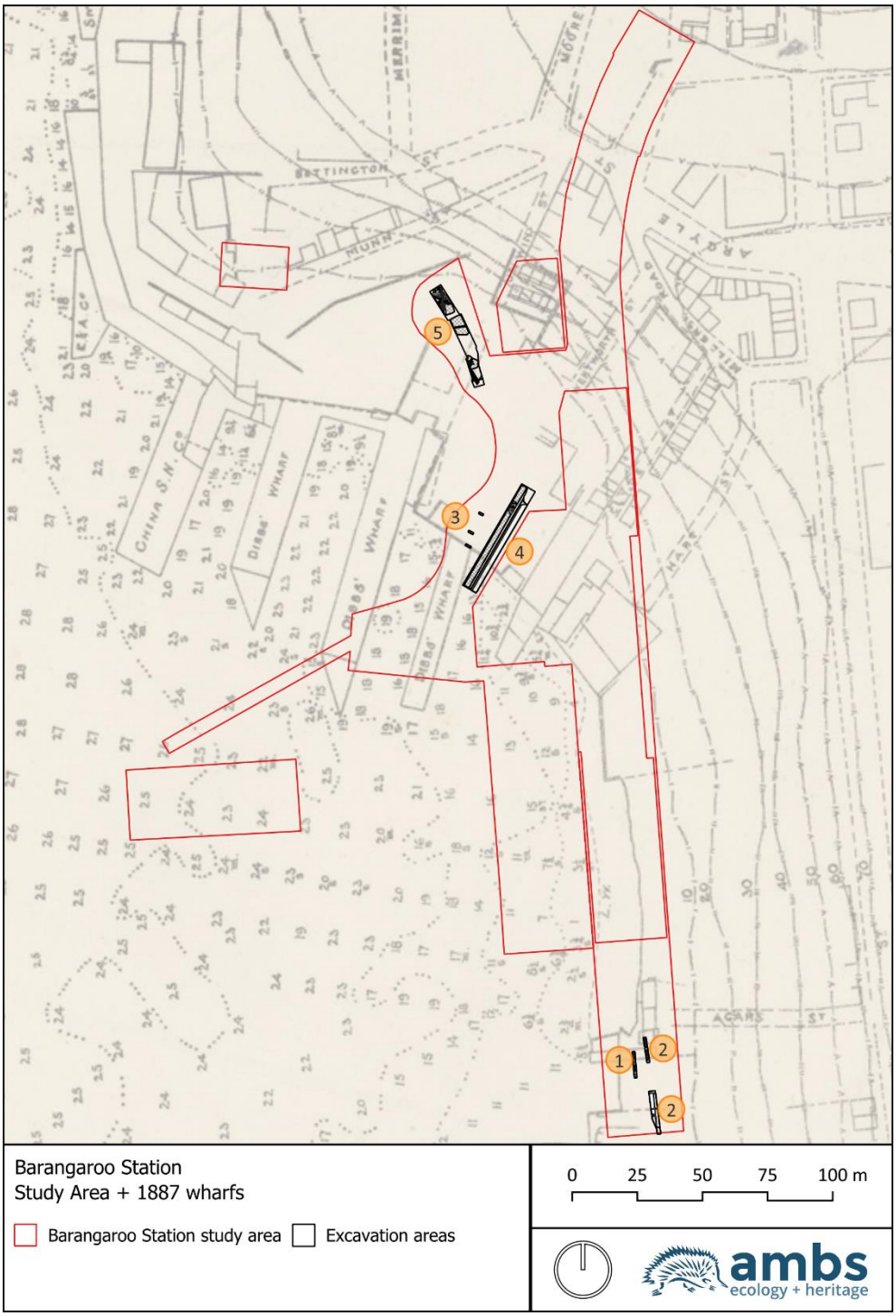

Figure 4.3: Areas of excavation relative to an 1887 plan of the site showing contours and soundings.

The five excavation areas were located in three areas of Moderate to High archaeological potential: Hickson Road South, Barangaroo Headland and Nawi Cove. At Hickson Road South, the patchy remains of Agar's wharf were encountered at the base of Trenches 1 and 2.1. These remains were not excavated as they were below the areas of impact. At Nawi Cove, considerable disturbance had occurred between the station box and the edge of the site, in excavation areas 3 and 4. Only one small patch of intact archaeology remained, which represented two phases of Cuthbert's wharf and its construction. This material was excavated archaeologically to the level of the base reclamation fills. At Barangaroo Headland, trenching for the condenser lines encountered intact archaeology including the remains of a seawall built on the outcropping sandstone and a remnant surface at the northern end of the excavation. This was the subject of targeted open area excavation. To the south, later surfaces had been lost and only the wharf infill in the form of large quantities of clay, sand and sandstone remained in most areas. Archaeological monitoring followed by targeted excavation was undertaken in these locations where appropriate. Services and landscaping had removed much of the upper archaeology, but the remains of the lower courses of a seawall associated with the Cuthberts 1863-1865 wharf, and several ships knees in various states of processing were recovered from the accumulated sands against the seawall.

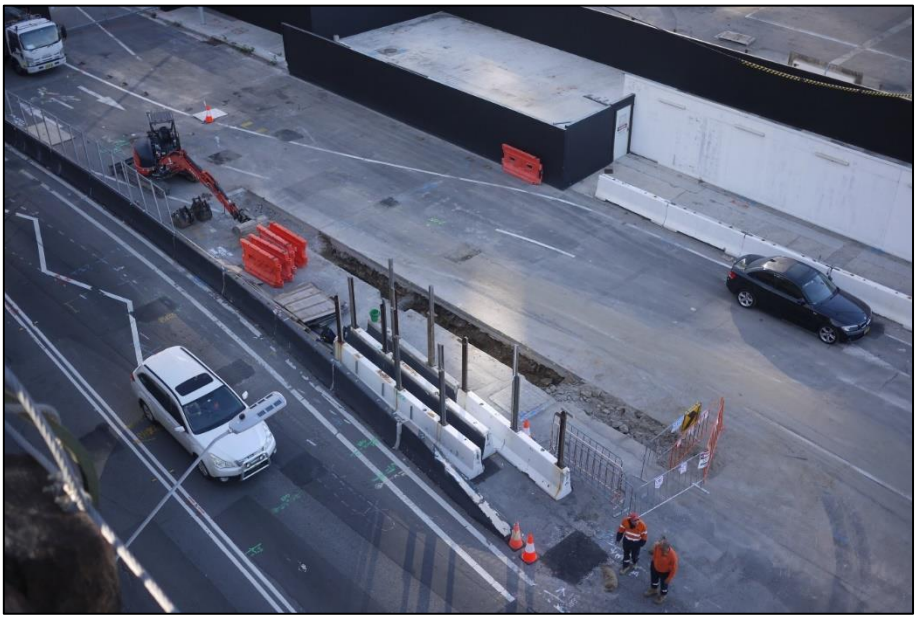

Figure 4.4: Trench 1 at Hickson Road South, taken from High Street above.

4.2.2 Hickson Road South - Trench 1 and Trenches 2.1 and 2.2

Impacts to the Hickson Road South area were a stormwater trench, running parallel to the High Street wall at a distance of 16.5m, and an electrical services trench at 9.3m from the High Street wall. Testing of the location of the stormwater trench was undertaken in December 2021 (Trench 1). Archaeological monitoring of the electrical services trench was undertaken in January 2022 (Trenches 2.1 and 2.2, Figure 4.5).

This part of the site was located in the approximate location of the 1830s-1860s wharf on Thomas Agars' grant. The AMS assessment of significance for Agars' wharf and this type of archaeology in general at the site included the following statements:

> *If evidence of Agar's pre-1833 wharf survives it would demonstrate early, small-scale wharf-building and reclamation and would be of local significance for its ability to demonstrate early adaptation and use of the shoreline;*

Evidence of seawall and wharf construction is likely to be representative of mid-nineteenth century reclamation and wharf building in Darling Harbour and would be significant at a local level;
The physical and perceptual experience of the original landform has been so disrupted by the construction of Hickson Road and the apron wharfs that it is no longer detectable in the streetscapes and contours of the existing landscape. The archaeological resource at the site has the potential to provide evidence of that original landscape and the material narrative of its development and change that cannot be provided by any other resource.

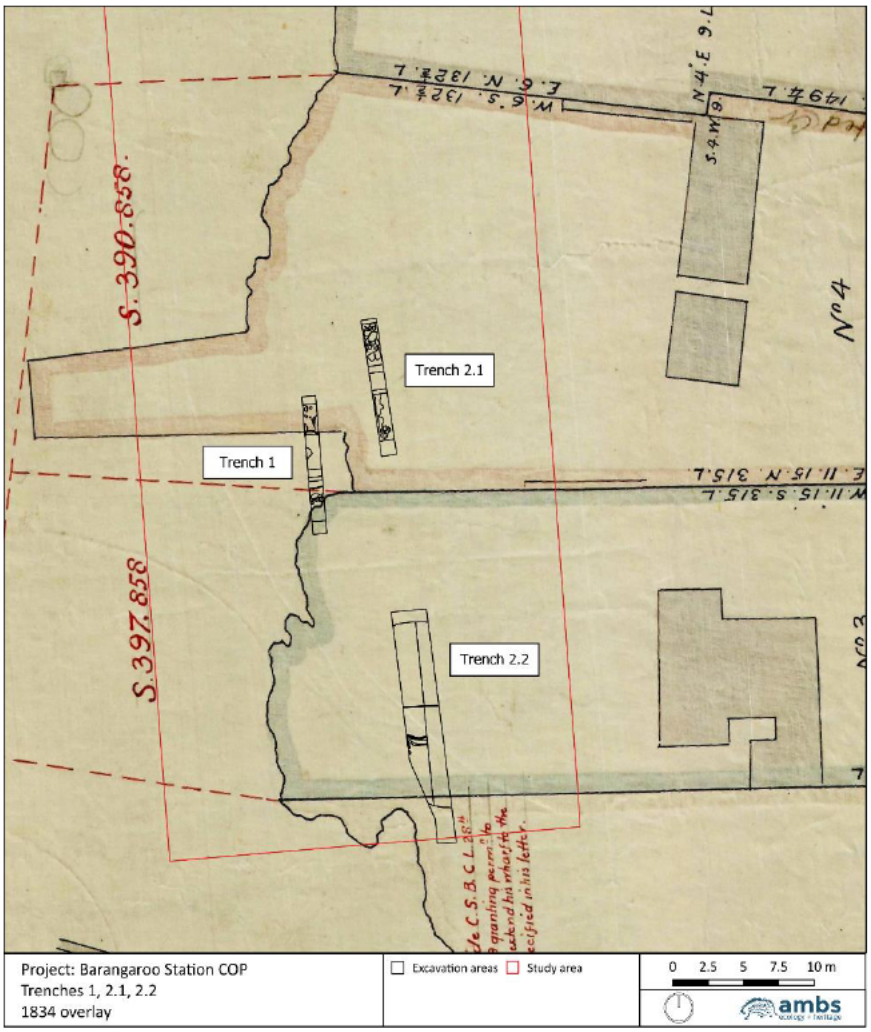

Figure 4.5: The three trenches at Hickson Road South relative to the 1834 survey.

Trench 1

Trench 1 was 11m long, 1m wide and 1.2m deep. The testing found that a wharf surface and some structural sandstone remained intact at between RL 1.29m and RL 1.43m. The surface and the structural elements appeared to represent two phases of the wharf which corresponded to the changes that were recorded by historical surveys between 1833 and 1865. In total there were four phases represented archaeologically in Trench 1 (Table 4.1).

Table 4.1: Phasing in Trench 1.

Phase	Period	Events represented	Contexts
1	1788-1833	Construction of the infilled wharf	008, 009
2	1833-1865	Extension of the infilled wharf, development of the wharf surface	005,006,007, 010
3	1865-1900	Reclamation and raising of ground level	003, 004
4	1900-present	Construction and use of Hickson Road	001, 002

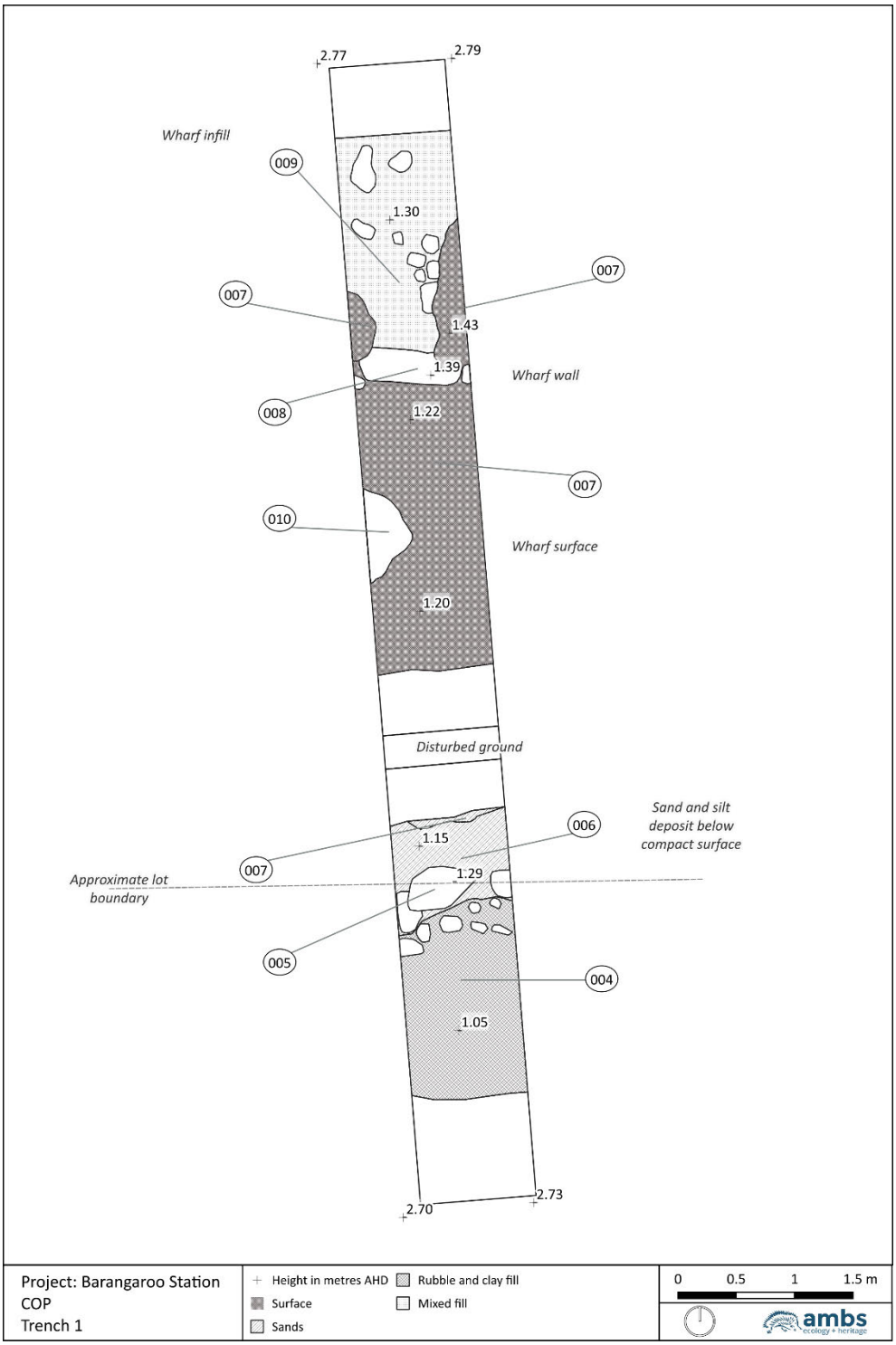

Figure 4.6: Plan of Trench 1.

Phase 1: 1788-1833

Phase 1 was represented by two contexts (008 and 009) which dated to the construction of the elongated infilled wharf that projected from Agars' grant. A row of sandstone blocks (only one of which was fully exposed) is thought to have been the top of the sandstone block seawall which would have retained the infill on the southern side. The top face of the block was 810mm long and 295mm wide, had a weathered surface and had been roughly cut and shaped. It was oriented east-west.

Figure 4.7: View to the east showing the top of sandstone structure 008 and surface 007 covering the extension (right of 008) and the original wharf (left of 008).

Context 009 was a fill of very compact, yellow brown clayey sand and sandstone rubble. It abutted the sandstone block on the northern side and had been built up against it after it had been laid. Surface 007 had built up on the top of the infill. The dark organic and mineral content of the surface had stained the top of the fill.

Phase 2: 1833-1865

During this phase the historical surveys indicate that the wharf was extended to the south, and that a timber structure had been built in the location of the extension by 1865. The extension of the wharf and the use of both the original and new spaces was represented by the rubble retaining structure 005, the infill behind it, and the development of surface 007.

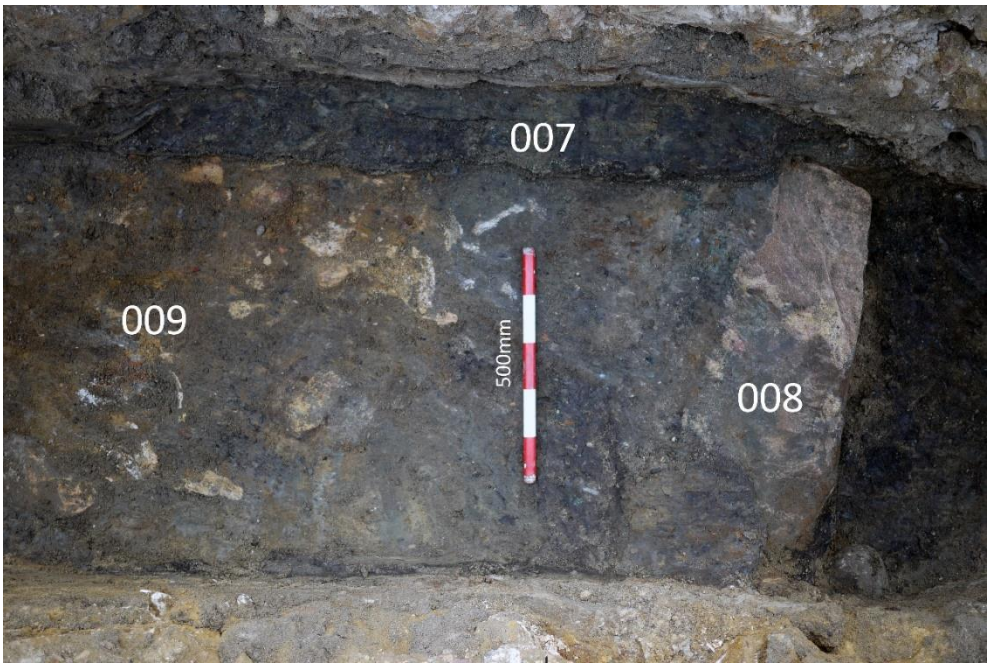

Figure 4.8: Contexts 008, 009 and 007 with north at the left of the image.

Figure 4.9: Trench 1 (left) and Trench 2.1 (right) overlain with traces of the 1834 and 1855 plans of the site showing how the features line up with the historical layout of the foreshore.

Context 005 was a sloping arrangement of rubble, angled down towards the south, which retained the fill 010 behind it. Alignment of the archaeological plan with the historical surveys indicates that the rubble retainer 005 was close to, or on, the boundary line between Agars' and Forster's grants (Figure 4.9). The rubble was poorly arranged, with no bonding and had probably lost pieces where there were significant gaps. The largest 'block' was 470mm long and 340mm wide (Figure 4.10).

Context 010 was similar to 009 but was paler and sandier and contained overall less crushed sandstone and clay. It was visible across the extension beneath 006 and 007. Context 006

appeared to be a proto-surface consisting of fine-particled silts, sands and charcoal, and was dark grey to black in colour. It is likely to be the beginnings of surface development on the sandy clay fill and as such retains some qualities of both 010 and 007.

Context 007 represented a very well-developed surface that showed evidence of contemporary development on both the original wharf and the extension (Figure 4.11) It was very compact and was up to 60mm thick above the original infill 009 and on top of the sandstone 008. Above the extension fill 010 it was around 30mm thick, suggesting that the extension was made roughly halfway through the life of the wharf. It consisted of a very compact mix of timber splinters, black organic material, silty particles, charcoal and fine-grained grey sands.

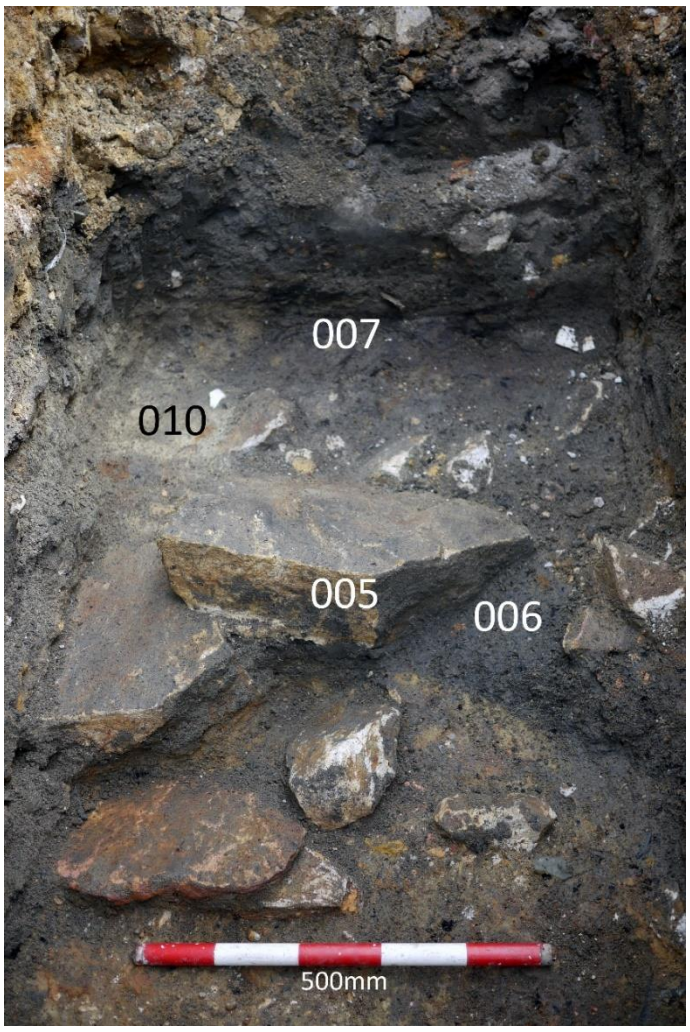

Figure 4.10: View to the north showing the rubble barrier 005.

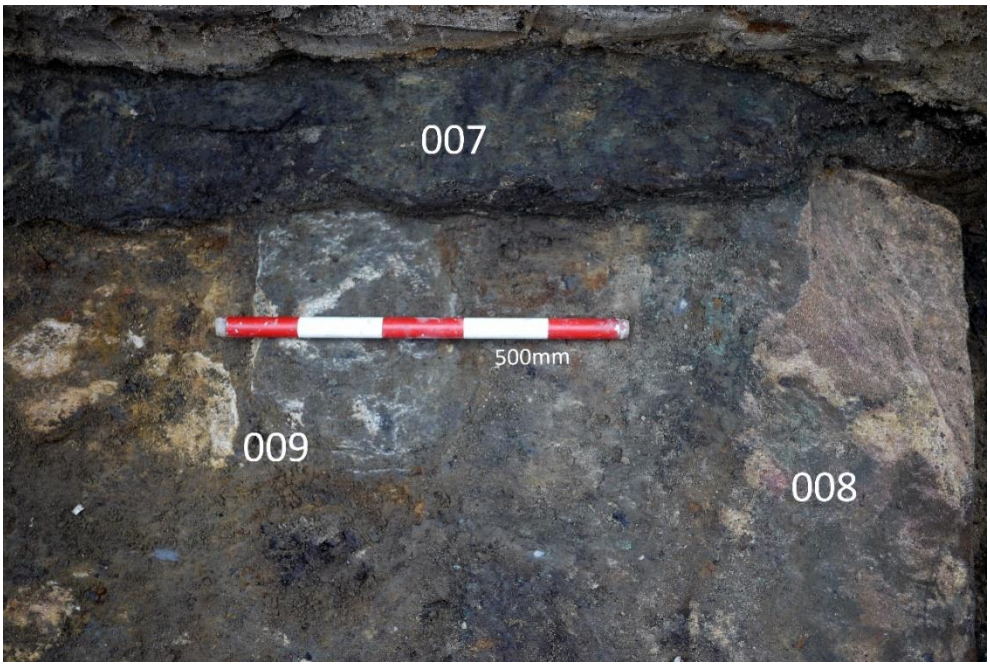

Figure 4.11: Detail showing surface 007 above the infill 009.

Phase 3: 1865-1900

During this phase the wharfage was expanded dramatically. It reached further out into the bay and created large apron-style wharfs, changing the character of this part of the site from an ad-hoc collection of small, infilled projections and boatsheds to a more formalised and uniform space, similar to those further north along the headland. This phase was represented by two more infill events, one which reclaimed the water on Forster's side of the boundary and one which raised the ground level. Context 004 was typical of the base infills elsewhere in the trench and consisted of a compact mix of crushed sandstone, sand and sandy clay. It occurred only on the southern side of rubble retainer 005.

Context 003 was a ground-raising fill that was spread in a very large quantity across the whole of the trench. It was on both sides of the property boundary, was up to 740mm thick and completely covered the earlier structures and surfaces. No surface had developed between context 004 and 003 suggesting that they were laid down within a short period of each other, or were contemporary. Context 003 contained a large number of glass and ceramic artefacts dating to the late nineteenth century. They included whole bottles and large fragments typical of bulk dumping events. It consisted of layers of sandy clay with visible tip lines in section and was grey-brown in colour (Figure 4.12).

Figure 4.12: The top of context 003 beneath Hickson Road construction fills. View to the west.

Phase 4: 1900-present

Phase 4 was represented by two contexts. Context 002 was a 520mm-thick layer of sandstone rubble used to build up and prepare the Hickson Road surface. It was laid directly on the top of context 003 and was capped with a 500mm-thick layer of concrete with metal aggregate.

Trench 2.1

Trench 2.1 was located 9.3m from the High Street wall, and 6m east of Trench 1. It was monitored in three sections. The proximity to the High Street wall and the cutting down of the landform to create Hickson Road meant that all but the barest evidence of the original surfaces were lost. Archaeology in this trench was found to have survived poorly through a combination of factors. The short distance of 6m between Trenches 1 and 2 was an area where the landform originally rose dramatically to the east. Beneath the road construction fills, only base reclamation fills survived. Phases represented in trench 2.1 were nominally the same as those in Trench 1, but the evidence was limited in both integrity and significance.

Table 4.2: Phasing in Trench 2.1

Phase	Period	Events represented	Contexts
1	1788-1833	Construction of the infilled wharf	009, 012
2	1833-1865	Extension of the infilled wharf, development of the wharf surface	007, 011
3	1865-1900	Reclamation and raising of ground level	003
4	1900-present	Construction and use of Hickson Road	001, 002

Phase 1: 1788-1833

An early wharf-building fill (012) in the form of fractured sandstone and rubble was exposed in the north of the trench at RL 1.35m (Figure 4.13). This type of fill is typically utilised in the intertidal zone as a base fill for reclamation and wharf-building because of its robust and unerodable nature. Its presence here (at almost 1m above high water) may be more indicative of the ready availability of sandstone on the steep and rocky shoreline. The large rubble was packed with crushed sandstone and sandstone fragments, producing a compact and well-stabilised fill. Context 012 was capped with context 009, which was a fill of very compact, yellow brown clayey

sand and sandstone rubble which was also encountered in Trench 1, and here was up to 200mm thick.

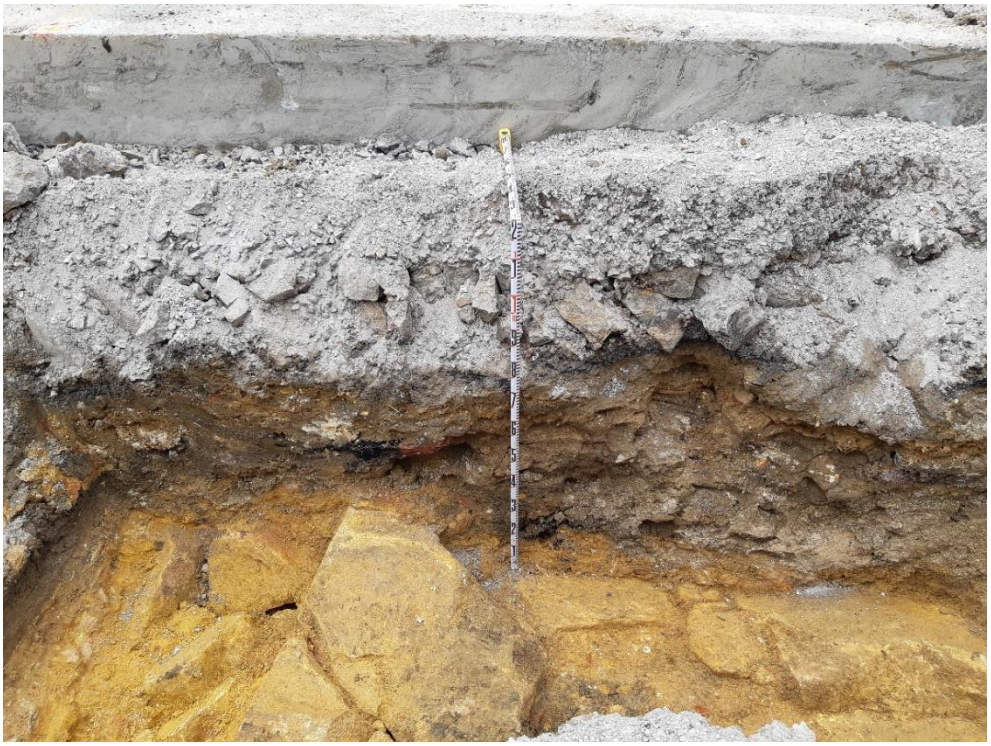

Figure 4.13: Sandstone rubble used as base reclamation fill (012) shown immediately beneath the clay construction fills for the road. All significant archaeology was removed from this area.

Phase 2: 1833-1865

Surface 007 was only present in a small patch measuring 900mm x 250mm (Figure 4.14). In Trench 2.1 it was barely a skin of material on top of context 009, and had none of the signs of development and consolidation over time that were present in Trench 1. The top of context 007 was at RL 1.81m, around 400mm higher than the same context in Trench 1. It was only located in the south of the trench. In association with context 007 was a cluster of sandstone rubble (context 011) that appeared to be contemporary with the remnant wharf surface rather than the infill below. This arrangement of stone was in line with wall 008 in T1, and may represent the demolished remains of that structure. It was around 500mm higher (RL 1.87m) than the remains of 008 in Trench 1. The largest stone 320mm x 235mm and the smallest 100mm x 80mm. The overall measurements of the arrangement were 795mm x 740mm. On the whole, the remains of this feature were too limited to be able to identify meaningfully because of the small area and damage that had occurred by subsequent events at this level.

Figure 4.14: Feature 011, remnant surface 007 and bulk fill 009 in Trench 2.1. View to the south. Scale 500mm.

Figure 4.15: Detail of remnant surface 007. Numbers on the scale are in 100mm increments.

Phase 3: 1865-1900

Phase 3 was only represented by the very patchy remains of context 003. All other evidence of this phase had been removed from Trench 2.1 by the construction of Hickson Road. The truncation of these upper fills, and the wharf surfaces and features to the east of Trench 1 demonstrates the sloping of the wharf surface. Almost all evidence has been lost from this location because it was on higher ground before the cutting of Hickson Road. The sandy fill 003 was spread in shallow patches along the length of the trench to a thickness of 50mm-60mm.

Phase 4: 1900-present

Phase 4 was represented by two contexts. Context 017 was a 700mm-thick layer of clay and sandstone used to build up and prepare the Hickson Road surface. It was laid directly on the top of the truncated remains of contexts 003, 009 and 007 and was capped with a 520mm-thick layer of road base including metalling and broken bluestone setts (Figure 4.13).

