WESTERN HARBOUR TUNNEL - BERRYS BAY SITE

Final Excavation Report

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Glossary & abbreviations

Term/Acronym	Definition
AA	Archaeological Assessment
ACMP	Artefact Conservation Management Plan
AMP	Archaeological Management Plan
AMU	Archaeological Management Unit
Archaeological monitoring	Process of an archaeologist observing excavation works with the intention of identifying relics and other features. Also known as a watching brief.
ARDEM	Archaeological Research Design and Excavation Methodology
Burra Charter	The Australia ICOMOS Charter for Places of Cultural Significance, The Burra Charter, 2013
CHL	Commonwealth Heritage List
CMP	Conservation Management Plan
CoA	Ministers Conditions of Approval
CRM	Cultural Resources Management
Contamination	Archaeologically this refers to the mixing of stratigraphic units resulting in artefacts and other relics from different periods being mixed together.
DCP	Development Control Plan
ED	Excavation Director
EIS	Environmental Impact Statement
EP&A Act	NSW *Environmental Planning and Assessment Act 1979*
EP&A Regulation	NSW Environmental Planning and Assessment Regulation 2021
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
Heritage Act	*NSW Heritage Act 1977*
ICOMOS	International Council on Monuments and Sites
LEP	Local Environmental Plan
LGA	Local Government Area
NHL	National Heritage List
NLA	National Library of Australia
NSW	New South Wales
Project site	Refers to the area that will be directly disturbed by construction of the project (for example, as a result of ground disturbance and the construction of foundations for structures)
REP	Regional Environmental Plan
RNE	Register of the National Estate (non-statutory register)
SEARs	Secretary's environmental assessment requirements
SEPP	State Environmental Planning Policy
SH	Sydney Herald
SHC	Sydney Harbour Catchment
SHI	State Heritage Inventory which includes all heritage items from LEPs, the SHR and the NHL
SHR	State Heritage Register
SLNSW	State Library of NSW
SREP	Sydney Regional Environmental Plan
Stratigraphic Unit	A singular layer of sediment, soil, rock, or other material

Term/Acronym	Definition
SSI	State significant infrastructure
SSP	State significant precinct
S170	Section 170 Heritage and Conservation Register
TfNSW	Transport for NSW is the lead agency of the NSW Transport cluster.
Truncated	Damage to an archaeological deposit, feature, or stratigraphic unit
UNESCO	United Nations Educational, Scientific and Cultural Organization
WHL	World Heritage List
WHT	Western Harbour Tunnel project
World Heritage Convention	Convention Concerning the Protection of World Cultural and National Heritage

1 INTRODUCTION

1.1 Overview

Transport for NSW (TfNSW) have commissioned RPS AAP Consulting (RPS) to undertake Historical Archaeological Excavations at the Berrys Bay site in Waverton, NSW and subsequently report on those findings as part of the overall Western Harbour Tunnel and Warringah Freeway Upgrade project. Previously RPS have prepared an updated Archaeological Research Design and Excavation Methodology (ARDEM) for the Berrys Bay construction support site, Waverton which outlined the approach taken in the excavation and full justification for the approach. Based on the findings of the ARDEM, RPS undertook a programme of targeted test excavations at the site.

The project site (as defined in section 1.3) was initially intended to be utilised as a construction support site for the Western Harbour Tunnel (WHT) (SSI 8863) project. Following planned modifications to the design of the WHT project, the site will no longer be used as a support site and will now be developed into a public parkland as Precinct 1 of the Berrys Bay Masterplan. More information about the master plan is available at https://caportal.com.au/tfnsw/berrys-bay. Proposed works in the area include:

- New boardwalks and staircases to join the site to existing locations
- A large adventure playground in the area west of the bund wall
- The retention of the bund wall with a section removed to improve accessibility. The removed stone will be repurposed in the playground
- A wet garden along the northern boundary of the project site
- Expansive open space across the centre and eastern parts of the project site for informal recreation and events
- Tidal steps along the southern boundary shoreline with Port Jackson to provide seating and a connection to the water
- A yarning circle towards the eastern end of the project site

1.2 Compliance overview

As State Significant Infrastructure, the *Heritage Act 1977* is turned off during the approvals process.

Instead, this project is assessed under Division 4.7 of the *Environmental Planning and Assessment Act 1979* and requires consent from the Minister for Planning. Approval was granted under Section 5.19 of the EP&A Act 1979 in January 2021 with a series of Conditions of Approval (CoA) for the Western Harbour Tunnel and Warringah Freeway Upgrade project.

This report has been prepared to satisfy specific CoA as detailed in Table 1-1. To satisfy condition E62 this report must be distributed to the Planning Secretary, Heritage NSW, and North Sydney Council Heritage Centre at the Stanton Library. This report has been prepared in line with the Historical Archaeology Code of Practice (Heritage Office 2006).

Table 1-1: Compliance table detailing how the project satisfies the CoA.

Condition Number	Condition	Response
E58	Prior to the commencement of construction that has the potential to impact upon areas of archaeological significance as defined in the documents listed in Condition A1, a revised Archaeological Research Design and Excavation Methodology must be prepared in accordance with the Heritage Council of NSW guidelines and Heritage NSW comments on the EIS and RtS, to guide the archaeological program. The revised methodology must be prepared in consultation with Heritage NSW and submitted to the Planning Secretary for information.	A full Archaeological Research Design and Excavation Methodology (ARDEM) was prepared by RPS in 2023 which was presented to Heritage NSW and submitted to the Planning Secretary for information.
E59	Prior to commencement of archaeological excavation, the Proponent must nominate a suitably qualified Excavation Director	Ms Wendy Thorp (CRM) was the Primary Excavation

Condition Number	Condition	Response
	who complies with Heritage NSW's Criteria for Assessment of Excavation Directors (September 2019) to oversee and advise on matters associated with historical archaeology. The Excavation Director must be present to oversee excavation, advise on archaeological issues, advise on the duration and extent of oversight required during archaeological excavations consistent with the approved Archaeological Research Design and Excavation Methodology required by Condition E58.	Director for the project and Dr Gary Marriner (RPS) was the Secondary Excavation Director. Both were present at all times during excavations.
E60	Following completion of archaeological excavation programs a Final Excavation Report must be prepared that includes: the details of any archival recording, further historical research undertaken to enhance the final reporting and results of archaeological excavations (including artefact analysis and identification of a final repository for finds). The report must be prepared in accordance with guidelines and standards required by Heritage NSW.	This document fulfills this condition.
E61	An Artefact Conservation Management Plan (ACMP) must be prepared to support the archaeological excavation programs and be prepared with the support of a conservator. The ACMP must include historical and maritime relics recovered by the project. Artefact specialists must be engaged to analyse and report on the different assemblages as part of the final reporting for the CSSI. This must include details of analysis, processing and management of the collection including its curation needs in the short and long term. The Plan must be included in the Maritime Heritage and Non-Aboriginal Heritage Management CEMP Sub-plans, required by Condition C4.	This is contained in Appendix A
E62	The Final Excavation Report must be submitted to the Planning Secretary, Heritage NSW and the relevant Council for information no later than 12 months after the completion of the work referred to in Condition E60. It must include details of any significant artefacts recovered, where they are located and details of their ongoing conservation and protection in perpetuity. Copies of the Final Excavation Report must be provided to the Planning Secretary, Heritage NSW and to the relevant local Council's local studies unit.	This report was submitted to TfNSW on the date shown on the cover for distribution to all relevant parties.

1.3 Project site

The project site is located in the suburb of Waverton on the north shore of Port Jackson and has a major waterfront perimeter on the north shore of Berry's Bay, being part of the Waverton Peninsula (Figure 1-1). The street address for the project site is 3A Balls Head Drive and the cadastral identification is Lot 21 DP 1048933. It is an approximately rectangular area bounded by Balls Head Road to the west, Port Jackson to the South, and Carradah Park to the north and east.