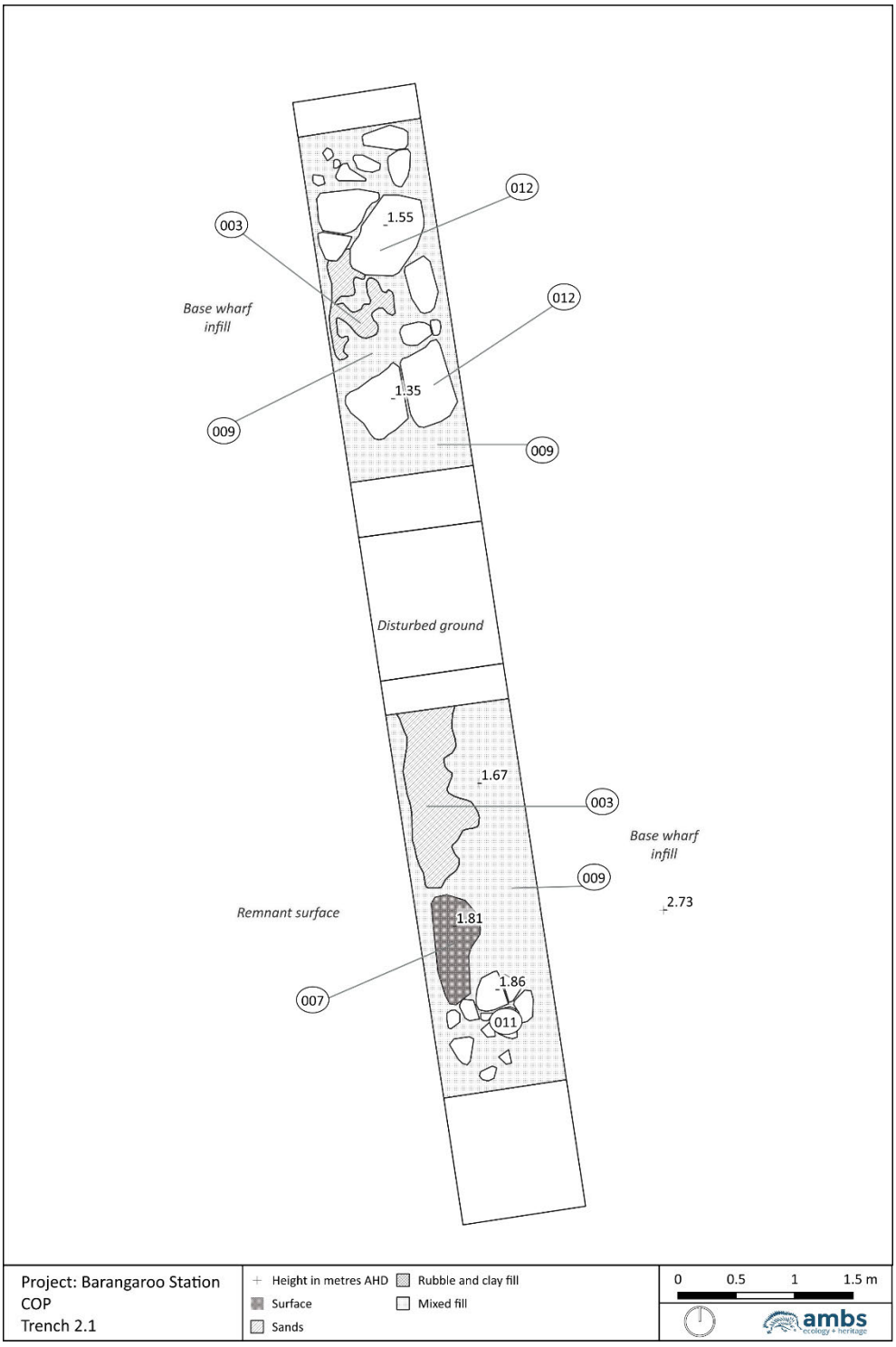

Figure 4.16: Plan of Trench 2.1.

Trench 2.2

Trench 2.2 was 14m long and 2.5m wide and was 11m south of Trench 2.1. A large and deep service was located along the eastern side of the trench. It was 1.2m wide and had removed all archaeology from that side of the excavation. In the west of the trench, cut down sandstone bedrock was encountered at RL 1.84m, directly below the road construction fills. Only a small pocket measuring 3m x 2m in the south of the trench where the bedrock sloped down to the south showed a sequence of events prior to the construction of Hickson Road.

In the gap between outcropping sections of bedrock, a bulk clay and sandstone fill (context 016) was over 750mm deep. This fill was unable to be phased as it was almost completely decontextualised. It was capped with a thin (20mm-30mm thick), truncated layer of industrial waste (context 015).

The industrial waste fill had been truncated by the construction of Hickson Road. A roadbase of metalling including broken bluestone setts capped the industrial waste fill. The roadbase was 350mm thick and supported a 250mm thick concrete slab. The bluestone setts are likely to have been part of the previous surface, destroyed by the construction of the road and reused in the roadbase.

No interpretable archaeological remains were present in Trench 2.2.

Figure 4.17: Cut-down sandstone bedrock as found immediately beneath the road construction fills in Trench 2.2. View to the north. Scale 1m.

Figure 4.18: Looking north along Trench 2.2 showing the deep service trench on the right and the small dark brown patch of clay fill (016) in the foreground.

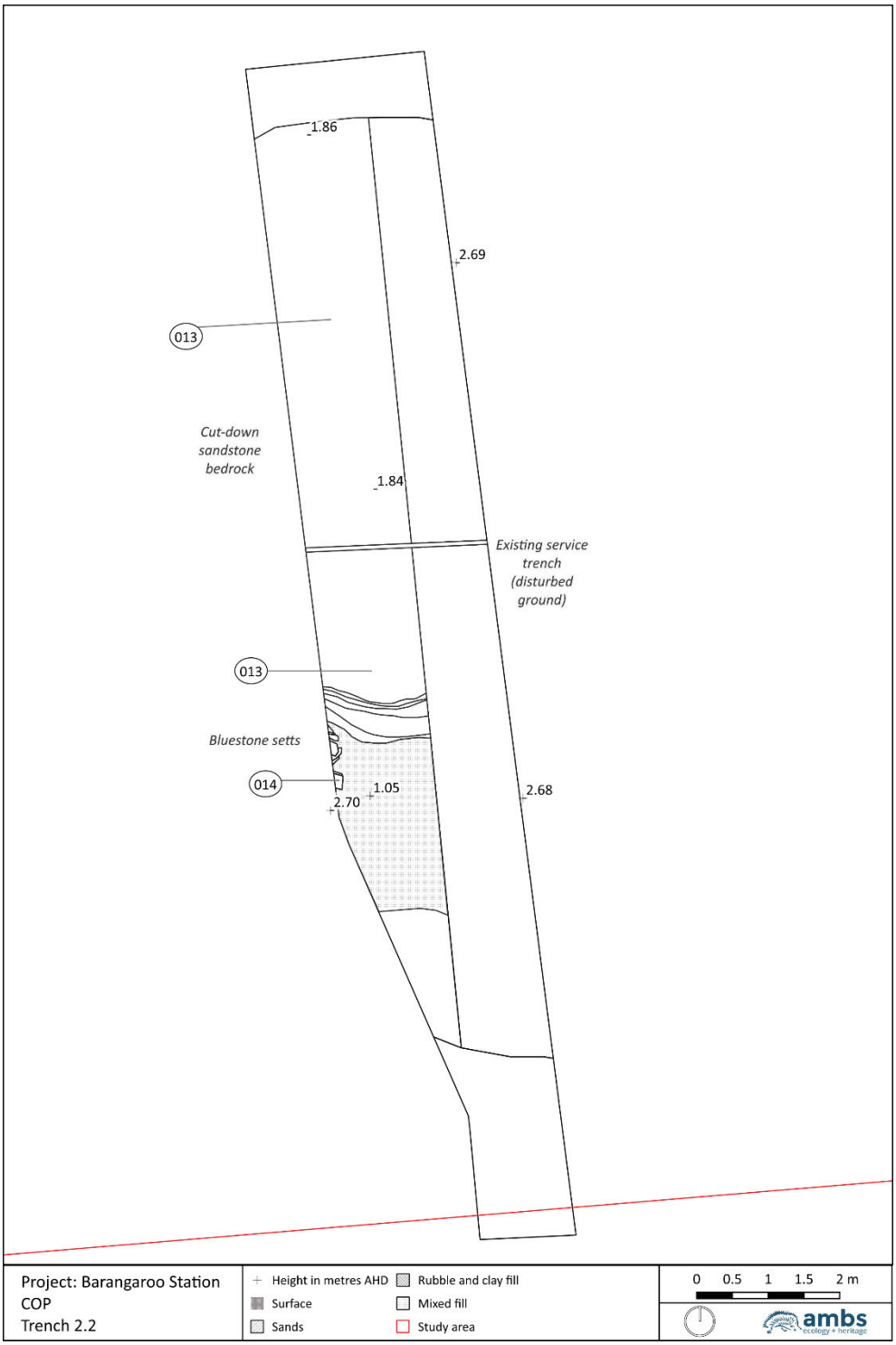

Figure 4.19: Trench 2.2 showing cut down areas of sandstone bedrock.

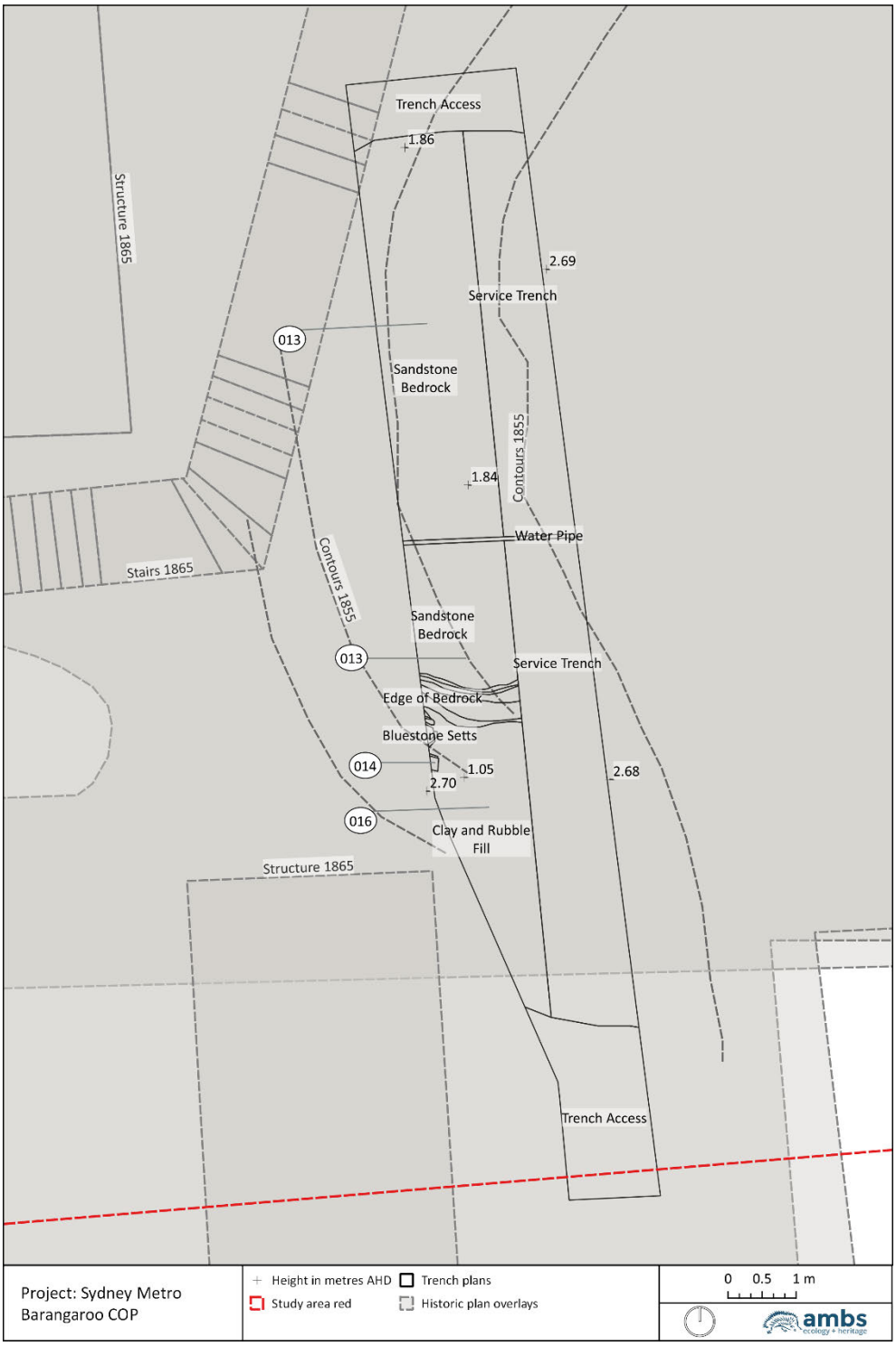

Figure 4.20: plan of Trench 2.2 overlain with traces of the 1834 and 1855 plans of the site.

4.2.3 Nawi Cove - Trench 4, Test Pits 3.1, 3.2 and 3.3

Impacts along the eastern shore of Nawi Cove included a new stormwater trench and trenching for the condenser lines. The stormwater trench followed the line of the station box, cutting a northeast-southwest line along the outside edge of the pile wall. The condenser lines curved around the eastern shore of Nawi Cove, following the semicircular construction of the inlet.

Two areas of archaeological investigation were within this part of the site – Areas 3 and 4. In area 3, three test pits were excavated along the line of the condenser trench close to the eastern edge

of Nawi Cove. No archaeological remains were encountered and evidence of late twentieth century disturbance was present at depth in all three test pits.

In Trench 4 a small island of archaeology including wharf surfaces, wharf establishment fills, and subsequent levelling was encountered in the centre-north of the stormwater trench. However, this patch of intact archaeology was isolated, and no other evidence of nineteenth-century activity was found. The excavation of Trench 4 demonstrated that there had been disturbance in this area on a large scale. Modern fills in very large volumes were present at levels exceeding the depth of the trench, and so the work proceeded to the south with only archaeological monitoring in place.

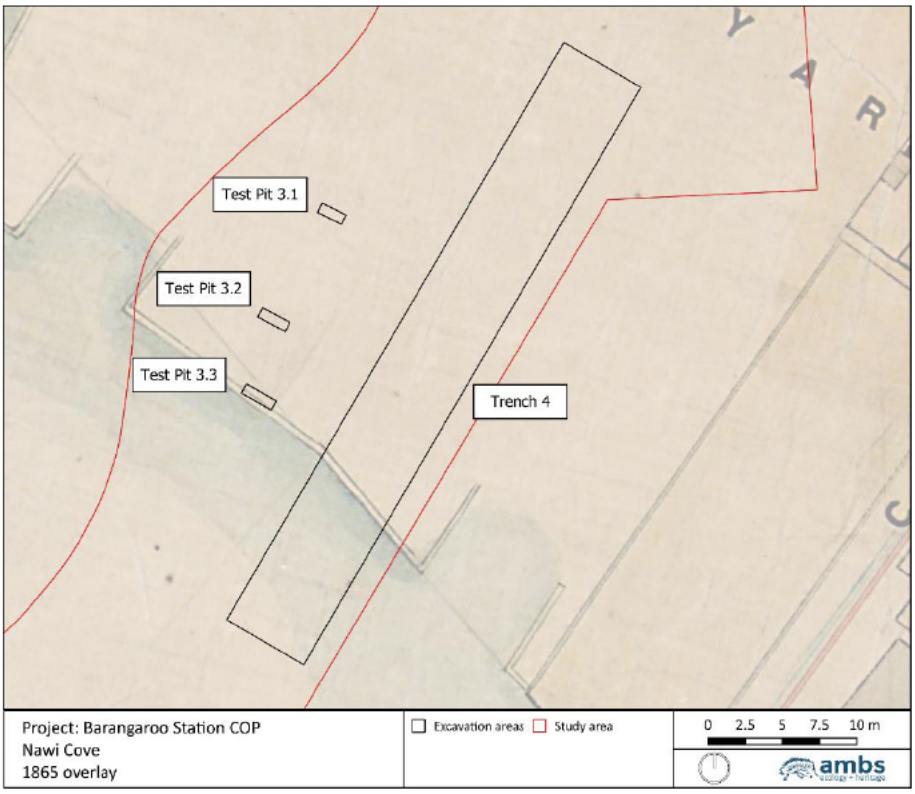

Figure 4.21: Excavation in the Nawi Cove area relative to the 1865 Trigonometrical survey.

Trench 4

Trench 4 was approximately 44m long and 5m wide. The trench was excavated along the western pile wall of the station box. The top 1m of the excavated ground had been heavily reworked during the relocation of services around the station box. The redeposited material consisted of sand and sandstone rubble fill. In the eastern half of the trench, disturbance from service trenches continued to below the levels of historical low water, and no archaeological evidence remained in this part of the trench. A surviving patch of nineteenth-century wharf surface and other associated contexts was located 7m from the northern end of the trench. The surviving island of archaeology measured 4m x 2m in plan. Despite the very limited remains, there were four phases of archaeology represented in Trench 4:

Table 4.3: Phases represented in Trench 4.

Phase	Period	Events represented	Contexts
1	1850s-1860s	Construction of the infilled wharf	110, 111, 112
2	1860s-1870s	Use and development of the wharf surface	109, 108, 107
3	1880s-1890s	Redevelopment and raising of wharf level	101, 102, 103
4	Twentieth century	Construction and use of Hickson Road	100, 104, 105

Phase 1: 1850s-1860s

The earliest fill (112) consisted largely of sandstone rubble and was typical of the robust, permeable fills used to establish reclamation and wharf infill. The top of the rubble was at RL 0.332m (which would have been within the intertidal zone at the time of reclamation). It was capped with a fill of loosely consolidated, coarse industrial waste that was equally resistant to erosion and suitable as a reclamation fill at depths below high water. The top of the industrial waste fill (111) was at RL 0.667, bringing the infill above the waterline where more erodible fills could be used. Up to 250mm of yellow-brown clays (110) capped the industrial waste. None of these fills contained artefacts.

Figure 4.22: The earliest fill consisted of sandstone rubble. Scale 500mm. View to the southwest.

Figure 4.23: The sandstone rubble was capped with a fill of loose, coarse industrial waste. Scale 500mm. view to the southwest.

Phase 2: 1860s-1870s

A compact surface of fine-grained industrial waste, black fine-grained sand and silts (context 109) had developed on the clay fill. It was up to 40mm thick and was sparsely littered with fragments of ceramic and glass that were largely of a domestic nature.

The height of this surface, although marginally above a spring tide (at RL 0.917), was nevertheless quite low for a wharf. It is possible that the fills below subsided, and that this height was not its original level. However, the accumulation is likely to be an early surface at Cuthbert's shipyard, and it is not completely out of step with a surface used for shipbuilding and repair, where dragging vessels onto and off low ground would be an advantage.

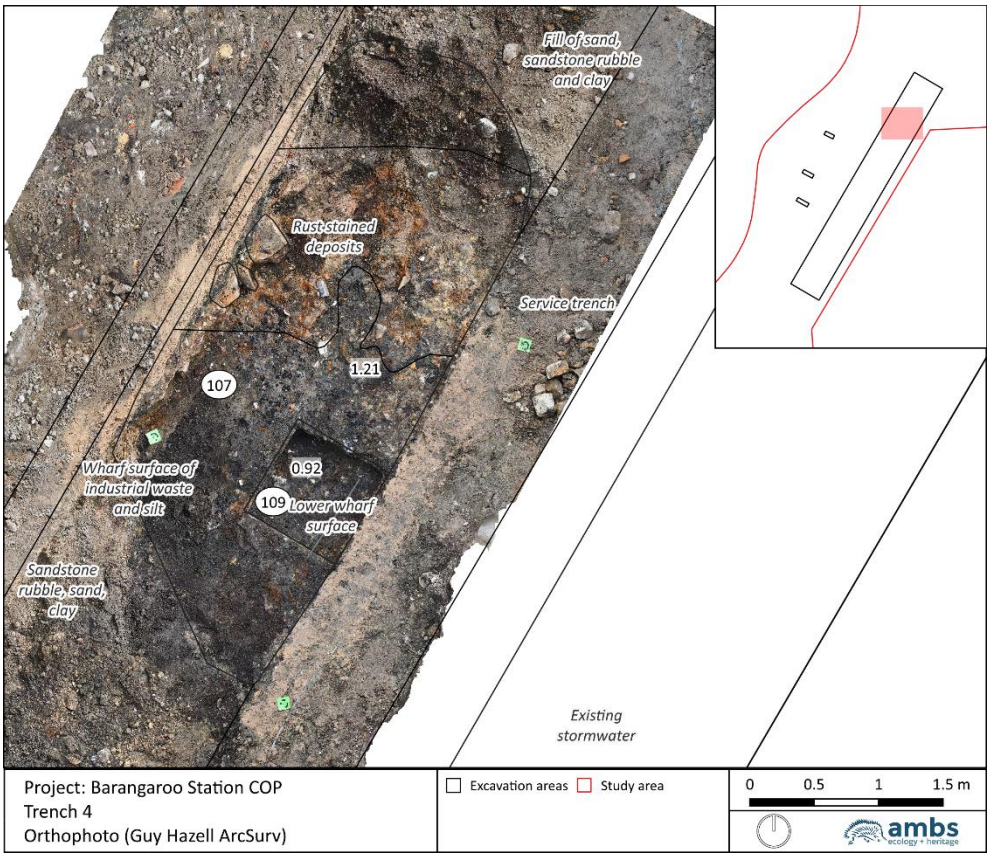

Figure 4.24: Wharf surface exposed in Trench 4. The remainder of the trench contained no intact archaeological material.

Cuthbert's wharf was constructed in two stages. The first stage had been completed by 1863, when Cuthbert was granted the reclaimed land that formed the wharf (NSW LRS, 1863), and the remains within the stormwater trench fall within this portion. The date ranges of the artefacts that were embedded in the surface are consistent with the surface being used in the 1860s-1870s. Three of the artefacts (an earthenware teacup, a saucer, and a plate) are known to have been manufactured after c.1860. These were all decorated in a bright blue transfer print that is typically not seen until after that date.

Most of the ceramic and glass artefacts that were recovered from context 109 were associated with the consumption or storage of food and drink. Of the eight identifiable bones, five were sheep, two were chicken, and one was a from a cow. Three of the bones exhibit butchery marks, and most of the identified bones are from parts of the animal commonly eaten, including ribs and limbs. The artefacts are typical of domestic refuse, which is unexpected at a shipyard. It is therefore likely that while at least some of the bone and artefact material recovered from surface 109 may be refuse from workers' meals, it is more likely that the material arrived at the site by alternate means. The most likely explanation is that it was opportunistically dumped by the residents of nearby houses at Wentworth, Unwin, Clyde and Munn Streets. Additionally, the steep topography of the area saw residential houses on these streets situated on much higher ground than the wharf. This would have been particularly conducive to domestic material washing down toward the waterfront.

Figure 4.25: The lower (109) and upper (107) wharf surfaces separated by 200mm of fill. This image shows their similarities in composition, inclusions, and artefacts. Scale 500mm.

Perhaps as early as 1865, the wharf surface was raised by around 200mm. Industrial waste, clay and fragmented sandstone (context 108) were used to raise the surface, where a compact mix of silt, industrial waste and sand had formed a crust at RL 1.21m. The surface was frequently embedded with fragments of ceramic, glass and bone of a domestic nature, suggesting that the same processes and events were in play across the development of the two surfaces. Within the 4m x 2m patch of upper wharf surface that remained, there were 43 animal bones, 15 shells, and 91 other artefacts including 36 ceramic and 25 glass items. All of the shells were from two commonly eaten species: Sydney Rock Oyster and Sydney Cockle, and all were of a size suitable for eating.

Some of the uniquely domestic items recovered from surface 107 include two stemware glasses, a milk glass vase, a bone china egg cup and two wash basins. Eight teacups, four saucers, one Chinese porcelain coffee can, and a Rockingham glazed teapot were also able to be identified. Several items stand out as being too large to have washed down to the wharf surface via a drain or storm event. A blue transfer print wash basin was 50% complete and three plates were each 30% complete. These were probably dumped directly on the wharf.

Figure 4.26: The surviving patch of upper wharf surface in the stormwater trench. View to the northeast. Scale 500mm.

Figure 4.27: Detail showing artefacts embedded in the upper wharf surface in the stormwater trench. Scale 500mm.

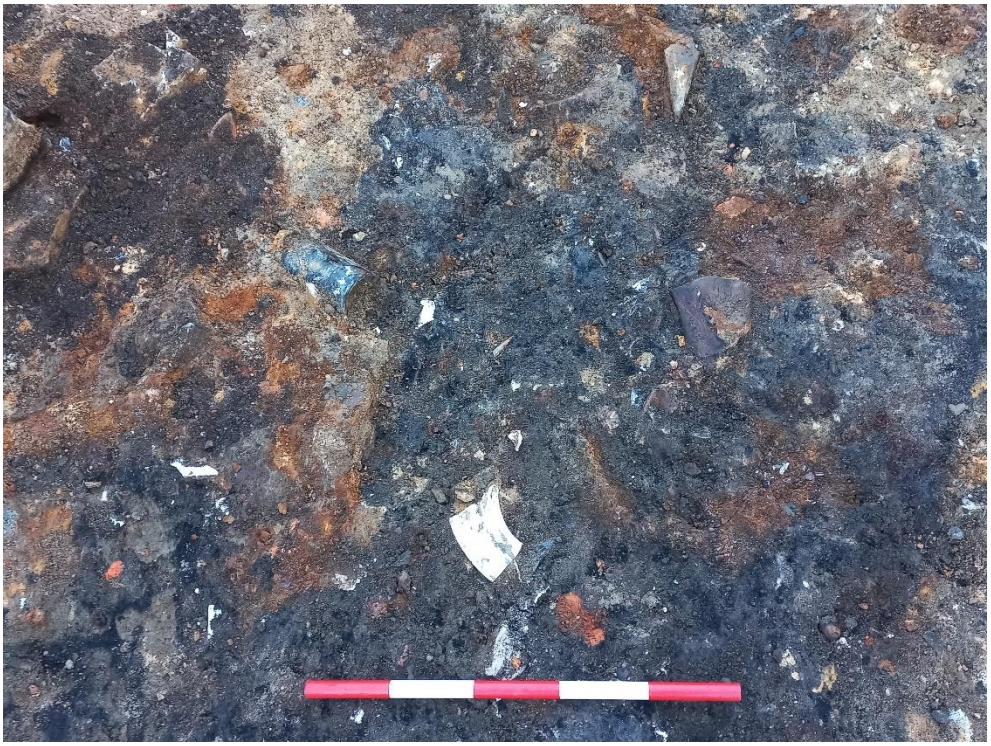

Figure 4.28: Compact surface 107 showing the variety of artefacts embedded in the accumulation. Scale 500mm.

Figure 4.29: Stemware glasses (left) and pipe marked 'Saywell' (right), both recovered from context 107. Photos: S. Kuiters. Scale 100mm.

The dominance of domestic artefacts speaks to a weak demarcation of the boundary between the residential lots and the wharfs, and a sense that any unenclosed ground was fair game for the dumping of rubbish. The fact that the wharf was reclaimed land seems to have exacerbated the problem. Cuthbert faced resistance to the use of what was seen as public space from the outset of his wharf-building. In July 1863 an article was published in the Empire newspaper detailing correspondence between the Municipal Council and the Department of Lands within which Cuthbert was applying to expand his shipyards at Miller's Point. Permission was denied by the council due to the fact that it would impact the local residents or 'right of way' within the area for those residents of 'Miller's road through Unwin, Wentworth, and Clyde Streets, to the waters of the harbour' ('Municipal Council: Water Frontage to Darling Harbour,' 28 July 1863, p. 8). The Department of Lands replied to the council asking for proof that this 'right of way' was an existing right to those citizens of the harbour, but the correspondence ended without conclusion, and Cuthbert's wharf continued to expand. However, the article indicates that the wharf was not entirely seen as private property, and transgressive use was probably common.

Poor drainage in the streets of Millers Point, combined with the steep topography may have also played a part in the deposition of domestic waste on the wharf surfaces. Claims were made in the newspapers that silt and refuse which ended up in the harbour after rain events contributed notably to the recession of the water and expansion of the shoreline. This deposition was largely attributed to neglect by those on waterfront properties who permitted the rains to wash away their refuse into the harbour. Yet it was also suggested that the disposal of this material may have been done intentionally by some waterside residents who whished to expand their frontage by the 'cheapest and readiest means of doing so' (30 July 1866, p. 4). The issue was clearly complex, particularly when it came to the attribution of blame and motivation, but the pollution of the waterfront was not in dispute. Cuthbert himself joined voices of protest, when the attempt to construct sewers through his property only led to greater pollution and build-up of rubbish at his wharf. In May 1874 he sent a letter to the Municipal council of Sydney asking for them to reconsider running sewerage through his property (from Unwin and Wentworth streets). While he had previously granted permission it was now an apparent inconvenience; described as an expense, and an issue which is affecting the harbours at the 'foot of' his wharf which requires him to dredge it and causing 'at times a stench almost unbearable by the employees on the property' (Cuthbert, 14 May 1874). It is unclear whether this sewerage directed through Cuthberts property at the time of this letter was via a permanent line or a more temporary (possibly open) method. Regardless, Cuthbert asked the council, with their intended installation of a permanent sewer, to do so at Clyde Street thereby avoiding his property (Cuthbert, 14 May 1874).

Although there is no direct evidence of the dumping of domestic waste on Cuthbert's wharf, the correspondence indicates that the silted up waterfronts were awash with rubbish, and given that even Cuthbert's raised wharf surface was still within two feet of high water, it is perhaps not surprising that there is so much evidence of domestic waste on the wharf.

An 1860s photograph of Cuthbert's wharf shows the proximity of the yards of the houses on the lower part of Clyde Street to the wharf, and supports the idea that the dumping of rubbish on the lower ground would have been all to convenient (Figure 4.30).

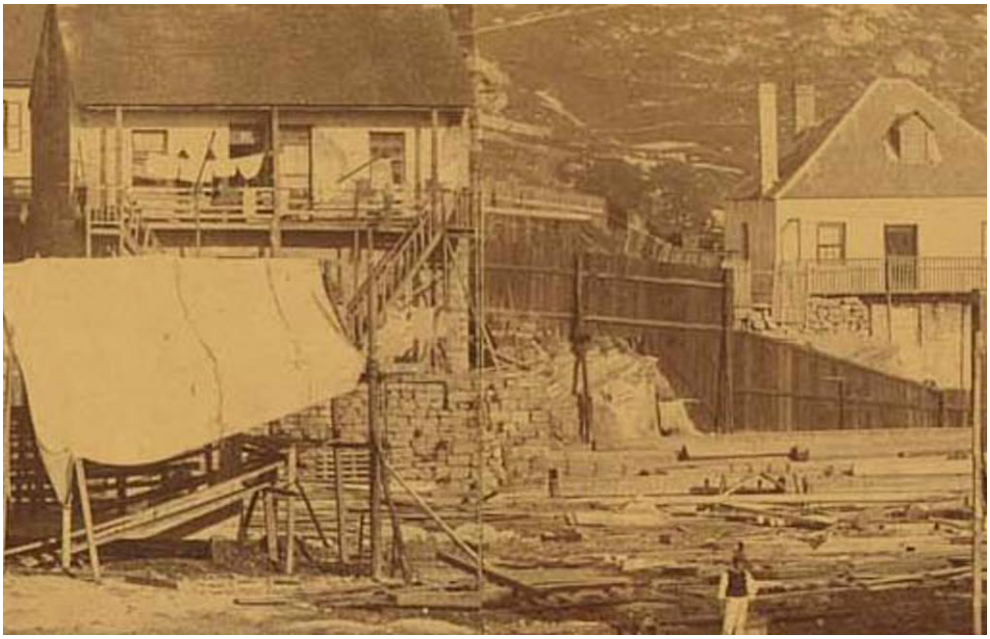

Figure 4.30: Detail of an 1860s photograph showing the rear of a house on Clyde Street relative to the wharf surface (*Cuthbert's Ship Building Yard - Sydney, New South Wales - photographed by Freeman Brothers*, Australian National Maritime Museum).

Phases 4 and 5: 1880s-present

The low wharfs which were suitable for shipbuilding and hauling vessels in and out of the water, were less compatible with the bond stores and other enterprises that occupied the wharfs from the 1880s onwards. The construction of finger wharfs for the unloading of ships with substantial draughts required the raising of the wharf across the former shipyard. Several levelling fills capped the upper surface (107), which began the raising process. The lowest fill contained large pieces of sandstone rubble in a matrix of clay and sand (context 103) and raised the ground by 260-300mm. It was capped with a compact mix of black silty sand and fragmented river cobble that may have been the remains of an 1880s-1890s surface at RL 1.502m (context 102). The surface contained no artefacts and was patchy and disturbed. It was capped with 95mm of brown-grey compact sand (101). All layers had been cut in the north by context 104, a steep, near-vertical sided cut containing a mixed fill of sandstone rubble, mid-brown coarse sand and other small inclusions. In the south, all layers had been cut by context 105, which was a near-vertical cut containing yellow-brown sand, sandstone rubble and modern (late twentieth century) building materials. The cuts, bulk fills and archaeological layers were all capped with between 600mm and 900mm of clean sandy overburden (context 100).

The remainder of the stormwater trench to the south contained variations of context 105, occasionally containing large sandstone blocks, quantities of machine-made brick and concrete. All nineteenth century evidence had been removed from this part of the trench.

Figure 4.31: Sand and modern construction material dominated the bulk fills in the stormwater trench. The clean sand and gravel fill of deep services can be seen on the far (eastern) side of the trench. View to the east at the southern end of the stormwater excavation

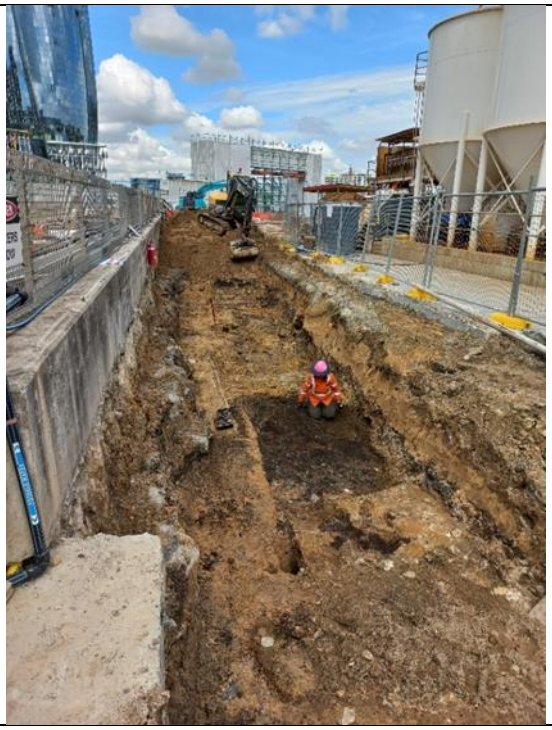

Figure 4.32: Only a small patch of archaeology (seen here as dark soil) was preserved in the stormwater trench. View to the southwest

Figure 4.33: levelling fills shown above the wharf surface 107 in the east-facing section of Trench 4. Scale 500mm.

Test Pits 3.1, 3.2, and 3.3

Contamination testing along the alignment of the new condenser lines near Nawi Cove offered an opportunity to test for intact archaeology within the trench footprint. Three test pits were excavated in an area assessed as having moderate to high archaeological potential. The test pits were located between 5m and 7m west of Trench 4. The historical location of the test pits was within the footprint of the first phase of Cuthbert's wharf. Test pits 3.1 and 3.2 corresponded to open areas of the wharf where there were no known structures. Test pit 3.3 was located in the expected position of Cuthbert's seawall. The test pits were each around 0.7m x 2m in plan, and were excavated to -3m.

Test pit 3.1 was 1800mm long and 700mm wide. The fill encountered in this test pit appeared to be from a single, large-scale event. Sandstone rubble and concrete with blue metal aggregate were present in large quantities, in a matrix of pale brown, compact clayey sands to 2.8m. The fill was consistent with that of the disturbed parts of the stormwater trench, a few metres to the east. Below 2.8m the fill became greyer and sandier and contained machine-made brick, plastic, blue metal, iron piping and machine sawn timber. This depth was equivalent to the rubble base reclamation fill (112) in the stormwater trench. The presence of plastic and other modern materials at this depth indicated that the wharf had been removed from this area.

Test pit 3.2 was located 8m south of Test pit 3.1. It measured 2100mm x 700mm and was excavated to -3m. The top 1.8m of the pit contained layered fills comprising pale brown sandy fill (up to 420mm), clean builders' sand (up to 200mm), mixed sandy clay fill with sandstone fragments (250mm), and a pale grey mix of crushed sandstone and sandstone fragments. Below 1.8m was a heavily compacted fill that was dominated by broken machine-made brick, but also contained concrete with blue metal aggregate, geofabric, broken ceramic pipe, and large fragments of what appears to have once been a layer of compacted industrial waste and silty sand that is likely to represent a destroyed nineteenth century yard or workplace surface. Plastic and modern material was found in the same context. There was no evidence of intact archaeology in Test pit 3.2.

Test pit 3.3 was located 13m south of Test pit 3.1 and roughly correlated with the location of Cuthbert's seawall. The pit was 2300mm x 700mm and 3m deep. The pit contained mixed sandy fills of pale brown and yellow brown sands to -1.5m. Below 1.5m the same fill dominated by broken machine-made brick that was encountered in Test pit 3.2 was present to the base of the trench. Larger fragments of the industrial waste layer were present in the fill in Test pit 3.3, however, the fill was otherwise the same as that encountered 5m to the north. Between 2.5m and 3m below the surface were fragments of modern tile, late twentieth century textiles, car or machine parts and machine-made brick. There was no evidence of intact archaeology in Test pit 3.3.

Figure 4.34: Test pits relative to the 1865 and 1880 surveys, and the Barangaroo COP study area (red line).

Figure 4.35: Area of excavation (left) looking north with the Dalgety Bond Store (25 Hickson Road) beyond, and the Hickson Road retaining wall and cutting at the right.

Figure 4.36: Objects from within the fill below 2.8m in Test pit 1. Scale 500mm.

Figure 4.37: Objects found in the fill below 2.5m in Test pit 2 including plastic sheeting (centre top). The object at lower left is probably a fragment of what was once a compacted surface of industrial waste and silty sand.

Figure 4.38: Excavation of Test pit 3 looking south.

Figure 4.39: Objects found between 2.5m and 3m in Test pit 3. Scale 500mm.

4.2.4 Barangaroo Headland - Trenches 5.1, 5.2 and 5.3

Excavation for the condenser line trenches proceeded north towards the headland, running between Dalgety's Bond Store at 25 Hickson Road and the northeastern shore of Nawi Cove. This area was assessed as having Moderate to High potential for evidence of Cuthbert's shipbuilding yard and wharf, including a narrow dock, stone seawalls, and moderate potential for the large timber store and the footings of several peripheral structures. The narrow dock had the potential to contain evidence of boatbuilding such as offcuts and abandoned boat parts that found their way into the dock while it was in use. Previous excavations by Austral and Casey & Lowe had suggested that there was a high potential for evidence of boatbuilding activity in the form of discarded boat parts, timber offcuts and tools on the wharf surface.

Excavation encountered patchy evidence of Cuthbert's wharf which mostly related to the process of infill, as well as a seawall and surface that predated Cuthbert's ownership. The narrow dock was represented only by the rubble remains of a seawall, but several large and partly worked ships' knees were found in the sandy sediment that would have accumulated in the dock during its use.

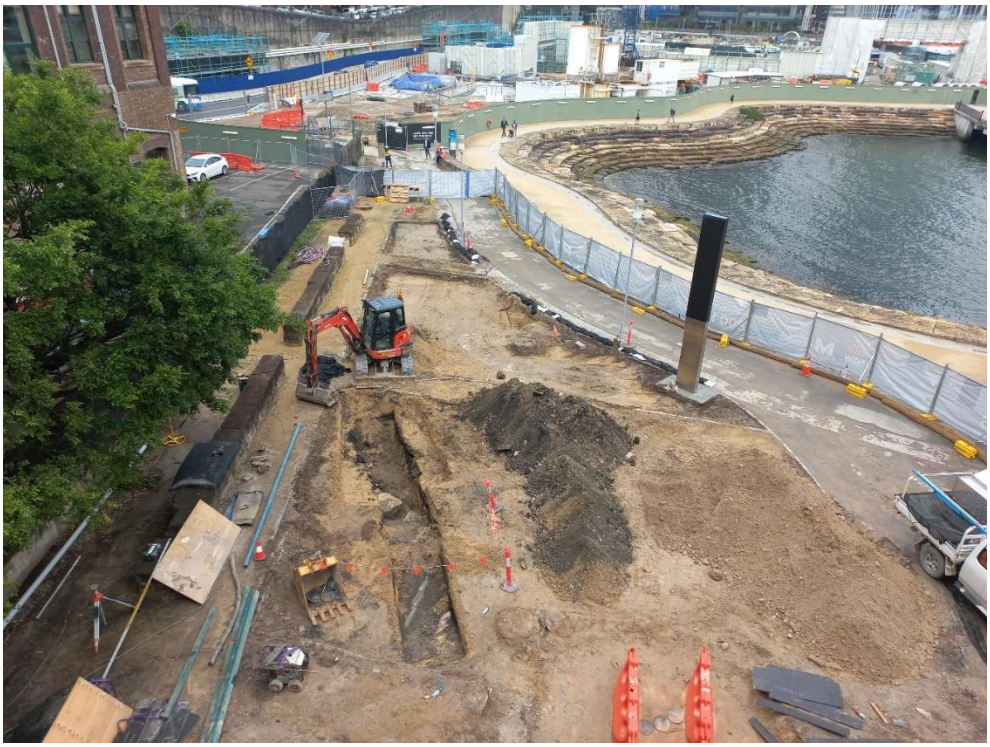

Figure 4.40: View from Munn Street Reserve looking south over trench 5.1.

The condenser line trenching at this part of the site was conducted in three stages: Trench 5.1 (northern section), Trench 5.2 (central section), and Trench 5.3 (southern section).

Trench 5.1

In Trench 5.1, there was evidence of the original rocky shoreline, with water-weathered outcropping sandstone producing a sloping shelf on which a low seawall was constructed, and behind which a compact surface had developed. All had been cut by a stormwater service within the footprint of the trench, which had removed almost 9m^2 of the wall, rock and associated deposits.

The wall most closely corresponds to the hard edge of the shoreline that is shown on an 1833 plan (Figure 4.42). This plan was produced to resolve a boundary dispute near the historical location of the wall and is likely to be relatively accurate in its depiction of the property's limits. However, there are problems with relying too heavily on official surveys. Not only is there scant cartographic information for the site between the 1830s and the 1860s, but as is typical for the area and the activity of reclamation and wharf building in general, shorelines were often modified first, and permission was asked later. The result is a lag in the documentary evidence compared to the material changes on the ground. Original high-water marks persisted on surveys as the official lot boundaries long after they were modified. Even after reclaimed areas were granted, the documents may not have recorded all of the ground that had been reclaimed, or the ground that was in the process of being altered. To complicate things further, some discrete areas of reclamation or wharf-building were never officially documented, and sea walls were buried under new extensions before they were drawn on any map.

The interpretation of phasing is therefore necessarily loose, with temporal markers that tend to be bracketed in decades rather than years.

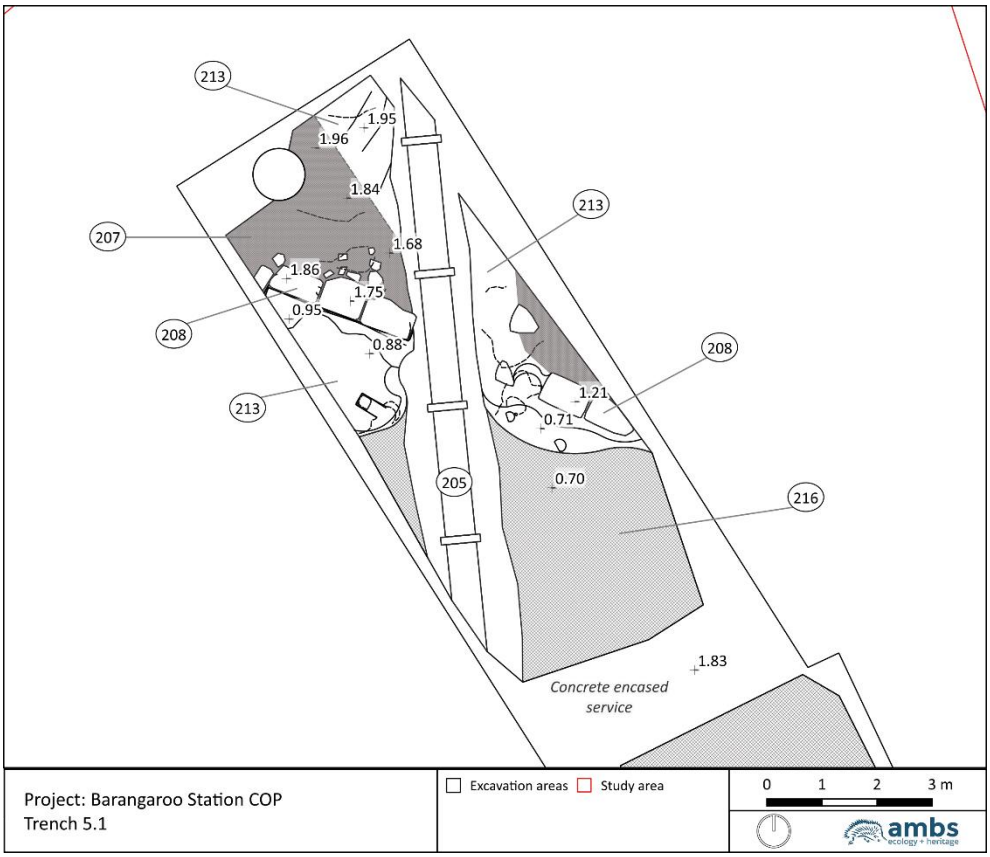

Figure 4.41: Plan of trench 5.1.

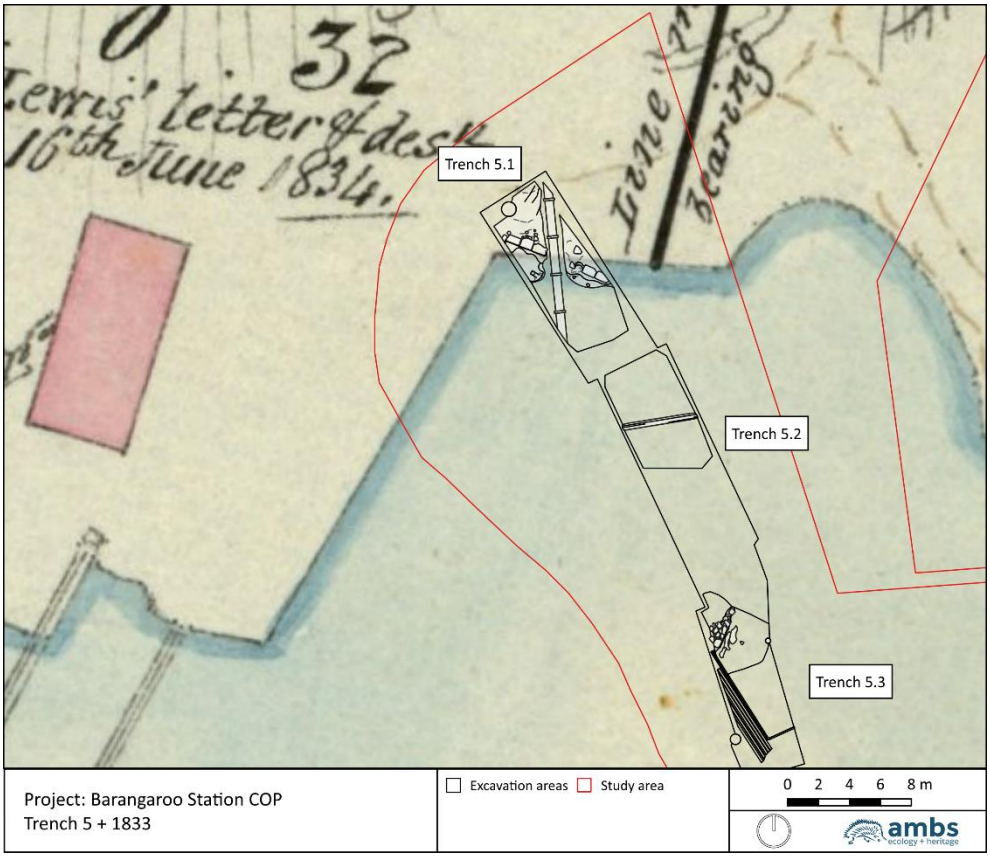

Figure 4.42: An 1833 plan made to resolve a boundary dispute showing a hard edge to the shoreline where the wall was found (SRNSW NRS-13886-1-[X752]-Volume 2-5-13).

The parts of the bedrock encountered in Trench 5.1 were above high water (sloping from RL 1.954m in the north to 0.704m in the south). This outcropping stone (context 213) would have formed the late eighteenth century shoreline. The slope of the rock was gradual and the surface relatively even. A black sandy accumulation (context 207) had developed on the rock. It was between 80mm and 230mm thick. This deposit predated the construction of the wall and probably originated as a natural deposit of beach sands. However, as the shoreline was developed it was transformed considerably in terms of its mineral content, inclusions and compaction. The wall effectively acted as a retainer, keeping the sands in place. The sands developed a solid crust and were permeated by fine particles of soot and other industrial waste, cementing them into a robust surface at the back of the wall.

The wall (context 208) had been damaged considerably by the installation of a stormwater pipe. However, the remaining parts described a continuous structure 600mm wide, stretching roughly east-west for over 7m. At the western edge of the trench, the wall turned approximately south at a right angle. The wall was constructed with roughly shaped rectangular sandstone blocks of varying size. Crude toolmarks were visible on most exposed faces.

The wall was constructed across the slope at RL 1.074m-1.169m. It appeared to have been built on the unmodified rock surface. The ill-fitting blocks were packed with small fragments of sandstone. The blocks were arranged in a broken bond of one or two courses, with the largest block measuring 840mm x 670mm x 480mm. The smallest stones were fitted into gaps, or else formed the lowest course so that the largest blocks were presented at the top of the wall. The wall was backed with fragmented sandstone which had been packed into the lower parts of the sloping black sand 207. More black sand had accumulated above the packing and become compacted.

Figure 4.43: The compact black sandy surface 207 behind wall 208. View to the west. Scale 500mm.

Figure 4.44: The seaward side of wall 208 on the western side of the trench showing the sandy deposit 210 in the foreground. View to the north. Scale 500mm.

The bedrock had been cut down on the seaward (southern) side of the wall by around 180mm-200mm, and a flat platform was created where the wall turned at a right angle. This would have been a labour-intensive modification that effectively raised the height of the wall without altering the established surface level. The bedrock at the base was at roughly RL 1.0m after it was cut down, and the total height of the wall was around 900mm. The reason that the bedrock was modified is not clear. A rectangular recess had been cut into the rock at a distance of 1.2m (4ft) from the east-west wall and 2.5m (around 8ft) from the north-south wall. The cut was 270mm x 240mm. it was 230mm deep and could have accommodated a substantial square-cut post around 10 inches wide.

Figure 4.45: Rectangular recess cut into the bedrock 1.2m south of the wall. Scale 500mm. View to the northwest.

Historical plans suggest that the wall may have been constructed as early as the 1830s, but there was no archaeological evidence to directly confirm this.

Subsequent infill made the seawall redundant, and several fills in large quantities were dumped on the seaward side of the wall. This is most likely to have occurred as part of the establishment of Cuthbert's wharf, before or during the 1850s. Beyond the edge of the outcropping bedrock, the earliest fill was a robust sandstone rubble and crushed sandstone mix (context 216), that acted as the permeable base for the wharf infill. Above the bedrock on the eastern side of the trench, this fill took the form of a thin layer of fragmented sandstone (context 212) that was directly above the rock.

Figure 4.46: The cut down bedrock can be seen here below the wall. A thin brown organic skin has developed on the sandstone below. Scale 500mm. View to the north.

A thin, organic skin (context 211) had developed on the flat-cut parts of the bedrock near the wall and on the levelling fill 212. It had a fine, fibrous quality and was mid-brown with some red content. This deposit appears to have accumulated after the wharf infill had begun, as it capped the fill 212 which was contemporary with the robust fill 216. The top of the fills were at the upper limit of the intertidal zone, and around 260mm of thinly-lensed sands (context 210) had accumulated above the organic deposit. The sands spilled over the edge of the bedrock and continued to the south. Beneath the sands, the organic deposit became siltier and darker (recorded as context 215), and was as thick as 45mm in some places. The accumulations of silty material and sands suggests that the base fills were not buried quickly, and were exposed to the tides and possibly runoff from the surrounding streets for some time.

The first bulk fill (context 214) above the sand accumulations was the only artefact-bearing context in Trench 5.1. Context 214 was a bulk fill of pale brown-grey sand and sandstone fragments. A total of 33 individual items or 38 fragments were recovered from fill 214. There were 18 ceramics, 14 glass items and one brick fragment. It did not contain any bone or shell. Based on the manufacture date for a Weston & Westall fine earthenware salt jar and a light green cup bottom mould glass bottle, fill 214 was probably deposited sometime in the late 1840s or early 1850s. An 1850s date would correlate with the time at which we think Cuthbert's wharf was constructed.

Figure 4.47: Weston & Westall's salt jar (#231/214). Scale 10cm. Photo: S. Kuiters.

The majority of artefacts were associated with food or drink. These included a fragment of a child's plate and part of a glass tumbler. Other items include a blacking bottle, and a penny ink bottle. All of these items are commonly encountered on nineteenth century sites in Sydney, but are more typical of domestic deposits rather than industrial or worksite deposits. Given that the bulk fills used for reclamation or infill across the site were largely devoid of artefacts, it is possible that some of the objects were opportunistically disposed of by nearby residents during the infilling event.

Figure 4.48: Child's plate (#227/214). Scale 10cm. S. Kuiters.

The southern end of Trench 5.1 was devoid of surfaces and there was no evidence of nineteenth century activity other than the bulk fills that were used to infill the large, open wharf created by Cuthbert. Context 206 was a very mixed fill that nevertheless appeared to be dumped in a single event. It was spread across at least 6m to a thickness of up to 700mm, and contained discrete pockets of relatively clean sand, industrial waste and crushed sandstone. Grey-brown clayey sand dominated the fill that also contained sandstone rubble and clay. The fill covered the artefact-bearing context 214 in the vicinity of the wall and was elsewhere dumped atop the silty accumulation 215. Across the trench it was capped by a semi-compact industrial waste fill (context 202) which was between 100mm and 320m thick.

Figure 4.49: Orthophoto of the northern end of Trench 5.1 during excavation showing the wall (208) and surface (207) cut by the stormwater service. North is at the left of the image. (Guy Hazell/ArcSurv)

Figure 4.50: Lenses of silt and sand (210) built up on the bedrock in the east of the trench. Scale 500mm.

Trench 5.2

Trenches 5.1 and 5.2 were separated by a deep, concrete encased service. The disturbed area between the two trenches was up to 1.5m wide. Trench 5.2 was 8.5m long. At the southern end, an 8m-long section of modern disturbance associated with the creation of Nawi Cove separated Trench 5.2 from Trench 5.3.

Archaeological remains in Trench 5.2 were limited to bulk infills. The initial robust rubble fill (context 216) continued to the south, forming the base of the reclamation. The top of 216 was at RL 0.759m, consistent with the same fill to the north. The silty accumulation (context 215) was present in some locations but was largely thin and patchy. A large timber pile or beam (context 218) was encountered on the accumulation 215. It had been discarded at some point during the

period when the base fill was exposed, and the silty accumulation had developed. This may have been a period of construction elsewhere on the partly built wharf, when seawalls were being raised and slipways and planked timber jetties were being constructed. It supports the idea that the base fill was not covered immediately and may have acted as a construction surface for other parts of the wharf. At all but a choppy high tide, the top of the rubble fill would have been dry and useable as a working platform extending out from the shore.

Figure 4.51: Isolated timber 218 on the sandstone rubble fill in Trench 5.2.

The exterior of the timber was heavily decayed in places, but had clearly been rectangular-sawn. Its original dimensions were probably close to 260mm x 260mm (10in x 10in) in cross-section. It was 4.2m (14ft) long. The timber was buried by 610mm of bulk infill that was dominated by crushed yellow sandstone and sandstone fragments (context 219). The top 220mm of the fill incorporated yellow-brown sands in an undulating mix. The folded lensing suggested displacement after deposition. It was capped with an inconsistent and disturbed mix of coarse industrial waste, clayey sand and sandstone fragments (context 220) that was up to 190mm thick.

Figure 4.52: Bulk crushed sandstone fill in the east-facing section of Trench 5.2.

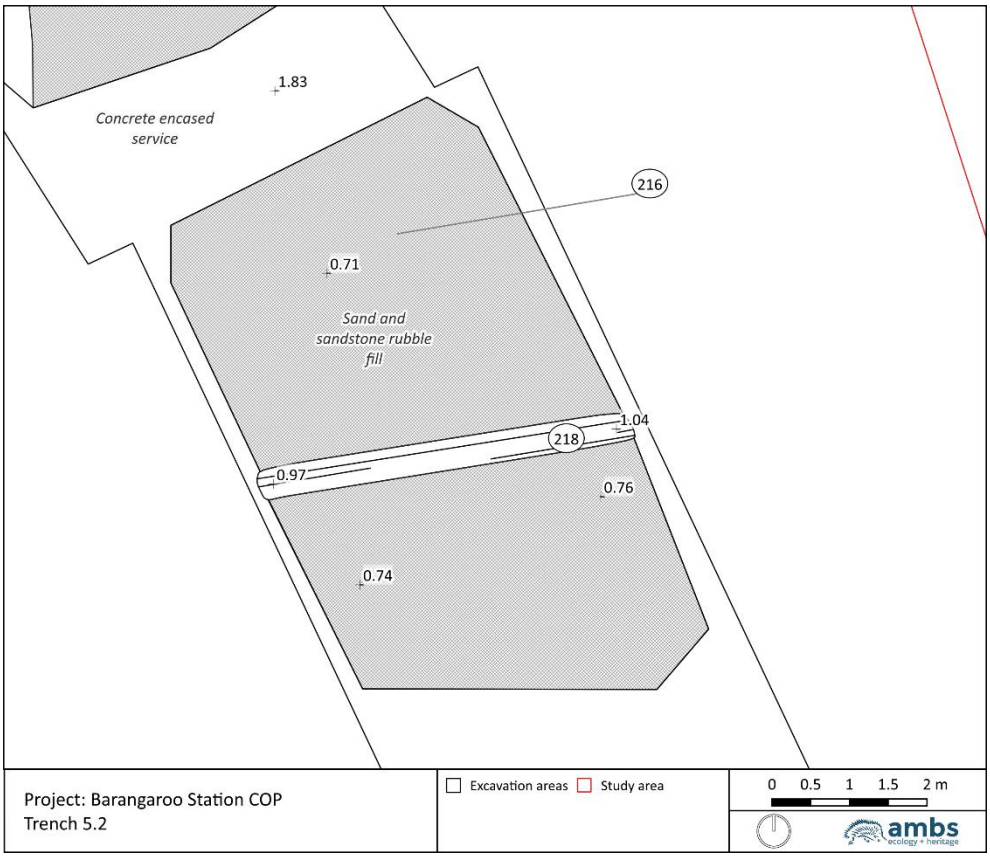

Figure 4.53: Plan of Trench 5.2.

Trench 5.3

The location of Trench 5.3 was congested with services to a depth of 1.2m. No significant archaeological remains were present in this upper material which had been disturbed by the installation of electrical conduits, water, and garden beds. Patches or islands of upper wharf infill

were present between the service trenches, but they were largely decontextualised, devoid of artefacts and showed no signs of surface development. Below 1.2m, the rubble remains of a seawall, worked timber and estuarine sands had partially survived beneath concrete encased services.

The lowest deposit encountered in 5.3 was a dark grey-black estuarine sand and silt mix (context 224). The top of context 224 was at RL 0.338m. This was the lowest part of the condenser trench, which was excavated an extra 400mm to remove the base of a disused concrete service pit. The black silty sands were capped with 170mm of thinly lensed yellow-brown sand (context 223). Concentrations of iron oxide had formed between some of the lenses and at the interface with the black silty sand below.

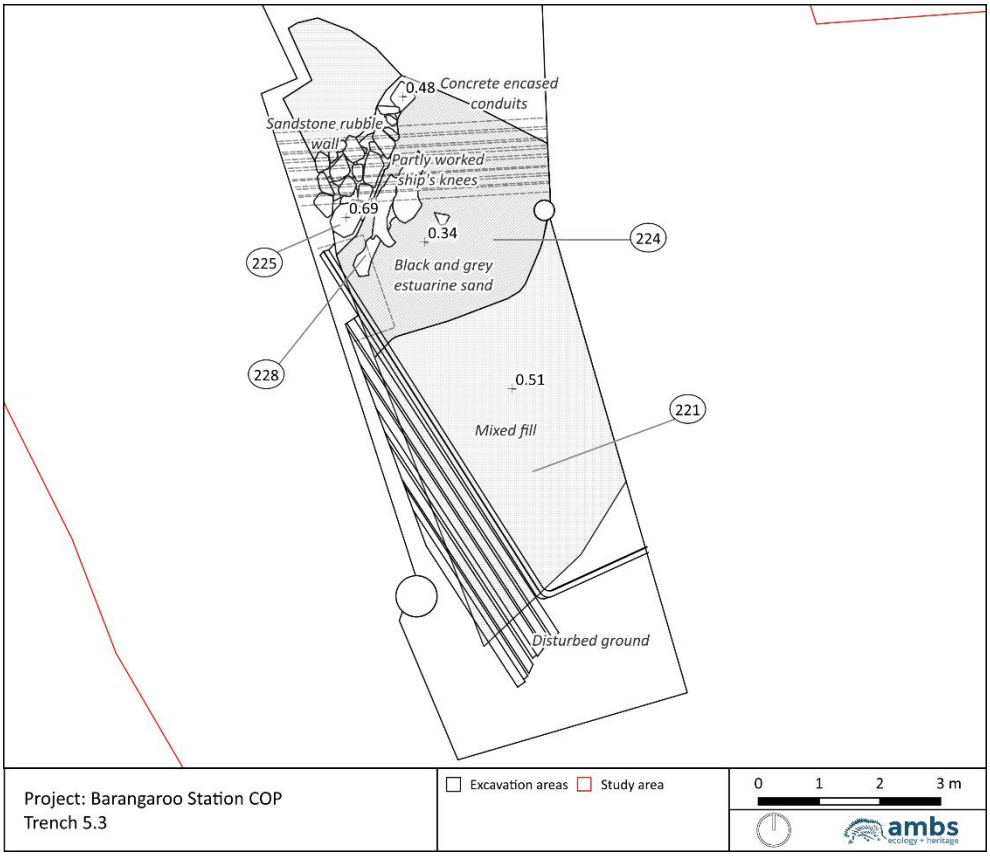

Figure 4.54: Plan of Trench 5.3.

A 140mm-thick layer of grey-black clayey silt had accumulated above the sands (context 222). This material was dense and mildly plastic and had developed at around the high-water mark. These deposits (contexts 222, 223 and 224) had accumulated against a seawall, most of which had been removed by deep, concrete encased conduits, but which survived as a rubble and rough block base in the west of the trench (context 225). The wall corresponded to the location of the northwest wall of a narrow dock that was part of Cuthbert's wharf. There was no evidence of the southeast wall, which should have been located 5m parallel. However, lower courses may still survive beneath the lowest parts of the condenser trench, which remain unexcavated.

The remains of the wall were in a damaged but continuous section 3m long, which was best preserved in the western part of the trench. The lowest course, which was only partially exposed in the base of the excavation, was stepped out 55mm from the course above. The top of this course was level and flat at RL 0.488m despite the rough cut of the stones. This course would have been exposed at low water, but submerged at high tide. In general the wall appeared to have been constructed from very roughly cut blocks. Most of those in the upper course only had

one straight edge which was presented to the external face of the wall. In parts it was little more than well-arranged rubble. In its best preserved part it was 1.2m wide, which included rubble backing that was at least three 'blocks' deep and had been packed with smaller fragments of sandstone.

The largest visible block in the remains was 430mm x 400mm x 200mm, presenting a relatively neatly-cut face of 200mm x 400mm. The top of this stone was at RL 0.697m, which is roughly the height of the base rubble fill exposed in the north of the condenser trench. This indicates that the remains of the wall represent the lower courses only, those that were only visible intermittently in the cycle of the tide. In the wall that was built on the bedrock to the north (context 208), these lower courses were built with the most irregular stones, with the largest and more neatly cut blocks being presented in the upper course. It is possible that the better quality stones have either been removed for reuse, or destroyed by later activity, and that these lower remains do not necessarily reflect the wall as it would have appeared higher up.

Figure 4.55: Orthophoto of the remains of the dock wall in Trench 5.3. Scale 500mm.

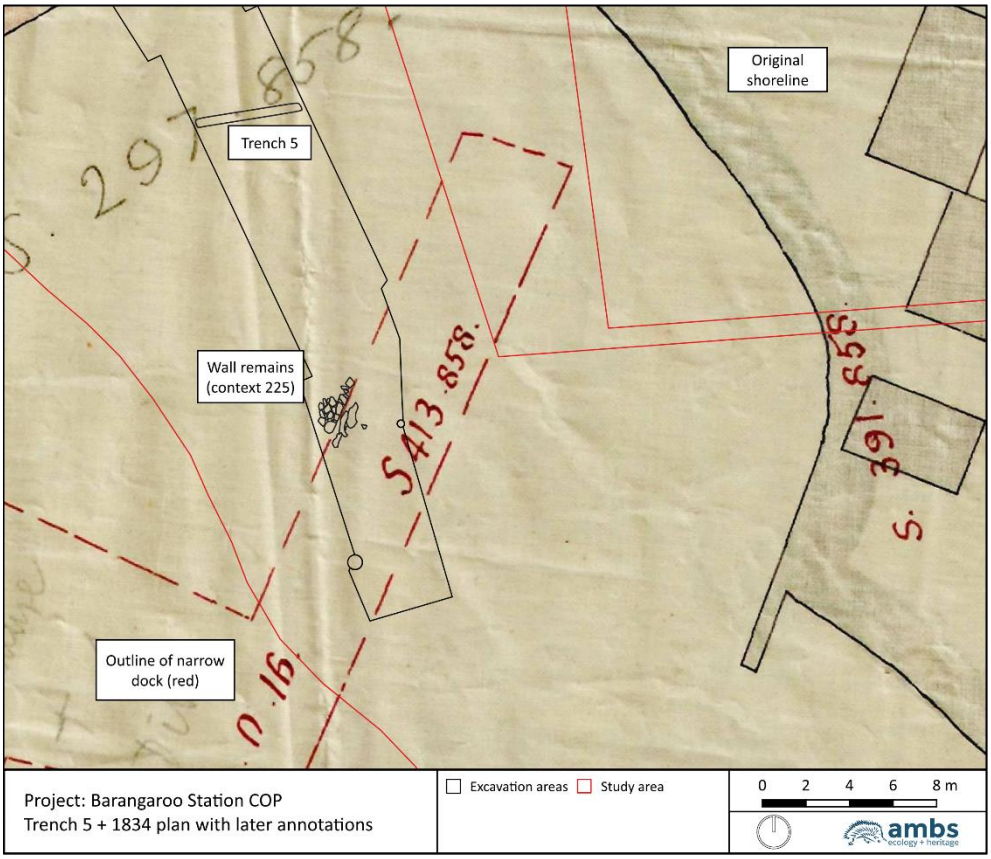

Figure 4.56: Location of the wall relative to a narrow dock annotated onto the 1834 plan.

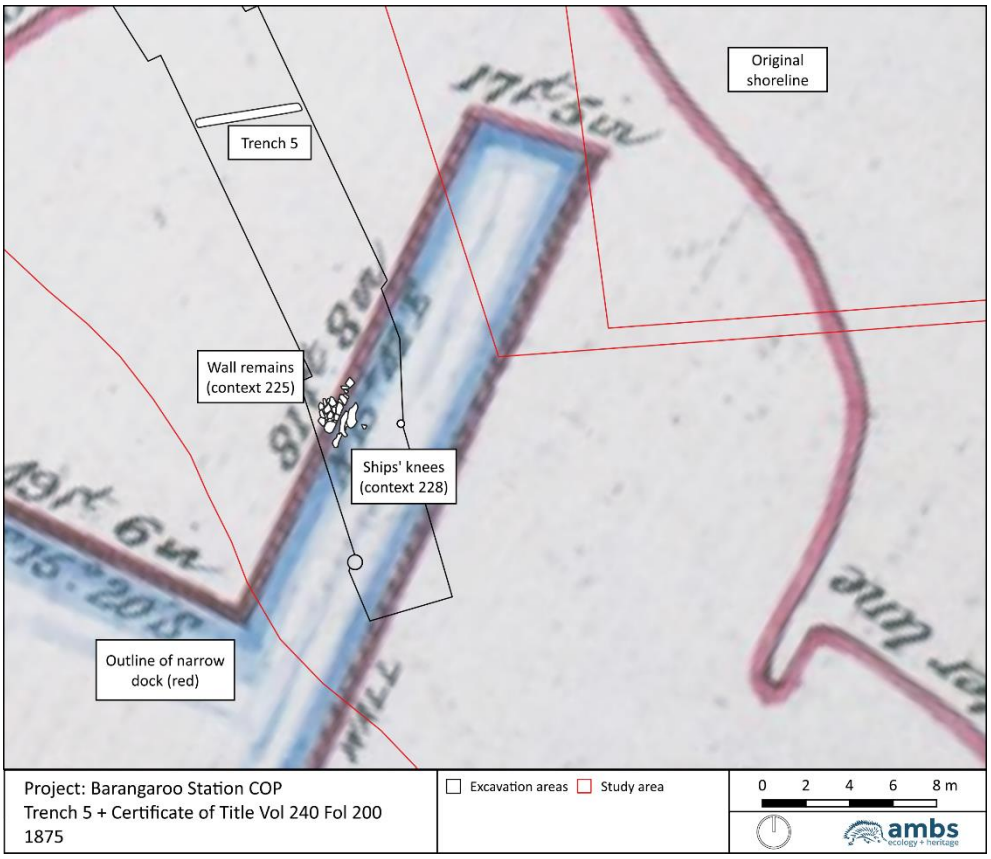

Figure 4.57: Certificate of Title Vol 240 Fol 200 from 1875 showing the narrow dock.