At the commencement of the work the project site was unoccupied, cleared land which had been fenced (Figure 1-2). Balls Head Road enters the project site on the south-western corner and runs across the site as a concrete roadway. The surrounding environment has already been converted to parkland and features numerous paths, staircases and heritage interpretation signs.

There is a sandstone bund wall running north-south towards the middle of the open ground. This wall had been constructed in the 1930s using sandstone from a demolished nineteenth century structure. The wall is to be retained in the future park. Apart from this and some excavation of the rock faces on the edge of the project site, which had been carved out in the twentieth century to allow for the construction of refinery tanks and other works, within the project site there was no visible surface evidence of a sub-surface archaeological profile.

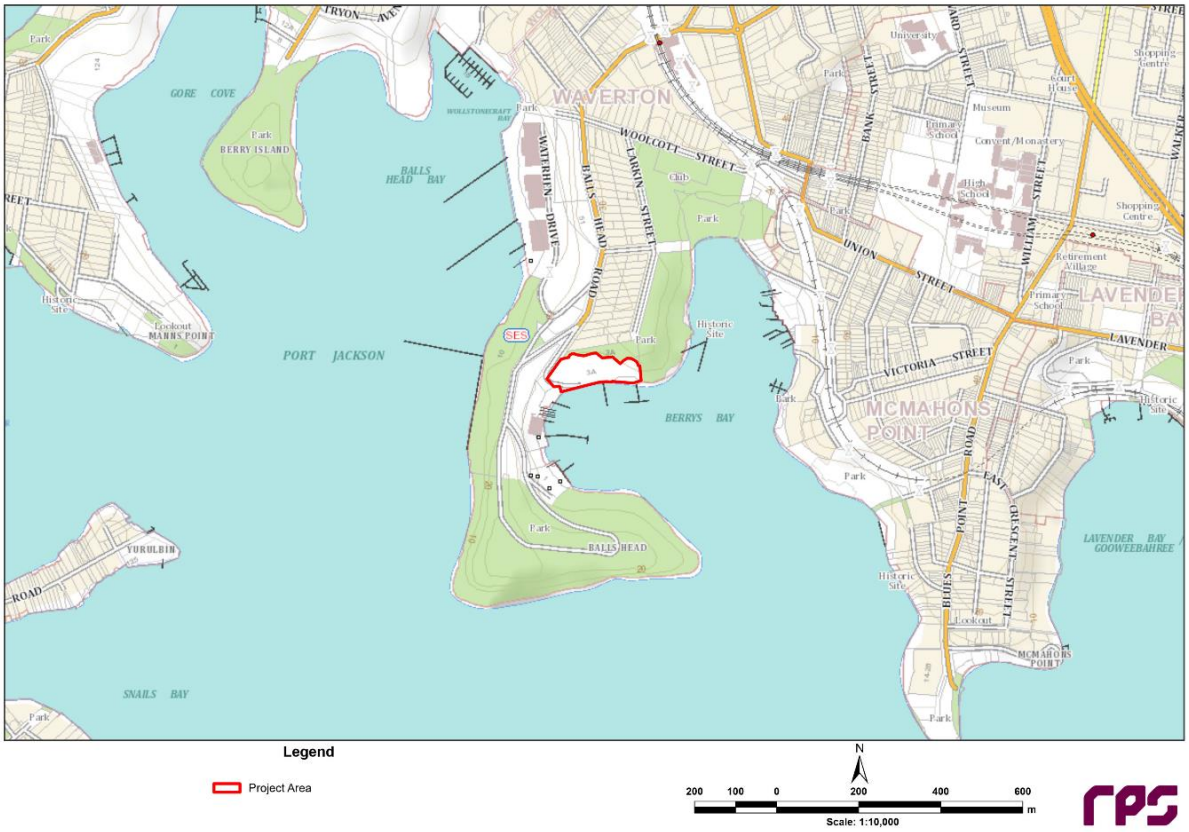

Figure 1-1: The location of the project site within Waverton on the north shore of Port Jackson.