Figure 4.58: Detail of the wall 225 showing the larger blocks laid roughly in two rows with smaller rubble packing between. View to the west along the line of the wall.

Figure 4.59: Exterior face of the wall showing considerable damage to the upper course. Scale 1m. View to the north.

In 2013, Austral Archaeology excavated the adjacent ground and found only sandstone rubble along the alignment of the wall (context 6151). The context was described as:

> *Packed sandstone and bluestone rubble deposit in the large slipway. This deposit was loose sandstone and rubble 200mm in depth. Within this deposit there was also yellow crushed*

> *sandstone, very coarse, at 20% of the deposit. This deposit varied greatly throughout the slipway* (Austral Archaeology, 2016, p. 155).

The excavation report did not identify the narrow dock, and there is no indication that the sandstone rubble resembled anything structural during the excavation. The area was instead identified as being within a large slipway. However, there were no slipway surfaces in this location, only sandy deposits below the rubble (Austral Archaeology, 2016, p. 168). It is likely that the rubble encountered by Austral represents the demolition of the wall, and possibly other related structures or surfaces (the bluestone mentioned in the context description).

The southeastern wall of the dock was however encountered by Austral in good condition in the adjacent ground. It was identified as the eastern slipway wall by Austral. It was notably better built and better preserved than the remains of the northwestern wall of the narrow dock in the condenser trench, which adds further confusion to the phasing and interpretation of the remains, as there is little that is similar in the construction of the two walls. Notably Austral encountered similar problems in trying to interpret the internal sequence and engineering logic within their own site. The similarity of materials used and reused in different phases, and the lack of coherence in stratigraphy across such large areas was problematic. The 'western slipway wall' encountered by Austral was also built very differently.

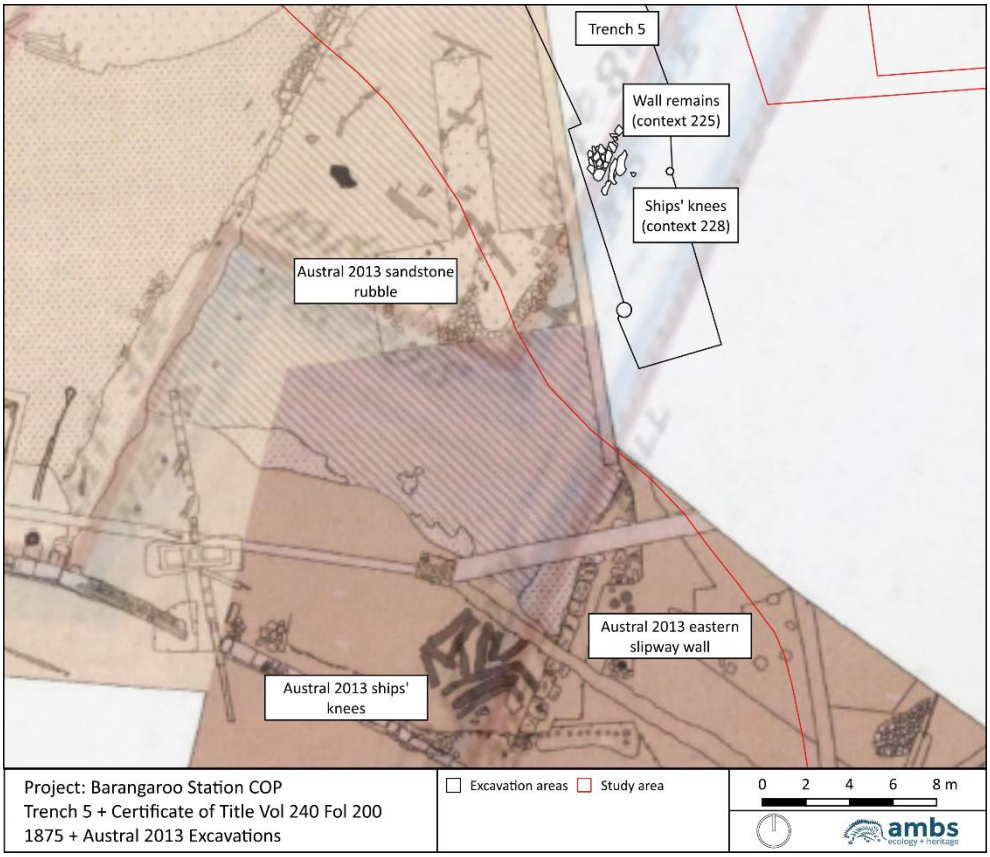

Figure 4.60: Austral excavations relative to Trench 5 and the 1875 plan of the dock.

The 'eastern slipway wall' (context 6533) which should be part of the same narrow dock as context 225 in the condenser trench, was excavated to a length of 14m and consisted of large sandstone blocks which were narrowly stepped 20-30mm in each course. The wall contained four courses of irregular, roughly shaped rectangular blocks. While these blocks varied in size, the lower courses typically measured 400mm in width, while within the upper course some blocks measured up to 550mm in width. The length of the blocks was measured between 600-800 while the height of blocks ranged anywhere from 200 to 400mm (p. 156). The use of substantial and well-shaped blocks in the wall is markedly different from that of context 225 in Trench 5.3.

The difference in description, interpretation and identification is unable to be resolved definitively in this report, as the small window offered by the limits of the condenser trench, and the damage that had been done to the remains didn't allow for the kind of analysis that would be able to conclusively reinterpret the results of both excavations (the wall 225 doesn't fit into the slipway interpretation, and the slipway doesn't account for the narrow dock). However, both excavations found the same types of large timber shipbuilding elements discarded against the walls in sandy deposits, which can be linked to an 1860s photograph (Figure 4.63).

Buried in the sands adjacent to the wall 225 were five partly worked ships' knees (context 228). Austral encountered similar wooden knees 'leaning' against the eastern slipway wall. Knees are critical components in shipbuilding that are used to brace beams in wooden ships, and thus provide additional structural integrity to the hull of the vessel. They are 'L' or 'V'-shaped and are made from the parts of a tree that have naturally formed that shape while growing. The reason for using these types of timbers is due to the strength at the joint. Because the tree has grown that way, the grain of the wood flows in one direction throughout the joint, making it much stronger than two separate elements imitating the same shape.

Figure 4.61: Ships' knees found within Trench 5.3.

A high amount of stress was placed on these particular components. Timber from mahogany trees, especially swamp mahogany, was a favourite for use as knees due to its toughness and hard grain (Hobbs, 2014, p. 28), although several species that were suitable for framing could also be used in this role; ironbark, forest red gum, and white tea tree were also often used to make ships' knees (Hobbs, 2014, pp. 26, 28). Trees that had a propensity to grow limbs in a crooked yet also very strong fashion, such as Bangalay (also known as Bangally and Bastard Mahogany), were favoured for the "knees and crooked timbers" of ships (Hobbs, 2014, p. 28). These naturally crooked timbers however did impose an upper limit on the overall size of the ship, as they could only grow so large (Estep, 1918, p. 1).

The quality of native Australian timbers was such that insurance underwriters, including Lloyds of London, categorized ships built of these materials in "very highest class given, provided Lloyd's

rules with regard to timbering, planking, shifting and fastening be otherwise attended to." (Hobbs, 2014, p. 26).

Cuthbert is recorded as keeping a stock of native timbers in his yard for framing and planking, which included ironbark, blackbutt, and flooded blue, red, and spotted gums; for fittings he used tea tree, ironbark, blackbutt and bangalley (Hobbs, 2014, p. 25).

The timbers found in Trench 5.3 were only partially worked, with the basic L-shape being cut, and some rough shaping of the cylindrical logs to produce flatter surfaces. Timber 228.5 was the knee that had been worked the most, being almost rectangular in cross-section. However, most had been discarded at an early stage in the process. Three of the knees had angles of 110 degrees, the other two had an angle of 130 degrees.

Table 4.4: Knees found in Trench 5.3.

Item number	Dimensions	Description
228.1	2300mm x 1530mm x 290mm	Interior angle: 110 degrees, large knots still evident, cylindrical, not worked.
228.2	1340mm x 1050mm x 340mm	Interior angle: 130 degrees, partly worked, roughly rectangular in cross-section (340mm x 230mm).
228.3	2110mm x 1210mm x 410mm	Interior angle: 130 degrees, not worked.
228.4	1280mm x 880mm x 380mm	Interior angle: 110 degrees, cylindrical, not worked.
228.5	2060mm x 1130mm x 220mm	Interior angle: 110 degrees, rectangular cut (roughly shaped).

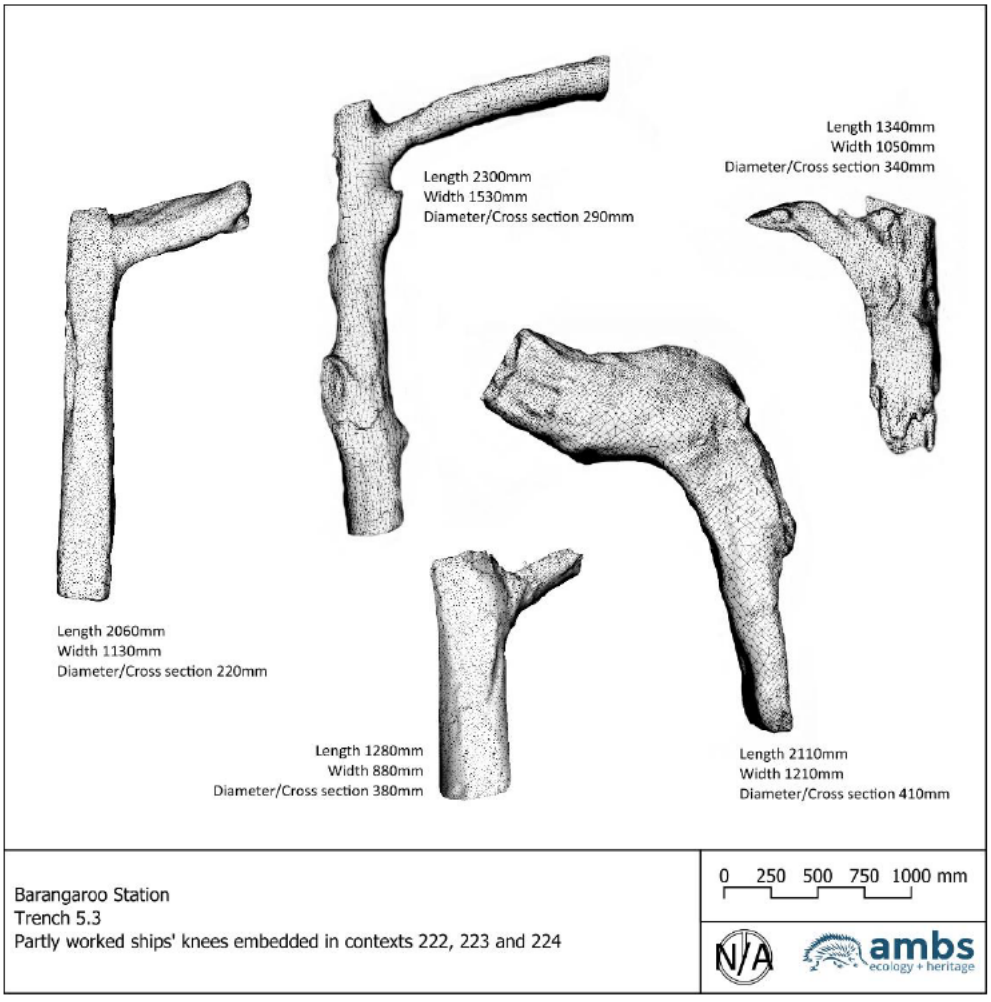

Figure 4.62: Mesh models of the knees found in Trench 5.3.

Figure 4.63: *Cuthbert's Ship Building Yard - Sydney, New South Wales - photographed by Freeman Brothers* **(Australian National Maritime Museum). This c.1860s photograph shows the narrow dock (arrowed) containing a jumble of ships' knees (inset). The wall described by Austral as the eastern slipway wall forms the far side of the narrow dock in the left of the image, and the seawall in the right of the image. Wall 225 is obscured by timbers on the wharf's edge.**

Figure 4.64: Details of the timber knees showing rough shaping and tool marks. Clockwise from top left: 228.5, 228.2, 228.5, 228.3.

5 Response to Research Questions

Archaeological investigations were only required in small areas of the site, and within those areas, considerable disturbance had occurred. Not all research questions will therefore be able to be answered.

5.1 Casey & Lowe Research Questions (AMS, 2017)

Casey & Lowe added a number of research questions to those put forward by Artefact in 2016:

5.1.1 Shipbuilding

Archaeological remains of Cuthbert's shipyard, which eventually covered the whole of the excavation area, should be examined to determine if they can reveal information about the variety and quality of shipbuilding that took place on the site over time. This in part can be answered by the examination of discarded fittings and tools on the site, as well as timber off-cuts. The arrangement of the work space such as the relationship of the slipway(s), sail loft, saw pits, forges and other features can say much about organisation and efficiency. It would be of interest to see if some features such as saw pits and forges were absent from the site as this would demonstrate the interconnectedness, or otherwise, of the shipyards in Darling Harbour with other local businesses. It is noted that often the archaeology of ship building is limited to ephemeral remains of the odd copper nail and part of a slip.

How did boatbuilding change across the site and how did it relate to changing economic concerns of the colony with the development of the colonial economy with the shipping wool to Britain the Goldrush as well as the shipping to the northern coast of NSW?

Only a very small patch of intact wharf surface survived, which was insufficient to represent the work which was undertaken at the site. The ships' knees that were recovered from Trench 5.3 demonstrate that vessels of considerable size were being built at the shipyard. There was enough variation in the lengths of the proto-knees to indicate that smaller vessels were also being constructed. However, there was not enough evidence to answer the above question meaningfully.

5.1.2 Maritime Infrastructure

Barangaroo Station site provides an opportunity to explore the transformation of a section of the Darling Harbour waterfront from the early 19th century to the government takeover in 1900 and then into the 20th century. The focus on this theme is on capitalism, evolving nature of the maritime infrastructure, and how these two themes shaped choices made in relation to individual site development? The nature of private v public construction of wharfage and seawalls and how it relates.

Of interest would be the comparison between the quality of public versus private infrastructure, quality both in materials and construction. For example, was turpentine, an excellent hardwood resistant to marine borers, consistently used? If lesser quality timbers such as ironbark were used as piles, were they copper sheathed (a protection against marine borers)?

- *Documenting the quality of the jetties, seawalls and other maritime infrastructure constructed by private firms would provide insight into the attitudes of those firms.*
- *Did high quality structures indicate confidence and a willingness to invest for the long term?*
- *Did poor quality and poorly maintained structures reflect a struggling owner or one that did not see it economically beneficial to build durable infrastructure on their property or*

lease? Did the maintenance and condition of the waterfront infrastructure drop off towards the start of the 20th century?

- *If so, how much was this due to the 1890s depression and/or to owners realising that the government was looking at resumptions cause them to reduce expenditures in maintaining their structures, thereby providing the government more justification for taking over?*
- *Other relevant questions will be addressed as they arise.*

The remains of two seawalls were encountered during the investigations. Both had been damaged by later activity, but the construction methods of both were still readable. The remains of a seawall for a narrow dock that had been constructed by 1863 (Certificate of Title 1-192) was found in Trench 5.3 (context 225). This wall had been constructed from sandstone blocks that were roughly shaped but nevertheless produced a relatively neatly faced wall. The top of the lower course was flat and allowed the wall to be constructed in a continuous bond despite the variety in size of the blocks. The upper course was damaged showing the interior of the wall. The blocks were not shaped at all on the interior, and created large gaps between the two informally laid rows of stone that had to be packed with sandstone rubble. Overall, the wall was constructed resourcefully and carefully with inferior material. Given the scale of the structure of which it was a part (a long narrow dock requiring over 100m of seawall), the construction method would have required a considerable amount of labour. Blocks were too small to be craned into place, and would each have had to be arranged by hand, in a method similar to dry stone wall construction. Men were no doubt cheaper than machines however, and the roughly cut sandstone is likely to have been readily available from the surrounding rocky slopes and quarries. The rubble encountered by Austral in the excavation of the adjacent ground is likely to have belonged to the western part of this wall, as the arrangement loosely follows the right angle of the dock wall. The failure to recognise it as structural material during excavation is telling, and shows that only the cheapest material was used. Cuthbert's wharf was an ambitious undertaking, involving the reclamation of a large portion of land. The use of cheaper material may have allowed Cuthbert to build longer seawalls, thereby maximising the amount of wharfage he could create.

Seawall 208 was most likely built prior to 1833. Only a small part of this wall was encountered, but it was clear that it belonged to a larger structure. The construction of the wall was largely an exercise in adaptation. A commitment to using larger, well-shaped blocks was tempered by the need to adapt to the slope of the bedrock, and a broken bond wall was produced with stones of varying size. Sandstone rubble was used to pack the smaller gaps between the blocks and the bedrock. In a further show of adaptation, the bedrock was cut down by around 160mm to achieve the correct height for the wall. The construction of this wall would have required both lifting equipment and the skill of individual labourers to get the large blocks to sit securely on the rubble and bedrock base. The cuts in the stone for both the lower face of the wall and the recess for the post were executed with a reasonable attention to detail and relatively fine stonework.

The remains of both walls show a notable degree of engineering and resourcefulness, utilising the cheapest materials to achieve key structural elements that were critical in the creation of waterfront land. Both walls show that aesthetics were not completely abandoned to achieve the goal with minimal cost, and there is attention to detail in both walls that would have required considerable effort to execute throughout the length of a seawall. There is evidence of significant investment here. However, it is not in expensive or well-finished materials, but in adaptation and resourcefulness at a very small scale to achieve landscape-altering structures.

5.1.3 Industrial Archaeology

The questions relating to the industrial sites within the Barangaroo Station study area relates to both the technological nature of the sites and the evidence for workplace practices as well as

issues of urbanisation and concentration of work and living arrangements in close proximity. A set of questions were developed by Casey & Lowe in 1995 for an iron foundry site in Pyrmont and also for a brickmaking area in Surry Hills on three different archaeological projects during the 1990s and in 2005. These questions relate to the exploration of the layout of the industrial set up, and how work moved through the site. These have been explored successfully at the Darling Quarter and Barangaroo South archaeology projects and subsequent reporting. The type of research questions which would be used to address the potential mills and lime kiln sites within the Barangaroo Station site are:

- *Spatial use of the workspace, identification of activity area?*
- *Levels of technology evident in the various processes of the industrial activities undertaken within the kilns?*
- *Evidence for the type of items produced by the individual company?*
- *Evidence for the working conditions of the staff?*
- *Were these exclusively male workplaces, if so do they help us understand the construction of male gender roles and relationships?*
- *How the landscape or landform was transformed to allow for the operations of the kiln, factory or workshop, i.e. the casting of moulds in the ground, the creation of a mill pond or the construction of a building?*
- *Relationship between the workshop/foundry/factory/kiln and any associated residential accommodation:*
- *How was the life in the residences affected by being in such close proximity to an industrial complex?*
- *Is this relationship exemplified by the presence or evidence of pollution within close proximity to the house? In the case of the Bulwarra Road house the whole backyard was overlain with metal dross, suggesting that it was used as an extension of the industrial premises. The proximity of the foundry meant that there were no windows in the northern side of the house, the sunny side, so as to stop any smoke and soot on furnace firing days from entering into the house through the windows. Also, no washing would have been done on furnace firing days.*

There was no archaeological evidence of industrial workspaces. The use of industrial waste as a surface-creating or levelling fill was extensive throughout the site, and this was true for all property owners from Hickson Road South to the Headland. This material was no doubt cheap, easily accessible and was a robust fill that would not turn to mud in wet conditions. However, there was no evidence that it was sourced from industries within the site.

5.1.4 Landscape Archaeology

The exploration of how the landform of Darling Harbour was altered between c.1820 and 1980s is fascinating as it testifies to the need for more land in specific locations and to provide adequate drafts for shipping. This represents the development of urban pressures as early as the 1830s to concentrate local industry around the main transport network, shipping, so as to aid distribution of their products and the importation of the goods as needed. The ability of entrepreneurs to transform mud flats into useful land, to build wharfage far enough into the harbour to provide safe mooring for ships bringing in cargo and taking away goods. The alteration and manipulation of the landform of Darling Harbour has been part of its story of Sydney for the last two centuries. The methods and means by which the landform was altered can tell us much about attitudes to waste and rubbish disposal, particularly the deposition of waste from other construction projects, such as the reclamation of nearby areas in the 1920s and the study area in the 1950s and 1960s with material excavated from elsewhere and dredged from the harbour.

- *What was the nature of the original landform?*
- *Evidence for shells, such as cockles and oysters, and what plant species were found in this area?*

- *How has this part of Darling Harbour evolved over time?*
- *How many times was the landform remade within the study area?*
- *What different materials and means were used, and what was the depth of the reclamation at each stage? How different was this to the practices at the Darling Quarter, Barangaroo South, Darling Harbour Live and the KENS sites?*
- *Were the phases of reclamation successful or not?*
- *Were the different properties reclaimed at different times?*
- *Where did the reclamation fill come from?*
- *How was the new landform used?*
- *What was the relationship between the reclaimed land and the wharfage?*
- *Other relevant questions will be addressed as they arise.*

The original landform was not encountered in any meaningful way during the excavations. Outcropping sandstone in the north of Trench 5.1 and cut-down bedrock in Trench 2.2 were the only evidence of the pre-colonial shoreline. In Trench 2.2, the shallowness of the cut-down bedrock is evidence of the steep and rocky nature of the shoreline in that location, and the absence of bedrock to the north in Trench 2.1 and to the east in Trench 1 demonstrates that the outcropping stone along the Barangaroo shoreline had probably created a waterfront of small rocky promontories and inlets, which would have posed a challenge to making the waterfront usable.

Throughout the site, the same materials in the same sequence were used to reclaim land or infill wharfs. This seems to be well-established practice throughout Darling Harbour, as the same processes and materials have been recorded at sites all along the eastern shore from Darling Square and Darling Walk at the head of the bay, to Barangaroo South and Barangaroo Headland in the north.

Not all trenches showed all steps in the sequence, but all trenches were consistent in that the same fills were used at the same stages throughout the site. The initial fill was consistently of sandstone rubble, sometimes packed with crushed sandstone, a robust, but generally permeable fill that is suitable to the establishment of a wharf in water of varying depth. The rubble has the advantage of being able to be dumped into the water without the risk of being washed away, and so can be used without having to create a seawall first to protect the infill. Evidence of a silty buildup at the top of this fill in Trenches 5.1 and 5.2 and the discard of a timber pile on the rubble in trench 5.2 suggests that the rubble was raised to high water or just above, and then became the working surface from which seawalls and other retaining infrastructure could be raised. Once the seawalls were in place, more erodible material could be used to infill the wharf. These fills were generally a mix of clay and sand but also included crushed sandstone and incidental pockets of sandstone rubble. These fills were dumped in bulk quantities and often raised the reclaimed ground by over half a metre. Upper fills were laid in thinner spreads and probably responded to settling of the bulk fills below. More often than not, the upper levelling fills were of industrial waste, or mixes of industrial waste and sand, which drained well and remained robust in wet conditions.

5.2 AMBS Research Questions

The current project aims to produce a dataset coherent with the research themes and questions already investigated at the Barangaroo Station site and will adopt the research questions posed by Casey & Lowe with the following additions:

5.2.1 Cuthbert's Shipbuilding Yard

- *What evidence is there for Cuthbert's pre-1863 design of the wharf with a narrow dock? Is there evidence for its failure structurally or from silting?*

The northwestern wall of Cuthbert's narrow dock was encountered in Trench 5.3, and five partly formed ships' knees were recovered from the sands on the dockside of the wall. The construction of the wall has been discussed above, demonstrating that it utilised cheap materials in a resourceful way, but was nevertheless a considerable undertaking. A photograph from the 1860s (Figure 4.63, Section 3.2.4) shows that the 'dock' was full of ships' knees and does not appear to be useful for anything other than being a place to dump discarded materials. This photo demonstrates that the ships' knees that were found were probably discarded throughout the life of the wharf, and do not represent a single dump at a time of further reclamation. The build-up of sands to the level of high water suggests that this could be the reason that the inlet (which would have been costly to construct) was not useable as a dock, and became a convenient place to discard offcuts instead.

- *What can we tell about the changes that occurred between the two phases of Cuthbert's wharfage? Is there a different quality to the engineering and seawall construction that differentiates the two phases in terms of investment of capital and labour?*

Trench 4 was in the location of Cuthbert's second seawall and extended wharf. However, all evidence of the seawall had been removed from this area. The two phases of wharf surface that were encountered in Trench 4 were almost identical and both contained a similar density of domestic artefacts. From the small patches of wharf surface alone, the two phases of Cuthbert's wharf were indistinguishable.

- *Is there evidence of the worker's day to day lives in the shipyard? Can we see evidence of eating, drinking and smoking in the artefacts that build up with the timber and detritus on the surface of the wharf?*
- *Are there unexpected artefacts from domestic or other settings at the wharf or is the assemblage related to a work environment only? What can we tell about the close-knit nature of residences and industry in this part of the harbour? Is there evidence to suggest that the occupants of the houses on Wentworth, Unwin, Clyde and Munn Streets overlooking the wharf are disposing of rubbish at the edge of the high ground, or that drains and storm events are bringing detritus down from the streets above? What is the nature of the interaction between the two environments that is suggested by the artefact assemblage at the wharf?*

There was no evidence of the workers' day to day lives on the scant remains of the wharf surface that was encountered in Trench 4, and the overall domestic nature of the artefact assemblage recovered from the surface makes it unlikely to be associated with work at the wharf. However, there is large crossover between artefacts which could have been used in both a domestic and work setting. Items such as animal bones and shell refuse, glass and ceramic bottles, cutlery, and smoking pipes could be evidence of workers eating, drinking and smoking at their worksite, or from people doing the same in the houses nearby. None of the artefacts can be confidently attributed to having a work-related function alone, although many of the items recovered from the two surfaces associated with Cuthbert's wharf are decidedly domestic in nature and out of place at the worksite (contexts 107 and 109). In particular, items such as an ewer, stemware glasses, a terracotta pot, teacups and saucers, a milk glass vase, and a bisque porcelain doll stand out as having a distinctly domestic function.

The volume of domestic rubbish recovered from the surfaces of the wharf, including items likely too large to have washed down in drains or storm events, suggests that local residents had sufficient access to the work area to be able to dispose of their household detritus. It is unknown if the material was dumped clandestinely, perhaps by the men of the household during work hours, or if the area was freely open to the public to dispose of waste on the wharf surface or over the wharf edge.

Poor drainage in the streets of Millers Point, combined with the steep topography may have also played a part in the deposition of domestic waste on the wharf surfaces. This has been discussed in Section 3.2.3 above, which demonstrates that runoff from the nearby streets was problematic, and caused extensive buildups of domestic rubbish around the wharfs.

Although there was no direct evidence of the dumping of domestic waste on Cuthbert's wharf, the correspondence indicates that the silted up waterfronts were awash with rubbish, and given that even Cuthbert's raised wharf surface was still within two feet of high water, it is perhaps not surprising that there was so much evidence of domestic waste on the wharf.

5.2.2 Landscape Archaeology

- *There is the potential to encounter wharf and jetty structures of small and large proportions at the site. Is there evidence of changes in the estuarine environment due to their construction, such as increased shoaling, changing erosion or deposition patterns? Do the structures progressively respond to the changes that they cause by redesign or simply by pushing further into deep water? What evidence is there for change and response in the construction methods of the wharfs and what does it tell us about the ability of the designers to read the landscape or to respond appropriately? Are there signs of success or failure and what was the engineering response?*
- *How have the builders of structures at the edge of the steep and rocky ground adapted to or modified the landform to achieve their goals? What is the balance between adaptation and modification? Do we find evidence of opportunistic use of natural quirks in the shoreline to construct the initial jetties and wharfs on Agar's and Martin's properties? What can we tell about the decision-making processes and the choices that were made by the initial grant holders in relation to their land and its challenging form?*

The limited spaces of the investigations meant that there was not enough comparable archaeology to be able to make distinctions between the adaptations to different landforms. The limited evidence of reclamation and wharf building suggests that there was a high degree of resourcefulness employed in adapting walls to the rocky shoreline, but that overall, the infill processes and materials were the same across properties.

6 Significance

The Archaeological Method Statement for Barangaroo Metro Station Construction Only Package (COP) which was prepared by AMBS Ecology & Heritage in 2021 contained the following Statement of Archaeological Significance:

> *The site is significant at a local level for its ability to contribute to our understanding of development and change in Darling Harbour throughout the nineteenth century, including working conditions and day-to-day life in the shipyards, investment and change in the material culture of altered landscapes and land creation, the influence of topography as a delimiter on construction and the material manifestation of commercial ambition in wharf creation and building construction. The site has the potential to represent these changes as they occurred both through the large-scale developments of Cuthbert and Dibbs, and also*

through the piecemeal undertakings and modest ambitions of the small landholders on Lots 3 and 4 at the southern end of the site.

The research potential of the site is related to the adaptation and development of the eastern shore of the bay, the day-to-day working conditions of the shipyard, the scale of the undertakings in wharf-building and reclamation, and the inertia and resistance to change that becomes manifest in the material culture of created landforms, and not least of all the environmental and social dynamics that they influence and perpetuate once in place. The site is significant at a local level for its ability to represent these changes as they occurred in the nineteenth century development of Darling Harbour and Millers Point.

Evidence of the early nineteenth century occupation and exploitation of the resources in and around Darling Harbour would be rare and would offer a unique representation of these activities that could not be gained from other sources. If remains of Martin's lime kiln and associated contexts or structures survive with good integrity at the site they may be of State significance for their ability to represent early lime-burning technologies in Sydney and the use of naturally occurring shell beds and middens in Darling Harbour for lime burning.

The archaeological resources uncovered and recorded during the testing program conforms to the initial Statement of Significance. Investment and change in the material culture of altered landscapes and land creation, the influence of topography as a delimiter on construction and the material manifestation of commercial ambition in wharf creation and building construction was illustrated by wharf and seawall remains at Barangaroo Headland, Hickson Road South and to a lesser extent at Nawi Cove. Evidence, of local level significance was also, found for the scale of the undertakings in wharf-building and reclamation in the nineteenth century development of Darling Harbour and Millers Point. No remains of Martin's lime kiln, with its potential for State Significance, were uncovered within the tested areas.

7 Conclusion

Testing was undertaken in three areas of Moderate to High archaeological potential: Hickson Road South, Barangaroo Headland and Nawi Cove. The limited archaeological resources encountered during the archaeological investigations can contribute to the larger archaeological record of Barangaroo.

At Hickson Road South, impacts on archaeology were minimal. In most locations, the top of archaeology was exposed in the base of the trench but there were no impacts from the works. Results included remains from an elongated infilled wharf that projected from Agars' grant and likely having a construction date of pre-1833. Cut-down bedrock is evidence of the steep and rocky nature of the shoreline in that location, and the absence of bedrock to the north in Trench 2.1 and to the east in Trench 1 demonstrates that the outcropping stone along the Barangaroo shoreline had probably created a waterfront of small rocky promontories and inlets, which would have posed a challenge to making the waterfront usable.

At Nawi Cove, considerable disturbance had occurred between the station box and the edge of the site, in both the stormwater and condenser trench locations. Only one small patch of intact wharf surface remained, potentially a remnant of the early days of Cuthberts Shipyard.

At Barangaroo Headland, trenching for the condenser lines encountered intact archaeology including the remains of a seawall and wharf surface at the northern end of the excavation. However, to the south, later surfaces had been lost and only the wharf infill in the form of large quantities of clay, sand and sandstone remained in most areas. Services and landscaping had removed much of the upper archaeology, but the remains of the lower courses of a seawall associated with the 1860s wharf, and several ships knees in various states of processing were recovered from the accumulated sands against the seawall.

Evidence of shipbuilding for a variety of vessels is evident with the range and scale of the ship's knees recovered. The former seawalls excavated provided evidence of a narrow dock constructed c.1863 for Cuthberts wharf, utilisation of local materials was evident. The roughly cut sandstone was only faced on one side with sandstone rubble packed between the two faces. Prior archaeological investigations undertaken by Austral encountered large amounts of rubble, which can be linked to the western section of the seawall. Cuthbert's wharf was an ambitious undertaking, involving the reclamation of a large portion of land. The use of cheaper material may have allowed Cuthbert to build longer seawalls, thereby maximising the amount of wharfage he could create.

The remains of both walls show a notable degree of engineering and resourcefulness, utilising the cheapest materials to achieve key structural elements that were critical in the creation of waterfront land. Both walls show that aesthetics were not completely abandoned to achieve the goal with minimal cost, and there is attention to detail in both walls that would have required considerable effort to execute throughout the length of a seawall. There is evidence of significant investment here. However, it is not in expensive or well-finished materials, but in adaptation and resourcefulness at a very small scale to achieve landscape-altering structures.

Throughout the site, the same materials in the same sequence were used to reclaim land or infill wharfs. This seems to be well-established practice throughout Darling Harbour, as the same processes and materials have been recorded at sites all along the eastern shore from Darling Square and Darling Walk at the head of the bay, to Barangaroo South and Barangaroo Headland in the north.

The archaeological remains uncovered during the program of works are consistent with the description provided by AMBS Ecology & Heritage, in their 2021 Archaeological Method Statement, of what would be considered Locally Significant Archaeology. These archaeological remains illustrate that despite significant impacts in east Darling Harbour there is still potential for archaeological remains of significance to be present.

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Appendix 1: Artefact Report

Barangaroo COP Artefact Report

Prepared by [redacted]
for AMBS Ecology & Heritage

December 2023

AMBS Reference: 20870

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Authored by:	[redacted], Artefact Specialist
Approved by:	[redacted], Senior Heritage Consultant, AMBS Ecology & Heritage

Contents

8 Project Introduction

This report details the artefacts recovered during archaeological salvage excavations for the Barangaroo Metro Station Construction Only Package (COP). Excavation was undertaken by AMBS Ecology & Heritage during services installation and relocation in 2021 and 2022. Mike Hincks was the Primary Excavation Director and Lian Ramage was the Secondary Excavation Director.

The Barangaroo COP involves the fitout of the new Barangaroo Metro Station, installation and connection of services, and the establishment of the new road surface on Hickson Road. It is a component of the Sydney Metro City and Southwest project, which is a 30km-long rail system from Chatswood to Sydenham and includes a new crossing beneath Sydney Harbour, and new railway stations.

The Project was approved by the Minster for Planning on 9 January 2017 subject to a number of Conditions set out in Critical State Significant Infrastructure Sydney Metro & Southwest Chatswood to Sydenham Infrastructure Approval (Application no. SSI 15_7400) (Project Planning Approval). Documentation for the project-wide works included a *Non-Aboriginal Impact Assessment* (EIS Technical Paper 4) and *Sydney Metro Historical Archaeological Assessment and Research Design Report* (AARD), both prepared by Artefact Heritage. Minister's Condition of Approval (CoA) E17 refers to the pre-excavation reporting requirements prior to construction:

> *The Archaeological Assessment Research Design Report (AARD) in the PIR must be implemented. Final Archaeological Method Statements must be prepared in consultation with the Heritage Council of NSW (or its delegate) before commencement of archaeological excavation works. The final methodology must:*
> *(a) provide for the detailed analysis of any heritage items discovered during the investigations;*
> *(b) include detailed site specific archaeological management and artefact management strategies;*
> *(c) include cored soil samples for soil and pollen for the Pitt Street site within the Tank Stream Valley; and*
> *(d) provide for a sieving strategy.*

Prior to the Barangaroo COP works, the Barangaroo Metro site was subject to extensive archaeological excavation works undertaken by Casey & Lowe Archaeology & Heritage in 2018. This included the footprint of the Station Box, which was entirely removed during excavations by Casey & Lowe.

8.1 Study Area

The study area is located within and to the west of Hickson Road, Barangaroo, within the City of Sydney Local Government Area (LGA) (**Figure 0.2**). The study area includes part of Lot 100 DP838323, part of Lot 52 DP 1213772 and part of Hickson Road. The study area is bounded in the west by the Hickson Road retaining wall and cutting. Artefacts were recovered from four locations (Trenches 1, 2, 4 and 5).

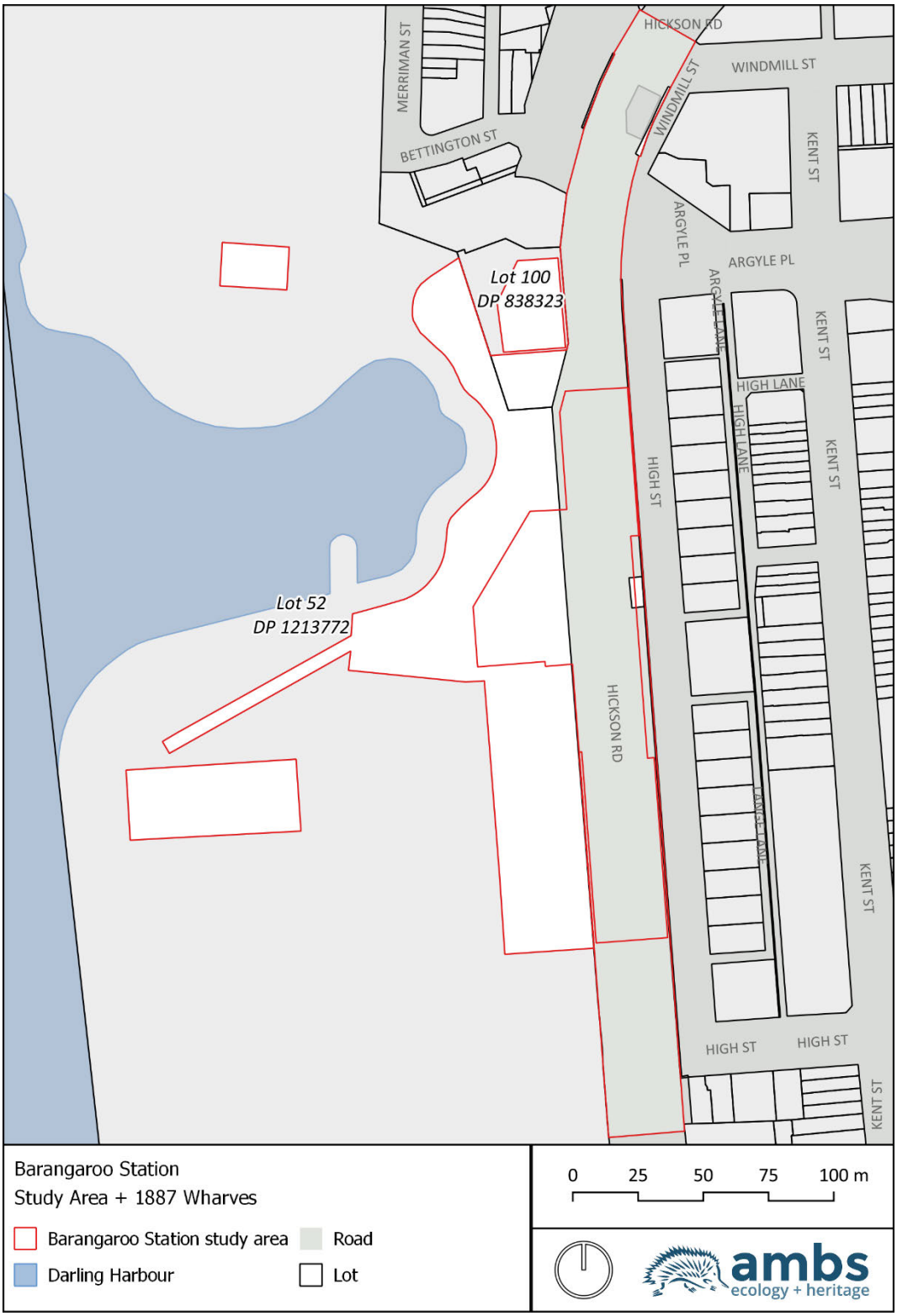

Figure 0.1: The study area relative to 2023 cadastral data.

Figure 0.2: The Barangaroo COP study area, shown with trench locations discussed in this report and an 1887 plan of the wharves.

8.2 Methodology & Authorship

This report was written by [redacted] Context descriptions were provided by [redacted]. Artefact analysis was undertaken by [redacted] in accordance with the system developed by AMBS. The artefact catalogue was recorded in an Excel spreadsheet. Prior to analysis the material had been cleaned, bagged and labelled by AMBS. Long-term storage of the artefacts will be provided by Sydney Metro.

9 Material Analysis

9.1 Introduction

A total of 320 artefacts and faunal remains were identified from among 557 fragments recovered during the Barangaroo COP excavation. These come from six contexts spread across four Trenches. The material will be discussed in terms of its ability to speak to the formation processes and dating of individual contexts within excavation areas, as well as their ability to contribute answers to the project research questions.

Artefacts will be considered as objects rather than rubbish, and will therefore be discussed in terms of Minimum Item Counts (MIC), rather than number of fragments unless otherwise specified (Sussman 2000: 96). Bone and shell will be discussed in terms of Number of Identified Specimens per taxon (NISP), unless otherwise indicated.

9.2 Assemblage Overview

The 320 items recovered from Barangaroo COP excavations come from a range of artefact classes. These are detailed in Table 0.1 and Table 0.2. Ceramic has the highest percentage with over half of the assemblage (Figure 0.3).

Table 0.1 Artefact classes represented within the Barangaroo COP assemblage.

Artefact Class	MIC	Fragments
Building Material	5	9
Ceramic	128	287
Glass	73	132
Metal	5	5
Miscellaneous	22	23
Organic	13	16
TOTAL	246	472

Table 0.2 Faunal remains (bone and shell) represented within the Barangaroo COP assemblage.

Faunal Remains	NISP	Fragments
Bone	58	68
Shell	16	17
TOTAL	74	85

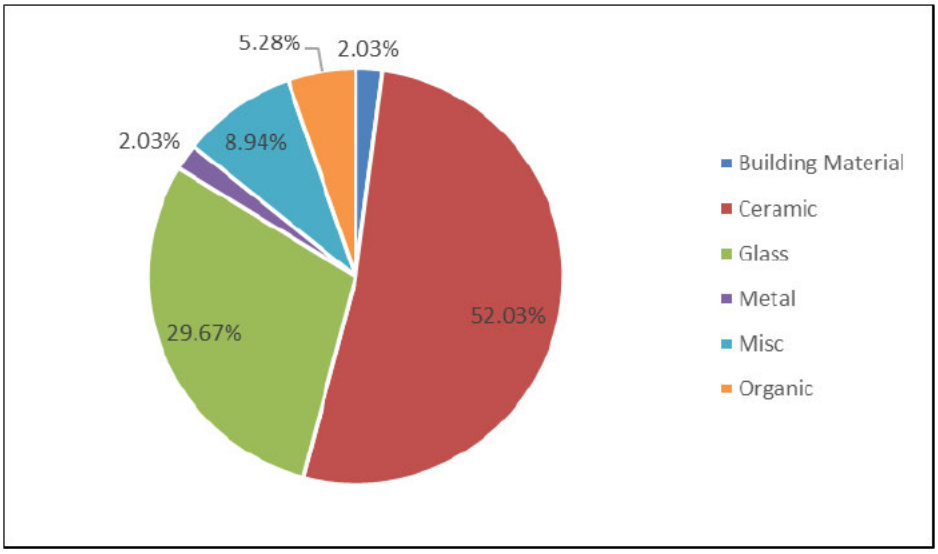

Figure 0.3 Percentages of artefact classes recovered from Barangaroo COP

The material was recovered from six contexts in four different Trenches (**Table 0.3** & **Table 0.4**). Notably, context [003] was spread across both Trench 1 and Trench 2.

Table 0.3 Total numbers of artefacts recovered from contexts within each trench, excluding faunal remains.

Trench	Context	Context Type	MIC	Fragment Count
1	[003]	Raising fill	62	89
1	[007]	Surface	11	13
2	[003]	Raising fill	18	26
4	[103]	Raising fill	9	16
4	[107]	Surface	91	247
4	[109]	Surface	22	43
5	[214]	Fill	33	38
TOTAL			246	472

Table 0.4 Total numbers of faunal remains (bone and shell) recovered from contexts within each trench.

Trench	Context	Context Type	NISP	Fragment Count
1	[003]	Raising fill	2	2
4	[107]	Surface	58	63
4	[109]	Surface	14	20
TOTAL			74	85

Seventeen ceramic patterns were identified on twenty-six separate items (Table 0.5). The maker, manufacturer or distributor of twenty-one artefacts were also able to be identified (Table 0.6).

Table 0.5 Ceramic patterns identified from Barangaroo COP. TP = transfer print.

Ctxt	Decoration Pattern	Decoration	Artefact Shape	Product Maker	Artefact Origin	Start Date	End Date	MIC
003	Albion	Blue TP	Wash Basin			1845		1
003	Asiatic Pheasants	Blue TP	Dish			1830		1
003	Asiatic Pheasants	Blue TP	Plate			1830		1
003	Asiatic Pheasants	Blue TP	Platter			1830		1
003	Brussels	Blue TP	Tureen	Pinder Bourne & Hope	England, Staffordshire, Burslem	1862	1880	1
003	Cable Double Helix	Purple TP	Saucer			1860		1
003	Palestine #08	Blue TP	Unidentified	William Adams IV & Sons	England, Staffordshire, Stoke	1829	1861	1
003	Rhine	Blue TP	Unidentified			1845		1
003	Wheat in the Meadow	Moulded white granite	Saucer	Powell & Bishop	England, Staffordshire, Hanley	1869		1
003	Willow	Blue TP	Platter			1805		1
103	Lily-of-the-Valley	Moulded white granite	Saucer	James Edwards	England, Staffordshire, Burslem	1858	1882	1
107	Cable	Purple TP	Cup			1860		1
107	Cable	Purple TP	Plate			1860		1
107	Cable	Purple TP	Plate			1860		1
107	Cable Double Helix	Purple TP	Plate			1860		1
107	Corsina	Blue TP	Unidentified	Multiple makers		1860	1898	1
107	Gem	Blue TP	Unidentified	Multiple makers		1845	1860	1
107	Greta	Bright blue TP	Plate	Robert Cochran & Co.	Scotland, Glasgow, Britannia	1850	1920	1
107	Peony	Black TP	Plate	Pinder, Bourne & Co., or Doulton & Co.	England, Staffordshire, Burslem.	1862		1
107	Rhine	Black TP	Plate			1845		1
107	View in Geneva	Blue TP	Wash Basin	Davenport	England, Staffordshire, Longport	1845	1860	1
109	Damascus #02	Black TP	Unidentified	Hackwood & Co.	England, Staffordshire, Hanley	1807	1827	1
109	Eton College	Blue TP	Platter	Multiple makers		1845	1860	1
214	Willow	Blue TP	Plate			1805		1
214	Willow	Blue TP	Plate, Small			1790	1830	1
214	Willow	Blue TP	Platter			1805		1
TOTAL								26

Table 0.6 Makers, manufacturers and distributers identified from Barangaroo COP.

Ctxt	Maker/Manufacturer	Distributor	Artefact Origin	Artefact Shape	Start Date	End Date	MIC
003	Aire and Calder Bottle Company (ACB Co), England, Yorkshire, Castleford	Lea & Perrins (England, Worcester, 1837-)	England, Worcester	Bottle	1850	1920	1
003	Barnetts & Foster, England, London	Starkey (Australia, Sydney, c.1846-1956)	England, London	Bottle	1862	1911	1
003	Henry Kennedy & Sons (Ltd.), Barrowfield Potteries		Scotland, Glasgow	Bottle	1866	1929	1
003	Pinder Bourne & Hope		England, Staffordshire, Burslem	Tureen	1862	1880	1
003	Powell & Bishop		England, Hanley	Saucer	1869		1
003	William Adams IV & Sons		England, Staffordshire, Stoke	Unidentified	1829	1861	1
103	Henry Kennedy & Sons (Ltd.), Barrowfield Potteries		Scotland, Glasgow	Bottle	1866	1929	2
103	James Edwards		England, Staffordshire, Burslem	Saucer	1858	1882	1
107	Davenport		England, Staffordshire, Longport	Wash Basin	1845	1860	1
107	E. & C. Challinor		England, Staffordshire, Fenton	Plate	1862	1891	1
107	Goddard & Burgess		England, Staffordshire, Longton	Saucer	1840	1890	1
107	Pinder, Bourne & Co., or Doulton & Co.		England, Staffordshire, Burslem.	Plate	1862		1
107	Robert Cochran & Co.		Scotland, Glasgow, Britannia	Plate	1850	1920	1
107	Thomas Davidson, Glasgow		Scotland, Glasgow	Pipe	1861	1891	1
107		Charles Crop, London	UK	Pipe	1856	1924	1
107		Grace Brothers, Sydney		Button	1885		1
107		Thomas Saywell, Sydney	UK	Pipe	1863	1905	1
109	Hackwood & Co.		England, Staffordshire, Hanley	Unidentified	1807	1827	1
214	Weston & Westall			Salt Jar	1860	1895	1
214	William Powell		England, Bristol	Bottle	1835	1906	1
TOTAL							21

10 Trenches 1 & 2

Trenches 1 and 2 contained two artefact-bearing deposits, contexts [003] and [007]. Context [003] was located in both trenches, whereas context [007] was confined to Trench 1. Because the trenches have arbitrary boundaries, the following discussion will consider the artefactual material from context [003] as a single unit, rather than making a distinction between Trenches 1 and 2.

10.1 Context [003]

Context [003] was a ground-raising fill at the southern end of the site that marked the shift from early private wharfs to large aprons able to accommodate substantial commercial undertakings. It was spread in a very large quantity across the whole of the trench. It was on both sides of the early property boundary, was up to 740mm thick and completely covered the earlier structures and surfaces. The fill consisted of layers of sandy clay with visible tip lines in section and was grey-brown in colour. Context [003] yielded 80 artefacts, with the majority comprising ceramics (43 MIC) and glass (26 MIC). The remainder consisted of miscellaneous (3 MIC), organics (3 MIC), metals (3 MIC) and two building materials (MIC). Additionally, an oyster shell and the butchered lumbar vertebra of an unidentified mammal (possibly sheep) were also found.

The artefacts within context [003] suggest the material was deposited in the late 19th century. The latest terminus post quem belongs to a ceramic saucer made from white granite (#107). It is decorated in 'Wheat in the Meadow' pattern which was registered in 1869 by Powell and Bishop of Hanley, England (Wetherbee 1985: 83). Eight other items also date to no earlier than c.1860. Allowing for time for these items to be manufactured, shipped to Australia, sold, used and then broken and discarded, the cluster of items with a terminus post quem of c.1860s suggests the fill was deposited in at least the 1870s, or possibly later.

A number of individual items within fill [003] point toward the material having originated as domestic rubbish. These include a lady's enamel brooch with a delicate, twisted copper alloy wire frame (#272), a miniature teacup from a child's tea set (#270), and the finish of a colourless glass perfume bottle (#019; Figure 0.4). Three terracotta plant pots are also indicative of a domestic origin (#101, #102 & #103). A single large, 383mm long hand forged ferric pin is typical of those used to secure timbers in wharfage construction, and suggests that at least some of fill [003] was sourced from nearby, probably opportunistically (#300; Figure 0.5).

Figure 0.4: selected domestic items from fill [003]. Left: perfume bottle finish #019; middle: toy teacup #270; right: brooch #272. Scale 10cm. S Kuiters.

Figure 0.5: Ferric wharf pin (#300/[003]). Scale 10cm. S Kuiters.

The glass and ceramic fragments are generally medium to large size sherds, but most represent 30% or less of the complete object. The two exceptions are a whole condiment/sauce bottle stopper (#001) and the base/stem fragment of a bone china egg cup (50% complete, #105). Both of these items are small and robust, and therefore commonly encountered whole or with minimal fragmentation in archaeological deposits. There are only seven instances of glass or ceramic items which comprised either joining sherds, or sherds which did not join but probably came from the same vessel.

When considered together, the fragmentation of the glass and ceramics suggests that some of the items were originally disposed of elsewhere, perhaps as domestic or commercial rubbish with no association with the wharfs, and subsequently moved and deposited as part of a fill event. This is typical of bulk raising and/or reclamation fills in Sydney, where objects could be broken at the point of primary deposition, and then separated when the material was sourced as raising or reclamation fill. In 1889, the NSW Public Works Department reported that rubbish was used for land reclamation (Birch et al. 2009: 348), and in the late 19th-early 20th century the Department of Public Health authorised contractors to dump rubbish into disused clay pits, natural depressions and low-lying swampy lands around Sydney. This was undertaken as a matter of public health for the prevention of disease, and as a means of levelling and reclaiming land for industrial use, and for use as harbourside parklands (Birch et al. 2009: 359). Private land owners similarly used rubbish brought into the site as a means of raising and levelling waterfront land. Additionally, the residents of nearby houses may have taken the opportunity to dispose of household rubbish directly at the wharf during the raising fill event.

10.2 Context [007]

Context [007] was a wharf surface that developed between 1833 and 1865. During this phase the historical surveys indicate that the wharf was extended to the south, and that a timber structure had been built in the location of the extension by 1865. Context [007] represented a very well-developed surface that showed evidence of contemporary development across the original wharf and the infilled extension. It was very compact and was up to 60mm thick above the original infill. Above the extension fill it was around 30mm thick, suggesting that the extension was made roughly halfway through the life of the wharf. It consisted of a very compact mix of timber splinters, black organic material, silty particles, charcoal and fine-grained grey sands.

A total of 11 items were recovered from context [007]. These comprise nine ceramics and two items of glass. The artefacts are generally small in size, with all but two of the fragments representing less than five per cent of the original, unbroken object. The two exceptions are small and robust: the rim of a stoneware bottle which represents approximately ten percent of

the original bottle (#147), and a small, whole, tack-shaped glass bottle stopper (#041). The small and fragmented nature of the artefacts is consistent with them having come from a surface, where it is to be expected that foot traffic and other activities would have broken and crushed objects over time, or where larger objects deposited on the surface would have caused an obstruction and therefore been moved elsewhere.

The items able to be identified by shape and/or function are generally associated with the storage and consumption of food and beverages (Table 0.7). Some of these may represent meals eaten by workers at the site, or refuse from nearby residential houses, but in such a small assemblage this cannot be confirmed with any certainty.

Table 0.7 Function and shape of artefacts recovered from context [007].

General Function	Specific Function	Artefact Shape	MIC	Fragment Count
Beverage	Stout	Bottle	1	1
Beverage	Tea	Cup	1	1
Food	Condiments/Sauce	Stopper	1	1
Food	Tableware	Plate	1	1
Food	Tableware	Plate, Small	2	2
Unidentified	Unidentified	Bottle	0	1
Unidentified	Unidentified	Unidentified	5	6
TOTAL			11	13

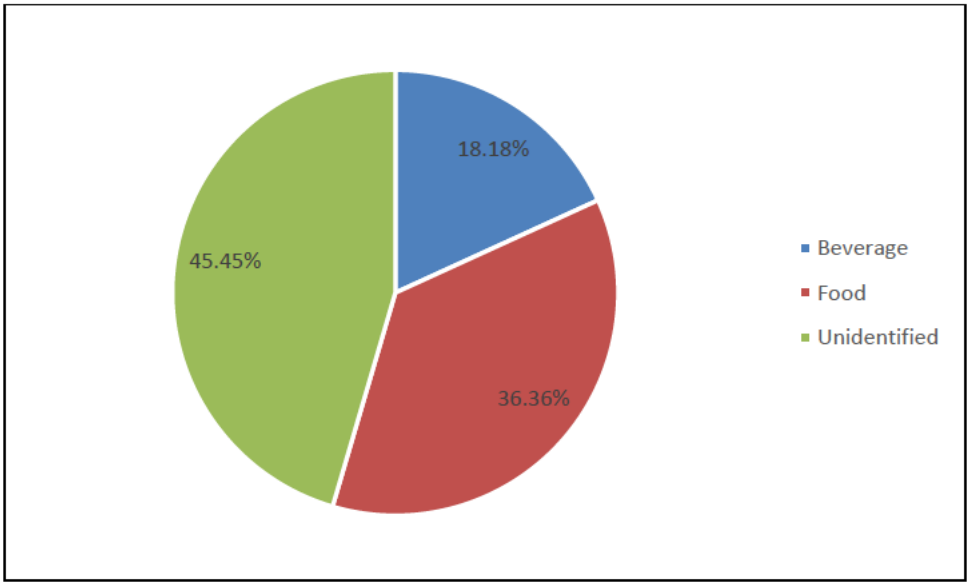

Figure 0.6 Percentages of general functions from Context [007]

The date ranges of the artefacts indicate that the surface was likely sealed over by the 1860s. The latest terminus post quem is a fragment of Rockingham glazed ceramic (#149), which began to be produced in England in the mid-19th century (Rockingham Ware. 2015).

11 Trench 4

Trench 4 corresponded to part of Cuthbert's wharf. Only a small patch survived. The trench contained three artefact-bearing deposits: bulk infill [103], surface [107] and surface [109]. Contexts [107] and [109] are thought to represent the development of the wharf surface during the 1860s and 1870s. They were separated by thin levelling fills of sterile industrial waste, clayey silt and crushed sandstone (context [108]).

11.1 Context [109]

Context [109] was the earliest surface to develop on the sandstone rubble fills that established Cuthbert's infilled wharf during the 1860s and 1870s. It consisted of a layer of 40mm-thick stained dark grey silts and sand and fine-particled industrial waste. It was well compacted. This context yielded 14 bones (NISP), which was the second highest number of faunal remains excavated at the Barangaroo COP site after context [107]. It also contained 22 individual artefacts identified from among 43 fragments. The majority of these are ceramics (12 MIC), followed by glass (7 MIC), as well as two miscellaneous and an organic cork bottle stopper (#262).

The date ranges of the artefacts support the supposition that the surface was laid down in the 1860s to 1870s. The latest terminus post quem of c.1860 is shared by a fine earthenware teacup (#212), saucer (#213) and plate (#216). These are all decorated in a bright blue transfer print colour typically not seen until after c.1860.

Most of the artefacts are associated with the consumption or storage of food and beverages (15 MIC; Table 0.8). Additionally, the animal bones are also probably food refuse. Of the eight bones able to be identified, five are sheep, two are chicken, and one is a from a cow. Three of the bones exhibit butchery marks (#383, #384 & #389), and most of the identified bones are from parts of the animal commonly eaten, including ribs and limbs.

Table 0.8 Function and shape of artefacts recovered from context [109].

General Function	Specific Function	Artefact Shape	MIC	Fragment Count
Architectural	Window	Flat	1	1
Beverage	Closure	Bottle	1	1
Beverage	Gin/schnapps	Bottle	2	2
Beverage	Ginger Beer	Bottle	1	1
Beverage	Tea	Cup	3	3
Beverage	Tea	Saucer	2	10
Beverage	Unidentified	Bottle	1	1
Beverage	Wine	Bottle	2	3
Food	Cutlery	Unidentified	1	2
Food	Tableware	Plate	1	2
Food	Tableware	Platter	1	1
Personal	Hygiene	Ewer	1	8
Personal	Hygiene	Ointment Pot	1	1
Pharmaceutical	Castor Oil	Bottle	1	2
Recreational	Toys	Marble	1	1
Unidentified	Unidentified	Unidentified	1	3
Yard/Outdoor	Garden	Pot	1	1
TOTAL			22	43

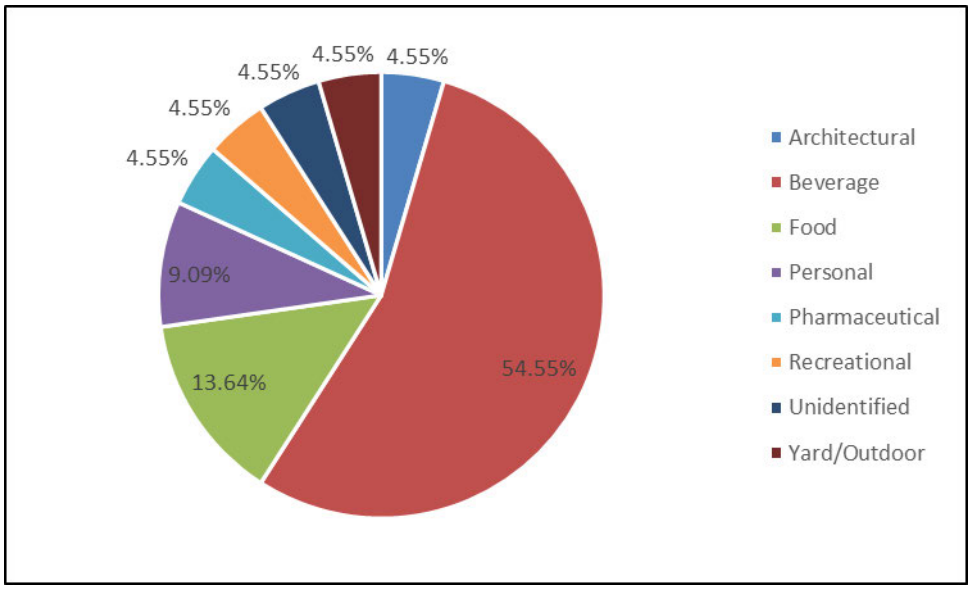

Figure 0.7 Percentages of functions from context [109]

Workers at the wharf would have eaten meals at the site, so the prevalence of items associated with food or beverages is to be expected. Glass and ceramic bottles may have been used to transport workers' beverages to the site, perhaps reused and not with their original contents. However, it is unlikely that meals would have been eaten from anything as fragile as ceramic teacups, plates and platters. The son of a wharf labourer who worked at Darling Harbour recalled that in the first decade of the 20th century how he would walk from Miller's Point to the wharf with his father's dinner wrapped in a red handkerchief. His father was not allowed to site on the wharf to eat and would instead eat on the gutter outside the wharf, amongst the horse manure (Mitchell 1973: 162). A blue flow transfer print ewer (#209) and terracotta pot plant sherd (#208) are also domestic in nature and incongruous with the workspace of the wharf.

It is therefore likely that while at least some of the bone and artefact material recovered from surface [109] are refuse from workers' meals, a portion of the material probably arrived at the site by alternate means. The most likely explanation is that it was opportunistically dumped by the residents of nearby houses at Wentworth, Unwin, Clyde and Munn Streets. Additionally, the steep topography of the area saw residential houses on these streets situated on much higher ground than the wharf. This would have been particularly conducive to domestic material washing down toward the waterfront.

A ceramic marble and sheep's knucklebone(astragalus), are also notable within the [109] assemblage. The sheep knucklebone may have a recreational function beyond the original use of the animal for consumption (#380; Figure 0.8). Sheep's knucklebones were sometimes used as dice, and were also used in the children's game of knucklebones. Knucklebones is an ancient game of throwing and catching small objects known as jacks. It has been played throughout the world for millennia. In colonial Australia, the knucklebones of sheep were the most common type of jack until the mid-20th century (The Game of 'Knucklebones' in the Dorothy Howard Collection. 2023). The fine earthenware marble may also suggest the presence of children spending time at the wharf (#290; Figure 0.8). Wharf labourers often waited for hours at the wharf for a job (Mitchell 1973: 12). Perhaps the young workers passed the time waiting for work with games of marbles and jacks, however, it is just as likely that the small objects washed down from the houses above.

Figure 0.8: Artefacts associated with recreational games. Left: sheep knucklebone (#380/[109]); right: marble (#290/[109]). Scale 10cm. S Kuiters.

Like surface [007], the artefact recovered from surface [109] are generally small, and consistent with having come from a surface where foot traffic and other activities would have broken and crushed objects over time. Eleven items represent less than 30% of the original object, and the remaining four are small and robust, including the marble (#290), cork bottle stopper (#262), ointment pot (#217) and cutlery (#291).

11.2 Context [107]

Context [107] was part of the wharf surface which developed during the 1860s and 1870s. It was later than surface [109], and was separated from this earlier surface by thin sterile levelling fills (context [108]). Surface [107] was 25mm thick and shared the same silt/sand/industrial waste matrix as context [109]. Forty-three animal bones and 15 shells were recovered from the surface, which is the highest number of faunal remains for any context at the Barangaroo COP site. It also contained 91 artefacts (247 fragments), comprising ceramics (36 MIC), glass (25 MIC), miscellaneous (17 MIC), (9 MIC), metals (2 MIC) and building materials (2MIC).

A single trouser button may be out of step with the phasing of the wharf surface to the 1860s and 1870s (#284; Figure 0.9). The four-hole, two-piece copper alloy button is heavily corroded, but displays incuse lettering reading: 'G B & Co / SYDNEY'. The button may have been made for Grace Brothers, which opened its first Sydney store in 1885 (Lech 2011), although it is possible that G B & Co refers to a different, earlier, Sydney clothing store. The next latest artefacts are three items with terminus post quem loosely dating the mid-1870s. One is a blue edgeware plate in a style which peaked in popularity from c.1874 to c.1884 (#189) (Brooks 2005: 42). There is also a light green pickle/chutney bottle (#060) and light blue pharmaceutical bottle (#064), both with tooled finishes. The technological transition from applied finishes to tooled finishes was quite variable, but had significantly commenced in North America in the mid-1870s (Lindsey 2020).

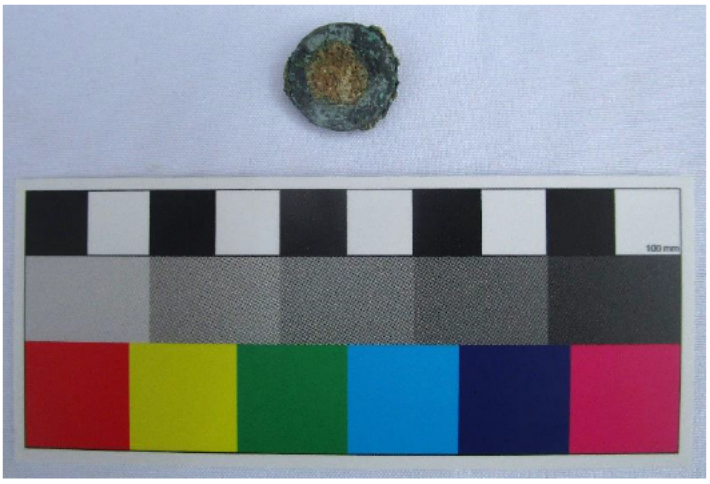

Figure 0.9: Trouser button (#284/[107]). Scale 10cm. S Kuiters.