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Figure 1-2: The project site demonstrating the conditions at the commencement of the project.

1.4 Statutory identification

The project site is listed as having local significance (as *BP Site* Item 1036) in the North Sydney Local Environmental Plan 2013. It is listed on the TfNSW s170 register (as *BP Site (Former) Waverton*) and was included in the Indicative Place listing of the *Sydney Harbour Landscape Area* on the defunct Register of the National Estate (RNE).

1.5 Project overview

The project site was subjected to archaeological assessment as part of the Environmental Impact Statement (EIS) in 2022 which indicated areas of archaeological potential (Jacobs, 2022). In addition, an ARDEM was also prepared by Jacobs as part of the EIS submission for the project as this place was identified as one of potential archaeological value. Heritage NSW submitted recommendations following review of the EIS documents.

Following presentation of the EIS, a revised ARDEM was required per condition E58 of CoA. A detailed ARDEM was subsequently prepared in March 2023 by RPS for Transport for NSW[1]. This final ARDEM informed the project work described in this report and included the recommendations from Heritage NSW from the EIS review. It also included a reassessment of the history of the site and significance of the potential archaeological resource.

This report presents the results of the archaeological programme outlined in the ARDEM and is written to satisfy condition E60 and E62 of the CoA.

In addition to this Final Excavation Report the documents detailed in Table 1-2 have also been produced for the project, each of which has contributed to varying degrees, to the ultimate outcomes.

Table 1-2: Reports prepared as part of the project.

Title	Author	Date
Western Harbour Tunnel – Berrys Bay Site, Archaeological Research Design and Excavation Methodology	Wendy Thorp, CRM for RPS Dr Gary Marriner, RPS	March 2023
UXO Detailed Risk Assessment Western Harbour Tunnel, Transport NSW	Johnny Crawford, RPS	December 2022
Environmental Management Plan, Western Harbour Tunnel and Warringah Freeway Upgrade, Stage 1E – Berry's Bay archaeological investigation	Dr Gary Marriner, RPS, Tam Durney, RPS, Chris Millar, RPS	May 2023
Artefact Conservation Management Plan for Berrys Bay, Waverton	Julian Bickersteth, ICS for RPS	March 2023

1.6 Cultural Landscapes

The reassessment prepared for the project site in the ARDEM (RPS, 2023) defined several distinct periods of development and cultural landscapes associated with it as follows:

- Landscape 1: The Environmental Context; the landscape before British settlement
- Landscape 2: The Cammeraygal Landscape; the traditional land of the Aboriginal people
- Landscape 3: The Landscape of Transition; the first impacts of British occupation
- Landscape 4: The Landscape of Commerce; the site of the Berry and Wollstonecraft warehouse
- Landscape 5: The Landscape of Defence; repurposing of the commercial works for ordnance
- Landscape 6: The Landscape of Industry; timber works, boat yards, oil refineries
- Landscape 7: The Landscape of Renewal; artist's vistas, decontamination and parkland

[1] RPS (2023); Western Harbour Tunnel – Berry's Bay Site Archaeological Research Design and Excavation Methodology

The conclusions of the assessment were that, while there was likely to have been a substantial archaeological profile until the early decades of the twentieth century the impacts of the construction and several phases of development of the oil refinery combined with the works to remediate the site following the removal of the refinery between 2000 and 2005 almost certainly removed all traces of prior occupation and use preserved as an archaeological profile or, at the least, severely fragmented that profile.