Like surface [109], a large proportion of the artefacts recovered from surface [107] are associated with food and beverages (49 MIC, 53.8%; Table 0.9). Most of the animal bones and shells are also likely to be food refuse. All of the shells are from two commonly eaten species: Sydney Rock Oyster (Saccostrea glomerata, 10 NISP), and Sydney Cockle (Anadara trapezia, 5 NISP), and are of a size suitable for eating. Fifteen of the bones exhibit evidence of butchery, and all of the identified bones are from commonly eaten animals, including sheep (12 NISP), cows (2 NISP) and fish (2 NISP). The bone assemblage from context [107] is dominated by limb and rib bones which are typically associated with dietary refuse. No cranial elements, and only two phalanx bones were identified, further supporting this postulation (Fillios & Blake 2015: xxxiii).

Table 0.9 Function and shape of artefacts recovered from context [107].

General Function	Specific Function	MIC	Fragment Count
Architectural	Flooring	2	6
Architectural	Window	2	2
Beverage	Aerated Water	2	2
Beverage	Champagne	1	7
Beverage	Closure	2	2
Beverage	Gin/schnapps	3	4
Beverage	Stout	1	6
Beverage	Tableware	2	5
Beverage	Tea	14	42
Beverage	Unidentified	2	4
Beverage	Wine	4	21
Clerical	Writing	1	1
Collectable	Ornamental	1	1
Food	Condiments/Sauce	2	2
Food	Oil/Vinegar	1	2
Food	Pickle/Chutney	1	5
Food	Tableware	14	46
Heating	Unidentified	3	3
Household	Ornament	1	5
Household	Unidentified	1	2
Industrial	By-Product	1	1
Personal	Clothing	8	8
Personal	Hygiene	3	39
Pharmaceutical	Castor Oil	1	2
Pharmaceutical	Medicine	1	1
Pharmaceutical	Patent Medicine	1	1
Recreational	Smoking	5	5
Recreational	Toys	4	4
Transport	Vessel	1	1
Unidentified	Unidentified	6	17
TOTAL		91	247

Like context [109], it is likely that many of the artefacts within surface [107] were dumped or washed down from houses along Wentworth, Clyde, Unwin and Munn Streets, which were situated on a steep and rocky slope above the wharf. Some of the uniquely domestic items recovered from surface [107] include two stemware glasses (#065 & #06; **Figure 0.10**), a milk glass vase (#068), a bone china egg cup (#200) and two wash basins (#198 & #170). Eight teacups, four saucers, one Chinese porcelain coffee can (#204) and a Rockingham glazed teapot (#199), were also identified. Several items stand out as being too large to have washed down to the wharf surface via a drain or storm event. For example, a blue transfer print wash basin is 50% complete (#170) and three plates are each 30% complete (#175, #176 & #181). These were probably dumped directly at the wharf site by the residents of nearby houses.

Figure 0.10: Stemware glasses from context [107]. Left: #066; right: #065. Scale 10cm. S Kuiters.

At least some of the artefacts recovered from the surface, however, would have been deposited or lost by workers at the wharf. Any of the five smoking pipes recovered from context [107] may have belonged to wharf labourers. Of particular note is one burnt and snapped pipe which has been ground at the broken end to create a new mouthpiece (#273; **Figure 0.11**). The stem is embossed with 'SAYWELL' and 'SYDNEY', and was made in the United Kingdom for tobacconist Thomas Saywell, who had a shop in Sydney from 1863 to 1905 (Geeves 2006). Another pipe stem is embossed 'DAVIDSON', and 'GLA[SGOW]', and was manufactured by Thomas Davidson of Glasgow between c.1861 and c.1891 (#275) (Clay Pipe - Ceramic, Thomas Davidson, Glasgow, circa 1861-circa 1891. 2023). A slate pencil may also have been used in work-related activities at the wharf (#278).

Figure 0.11: Pipe reading 'SAYWELL' on left hand side of stem (#273/[107]). Right hand side reads 'SYDNEY'. Scale 10cm. S Kuiters.

Context [107] also contained three toy marbles and the neck fragment of a German bisque porcelain doll (#279). As with the marble recovered from surface [109], it is possible that the marbles were lost by boys who worked at the docks, however the doll almost certainly came from domestic refuse dumped or washed down to the site.

A single hand forged copper alloy sheathing nail recovered from surface [107] is the only artefact associated with ship building from the Barangaroo COP site (#303; Figure 0.12). Copper sheathing was fixed to the hulls of ships below the waterline to prevent teredo worms (Teredo navalis) from boring into the wood as early as the late 18th century, and was common practice by the early 19th century (Staniforth 1985).

Figure 0.12: Sheathing nail (#303/[107]). Scale 10cm. S Kuiters.

Finally, a whale tooth mounted on a missing ferric base speaks to the maritime links of the workers and/or residents of Millers Point (#288; Figure 0.13). The tooth, probably from a sperm whale, was 88mm in length and does not display evidence of scrimshaw. It may have been collected as an ornamental curio, or it may have been intended for scrimshaw but lost before carving began.

Figure 0.13: Whale tooth (#288/[107]). Scale 10cm. S Kuiters.

11.1 Context [103]

Context [103] was a bulk infill designed to raise the surface of the wharf. It dates to the period after Cuthbert's use of the wharf and was probably introduced in the 1880s. It consisted of mid-brown sands, crushed and fragmented sandstone and sandstone rubble at the base. It capped and sealed surface [107]. A minimum item count of nine artefacts, all ceramic, was identified from 16 fragments recorded from context [103]. These are all associated with the general function of food or beverages.

Most of the ceramics from context [103] are salt glazed stoneware stout bottles (6 MIC, 13 fragments, #158-#166). Two exhibit the impressed marks of the Scottish potter Henry Kennedy, who operated at Barrowfield, Glasgow (#158 & #160). Kennedy's Barrowfield pottery was founded in 1866, and after his death in 1890, it began operating under the name Henry Kennedy & Sons from c.1891 (Barrowfield Pottery. 2020). This places the manufacture date of the two Kennedy stout bottles to between 1866 and c.1891, which is the latest terminus post quem for this context.

The concentration of stout bottles within context [103] is significant, although caution must be used when drawing conclusions from such a small number of artefacts. It is likely that the bottles were discarded as part of a commercial or domestic rubbish dump or clear out event, perhaps from a nearby property. The concentration of the bottles suggests this occurred as a primary deposition event, during the filling and raising of the land.

In addition to the stout bottles, fill [103] also yielded a single sherd of saltglaze stoneware which probably comes from a seltzer or ginger beer bottle (#167), and a yellowware dish which would have been used in food preparation (#169). The fill also contained a white granite saucer with moulded 'Lily-of-the-Valley' pattern (#168), registered by James Edwards in 1858 (Wetherbee 1985: [107]).

12 Trench 5

Context [214] was the only artefact-bearing context in Trench 5, Zone 5 in the northwest corner of the site.

12.1 Context [214]

Context [214] was a bulk fill of pale brown-grey sand and sandstone fragments that post-dated the construction of a sandstone seawall [208], on Munn's land in the northwest corner of the site. The seawall is undated at the time of writing but is thought to be 1850s or earlier. Context [214] extended the reclaimed land and created an infilled wharf. It appears to have been a relatively early fill, covering the exposed bedrock of the shoreline just above high water. A total of 33 individual items or 38 fragments, were recovered from fill [214]. These consist of 18 ceramics, 14 glass and one brick fragment. It did not contain any bone or shell.

The latest terminus post quem for context [214] is a fragment of sandstock brick loosely dated to c.1850 to c.1900 (#314). However, it is important to note that this date range is a broad approximation only, and based on generalities related to style and method of manufacture. A more suitable terminus post quem for context [214] relates to a fine earthenware salt jar, the body of which is impressed: 'WESTON & WESTALL'S / SUPERIOR / BRITISH TABLES[ALT]' (#231; Figure 4.47). Weston & Westall were listed as a salt merchants located at 115 Lower Thames Street in the 1843 London Street Directory (London Street Directory in 1843 - W11. 1843), whereas Weston, F.D. was listed at the same address in the 1820 Post Office London Directory (The Post office London directory. 21st ed. (1820). 1820: 376). A specific start date for Weston & Westall Salt cannot be found at the time of writing, but must be sometime between c.1820 and c.1843. A light green cup bottom mould glass bottle (#093) and white granite ceramic teacup (#222) also broadly date from c.1840 onwards, suggesting that fill [214] was deposited sometime in the late 1840s or 1850s.

Figure 0.14: Weston & Westall's salt jar (#231/[214]). Scale 10cm. S Kuiters.

Twenty-four out of the twenty-eight items for which a general function can be identified are associated with food or beverages (Table 0.10). These include a fragment of a red transfer print fine earthenware child's plate (#227; Figure 4.48), and part of a press moulded glass tumbler (#094). Other items include a blacking bottle (#232), and penny ink bottle (#234), both made from salt glaze stoneware. All of these items are commonly encountered on 19th century sites in Sydney, but are more typical of domestic deposits rather than industrial or worksite deposits.

The artefacts are generally medium to large-sized fragments, but with only two items comprising joining sherds. At least one of these is freshly broken, likely during excavation (#236). The assemblage is small, but the absence of whole items and joining sherds may be in indication that the infilled wharf was not the initial place of deposition for some these objects, but that they were moved there after their initial discard as a form of reclamation/raising fill, much like the artefacts identified in context [003], in Trenches 1 & 2. It is also possible that some of the objects were opportunistically disposed of during the infilling event by nearby residents.

Table 0.10 Function and shape of artefacts recovered from context [214].

General Function	Specific Function	Artefact Shape	MIC	Fragment Count
Architectural	Structural	Brick	1	1
Beverage	Champagne	Bottle	1	1
Beverage	Gin/schnapps	Bottle	1	1
Beverage	Ginger Beer	Bottle	1	1
Beverage	Stout	Bottle	1	4
Beverage	Tableware	Tumbler	1	1
Beverage	Tea	Cup	1	1
Beverage	Unidentified	Bottle	1	1
Beverage	Wine	Bottle	9	11
Clerical	Writing	Penny Ink	1	1
Food	Storage	Jar	2	2
Food	Storage	Salt Jar	1	1
Food	Tableware	Plate	2	2
Food	Tableware	Plate, Child's	1	1
Food	Tableware	Plate, Small	1	1
Food	Tableware	Platter	1	1
Household	Maintenance	Blacking Bottle	2	2
Unidentified	Unidentified	Bottle	2	2
Unidentified	Unidentified	Unidentified	3	3
TOTAL			33	38

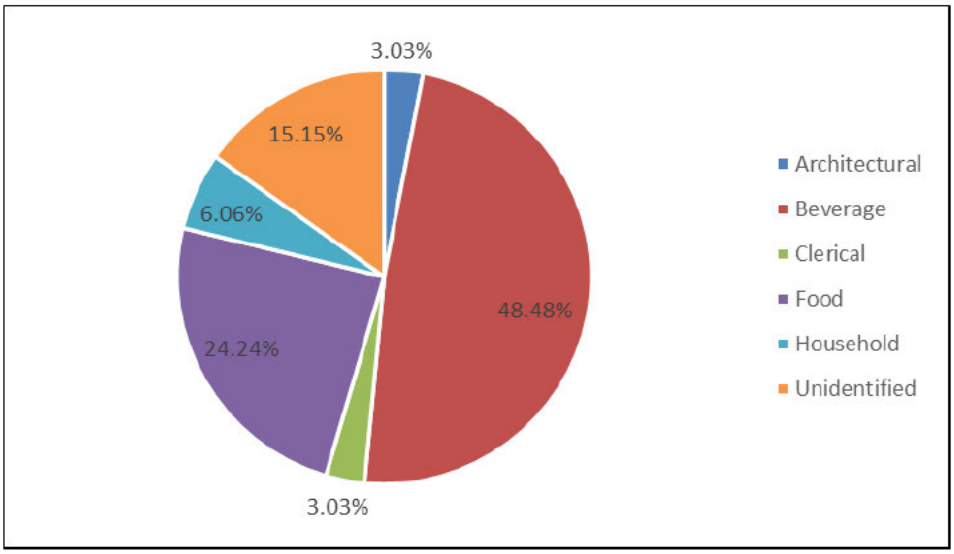

Figure 0.15 Percentages of functions from context [214]

Figure 0.16: Child's plate (#227/[214]). Scale 10cm. S Kuiters.

13 Research Questions

A number of research questions were put forward in the Barangaroo Metro Station COP Archaeological Method Statement (AMBS Ecology & Heritage 2021). These were based on the Barangaroo Station AMS (2017), with additional questions relevant to the Barangaroo COP site. Analysis of the artefacts recovered from Barangaroo COP helps to address several of these research questions. The following discussion focusses only on those questions for which the artefacts were able to contribute answers. For the full list of research questions for Barangaroo COP, see the Barangaroo Metro Station COP AMS.

13.1 Shipbuilding

> *Archaeological remains of Cuthbert's shipyard, which eventually covered the whole of the excavation area, should be examined to determine if they can reveal information about the variety and quality of shipbuilding that took place on the site over time. This in part can be answered by the examination of discarded fittings and tools on the site, as well as timber off-cuts. The arrangement of the work space such as the relationship of the slipway(s), sail loft, saw pits, forges and other features can say much about organisation and efficiency. It would be of interest to see if some features such as saw pits and forges were absent from the site as this would demonstrate the interconnectedness, or otherwise, of the shipyards in Darling Harbour with other local businesses. It is noted that often the archaeology of ship building is limited to ephemeral remains of the odd copper nail and part of a slip.*
>
> *How did boatbuilding change across the site and how did it relate to changing economic concerns of the colony with the development of the colonial economy with the shipping wool to Britain the Goldrush as well as the shipping to the northern coast of NSW?*

Only one artefact associated with shipbuilding was recovered from Barangaroo COP. This is a sheathing nail, from context [107]. Copper sheathing was fixed to the hulls of ships below the waterline to prevent teredo worms (Teredo navalis) from boring into the wood as early as the late 18th century, and was common practice by the early 19th century (Staniforth 1985). The single sheathing nail cannot add much to the answering of this research question, but does reinforce the knowledge that copper sheathing was used on ships which visited the Barangaroo area in the 19th century.

13.2 Maritime Infrastructure

> *Barangaroo Station site provides an opportunity to explore the transformation of a section of the Darling Harbour waterfront from the early 19th century to the government takeover in 1900 and then into the 20th century. The focus on this theme is on capitalism, evolving nature of the maritime infrastructure, and how these two themes shaped choices made in relation to individual site development? The nature of private v public construction of wharfage and seawalls and how it relates.*
>
> *Of interest would be the comparison between the quality of public versus private infrastructure, quality both in materials and construction. For example, was turpentine, an excellent hardwood resistant to marine borers, consistently used? If lesser quality timbers such as ironbark were used as piles, were they copper sheathed (a protection against marine borers)?*
>
> - *Documenting the quality of the jetties, seawalls and other maritime infrastructure constructed by private firms would provide insight into the attitudes of those firms.*
> - *Did high quality structures indicate confidence and a willingness to invest for the long term?*

- *Did poor quality and poorly maintained structures reflect a struggling owner or one that did not see it economically beneficial to build durable infrastructure on their property or lease? Did the maintenance and condition of the waterfront infrastructure drop off towards the start of the 20th century?*
- *If so, how much was this due to the 1890s depression and/or to owners realising that the government was looking at resumptions cause them to reduce expenditures in maintaining their structures, thereby providing the government more justification for taking over?*
- *Other relevant questions will be addressed as they arise.*

The only artefact identified as likely being related to maritime infrastructure is a large ferric pin, recovered from fill [003]. The pin is typical of those used to secure timbers in wharfage construction. Similar examples were found at Barangaroo South, excavated by Casey & Lowe in 2011-2012 (Hincks 2012; Kuiters 2014: 14). The Barangaroo COP pin was recovered from a fill, so the evidence it can contribute toward maritime infrastructure is limited, but does at least suggest similarities in infrastructure between the two Barangaroo sites.

13.3 Landscape Archaeology

The exploration of how the landform of Darling Harbour was altered between c.1820 and 1980s is fascinating as it testifies to the need for more land in specific locations and to provide adequate drafts for shipping. This represents the development of urban pressures as early as the 1830s to concentrate local industry around the main transport network, shipping, so as to aid distribution of their products and the importation of the goods as needed. The ability of entrepreneurs to transform mud flats into useful land, to build wharfage far enough into the harbour to provide safe mooring for ships bringing in cargo and taking away goods. The alteration and manipulation of the landform of Darling Harbour has been part of its story of Sydney for the last two centuries. The methods and means by which the landform was altered can tell us much about attitudes to waste and rubbish disposal, particularly the deposition of waste from other construction projects, such as the reclamation of nearby areas in the 1920s and the study area in the 1950s and 1960s with material excavated from elsewhere and dredged from the harbour.

- *What was the nature of the original landform?*
- *Evidence for shells, such as cockles and oysters, and what plant species were found in this area?*
- *How has this part of Darling Harbour evolved over time?*
- *How many times was the landform remade within the study area?*
- *What different materials and means were used, and what was the depth of the reclamation at each stage? How different was this to the practices at the Darling Quarter, Barangaroo South, Darling Harbour Live and the KENS sites?*
- *Were the phases of reclamation successful or not?*
- *Were the different properties reclaimed at different times?*
- *Where did the reclamation fill come from?*
- *How was the new landform used?*
- *What was the relationship between the reclaimed land and the wharfage?*
- *Other relevant questions will be addressed as they arise.*

Sixteen shells (NISP) were recovered from Barangaroo COP. Fifteen of these were from context [107] and the remaining was from context [003]. There are 11 Sydney rock oyster (*Saccostrea glomerata*), and five Sydney cockle (*Anadara trapezia*). These are both commonly eaten species in the Sydney area and all of the shells are of a size large enough to generally be considered worth the effort of collecting and eating. It is therefore likely that the shells are food refuse.

No artefacts were collected from reclamation fills at Barangaroo COP, however artefacts were found in two raising fills (contexts [003] & [103]). The nature of the artefact material from context [003] indicates that it originated as domestic rubbish, and that at least some of the material was brought into the site from elsewhere as a secondary deposit. It is also likely that some of the material was dumped at the site directly from nearby households as a means of rubbish disposal.

Context [103] contained a concentration of stout bottles, which suggests that they were disposed of as part of a primary commercial or domestic rubbish dump or clear out event, perhaps from a nearby property during the raising fill event.

13.4 Cuthbert's Shipbuilding Yard

- *Is there evidence of the worker's day to day lives in the shipyard? Can we see evidence of eating, drinking and smoking in the artefacts that build up with the timber and detritus on the surface of the wharf?*

Artefacts were found in two surfaces associated with Cutbert's wharf. The earliest was context [109], which sat on the sandstone rubble fills that established Cuthbert's infilled wharf during the 1860s and 1870s. The later surface was context [107], and was separated from surface [109] by thin, sterile levelling fills. The artefacts from both surfaces are similar in nature, and will be discussed together.

Many of the artefacts recovered from the surfaces are domestic in nature, and likely originated at nearby houses such as those above the shipyard at Unwin, Clyde, Wentworth and Munn Streets. Others, however, are not unexpected at a worksite, such as animal bones from meals, glass and ceramic bottles (perhaps reused) to contain workers' beverages, and smoking pipes. Four marbles and a sheep's knucklebone are particularly interesting as they suggest the possibility that recreational activities may have taken place at the wharf, perhaps while men and boys waited around for work. Unfortunately, it is not possible to say for certain which artefacts originated at the nearby houses, and which were deposited by the workers themselves.

- *Are there unexpected artefacts from domestic or other settings at the wharf or is the assemblage related to a work environment only? What can we tell about the close-knit nature of residences and industry in this part of the harbour? Is there evidence to suggest that the occupants of the houses on Wentworth, Unwin, Clyde and Munn Streets overlooking the wharf are disposing of rubbish at the edge of the high ground, or that drains and storm events are bringing detritus down from the streets above? What is the nature of the interaction between the two environments that is suggested by the artefact assemblage at the wharf?*

There is large crossover between artefacts which could have been used in both a domestic and work setting. Items such as animal bones and shell refuse, glass and ceramic bottles, cutlery, and smoking pipes could be evidence of workers eating, drinking and smoking at their worksite, or from people doing the same in the houses nearby. None of the artefacts can be confidently attributed to having a work-related function alone, although many of the items recovered from the two surfaces associated with Cuthbert's wharf are decidedly domestic in nature and out of place at the worksite (contexts [107] & [109]). In particular, items such as an ewer, stemware glasses, a terracotta pot, teacups and saucers, a milk glass vase, and a bisque porcelain doll stand out as having a distinctly domestic function.

The volume of domestic rubbish recovered from the surfaces of the wharf, including items likely too large to have washed down in drains or storm events, suggests that local residents had sufficient access to the work area to be able to dispose of their household detritus. It is unknown

if the material was dumped clandestinely, perhaps by the men of the household during work hours, or if the area was freely open to the public to dispose of waste on the wharf surface or over the wharf edge.

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Appendix 2: Artefact Catalogue

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Brick Type	Brick Frog Type	Tile Type	Start Date	End Date	Colour	Box
Building Material	Brick, sandstock		1	003	310	Architectural	Structural	Brick	Fragment	Head and partial stretcher frag. Partial remains of shallow frog. Well mixed, moderately well crushed orange sandy clay. Occasional ironstone flecks and veget voids. Rounded arrises (poss. from post depositional rolling). No mortar.	1	1	20%	Good	Sandstock	Rectangular, shallow		1830	1870	Orange	9
Building Material	Slate		1	003	311	Architectural	Roofing	Slate	Fragment	Roof slate.	1	1	20%	Good				1840		Grey	9
Building Material	Slate		4	107	312	Architectural	Roofing	Slate	Fragment	Roof slate frags from at least one tile.	1	5	20%	Good				1840		Grey	9
Building Material	Limestone		4	107	313	Architectural	Flooring	Tile	Fragment	Frag with squared corner and bevelled edges. Smooth upper surface. Two edges cut, two edges broken.	1	1	10%	Good			Limestone			White	9
Building Material	Brick, sandstock	5	5	214	314	Architectural	Structural	Brick	Fragment	Head and partial stretcher frag. Partial remains of deep rectangular frog. Moderately well mixed, moderately well crushed orange-brown clay. Frequent exploded ironstone. Sharp arrises. No mortar.	1	1	40%	Good	Sandstock	Rectangular, deep		1850	1900	Orange-brown, pale	9

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Colour	Decoration	Decoration Colour	Decoration Pattern	Manufacturing Method	Artefact Origin	Maker's Mark	Product Maker	Start Date	End Date	Box
Ceramic	Fine earthenware		1	003	100	Beverage	Tea	Teapot	Rim/body/ handle	Relief decoration on exterior: dragonfly-like motif around rim, fluted neck.	1	1	20%	Good		Brown, dark	Rockingham	Brown, dark		Moulded				1850		4
Ceramic	Terracotta		1	003	101	Yard/Outdoor	Garden	Pot	Rim/body	Plain rim; orange fabric and self slip int and ext.	1	2	10%	Good		Orange	Self slip	Orange		Wheel thrown						4
Ceramic	Terracotta		1	003	102	Yard/Outdoor	Garden	Pot	Body	Orange fabric and self slip int and ext.	1	1	5%	Good		Orange	Self slip	Orange		Wheel thrown						4
Ceramic	Coarse earthenware		1	003	103	Yard/Outdoor	Garden	Pot	Base	Buff fabric and self slip int and ext. Probably Australian.	1	1	5%	Good		Buff	Self slip	Buff		Wheel thrown						4
Ceramic	Stoneware		1	003	104	Unidentified	Unidentified	Unidentified	Body	Grey fabric, green-grey glaze int and ext.	1	1	5%	Good		Green-grey	Bristol glaze	Green-grey		Wheel thrown				1835		4
Ceramic	Bone china		1	003	105	Food	Tableware	Egg Cup	Body/base		1	1	50%	Good		White								1794		4
Ceramic	Porcelain, hard paste		1	003	106	Food	Tableware	Egg Cup	Rim/body		1	1	5%	Good		White								1800		4
Ceramic	White granite		1	003	107	Beverage	Tea	Saucer	Rim/body/ base	Interior cup well, single foot rim. Moulded wheat and lily of the valley type flowers on cavetto. Pattern registered in 1869.	1	1	20%	Good		White	Moulded	White	Wheat in the Meadow		England, Hanley	Black transfer print on base. Partial, illegible.	Powell & Bishop	1869		4
Ceramic	White granite		1	003	108	Beverage	Tea	Cup	Body/base	Single foot rim. Moulded leaf remains on ext.	1	1	20%	Good		White	Moulded	White						1840		4
Ceramic	White granite		1	003	109	Beverage	Tea	Cup	Body/base	Single foot rim.	1	1	10%	Good		White		White						1840		4
Ceramic	White granite		1	003	110	Beverage	Tea	Cup	Rim/body	Moulded twisted rope motif below exterior rim edge, followed by fluted panels.	0	1	10%	Good		White	Moulded	White						1840		4
Ceramic	White granite		1	003	111	Beverage	Tea	Cup	Rim/body	Moulded thickened exterior rim edge followed by misc moulding on exterior body.	0	1	10%	Good		White	Moulded	White						1840		4

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Colour	Decoration	Decoration Colour	Decoration Pattern	Manufacturing Method	Artefact Origin	Maker's Mark	Product Maker	Start Date	End Date	Box
Ceramic	Fine earthenware		1	003	112	Unidentified	Unidentified	Unidentified	Body	Large vessel. Ewer? Berries, leaves and flowers over background wood-grain like moulding covering exterior body.	1	7	10%	Good		White	Moulded	White								4
Ceramic	White granite		1	003	113	Unidentified	Unidentified	Unidentified	Body	Large vessel. Ewer? Simple moulded panels on ext.	1	2	10%	Good		White	Moulded	White						1840		4
Ceramic	White granite		1	003	114	Unidentified	Unidentified	Unidentified	Body	Moulded flowering fern remains on ext.	0	1	5%	Good		White	Moulded	White						1840		4
Ceramic	Semi vitreous fine earthenware		1	003	115	Beverage	Tea	Cup	Body/base	Single foot rim. Ribbon remains on exterior body.	1	1	10%	Good		White	Transfer print	Purple						1860		4
Ceramic	Semi vitreous fine earthenware		1	003	116	Beverage	Tea	Saucer	Rim/body	Interior cup well, single foot rim. Grapevine remains below rim edge.	1	1	10%	Good		White	Transfer print	Purple						1860		4
Ceramic	Semi vitreous fine earthenware		1	003	117	Beverage	Tea	Saucer	Rim/body	Helix motif below rim edge.	1	1	10%	Good		White	Transfer print	Purple	Cable Double Helix					1860		4
Ceramic	Fine earthenware		1	003	118	Beverage	Tea	Slop Bowl	Rim/body	Helix motif with fleur-de-lis spears below int and exterior rim edge.	1	1	5%	Good		White	Transfer print	Purple						1860		4
Ceramic	Fine earthenware		1	003	119	Unidentified	Unidentified	Unidentified	Base	Splayed foot ring. Fine beaded chain with lined border either side.	1	1	5%	Good		White	Flow transfer print	Purple						1835		4
Ceramic	Fine earthenware		1	003	120	Beverage	Tea	Saucer	Rim/body/ base	Single foot ring. Tooth border below rim edge followed by simple Greek key pattern around cavetto.	1	1	10%	Good		White	Transfer print	Green						1830		4
Ceramic	Fine earthenware		1	003	121	Beverage	Tea	Cup	Rim/body	Plain rim. Floral sprig in medallion below exterior rim edge, beaded border below int rim edge.	1	1	5%	Good		White	Transfer print	Brown						1828		4

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Colour	Decoration	Decoration Colour	Decoration Pattern	Manufacturing Method	Artefact Origin	Maker's Mark	Product Maker	Start Date	End Date	Box
Ceramic	Fine earthenware		1	003	122	Food	Tableware	Butter Tub	Rim/body	Internal ledge on rim for lid. Circular sectioned, slightly tapered body. Blossoming tree, urn and carnation flowers in foreground, framing rocky island with church in background on exterior body. Dainty lattice on int rim edge with carnation flowers in medallions.	1	1	10%	Good		White	Transfer print	Black							1805		4
Ceramic	Fine earthenware		1	003	123	Food	Tableware	Platter	Rim/body	Straight/angled rim edges (octagonal?) with flat marly. Willow pattern on marly and cavetto.	1	2	5%	Good		White	Transfer print	Blue	Willow						1805		4
Ceramic	Fine earthenware		1	003	124	Unidentified	Unidentified	Unidentified	Base	Tent remains on int base.	1	1	5%	Good		White	Transfer print	Blue	Palestine #08		England, Staffordshire, Stoke-on-Trent, Stoke	Blue transfer print: '[PALESTIN] E' inside floral cartouche	William Adams IV & Sons	1829	1861	4
Ceramic	Fine earthenware		1	003	125	Food	Tableware	Tureen	Lid rim	Circular lid sherd with slightly flared rim. Alternating tooth and petal border above rim edge followed by foliated scroll with palmettes.	1	1	5%	Good		White	Transfer print	Blue	Brussels		England, Staffordshire, Stoke-on-Trent, Burslem		Pinder Bourne & Hope	1862	1880	4
Ceramic	Fine earthenware		1	003	126	Unidentified	Unidentified	Unidentified	Body	Curved body sherd (bowl? Chamber pot?) with bell-shaped flowers on exterior, partial transfer print remains on int.	1	1	5%	Good		White	Transfer print	Blue						1805		4

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Colour	Decoration	Decoration Colour	Decoration Pattern	Manufacturing Method	Artefact Origin	Maker's Mark	Product Maker	Start Date	End Date	Box
Ceramic	Fine earthenware		1	003	127	Personal	Hygiene	Wash Basin	Shoulder	Scenic medallion and seaweed remains on int rim/shoulder. Seaweed remains on exterior body.	1	1	5%	Good		White	Transfer print	Blue	Albion					1845		4
Ceramic	Fine earthenware		1	003	128	Food	Tableware	Dish	Rim/body	Ovoid dish with flat, everted rim. Floral sprays on int rim and body, and exterior body.	1	2	5%	Good		White	Transfer print	Blue	Asiatic Pheasants					1830		4
Ceramic	Fine earthenware		1	003	129	Food	Tableware	Platter	Shoulder/body/base	Ovoid platter with everted rim and flat base. Floral sprays on int body and base.	1	1	5%	Good		White	Transfer print	Blue	Asiatic Pheasants					1830		4
Ceramic	Fine earthenware		1	003	130	Food	Tableware	Plate	Rim	Curved marly with floral sprays.	1	1	5%	Good		White	Transfer print	Blue	Asiatic Pheasants					1830		4
Ceramic	Fine earthenware		1	003	131	Food	Tableware	Plate	Base	Base sherds from 2 plates. Single foot rim. TP remains on cavetto and base.	2	2	5%	Good		White	Transfer print	Blue						1805		4
Ceramic	Fine earthenware		1	003	132	Food	Tableware	Plate, Small	Rim/shoulder	Curved marly with pair of lines below rim edge and above shoulder.	1	1	5%	Good		White	Banded	Blue, light						1860		4
Ceramic	Fine earthenware		1	003	133	Food	Tableware	Bowl	Rim/body	Plain rim with light blue line below int and exterior rim edge. Alternating light blue clubs and black leaves on exterior body.	1	1	10%	Good		White	Sponge	Blue, light & black						1835		4
Ceramic	Fine earthenware		1	003	134	Food	Tableware	Unidentified	Body	Floral sprig on int.	1	1	5%	Good		White	Flow sponge	Black						1835		4
Ceramic	Fine earthenware		1	003	135	Food	Tableware	Unidentified	Body	Mirrored row of palmettes on exterior body.	1	1	5%	Good		White	Flow sponge	Purple						1835		4
Ceramic	Fine earthenware		1	003	136	Food	Tableware	Unidentified	Body	Sponge remains int and ext.	1	1	5%	Good		White	Sponge	Purple						1835		4

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Colour	Decoration	Decoration Colour	Decoration Pattern	Manufacturing Method	Artefact Origin	Maker's Mark	Product Maker	Start Date	End Date	Box
Ceramic	Fine earthenware		1	003	137	Food	Tableware	Bowl	Rim	Plain rim with green line below int and exterior rim edge. Green sponge on exterior body.	1	1	5%	Good		White	Sponge	Green						1835		4
Ceramic	Fine earthenware		1	003	138	Personal	Hygiene	Chamber Pot	Rim/shoulder	Flat, everted rim.	1	1	5%	Good		Pearl	Pearlware							1780	1830	4
Ceramic	Fine earthenware		1	003	139	Food	Tableware	Unidentified	Body/base	Single foot rim.	0	1	5%	Good		White	Whiteware							1805		4
Ceramic	Fine earthenware		1	003	140	Food	Tableware	Unidentified	Rim/body	Plain rim. Scene remains on exterior body, foliated scroll remains on horizontal lined background below int rim.	1	1	5%	Good		White	Transfer print	Blue	Rhine					1845		4
Ceramic	Stoneware		2	003	141	Beverage	Stout	Bottle	Body/base		1	2	20%	Good		Cream	Bristol glaze	Cream		Wheel thrown	Scotland, Glasgow	Impressed in oval above heel: '[H. KENN]EDY / [BARROW]FIELD / 2 / [POT]TERY / [GLAS]GOW'.	Henry Kennedy, Barrowfield Potteries	1866	1891	4
Ceramic	Stoneware		2	003	142	Beverage	Stout	Bottle	Body/base		1	2	20%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		4
Ceramic	Stoneware		2	003	143	Beverage	Stout	Bottle	Body/base		1	1	10%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		4
Ceramic	Stoneware		2	003	144	Beverage	Stout	Bottle	Body/base		1	1	10%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		4
Ceramic	Stoneware		2	003	145	Beverage	Stout	Bottle	Shoulder/body		0	3	10%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		4
Ceramic	Fine earthenware		2	003	146	Food	Tableware	Bowl	Body/base	Splayed foot ring.	1	1	10%	Burnt	Moderate	White	Whiteware							1805		4
Ceramic	Stoneware		1	007	147	Beverage	Stout	Bottle	Rim/neck	Double collar groove ring. Cream glaze int, honey brown glaze ext.	1	1	10%	Good		Brown, honey	Bristol glaze	Brown, honey		Wheel thrown				1835		5

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Ceramic	Stoneware		1	007	148	Unidentified	Unidentified	Unidentified	Body	Buff colour glaze int and ext.	1	1	5%	Good		Buff	Bristol glaze	Buff		Wheel thrown				1835		5
Ceramic	Fine earthenware		1	007	149	Unidentified	Unidentified	Unidentified	Body/heel	Lower body/heel. Dark brown glaze int and ext. Panelled exterior, raised foot ring.	1	1	5%	Good		Brown, dark	Rockingham	Brown, dark		Moulded				1850		5
Ceramic	Coarse stoneware		1	007	150	Unidentified	Unidentified	Unidentified	Body	Tiny sherd. Buff fabric. White glaze with blue hand paint on exterior, unglazed int.	1	1	5%	Good		White	Hand painted	Blue		Wheel thrown	China					5
Ceramic	Fine earthenware		1	007	151	Food	Tableware	Plate, Small	Shoulder	Curved marly/cavetto sherd. Romantic-type foliated scroll remains on horizontal lined background.	1	1	5%	Good		White	Transfer print	Blue						1845	1860	5
Ceramic	Fine earthenware		1	007	152	Food	Tableware	Plate	Rim/shoulder	Flat marly. Tiny arch band below rim edge followed by border of interlinking circles on purple field covering marly/shoulder. Romantic period?	1	1	5%	Good		White	Transfer print	Purple						1828		5
Ceramic	Fine earthenware		1	007	153	Food	Tableware	Plate, Small	Rim/shoulder	Flat marly. Border of linked stylised scallop shells and scrolls on marly.	1	1	5%	Good		White	Transfer print	Green						1828		5
Ceramic	Fine earthenware		1	007	154	Beverage	Tea	Cup	Handle	Row of circular petal flowers on background of fine diagonal lines.	1	1	5%	Good		White	Transfer print	Green						1828		5
Ceramic	Fine earthenware		1	007	155	Unidentified	Unidentified	Unidentified	Body	Body sherd.	0	1	5%	Good		White	Whiteware							1805		5
Ceramic	Fine earthenware		1	007	156	Unidentified	Unidentified	Unidentified	Base	Concave base.	1	1	5%	Good		White	Whiteware							1805		5
Ceramic	Fine earthenware		1	007	157	Unidentified	Unidentified	Unidentified	Body	Rows of moulded bumps running down body.	1	1	5%	Good		White	Moulded	White						1805		5

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Colour	Decoration	Decoration Colour	Decoration Pattern	Manufacturing Method	Artefact Origin	Maker's Mark	Product Maker	Start Date	End Date	Box
Ceramic	Stoneware		4	103	158	Beverage	Stout	Bottle	Body/base		1	1	30%	Good		Cream	Bristol glaze	Cream		Wheel thrown	Scotland, Glasgow	Impressed in oval above heel: 'H. KENNEDY / BARROWFIELD / 3[?] / POTTERY GLASGOW'.	Henry Kennedy, Barrowfield Potteries	1866	1891	5
Ceramic	Stoneware		4	103	159	Beverage	Stout	Bottle	Neck/body/base		1	3	30%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		5
Ceramic	Stoneware		4	103	160	Beverage	Stout	Bottle	Body/base		1	1	5%	Good		Cream	Bristol glaze	Cream		Wheel thrown	Scotland, Glasgow	Impressed in oval above heel: '[H. KE]NNEDY / [BARR]OWFIELD / 31 / [PO]TTERY [GLA]SGOW'.	Henry Kennedy, Barrowfield Potteries	1866	1891	5
Ceramic	Stoneware		4	103	161	Beverage	Stout	Bottle	Body/base		1	1	5%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		5
Ceramic	Stoneware		4	103	162	Beverage	Stout	Bottle	Body/base		1	1	5%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		5
Ceramic	Stoneware		4	103	163	Beverage	Stout	Bottle	Rim/neck/shoulder	Double collar groove ring.	0	1	20%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		5
Ceramic	Stoneware, copper alloy		4	103	164	Beverage	Stout	Bottle	Rim/neck	Double collar groove ring. Wire closure remains in groove ring.	0	1	10%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		5
Ceramic	Stoneware		4	103	165	Beverage	Stout	Bottle	Neck/shoulder/body		0	3	10%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		5
Ceramic	Stoneware		4	103	166	Beverage	Stout	Bottle	Shoulder/body	Cream glaze int, and exterior body. Honey brown glaze exterior neck.	1	1	10%	Good		Brown, honey	Bristol glaze	Brown, honey		Wheel thrown				1835		5
Ceramic	Stoneware		4	103	167	Beverage	Unidentified	Bottle	Body	Buff fabric, pale red-brown slip int. Seltzer or ginger beer?	1	1	10%	Good		Brown, light	Salt glaze			Wheel thrown						5

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Ceramic	White granite		4	103	168	Beverage	Tea	Saucer	Rim/body/base	Int cup well, single foot rim. Moulded lily of the valley sprig remains on cavetto.	1	1	20%	Good		White	Moulded	White	Lily-of-the-Valley		England, Staffordshire, Stoke-on-Trent, Burslem		James Edwards	1858	1882	5
Ceramic	Fine earthenware		4	103	169	Food	Preparation	Dish	Rim/shoulder	Buff fabric. Flat everted rim. Yellow glaze int and ext.	1	1	5%	Good		Yellow	Yellowware	Yellow						1830		5
Ceramic	Fine earthenware		4	107	170	Personal	Hygiene	Wash Basin	Rim/body, base	Flared rim. Tiny bead chain followed by floral sprays, foliated scrolls and floral garlands on int rim/upper body, and exterior body. Scene on tondo with people standing in front of buildings. Date based on Romantic pattern type rather than Davenport period of operation (1794-1887).	1	37	50%	Good	Encrusted (ferric)	White	Transfer print	Blue	View in Geneva		England, Staffordshire, Longport	Blue transfer print cursive on base: '[View in / Ge]neva' inside foliated scroll cartouche	Davenport	1845	1860	6
Ceramic	Fine earthenware		4	107	171	Unidentified	Unidentified	Unidentified	Base	Base sherd. Flowering trellis-like border on base surrounding scene remains on tondo. Romantic pattern type.	1	1	5%	Good		White	Transfer print	Blue	Gem				Multiple makers	1845	1860	6
Ceramic	Fine earthenware		4	107	172	Food	Tableware	Unidentified	Rim	Rim sherd, clubbed rim. Lattice of tiny diamond shapes with dots on int rim edge and dainty scroll stringing just above shoulder. Scene remains on exterior body.	1	1	5%	Good		White	Transfer print	Blue	Corsina				Multiple makers	1860	1898	6

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Ceramic	Fine earthenware		4	107	173	Food	Tableware	Plate	Rim, body	Curved marly. Floral remains on marly and cavetto.	1	2	5%	Good		White	Transfer print	Blue						1805		6
Ceramic	Fine earthenware		4	107	174	Unidentified	Unidentified	Unidentified	Body	Leaf remains on int, scene remains on exterior	1	1	5%	Good		White	Transfer print	Blue						1805		6
Ceramic	Fine earthenware		4	107	175	Food	Tableware	Plate	Rim/body/ base	Curved marly, single foot rim. Helix motif below rim edge and below shoulder.	1	4	30%	Good		White	Transfer print	Purple	Cable Double Helix					1860		6
Ceramic	Fine earthenware		4	107	176	Food	Tableware	Plate	Rim/body/ base	Flat marly. Twisted cable motif below rim edge.	1	7	30%	Good		White	Transfer print	Purple	Cable					1860		6
Ceramic	Fine earthenware		4	107	177	Food	Tableware	Plate	Rim/body	Flat marly. Twisted cable motif below rim edge.	1	3	10%	Good		White	Transfer print	Purple	Cable					1860		6
Ceramic	Fine earthenware		4	107	178	Beverage	Tea	Cup	Rim/body	Plain rim. Tiny twisted rope below int and exterior rim edge, and twisted cable motif on upper exterior body.	1	1	5%	Good		White	Transfer print	Purple	Cable					1860		6
Ceramic	Fine earthenware		4	107	179	Beverage	Tea	Cup	Rim/body	Slightly flared rim. Tiny chain of tiny heart-shaped leaved below int and exterior rim edge, followed by leaves on exterior body.	1	1	5%	Good		White	Transfer print	Purple						1828		6
Ceramic	Fine earthenware		4	107	180	Food	Tableware	Plate	Rim/body	Foliated scroll remains on horizontal lined background on marly.	1	2	5%	Good		White	Transfer print	Black	Rhine					1845		6

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Ceramic	Fine earthenware		4	107	181	Food	Tableware	Plate	Rim/body, base	Slightly curved marly, single foot rim. Tiny beaded border followed by interlocking rings with crosses in centre and floral medallions and panels on marly. Floral arrangement on tondo.	1	15	30%	Good	Encrusted (ferric)	White	Transfer print	Black	Peony		England, Staffordshire, Burslem.		Pinder, Bourne & Co., or Doulton & Co.	1862		6
Ceramic	Fine earthenware		4	107	182	Food	Tableware	Plate	Rim	Curved marly with linked chain below rim edge followed by scrolled leaves on marly.	1	1	5%	Good		White	Transfer print	Black								6
Ceramic	Fine earthenware		4	107	183	Food	Tableware	Plate	Rim/shoulder	Curved marly with Greek key chain made from tiny squares.	1	2	10%	Good		White	Transfer print	Blue, bright	Greta		Scotland, Glasgow, Britannia		Robert Cochran & Co.	1850	1920	6
Ceramic	Fine earthenware		4	107	184	Beverage	Tea	Cup	Body	Sheet pattern of small squiggly lines and dots on ext.	1	2	5%	Good		White	Transfer print	Blue			Scotland, Glasgow, Britannia			1860		6
Ceramic	Fine earthenware		4	107	185	Beverage	Tea	Saucer	Body	Rim sherd with dainty border with chain of ovals with ogees, clubs and flowers below rim edge.	1	1	5%	Good		White	Transfer print	Green						1828		6
Ceramic	Fine earthenware		4	107	186	Beverage	Tea	Saucer	Rim/body/base	Single foot rim. Three lines below rim edge.	1	6	20%	Good		White	Banded	Blue						1860		6
Ceramic	Fine earthenware		4	107	187	Beverage	Tea	Cup	Rim/body	Plain rim. One line below int rim edge and 4 lines below exterior rim edge.	1	1	10%	Good		White	Banded	Blue						1860		6
Ceramic	Fine earthenware		4	107	188	Beverage	Tea	Cup	Rim, base	Plain rim, single foot rim. Line below int and exterior rim edge, followed by row of stylised flower motifs.	1	3	10%	Good		White	Sponge	Brown						1835		6

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Ceramic	Fine earthenware		4	107	189	Food	Tableware	Plate, Small	Rim	Not scalloped, unmoulded hand painted rim. Dates are approx.	1	1	5%	Good		White	Edgeware	Blue						1874	1884	6
Ceramic	White granite		4	107	190	Beverage	Tea	Saucer	Rim/body/ base	Interior cup well, single foot rim. Faint moulding below rim edge followed by panelled cavetto.	1	5	60%	Good		White	Moulded	White			England, Staffordshire, Longton	Black transfer print on base. UK coat of arms above: '...PATENT / [IRONS]TONE / [GODDARD] & BURGESS.'	Goddard & Burgess	1840	1890	6
Ceramic	White granite		4	107	191	Food	Tableware	Plate	Rim/body	Rounded marly with floral sprig remains.	1	3	10%	Good		White	Moulded	White						1840		6
Ceramic	White granite		4	107	192	Beverage	Tea	Cup	Rim/body/ handle	Plain rim, edge of handle. Moulding remains on exterior body.	1	1	5%	Good		White	Moulded	White						1840		6
Ceramic	White granite		4	107	193	Unidentified	Unidentified	Unidentified	Body/base	Single foot rim. Moulded ribbon bows on exterior body.	1	2	5%	Good	Encrusted (ferric)	White	Moulded	White						1840		6
Ceramic	White granite		4	107	194	Food	Tableware	Plate	Base	Single foot rim.	1	3	10%	Good	Encrusted (ferric)	White					England, Staffordshire, Stoke-on-Trent, Fenton	Black transfer print on base with British coat of arms followed by: 'STONE CHINA / R. & C. CHALLINOR / FENTON'.	E. & C. Challinor	1862	1891	6

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Ceramic	Fine earthenware		4	107	195	Unidentified	Unidentified	Unidentified	Base		1	1	5%	Good		White	Whiteware					Embossed, illegible.		1805		6
Ceramic	Fine earthenware		4	107	196	Unidentified	Unidentified	Unidentified	Body, base	Misc body, base sherds from multiple items.	0	9	5%	Good		White	Whiteware							1805		6
Ceramic	Fine earthenware		4	107	197	Beverage	Tea	Cup	Handle	Handle sherd. Creamware.	1	1	5%	Good		Cream	Creamware							1760	1830	6
Ceramic	Fine earthenware		4	107	198	Personal	Hygiene	Wash Basin	Rim	Everted rim. Overglaze gilt ribbon motif on int rim edge.	1	1	5%	Good		White	Gilt	Gold						1805		6
Ceramic	Fine earthenware		4	107	199	Beverage	Tea	Teapot	Lid, rim, body	Relief decoration on exterior: wheat heads and leaves.	1	6	10%	Good		Brown, dark	Rockingham	Brown, dark		Moulded				1850		6
Ceramic	Bone china		4	107	200	Food	Tableware	Egg Cup	Body/stem		1	1	20%	Good		White								1794		6
Ceramic	Bone china		4	107	201	Beverage	Tea	Cup	Rim/body/ handle, base	Splayed rim base. Overglaze thin gilt lines on rim edge, exterior body below rim edge and on handle.	1	7	20%	Good		White	Gilt	Gold						1794		6
Ceramic	Bone china		4	107	202	Beverage	Tea	Saucer	Rim/body	Thick line below int rim edge followed by two thin lines.	1	1	20%	Good		White	Banded	Green						1860		6
Ceramic	Porcelain, hard paste		4	107	203	Food	Tableware	Plate	Base	Single foot ring.	1	1	5%	Good		White					Europe/UK			1800		6
Ceramic	Chinese Porcelain, Hard Paste		4	107	204	Beverage	Tea	Coffee Can	Rim/body/ handle/base	Child's coffee can. Toy? Recessed base. Overglaze hand painted floral sprig.	1	6	70%	Good		White	Hand painted	Blue, green, pink			China					6
Ceramic	Stoneware		4	107	205	Beverage	Stout	Bottle	Neck, body/base		1	6	20%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		6
Ceramic	Stoneware		4	107	206	Beverage	Unidentified	Bottle	Base	Pale brown fabric, self slip int. Ginger beer?	1	1	5%	Good		Brown, light	Salt glaze			Wheel thrown						6
Ceramic	Stoneware		4	109	207	Beverage	Ginger Beer	Bottle	Neck	Grey fabric, self slip int.	1	1	5%	Good		Brown, light	Salt glaze			Wheel thrown						7
Ceramic	Terracotta		4	109	208	Yard/Outdoor	Garden	Pot	Rim/body	Thickened rim; orange fabric and self slip int and ext.	1	1	5%	Good		Orange	Self slip	Orange		Wheel thrown						7

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Ceramic	Fine earthenware		4	109	209	Personal	Hygiene	Ewer	Neck/body	Foliated medallions on upper int and exterior body, followed by Chinoiserie temple and tree scene on exterior body.	1	8	20%	Good		White	Flow transfer print	Blue						1835		7
Ceramic	Fine earthenware		4	109	210	Food	Tableware	Platter	Rim/body	Oval shaped platter. Slightly curved marly. Fish roe border below int rim edge followed by foliated scrolls on blue field. Dates approx, based on Romantic style.	1	1	5%	Good		White	Transfer print	Blue	Eton College				Multiple makers	1845	1860	7
Ceramic	Fine earthenware		4	109	211	Beverage	Tea	Cup	Body	Lower body sherd, possibly bowl. Scene remains ext.	1	1	5%	Good		White	Transfer print	Blue						1805		7
Ceramic	Fine earthenware		4	109	212	Beverage	Tea	Cup	Rim/body	Plain rim. Stylised tulip-like flower border below int and exterior rim edge.	1	1	5%	Good		White	Transfer print	Blue, bright						1860		7
Ceramic	Fine earthenware		4	109	213	Beverage	Tea	Saucer	Body	Greek key pattern on blue field on int body.	1	1	5%	Good		White	Transfer print	Blue, bright						1860		7
Ceramic	Fine earthenware		4	109	214	Beverage	Tea	Saucer	Rim	Misc border remains below int rim edge.	1	8	5%	Good		White	Flow transfer print	Green						1835		7
Ceramic	Fine earthenware		4	109	215	Unidentified	Unidentified	Unidentified	Base	Scene remains with tents in front of mosque. Multiple makers, but exact match of this small sherd to a version produced by Hackwood & Co.	1	1	5%	Good		White	Transfer print	Black	Damascus #02		England, Staffordshire, Hanley		Hackwood & Co.	1807	1827	7

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Ceramic	Fine earthenware		4	109	216	Food	Tableware	Plate	Rim	Plain rim with light blue line below int edge, followed by chain of diamonds with flower heads.	1	1	5%	Good		White	Sponge	Blue, bright						1860		7
Ceramic	Fine earthenware		4	109	217	Personal	Hygiene	Ointment Pot	Rim/body/base	Ointment pot. Vertical internal ledge for lid. Splayed ring base.	1	1	70%	Good		White	Whiteware					Embossed base: '20T'.		1805		7
Ceramic	Fine earthenware		4	109	218	Food	Tableware	Plate	Base	Double foot rim.	0	1	5%	Good		White	Whiteware							1805		7
Ceramic	Fine earthenware		4	109	219	Beverage	Tea	Saucer	Base	Int cup well, single foot rim.	0	1	5%	Good		White	Whiteware							1805		7
Ceramic	Fine earthenware		4	109	220	Unidentified	Unidentified	Unidentified	Body		0	2	5%	Good		White	Whiteware							1805		7
Ceramic	White granite		4	109	221	Beverage	Tea	Cup	Rim	Slightly everted rim edge. Moulding remains on exterior body.	1	1	5%	Good		White	Moulded	White						1840		7
Ceramic	White granite	5	5	214	222	Beverage	Tea	Cup	Rim/body/base	Slightly everted rim edge. Splayed ring base. Panelled moulding exterior body.	1	1	5%	Good		White	Moulded	White				Black transfer print on base: '[IR]ONSTONE CHINA'.		1840		7
Ceramic	Fine earthenware	5	5	214	223	Food	Tableware	Platter	Rim/body/base	Ovoid platter. Flat marly, flat base. Willow pattern on marly, cavetto and tondo.	1	1	10%	Good		White	Transfer print	Blue	Willow					1805		7
Ceramic	Fine earthenware	5	5	214	224	Food	Tableware	Plate	Rim	Slightly curved marly.	1	1	5%	Good		White	Transfer print	Blue	Willow					1805		7
Ceramic	Fine earthenware	5	5	214	225	Food	Tableware	Plate, Small	Rim/shoulder	Curved marly. Indented rim edge. Willow pattern on marly and cavetto.	1	1	5%	Good		Pearl	Transfer print	Blue	Willow					1790	1830	7
Ceramic	Fine earthenware	5	5	214	226	Food	Tableware	Plate	Rim/shoulder	Curved marly.	1	1	5%	Good		White	Transfer print	Blue						1805		7

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Colour	Decoration	Decoration Colour	Decoration Pattern	Manufacturing Method	Artefact Origin	Maker's Mark	Product Maker	Start Date	End Date	Box
Ceramic	Fine earthenware	5	5	214	227	Food	Tableware	Plate, Child's	Rim/shoulder	Scalloped rim edge. Curved marly with moulded daisies. Red transfer print remains on cavetto, with lettering: '...CAN LAW'. Child's moralising china.	1	1	5%	Good		White	Transfer print, moulded	Red						1828		7
Ceramic	Fine earthenware	5	5	214	228	Unidentified	Unidentified	Unidentified	Base	Splayed ring base. Chamber pot?	1	1	5%	Good		Pearl	Pearlware							1780	1830	7
Ceramic	Fine earthenware	5	5	214	229	Unidentified	Unidentified	Unidentified	Base	Splayed ring base. Chamber pot?	1	1	10%	Good		Cream	Creamware							1760	1830	7
Ceramic	Fine earthenware	5	5	214	230	Unidentified	Unidentified	Unidentified	Base	Splayed ring base. Chamber pot?	1	1	10%	Good		White	Whiteware							1805		7
Ceramic	Fine earthenware	5	5	214	231	Food	Storage	Salt Jar	Body/base	Cylindrical jar, flat base. Impressed body: 'WESTON & WESTALL'S / SUPERIOR / BRITISH TABLES[ALT]'. Dates based on Trove advertisements.	1	1	30%	Good		White	Salt glaze	White					Weston & Westall	1843	1895	7
Ceramic	Stoneware	5	5	214	232	Household	Maintenance	Blacking Bottle	Rim/neck	Brown/grey fabric. Self slip int.	1	1	20%	Good		Brown, dark	Salt glaze			Wheel thrown				1817		7
Ceramic	Stoneware	5	5	214	233	Household	Maintenance	Blacking Bottle	Rim/neck	Buff fabric. Self slip int.	1	1	10%	Good		Brown, mid	Salt glaze			Wheel thrown				1817		7
Ceramic	Stoneware	5	5	214	234	Clerical	Writing	Penny Ink	Neck/body/base	Penny ink. Grey fabric.	1	1	90%	Good		Brown, mid	Salt glaze			Wheel thrown						7
Ceramic	Stoneware	5	5	214	235	Beverage	Ginger Beer	Bottle	Body/base	Buff fabric, self slip int. Thomas Field?	1	1	10%	Good		Brown, light	Salt glaze			Wheel thrown		Embossed on lower body, curved: '... / POTTERY / SYDNEY'.				7
Ceramic	Stoneware	5	5	214	236	Beverage	Stout	Bottle	Body/base	Remains of paper label on body.	1	4	10%	Good		Cream	Bristol glaze	Cream		Wheel thrown	England, Bristol	Embossed on lower body, 'POWELL / BRISTOL'.	William Powell	1835	1906	7

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Colour	Decoration	Decoration Colour	Decoration Pattern	Manufacturing Method	Artefact Origin	Maker's Mark	Product Maker	Start Date	End Date	Box
Ceramic	Stoneware	5	5	214	237	Food	Storage	Jar	Rim/neck/body	Single collar, narrow mouth jar, short neck. Cream glaze int, honey brown glaze exterior rim/neck/shoulder/upper body. Remains of paper label on body.	1	1	20%	Good		Brown, honey	Bristol glaze	Brown, honey		Wheel thrown				1835		7
Ceramic	Stoneware	5	5	214	238	Food	Storage	Jar	Rim/neck/shoulder	Single collar, narrow mouth jar, short tapered neck. Cream glaze int, honey brown glaze exterior rim/neck/shoulder. Remains of paper label on neck.	1	1	10%	Good		Brown, honey	Bristol glaze	Brown, honey		Wheel thrown				1835		7
Ceramic	Stoneware	5	5	214	239	Unidentified	Unidentified	Bottle	Body/base		1	1	10%	Good		Cream	Bristol glaze	Cream		Wheel thrown				1835		7

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	Notes	NISP	MNI	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Common Name	Animal Class	Animal Name	Bone Body Part	Bone Anatomical	Bone Handedness	Bone Zones	Butchery Mark	Butchery Direction	Butchery Severity	Box #
Bone	Mammal		1	003	340	Sheep?	1	1	1	30%			Unid mammal	Mammal	Unid	Spine	Lumbar vertebra		Axial	Cut	Sagittal	Full	10
Bone	Fish		4	107	341	Unid fish.	1	1	1	100%			Unid fish	Osteichthyes	Unid	Spine	Fin						10
Bone	Fish		4	107	342	Unid fish.	1	0	1	80%			Unid fish	Osteichthyes	Unid	Spine							10
Bone	Mammal		4	107	343		1		1	100%			Sheep	Mammal	Ovis aries	Hind limb	Metatarsal	Left	Manus/Pes				10
Bone	Mammal		4	107	344		1		1	100%			Sheep	Mammal	Ovis aries	Unid limb	Phalanx 1		Manus/Pes				10
Bone	Mammal		4	107	345	Proximal and distal ends degraded.	1		1	80%			Unid mammal	Mammal	Unid	Unid limb	Phalanx		Manus/Pes				10
Bone	Mammal		4	107	346	Lateral condyle broken off.	1		1	95%			Sheep	Mammal	Ovis aries	Hind limb	Femur	Left	Appendicular				10
Bone	Mammal		4	107	347	Distal end and medial condyle broken off.	1		2	90%			Sheep	Mammal	Ovis aries	Hind limb	Femur	Left	Appendicular				10
Bone	Mammal		4	107	348	Distal end broken off.	1		1	30%			Sheep	Mammal	Ovis aries	Hind limb	Femur	Left	Appendicular				10
Bone	Mammal		4	107	349	Proximal end and medial condyle broken off. Small shallow cut marks across shaft.	1		1	90%			Sheep	Mammal	Ovis aries	Hind limb	Femur	Right	Appendicular	Cut	Transverse	Shallow	10
Bone	Mammal		4	107	350	Proximal end broken off. Small shallow cut marks diagonal on shaft.	1		1	40%			Sheep	Mammal	Ovis aries	Hind limb	Femur	Right	Appendicular	Cut	Diagonal	Shallow	10

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	Notes	NISP	MNI	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Common Name	Animal Class	Animal Name	Bone Body Part	Bone Anatomical	Bone Handedness	Bone Zones	Butchery Mark	Butchery Direction	Butchery Severity	Box #
Bone	Mammal		4	107	351	Distal end and tibial tuberosity broken off.	1		1	50%			Sheep	Mammal	Ovis aries	Hind limb	Tibia	Right	Appendicular				10
Bone	Mammal		4	107	352	Proximal end broken off.	1	1	1	30%			Sheep	Mammal	Ovis aries	Forelimb	Scapula	Right	Appendicular				10
Bone	Mammal		4	107	353	Proximal end broken off.	1	1	1	20%			Sheep	Mammal	Ovis aries	Forelimb	Scapula	Right	Appendicular				10
Bone	Mammal		4	107	354	Proximal end broken off.	1	1	1	10%			Sheep	Mammal	Ovis aries	Forelimb	Scapula	Right	Appendicular				10
Bone	Mammal		4	107	355	Proximal end broken off. Distal end sawn off at shank.	1		1	20%			Sheep	Mammal	Ovis aries	Hind limb	Tibia	Left	Appendicular	Sawn	Transverse	Full	10
Bone	Mammal		4	107	356	Sternal end sawn off at diagonal at shank.	1		1	10%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial	Sawn	Diagonal	Full	10
Bone	Mammal		4	107	357	Sternal end cut off at diagonal at shank.	1		1	20%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial	Cut	Diagonal	Full	10
Bone	Mammal		4	107	358	Sternal end sawn off at shank.	1		1	20%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial	Sawn	Transverse	Full	10
Bone	Mammal		4	107	359	Sternal end broken off at shank.	1		1	30%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial				10
Bone	Mammal		4	107	360	Head broken off and sternal end broken off at shank.	1		1	70%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial				10
Bone	Mammal		4	107	361	Head broken off and sternal end broken off at shank.	1		1	50%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial				10

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	Notes	NISP	MNI	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Common Name	Animal Class	Animal Name	Bone Body Part	Bone Anatomical	Bone Handedness	Bone Zones	Butchery Mark	Butchery Direction	Butchery Severity	Box #
Bone	Mammal		4	107	362	Head broken off and sternal end broken off at shank.	2		2	40%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial				10
Bone	Mammal		4	107	363	Shanks, broken at both ends.	6		6	50%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial				10
Bone	Mammal		4	107	364	Shanks, sawn at one end, broken at other.	2		4	30%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial	Sawn		Full	10
Bone	Mammal		4	107	365	Sheep?	1		1	40%			Unid mammal	Mammal	Unid	Spine	Lumbar vertebra		Axial	Cut	Sagittal	Full	10
Bone	Mammal		4	107	366	Sheep?	1		1	40%			Unid mammal	Mammal	Unid	Spine	Lumbar vertebra		Axial	Cut	Sagittal	Full	10
Bone	Mammal		4	107	367	Sheep axis?	1		1	30%			Unid mammal	Mammal	Unid	Spine	Unid vertebra		Axial				10
Bone	Mammal		4	107	368	Sheep?	1		1	30%			Unid mammal	Mammal	Unid	Spine	Unid vertebra		Axial	Cut		Full	10
Bone	Mammal		4	107	369	Sawn at iliac neck (loin cut). Shallow cut marks on surface, from removing meat from bone?	1	1	1	20%			Cow	Mammal	Bos taurus	Pelvis	Ilium		Axial	Sawn, cut		Full, shallow	10
Bone	Mammal		4	107	370	Sawn across head and sawn down shaft. Distal end broken off at shaft.	1		2	20%			Cow	Mammal	Bos taurus	Forelimb	Humerus		Appendicular	Sawn	Multi	Full	10

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	Notes	NISP	MNI	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Common Name	Animal Class	Animal Name	Bone Body Part	Bone Anatomical	Bone Handedness	Bone Zones	Butchery Mark	Butchery Direction	Butchery Severity	Box #
Bone	Mammal		4	107	371	Long bone shaft of medium to large animal. Sawn half way through at one end, then broken. Broken and weathered other end.	1		1	20%			Unid mammal	Mammal	Unid	Unid limb	Unid		Appendicular	Sawn	Transverse	Half	10
Bone	Mammal		4	107	372	Bone fragment.	1		1	Unknown			Unid mammal	Mammal	Unid	Unid	Unid		Unid				10
Bone	Mammal		4	107	373	Long bone shaft fragment.	1		1	Unknown			Unid mammal	Mammal	Unid	Unid	Unid		Limb				10
Bone	Mammal		4	107	374	Long bone fragment.	1		1	Unknown			Unid mammal	Mammal	Unid	Unid	Unid		Limb				10
Bone	Mammal		4	107	375	Bone fragment.	1		1	Unknown			Unid mammal	Mammal	Unid	Unid	Unid		Unid				10
Bone	Mammal		4	107	376	Two parallel sawn edges.	1		1	Unknown			Unid mammal	Mammal	Unid	Unid	Unid		Unid	Sawn		Full	10
Bone	Mammal		4	109	377		1	1	1	100%			Sheep	Mammal	Ovis aries	Forelimb	Metacarpal	Left	Manus/Pes				10
Bone	Mammal		4	109	378	Three non-joining frags probably from one bone. Proximal and distal ends both broken from shaft. Modern breaks.	1		3	80%			Sheep	Mammal	Ovis aries	Hind limb	Metatarsal	Left	Manus/Pes				10

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	Notes	NISP	MNI	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Common Name	Animal Class	Animal Name	Bone Body Part	Bone Anatomical	Bone Handedness	Bone Zones	Butchery Mark	Butchery Direction	Butchery Severity	Box #
Bone	Mammal		4	109	379	Two non-joining frags probably from one bone. Shaft head frags. Distal end broken away.	1		2	50%			Sheep	Mammal	Ovis aries	Hind limb	Femur	Right	Appendicular				10
Bone	Mammal		4	109	380	Whole bone. Possibly used as game piece.	1		1	100%			Sheep	Mammal	Ovis aries	Hind limb	Astragalus	Right	Manus/Pes				10
Bone	Mammal		4	109	381		1		1	70%	Burnt	Heavy	Unid mammal	Mammal	Unid	Unid limb	Phalanx		Manus/Pes				10
Bone	Mammal		4	109	382	Long bone fragment with gnaw marks from rodent.	1		1	60%	Gnawed	Moderate	Unid mammal	Mammal	Unid	Unid	Unid		Limb				10
Bone	Mammal		4	109	383	Shank frags. Multiple shallow diagonal cut marks.	1	1	2	40%			Cow	Mammal	Bos taurus	Rib cage	Rib		Axial	Cut	Diagonal	Shallow	10
Bone	Mammal		4	109	384	Shank, sawn at one end, broken at other.	2		4	20%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial	Sawn		Full	10
Bone	Mammal		4	109	385	Broken both ends.	1		1	70%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial				10
Bone	Mammal		4	109	386	Broken both ends.	1		1	20%			Unid mammal	Mammal	Unid	Rib cage	Rib		Axial				10
Bone	Bird		4	109	387	Broken both ends.	1	1	1	50%			Unid bird	Bird	Unid	Unid	Unid						10
Bone	Bird		4	109	388	Broken both ends.	1		1	50%			Unid bird	Bird	Unid	Unid	Unid						10

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	Notes	NISP	MNI	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Common Name	Animal Class	Animal Name	Bone Body Part	Bone Anatomical	Bone Handedness	Bone Zones	Butchery Mark	Butchery Direction	Butchery Severity	Box #
Bone	Mammal		4	109	389	Multiple tiny cut marks on shank. Proximal end broken away.	1		1	80%			Sheep	Mammal	Ovis aries	Forelimb	Femur	Left	Appendicular	Cut		Shallow	10

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Distributor Options	Manufacturer	Artefact Origin	Glass Mark Application	Glass Horizontal Profile	Glass Vertical Profile	Artefact Closures	Glass Colour	Glass Base	Heel	Resting Point	Glass Finish	Glass Neck	Glass Shoulder	Start Date	End Date	Box
Glass			1	003	001	Food	Condiments/Sauce	Bottle	Body/base	Embossed along side: 'LEA & PE[RRINS]. Embossed on base: 'A 8 C B Co' in circle.	1	1	30%	Good		Cup-bottom mould	Lea & Perrins (England, Worcester, 1837-)	Aire and Calder Bottle Company (ACB Co), England, Yorkshire, Castleford	England, Worcester	Embossed	Circular	Cylindrical		Green, light	Shallow concave	Abrupt	Flat				1850	1920	1
Glass			1	003	002	Food	Condiments/Sauce	Bottle	Body/base	Embossed centre base: 'X'.	1	1	20%	Good		Cup-bottom mould				Embossed	Circular	Cylindrical		Green, light	Shallow concave	Abrupt	Flat				1840	1920	1
Glass			1	003	003	Beverage	Aerated Water	Bottle	Body/base	Embossed on one side of body in arch/straight line: '[JO]H[N STARK]EY / [SY]DNEY'; embossed on reverse side of body: '[CODD'S PATE]NT / [BARNET]TS & FOSTER / [SOLE] AGENTS / [LON]DON.N'	1	1	20%	Good		Cup-bottom mould	Starkey (Australia, Sydney, c.1846-1956)	Barnetts & Foster, England, London	England, London	Embossed	Circular	Cylindrical		Green, light	Shallow concave	Inswept	Narrow				1862	1911	1
Glass			1	003	004	Beverage	Aerated Water	Bottle	Body/base	Small vent hole in centre base.	1	1	10%	Good		Cup-bottom mould					Circular	Cylindrical		Green, light	Shallow concave	Inswept	Narrow				1840	1920	1
Glass			1	003	005	Unidentified	Unidentified	Bottle	Body/base	Small dot in centre base.	1	1	5%	Fabric decay	Light						Circular	Cylindrical		Green, light	Shallow concave	Chamfered	Flat						1
Glass			1	003	006	Unidentified	Unidentified	Bottle	Body/base	Embossed in concave of base: '869'. Small vent hole in centre base.	1	1	5%	Good		Rickett's-type mould				Embossed	Circular			Green, light	Shallow concave		Flat				1820	1870	1
Glass			1	003	007	Unidentified	Unidentified	Bottle	Body/base		1	1	5%	Good							Circular	Cylindrical		Green, light	Shallow concave		Narrow						1
Glass			1	003	008	Food	Condiments/Sauce	Bottle	Rim/neck	Narrow bore with internal ledge. Bore = 16mm. Fluted moulding on lower neck.	0	1	20%	Good		Applied finish; moulded neck							Stopper	Green, light				Mineral	Tapered		1828	1925	1
Glass			1	003	009	Food	Condiments/Sauce	Bottle	Rim/neck	Narrow bore with internal ledge. Bore = 23mm.	0	1	10%	Good		Applied finish							Stopper	Green, light				Groove ring			1828	1925	1
Glass			1	003	010	Food	Pickle/Chutney	Bottle	Rim/neck/shoulder	Bore = 34mm.	0	1	20%	Good		Applied finish, moulded neck					Circular	Cylindrical		Green, light				Double collar	Tapered	Sloped down	1828	1925	1
Glass			1	003	011	Unidentified	Unidentified	Bottle	Body/base		0	1	20%	Good							Circular	Cylindrical		Green, light		Abrupt							1
Glass			1	003	012	Food	Unidentified	Bottle	Body		0	2	10%	Fabric decay	Light						Hexagonal	Straight		Green, light		Abrupt							1

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Distributor Options	Manufacturer	Artefact Origin	Glass Mark Application	Glass Horizontal Profile	Glass Vertical Profile	Artefact Closures	Glass Colour	Glass Base	Heel	Resting Point	Glass Finish	Glass Neck	Glass Shoulder	Start Date	End Date	Box
Glass			1	003	013	Unidentified	Unidentified	Bottle	Shoulder		0	1	5%	Good							Circular			Green, light						Sloped down			1
Glass			1	003	014	Food	Condiments/Sauce	Bottle	Neck	Fluted neck, prob cathedral shape.	0	1	5%	Good										Green, light							1840	1920	1
Glass			1	003	015	Food	Condiments/Sauce	Stopper	Whole stopper	Tack shaped stopper.	0	1	###	Good							Circular	Low dome	Stopper	Green, light							1845	1920	1
Glass			1	003	016	Beverage	Aerated Water	Bottle	Body/base	Embossed body: 'N'.	1	1	30%	Good		Two-piece mould				Embossed	Circular	Torpedo		Teal	Round						1809		1
Glass			1	003	017	Unidentified	Unidentified	Bottle	Body		1	1	5%	Good										Teal									1
Glass			1	003	018	Pharmaceutical	Unidentified	Bottle	Rim/neck/shoulder	Bore = 12mm.	1	1	10%	Good		Applied finish					Flask			Blue, light				Single collar, lenticular	Cylindrical	Sloped down	1828	1925	1
Glass			1	003	019	Personal	Perfume	Bottle	Rim/neck	Bore = 13.5mm.	1	1	10%	Good		Fire polished								Clear				Straight	Tapered out				1
Glass			1	003	020	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	1
Glass			1	003	021	Beverage	Wine	Bottle	Body/base	Conical push-up. Holding tool.	1	1	5%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1840	1870	1
Glass			1	003	022	Beverage	Wine	Bottle	Body/base	Low dome push-up, small mamelon.	1	1	5%	Good		Three-piece mould					Circular	Cylindrical		Green, dark	Low dome	Rounded	Rounded				1820	1920	1
Glass			1	003	023	Beverage	Wine	Bottle	Rim/neck/shoulder	Bore = 18mm.	0	1	20%	Good		Applied finish					Circular	Cylindrical		Green, dark				Double collar	Bulged	Sloped down	1828	1925	1
Glass			1	003	024	Beverage	Wine	Bottle	Rim	Bore = 21mm.	0	1	5%	Good		Applied finish								Green, dark				Groove ring			1828	1925	1
Glass			1	003	025	Beverage	Gin/schnapps	Bottle	Rim/neck	Laid-on, crudely tooled rim. Bore = 20mm.	1	1	10%	Good		Applied finish								Green, dark				Pig snout	Cylindrical			1860	1
Glass			1	003	026	Beverage	Gin/schnapps	Bottle	Rim/neck/shoulder	Bore = 17mm.	1	1	20%	Good		Applied finish					Square	Tapered		Green, dark				Tapered	Cylindrical	Sloped down	1828	1925	1
Glass			1	003	027	Beverage	Champagne	Bottle	Rim/neck	Flat top fire polished rim. Bore = 18mm.	1	1	10%	Good		Applied finish						Tapered		Green, medium				String rim	Tapered			1920	1
Glass			2	003	028	Beverage	Gin/schnapps	Bottle	Rim/neck	Laid-on, crudely tooled rim. Bore = 18mm.	1	1	10%	Good		Applied finish								Green, dark				Pig snout	Cylindrical			1860	1
Glass			2	003	029	Beverage	Gin/schnapps	Bottle	Body/base	Large offset square embossed on base.	0	1	10%	Good		Dip mould				Embossed	Square	Tapered		Green, dark	Low dome	Rounded	Four point					1870	1
Glass			2	003	030	Beverage	Wine	Bottle	Body/base	Conical push-up, capped tool, with sand pontil.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	1
Glass			2	003	031	Beverage	Wine	Bottle	Body/base	Conical push-up, capped tool, with sand pontil.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	1
Glass			2	003	032	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil.	1	1	30%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	1
Glass			2	003	033	Beverage	Wine	Bottle	Body/base		1	1	10%	Good		Rickett's mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	1
Glass			2	003	034	Beverage	Wine	Bottle	Body/base	Conical push-up.	1	1	20%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1830	1920	1

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Distributor Options	Manufacturer	Artefact Origin	Glass Mark Application	Glass Horizontal Profile	Glass Vertical Profile	Artefact Closures	Glass Colour	Glass Base	Heel	Resting Point	Glass Finish	Glass Neck	Glass Shoulder	Start Date	End Date	Box
Glass			2	003	035	Beverage	Wine	Bottle	Body/base		0	1	10%	Good							Circular	Cylindrical		Green, dark									1
Glass			2	003	036	Unidentified	Unidentified	Bottle	Body/base		1	1	10%	Good		Rickett's-type mould					Circular	Cylindrical		Teal	Shallow concave	Abrupt	Flat				1820	1870	1
Glass			2	003	037	Unidentified	Unidentified	Bottle	Body/base		1	1	5%	Fabric decay	Light	Cup-bottom mould					Circular			Green, light	Low dome	Abrupt	Rounded				1840	1920	1
Glass			2	003	038	Unidentified	Unidentified	Bottle	Body/base		1	1	5%	Good		Cup-bottom mould					Circular	Cylindrical		Green, light		Abrupt	Flat				1840	1920	1
Glass			2	003	039	Food	Condiments/Sauce	Bottle	Rim/neck	Narrow bore with internal ledge. Bore = 22mm.	0	1	20%	Good		Applied finish; blown neck							Stopper	Green, light				Double collar	Cylindrical		1828	1925	1
Glass			1	007	040	Unidentified	Unidentified	Bottle	Body/base		0	1	5%	Good		Cup-bottom mould					Circular	Cylindrical		Green, light		Abrupt	Flat						2
Glass			1	007	041	Food	Condiments/Sauce	Stopper	Whole stopper	Tack shaped stopper; embossed beading around rim.	1	1	###	Good		Moulded in 3 parts					Circular	Low dome	Stopper	Green, light									2
Glass			4	107	042	Beverage	Wine	Bottle	Body/base	Embossed in concave of base, illegible. Small vent hole in centre base.	1	1	10%	Good		Rickett's-type mould					Circular	Cylindrical		Green, dark	Low dome	Abrupt	Rounded				1820	1870	2
Glass			4	107	043	Beverage	Wine	Bottle	Body/base	Small vent hole in centre base.	1	6	40%	Good		Dip mould					Circular	Cylindrical		Green, dark	Low dome	Abrupt	Rounded				1830	1920	2
Glass			4	107	044	Beverage	Wine	Bottle	Body/base		1	1	20%	Good		Three-piece mould, separate base part					Circular	Cylindrical		Green, dark	Conical	Abrupt	Rounded				1820	1920	2
Glass			4	107	045	Beverage	Wine	Bottle	Body/base		1	1	5%	Good							Circular	Cylindrical		Green, dark		Rounded	Rounded						2
Glass	Cork, copper alloy		4	107	046	Beverage	Wine	Bottle	Rim/neck	Rim with cork, copper alloy closure wire and foil remaining. Bore = 22mm.	0	1	20%	Good		Applied finish								Green, dark				Groove ring	Tapered		1828	1925	2
Glass			4	107	047	Beverage	Wine	Bottle	Rim/neck	Bore = 21mm.	0	1	10%	Good		Applied finish					Circular	Cylindrical		Green, dark				Double collar			1828	1925	2
Glass	Ferric metal		4	107	048	Beverage	Wine	Bottle	Rim/neck	Rim with ferric closure wire remaining. Bore = 17mm.	0	2	10%	Good		Applied finish					Circular	Cylindrical		Green, dark				Oil	Cylindrical		1828	1925	2
Glass			4	107	049	Beverage	Gin/schnapps	Bottle	Rim/neck	Bore = 19mm.	1	1	10%	Good		Applied finish								Green, dark				Tapered	Cylindrical		1828	1925	2
Glass			4	107	050	Beverage	Gin/schnapps	Bottle	Rim/neck	Bore = 20mm.	1	1	10%	Good		Applied finish								Green, dark				Tapered	Cylindrical		1828	1925	2
Glass			4	107	051	Beverage	Gin/schnapps	Bottle	Rim/neck		1	1	5%	Good		Applied finish								Green, dark				Tapered	Cylindrical		1828	1925	2

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Distributor Options	Manufacturer	Artefact Origin	Glass Mark Application	Glass Horizontal Profile	Glass Vertical Profile	Artefact Closures	Glass Colour	Glass Base	Heel	Resting Point	Glass Finish	Glass Neck	Glass Shoulder	Start Date	End Date	Box
Glass			4	107	052	Beverage	Gin/schnapps	Bottle	Body		0	1	5%	Good							Square			Green, dark									2
Glass			4	107	053	Beverage	Wine	Bottle	Neck, body	Multiple bottles.	0	8	5%	Good							Circular	Cylindrical		Green, dark									2
Glass			4	107	054	Beverage	Aerated Water	Bottle	Neck/body/ base		1	1	90%	Good		Two-piece mould					Circular	Torpedo		Green, light	Round						1809		2
Glass			4	107	055	Beverage	Champagne	Bottle	Body/base	Deep push-up and mamelon; sand pontil.	1	7	30%	Fabric decay	Mode rate	Dip mould?					Circular	Cylindrical		Green, medium	Deep bell	Rounded	Rounded					1870	2
Glass			4	107	056	Food	Oil/Vinegar	Bottle	Body/base	Embossed on concave of base: '146'.	1	2	10%	Fabric decay	Light	Cup-bottom mould				Embossed	Circular, fluted	Cylindrical		Green, light	Shallow concave	Abrupt	Flat				1840	1920	2
Glass			4	107	057	Pharmaceutical	Patent Medicine	Bottle	Body/base	Embossed down body: '[WA]TT'S / [PECTOR]AL OXYMEL / [OF] CARACHEEN / OR / [IRI]SH MOSS.'. Cough medicine.	1	1	50%	Good		Cup-bottom mould			Australia	Embossed	Circular	Cylindrical		Green, light	Shallow concave	Abrupt	Flat				1856	1920	2
Glass			4	107	058	Beverage	Aerated Water	Bottle	Body	Partial remains of embossed lettering on body.	1	1	5%	Good						Embossed	Circular	Torpedo		Green, light							1809		2
Glass			4	107	059	Beverage	Unidentified	Bottle	Neck/shoulder/body		1	3	10%	Good							Circular	Cylindrical		Green, emerald									2
Glass			4	107	060	Food	Pickle/Chutney	Bottle	Rim/neck, body/base	Wide bore = 28mm.	1	5	20%	Fabric decay	Light	Cup-bottom mould; tooled rim					Circular	Cylindrical		Green, light		Abrupt	Flat	Prescription	Cylindrical		1870		2
Glass			4	107	061	Food	Condiments/Sauce	Stopper	Whole stopper	Tack shaped stopper.	1	1	###	Fabric decay	Light						Circular	Low dome, indented	Stopper	Green, light							1845	1920	2
Glass			4	107	062	Food	Condiments/Sauce	Stopper	Near whole stopper	Tack shaped stopper.	1	1	95%	Fabric decay	Light						Circular	Low dome, indented	Stopper	Green, light							1845	1920	2
Glass			4	107	063	Pharmaceutical	Castor Oil	Bottle	Neck		1	2	10%	Good							Circular			Blue, cobalt					Tapered				2
Glass			4	107	064	Pharmaceutical	Medicine	Bottle	Rim/neck	Tooled rim. Bore = 13mm.	1	1	10%	Good										Blue, light				Prescription	Cylindrical		1870		2
Glass	Lead crystal		4	107	065	Beverage	Tableware	Stemware	Rim to foot	Rummer-goblet. Plain rim, funnel-shaped bowl with 11 fluted panels on lower body, bladed knop on stem, ground and polished shallow concave foot. Base dia = 75mm.	1	3	80%	Good		Moulded, three-part					Circular			Clear	Shallow concave foot						1820		2
Glass			4	107	066	Beverage	Tableware	Stemware	Foot	Non-pontellid base.	1	1	10%	Good										Clear	Shallow concave foot								2

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Glass			4	107	067	Beverage	Tableware	Unidentified	Bowl	Panelled bowl with cut flutes in between, and ovals on upper panels.	0	1	5%	Good							Circular			Clear									2
Glass	Milk glass		4	107	068	Household	Ornament	Vase	Rim/neck/body	Narrow neck. Bud vase.	1	5	20%	Good							Circular			White				Flared	Tapered out				2
Glass	Milk glass		4	107	069	Household	Unidentified	Unidentified	Body/base		1	2	5%	Good							Circular			Blue, light		Abrupt	Flat						2
Glass			4	107	070	Architectural	Window	Flat	Frag		1	1	Unid	Fabric decay	Light	Crown glass					Flat			Clear								1870	2
Glass			4	107	071	Personal	Hygiene	Mirror	Frag	Silvered backing.	1	1	Unid	Good		Thick plate glass					Flat			Clear								1840	2
Glass			4	107	072	Architectural	Window	Flat	Frag	Frosted, uneven surface.	1	1	Unid	Good		Thick plate glass					Flat			Clear									2
Glass			4	109	073	Architectural	Window	Flat	Frag		1	1	Unid	Good		Crown glass					Flat			Clear								1870	3
Glass			4	109	074	Pharmaceutical	Castor Oil	Bottle	Rim/neck, body/base	Embossed '8' on concave of base. Tiny vent hole in centre base. Rim dia = 18mm.	1	2	30%	Fabric decay	Light	Rickett's-type mould; applied rim				Embossed	Circular	Cylindrical		Blue, cobalt	Shallow concave	Abrupt	Flat	Double collar	Tapered		1828	1925	3
Glass			4	109	075	Beverage	Unidentified	Bottle	Body		1	1	10%	Good							Circular	Cylindrical		Green, medium									3
Glass			4	109	076	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3
Glass			4	109	077	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3
Glass			4	109	078	Beverage	Wine	Bottle	Rim	Bore = 20mm.	0	1	5%	Good		Applied finish								Green, dark				Groove ring			1828	1925	3
Glass			4	109	079	Beverage	Gin/schnapps	Bottle	Rim/neck	Bore = 21mm.	1	1	5%	Good		Applied finish								Green, dark				Tapered	Cylindrical		1828	1925	3
Glass			4	109	080	Beverage	Gin/schnapps	Bottle	Rim/neck	Bore = 21mm.	1	1	5%	Good		Applied finish								Green, dark				Tapered	Cylindrical		1828	1925	3
Glass		5	5	214	081	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil. Apex of push-up chipped away in a single strike creating a small opening 9mm in diameter. Unlikely to have been used for opium given lack of multiple strike points, useware on broken edges of bottle body, or blue tinged/heat effected glass at apex.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3
Glass		5	5	214	082	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil.	1	1	20%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3

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Glass		5	5	214	083	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3
Glass		5	5	214	084	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil.	1	3	20%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3
Glass		5	5	214	085	Beverage	Accessory	Bottle	Body/base	Conical push-up with sand pontil.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3
Glass		5	5	214	086	Beverage	Wine	Bottle	Body/base	Rounded cone with mamelon.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Rounded cone	Rounded	Rounded				1830	1920	3
Glass		5	5	214	087	Beverage	Wine	Bottle	Body/base	Conical push-up with sand pontil. Circular indent inside base, off-centre.	1	1	10%	Good		Dip mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3
Glass		5	5	214	088	Beverage	Wine	Bottle	Body/base	Small mamelon.	1	1	30%	Good		Rickett's mould					Circular	Cylindrical		Green, dark	Conical	Rounded	Rounded				1820	1870	3
Glass		5	5	214	089	Beverage	Wine	Bottle	Body		1	1	5%	Good							Circular	Cylindrical		Green, dark									3
Glass		5	5	214	090	Beverage	Unidentified	Bottle	Body/base	3 small vent holes(?) spaced around resting point and one in centre of base.	1	1	10%	Good		Three-piece mould					Circular	Cylindrical		Green, medium	Dome	Abrupt	Flat				1820	1920	3
Glass		5	5	214	091	Beverage	Champagne	Bottle	Body/base	Deep push-up and mamelon.	1	1	10%	Good							Circular	Cylindrical		Green, medium	Deep bell	Rounded	Rounded				1830		3
Glass		5	5	214	092	Beverage	Gin/schnapps	Bottle	Body/base		1	1	30%	Good		Dip mould					Square	Tapered		Green, dark	Low dome	Rounded	Four point					1870	3
Glass		5	5	214	093	Unidentified	Unidentified	Bottle	Body/base	Three small dots embossed on base, off-centre.	1	1	40%	Good		Cup-bottom mould				Embossed	Circular	Cylindrical		Green, light	Rounded cone	Rounded	Rounded				1840	1920	3
Glass		5	5	214	094	Beverage	Tableware	Tumbler	Body/base	Plain upper body, 10 deep fluted arches on lower body. Starburst section base with ground resting point and indented dome.	1	1	80%	Good		Press mould					Circular, fluted	Tapered		Clear	Dome	Abrupt	Flat				1830		3

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Start Date	End Date	Dia (mm)	Length (mm)	Box
Metal	Ferric metal		2	003	300	Architectural	Structural	Pin	Whole	Large straight spike. Small flat circular head, circular section shank, blunt point. Probably wharfage spike.	1	1	100%	Fabric decay, encrustation	Heavy	Hand forged			22	383	9
Metal	Ferric metal		2	003	301	Unidentified	Unidentified	Unidentified	Fragment	Thin rod with large head and socket at one end, snapped at the other end. Large socket with hollow perpendicular triangular point. Relative thinness of rod suggests it would have been encased in a wooden handle.	1	1	Unknown	Fabric decay, encrustation	Heavy						9
Metal	Copper alloy		2	003	302	Service	Unidentified	Pipe	Whole	Hollow cylinder with one end cut, the other end pinched together. Prob water or gas pipe.	1	1	100%	Fabric decay, encrustation	Moderate				13	109.5	9
Metal	Copper alloy		4	107	303	Transport	Vessel	Sheathing Nail	Whole	Flat, circular countersunk head, square section, sharp point. Possibly furniture nail.	1	1	100%	Fabric decay	Moderate	Hand forged	1835			32	9
Metal	Copper alloy		4	107	304	Industrial	By-Product	Slag	Whole	Grey slag, glossy in parts, with red patches. White inclusions (bone?)and occasional voids/air pockets.	1	1	100%	Good							9

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Distributor Options	Manufacturer	Artefact Origin	Start Date	End Date	Colour	Box
Misc	Porcelain, hard paste		1	003	270	Recreational	Toys	Teaset	Near whole	Toy teacup, handle snapped off. Moulded leaves at upper handle attachment point.	1	1	90%	Good		Moulded			Europe/UK				8
Misc	Kaolin		1	003	271	Recreational	Smoking	Pipe	Stem	Pipe stem, circular section, snapped both ends.	1	1	20%	Good		Moulded						White	8
Misc	Copper alloy, enamel, ferric metal		1	003	272	Personal	Jewellery	Brooch	Whole	Oval brooch. Copper alloy frame with decorative twisted wire frame around white enamel centrepiece featuring pink and blue flowers with green leaves. Ferric pin on back.	1	1	100%	Fabric decay	Moderate							White, pink, blue, green	8
Misc	Kaolin		4	107	273	Recreational	Smoking	Pipe	Bowl/stem/modified mouthpiece	Slightly angled bowl. Embossed stem inside rope cartouche, left: 'SAYWELL', right: 'SYDNEY'. Bowl and bore burnt from use. Stem snapped and ground to create new mouthpiece. Bowl dia= 22mm. Artefact % based on estimated original size. Made in UK (prob Scotland) for Sydney tobacconist.	1	1	50%	Good		Moulded	Thomas Saywell, Sydney		UK	1863	1905	White	8

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Distributor Options	Manufacturer	Artefact Origin	Start Date	End Date	Colour	Box
Misc	Kaolin		4	107	274	Recreational	Smoking	Pipe	Stem	Stem snapped at both ends. Embossed stem inside rope cartouche, left: '[LACHLA]NDER', right: 'C. CR[OP LONDON]'.	1	1	10%	Good		Moulded	Charles Crop, London		UK	1856	1924	White	8
Misc	Kaolin		4	107	275	Recreational	Smoking	Pipe	Stem	Stem snapped at both ends. Embossed stem left: 'DAVIDSON', right: 'GLA[SGOW]'.	1	1	10%	Good	Encrusted (ferric)	Moulded		Thomas Davidson, Glasgow.	Scotland, Glasgow	1861	1891	White	8
Misc	Kaolin		4	107	276	Recreational	Smoking	Pipe	Stem	Stem snapped at both ends.	1	1	5%	Good		Moulded						White	8
Misc	Bone		4	107	277	Recreational	Smoking	Pipe	Mouthpiece	Thickened bone mouthpiece with green copper staining where it would have attached to stem.	1	1	5%	Good									8
Misc	Slate		4	107	278	Clerical	Writing	Pencil	Point/shank	Cylindrical sectioned carved slate with worn tip. Snapped other end.	1	1	20%	Good								Grey, dark	8
Misc	Bisque		4	107	279	Recreational	Toys	Doll Part	Neck	Neck fragment without evidence of hole to attach to body. Thinly glazed on exterior.	1	1	5%	Good		Moulded			Germany			White	8
Misc	Fine earthenware		4	107	280	Recreational	Toys	Marble	Whole	Whole marble. Very spherical. Useware.	1	1	100%	Good		Machine rolled			Germany			Grey-brown	8
Misc	Glass		4	107	281	Recreational	Toys	Marble	Whole	Whole marble. Clear with alternating swirled lines of green and red. Heavy useware.	1	1	100%	Good		Hand made			Germany	1850	1914	Clear, red, green	8

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Distributor Options	Manufacturer	Artefact Origin	Start Date	End Date	Colour	Box
Misc	Fine earthenware		4	107	282	Recreational	Toys	Marble	Whole	Whole marble. Light grey marble with dark grey swirls. Useware.	1	1	100%	Good		Machine rolled			Germany			Grey, light and dark	8
Misc	Porcelain, hard paste		4	107	283	Personal	Clothing	Button	Near whole	Circular button with central boss and bead rim. Ferric loop shank (snapped off) and plate on convex back.	1	1	90%	Good		Moulded				1840		White	8
Misc	Copper alloy		4	107	284	Personal	Clothing	Button	Face	Face of four hole, two piece trouser button. Beading surrounding sunken centre, followed by incuse: 'G B & Co / SYDNEY'.	1	1	60%	Fabric decay	Heavy	Moulded	Grace Brothers, Sydney			1885			8
Misc	Copper alloy		4	107	285	Personal	Clothing	Button	Whole	Small circular button, heavily corroded and encrusted.	1	1	100%	Fabric decay, encrustation	Heavy								8
Misc	Copper alloy		4	107	286	Personal	Clothing	Button	Whole	Three-fold linen button.	1	1	100%	Fabric decay, encrustation	Heavy					1841			8
Misc	Copper alloy		4	107	287	Unidentified	Unidentified	Unidentified	Fragment	Thin, hollow cylinder broken at both ends.	1	1	Unknown	Fabric decay, encrustation	Heavy								8
Misc	Whale ivory		4	107	288	Collectable	Ornamental	Unidentified	Near whole	Whale tooth. Sperm whale? Base of tooth cut off to create solid flat basal surface. Two small holes drilled in centre of base, 5mm apart. Ferric staining on base suggests it was mounted.	1	1	100%	Fabric decay	Heavy								8

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Manufacturing Method	Distributor Options	Manufacturer	Artefact Origin	Start Date	End Date	Colour	Box
Misc	Copper alloy		4	107	289	Personal	Clothing	Button	Whole	Large, circular button, slightly convex face/concave back. Loop shank back. Waistcoat?	1	1	100%	Fabric decay	Heavy								8
Misc	Fine earthenware		4	109	290	Recreational	Toys	Marble	Whole	Whole marble. Useware.	1	1	100%	Good		Machine rolled			Germany			Grey, light	8
Misc	Fine earthenware		4	109	291	Food	Cutlery	Unidentified	Tang/handle	Rectangular section wooden handle with bevelled edges. Held together with ferric wire drawn nails. Ferric, circular sectioned tang, snapped. Fork, spoon or utensil.	1	2	60%	Fabric decay	Heavy					1853			8

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Leather Manufacturing Techniques	Dia (mm)	Length (mm)	Thickness (mm)	Start Date	End Date	Box
Organic	Leather		1	003	250	Personal	Clothing	Shoe	Midsole	Midsole toe, ripped at shank. Narrow square toe. Wood pegged with machine made pegs. Irregular pegging, probably hand pegged. Worn at ball of foot. Dates approx, based on toe shape.	1	1	5%	Fabric decay	Heavy	Wood pegged				1820	1870	8
Organic	Leather		1	003	251	Personal	Clothing	Shoe	Outsole	Outsole shank, toe and heel ripped off. Two neat rows of wood peg holes along both sides of shank. Child or woman's shoe or boot.	0	1	5%	Fabric decay	Moderate	Machine pegged				1854		8
Organic	Wood		1	003	252	Unidentified	Unidentified	Unidentified	Fragment	Fragments of lightweight wood with cut marks.	1	2	Unknown	Fabric decay	Moderate		23					8
Organic	Wood		2	003	253	Unidentified	Unidentified	Unidentified	Fragment	Fragment of wood. Fabric decay consistent with having rotten underwater. Possibly non cultural.	1	1	Unknown	Fabric decay	Moderate							8
Organic	Wood		4	107	254	Unidentified	Unidentified	Unidentified	Fragment	Circular, slightly ovoid fragment of wood with ovoid hole in centre (32x25mm).	1	1	Unknown	Fabric decay	Heavy		75		22			8

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	General Function	Specific Function	Artefact Shape	Artefact Portion	Notes	MIC	Fragment Count	Artefact %	Artefact Condition	Artefact Condition Degree	Leather Manufacturing Techniques	Dia (mm)	Length (mm)	Thickness (mm)	Start Date	End Date	Box
Organic	Leather		4	107	255	Personal	Clothing	Shoe	Midsole	Midsole heel, ripped at shank. Copper alloy wire screwed. Heel lifts (missing) secured with square sectioned ferric nails. Baby's shoe or boot.	1	1	5%	Fabric decay	Heavy	Machine screwed				1862		8
Organic	Leather		4	107	256	Unidentified	Unidentified	Unidentified	Fragment	Fragment of leather, ripped. Offcut?	0	1	Unknown	Fabric decay	Heavy							8
Organic	Leather		4	107	257	Personal	Clothing	Shoe	Insole/midsole/outsole	Midsole toe, ripped at shank. Rounded toe. Sole nailed with circular sectioned ferric nails. Worn at ball of foot.	1	1	20%	Fabric decay	Very heavy	Nailed				1862		8
Organic	Wool		4	107	258	Personal	Clothing	Unidentified	Fragment	Fragment of brown wool with plain weave. Ripped.	1	1	Unknown	Fabric decay	Heavy							8
Organic	Cork		4	107	259	Beverage	Closure	Bottle	Near whole	Bottle cork.	1	1	90%	Fabric decay	Moderate		19	42				8
Organic	Cork		4	107	260	Beverage	Closure	Bottle	Whole	Bottle cork.	1	1	100%	Fabric decay	Moderate		21	40				8
Organic	Coal		4	107	261	Heating	Unidentified	Unidentified	Whole	Three lumps of coal. Black.	3	3	100%	Good								8
Organic	Cork		4	109	262	Beverage	Closure	Bottle	Near whole	Bottle cork.	1	1	90%	Fabric decay	Moderate		16	22				8

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	NISP	MNI	Fragment Count	Notes	Artefact %	Artefact Portion	Artefact Condition	Artefact Condition Degree	Shell Species	Common Name	Size class	Length (mm)	Width (mm)	Height (mm)	Box
Shell	Oyster		1	003	320	1	1	1		100%	Whole lid	Eroded	Moderate	Saccostrea glomerata	Sydney Rock Oyster	8-10	81	42	20	10
Shell	Oyster		4	107	321	1	0	1	Hole pierced at umbo.	90%	Near whole lid	Burnt	Mild	Saccostrea glomerata	Sydney Rock Oyster	6-8	69	57	26	10
Shell	Oyster		4	107	322	1	0	1		100%	Whole lid	Burnt	Mild	Saccostrea glomerata	Sydney Rock Oyster	4-6	55	30	15	10
Shell	Oyster		4	107	323	1	1	1	Base fused to lid of another Saccostrea glomerata of similar size and condition. Base recorded/counted.	80%	Near whole base	Burnt	Mild	Saccostrea glomerata	Sydney Rock Oyster	4-6		27		10
Shell	Oyster		4	107	324	1	1	1		90%	Near whole base	Burnt	Mild	Saccostrea glomerata	Sydney Rock Oyster	6-8	75	47		10
Shell	Oyster		4	107	325	1	1	1		80%	Near whole base	Burnt	Mild	Saccostrea glomerata	Sydney Rock Oyster	6-8		44		10
Shell	Oyster		4	107	326	1	1	1		100%	Whole base	Burnt	Moderate	Saccostrea glomerata	Sydney Rock Oyster	4-6	49	31		10
Shell	Oyster		4	107	327	1	1	1		100%	Whole base	Good		Saccostrea glomerata	Sydney Rock Oyster	4-6	49	34		10

Artefact Material	Material Subclass	Zone	Trench	Ctxt No	Cat No	NISP	MNI	Fragment Count	Notes	Artefact %	Artefact Portion	Artefact Condition	Artefact Condition Degree	Shell Species	Common Name	Size class	Length (mm)	Width (mm)	Height (mm)	Box
Shell	Oyster		4	107	328	1	1	2		100%	Complete base	Burnt	Mild	Saccostrea glomerata	Sydney Rock Oyster	2-4	38	30		10
Shell	Oyster		4	107	329	1	1	1	Base frag including hinge.	50%	Base frag	Burnt	Mild	Saccostrea glomerata	Sydney Rock Oyster	6-8				10
Shell	Oyster		4	107	330	1	0	1	Ventral base frag.	Unknown	Base frag	Burnt	Mild	Saccostrea glomerata	Sydney Rock Oyster					10
Shell	Cockle		4	107	331	1	1	1	Including umbo.	90%	Near whole left valve	Burnt	Moderate	Anadara trapezia	Sydney Cockle	4-6		46		10
Shell	Cockle		4	107	332	1	1	1	Including umbo.	50%	Left valve frag	Burnt	Moderate	Anadara trapezia	Sydney Cockle	4-6		45		10
Shell	Cockle		4	107	333	1	1	1	Including umbo.	60%	Left valve frag	Burnt	Mild	Anadara trapezia	Sydney Cockle	4-6		43		10
Shell	Cockle		4	107	334	1	0	1	Including umbo.	80%	Right valve frag	Burnt	Mild	Anadara trapezia	Sydney Cockle	4-6		43		10
Shell	Cockle		4	107	335	1	0	1	Not including umbo.	50%	Frag	Burnt	Mild	Anadara trapezia	Sydney Cockle	4-6				10