1.7 Cultural significance

The revised assessment of what might be preserved as an archaeological resource within the project site included in the ARDEM (RPS, 2023) was then assessed against the standard evaluation criteria and inclusion guidelines used by Heritage NSW. The revised assessment was as follows:

"*The project site has particular associations with the development of the suburb of Waverton, being one of the earliest places developed there. The site was used by the merchant firm of Berry and Wollstonecraft in the 1830s as a warehousing facility for overflow products and produce from their Shoalhaven Estate, Coolangatta. The principal warehouse and office facilities were located in Sydney City. The site, in the possession of Wollstonecraft as part of his large estate of over 500 acres, was a convenient place to develop this secondary facility. Primary records indicate that it had minimal use and was sometimes vacant. The subsequent short-term use of the warehouse as a distillery reflects this incidental use by the firm. The use and development of the site for this purpose is not representative of the primary aspects of settlement in the district, in the early or later nineteenth century period. It is particular to one person or one business.*

The isolation of the site and the facilities did provide an opportunity to establish an early ordnance store during a period when there was heightened unease in the colony concerning invasion or warfare. It was one of many defence facilities commenced or completed in the last quarter of the nineteenth century in Sydney and beyond. The open landscape and its distance from settlement both on the northern and southern shores of the harbour made it a good short-term solution for the storage of explosive devices. Additions were made to the site to supplement the former warehouse facilities. The location of many of these works are unknown.

The use of the site for this purpose was, like the earlier period of commercial development, not representative of the development in Waverton, although it provides an insight into the extent of its development at this time. The store, and any physical evidence of it, is more closely associated with the assemblage of sites spread around the harbour and foreshores developed in this period to address serious concerns over the security of the colony. There are other examples of ordnance storage still intact outside this site and, while this is an early example of a particular technology, the physical evidence of site is unlikely to identify or interpret this period of use.

The early twentieth century period of use, as a timber store for a particular patent, is representative of the growing industrialisation of this part of Waverton and the harbour foreshores but there is unlikely to be physical evidence of this use or its patent technology. Similarly, the use of the site for much of the twentieth century as a fuel storage facility is representative of the continuing industrialisation of the foreshores but particularly the growth of this as a new industry. The BP refinery within the project site was one of several developed at this time on the harbour and other foreshores. Apart from the changes to the environmental context of the site, such as rock cutting to house tanks, there is unlikely to be substantial evidence of this period of use.

Therefore, in respect of the possible archaeological evidence or resource within this site, if there are any remains in situ, it is very unlikely to document any of the principal phases of development or use, illustrate or explain any of the processes or works required of them. It is unlikely to be able to address either site specific issues or those that could extend beyond the parameters of this site.

It is concluded that, subject to some limited physical investigation to confirm these conclusions, any physical or archaeological evidence pertaining to the historical development and occupation is unlikely to meet the criteria of being a relic of local or State significance and, thus, does not warrant protection under the provisions of the NSW Heritage Act".

1.8 Authorship and acknowledgement

This report was written by Wendy Thorp (CRM for RPS) the primary Excavation Director with contributions from Dr Gary Mariner (RPS), the secondary Excavation Director. Sarah van der Linde (RPS) reviewed the report. Recording and site photography was undertaken by Wendy Thorp. Surveying to locate the trenches was by Alex Garruccio (RPS). Additional survey data was captured by Irek Golka (CRM for RPS) who was

also responsible for drone photography. Manual excavation was by Dr Gary Mariner, Yolanda Pavincich (RPS) and Irek Golka. Contaminated land monitoring was undertaken by Marlise Norman and Ruairi Hanly (RPS). Mechanical excavation and site clean-up was undertaken by Wren Lakeman (Archstone for RPS). Dr Gary Marriner prepared the figures with assistance from Irek Golka and Natalie Wood (RPS). The Artefact Conservation Management Plan (ACMP) was written by Julian Bickersteth (ICS for RPS).

The representative of the client (TfNSW) was Simon Pigozzo.

2 THE PROGRAMME

2.1 Trench locations

The project site was divided into three Archaeological management Zones: Areas A, B and C (Figure 2-1). Area A was assessed to have the greater scope for archaeological evidence encompassing both nineteenth and twentieth century occupation, Area B with less scope and largely for twentieth century works and Area C almost no likelihood of archaeological evidence. A programme of test excavation that targeted specific features in Areas A and B was undertaken to confirm or amend the conclusions of the archaeological assessment in the ARDEM (RPS, 2023) (Figure 2-2).

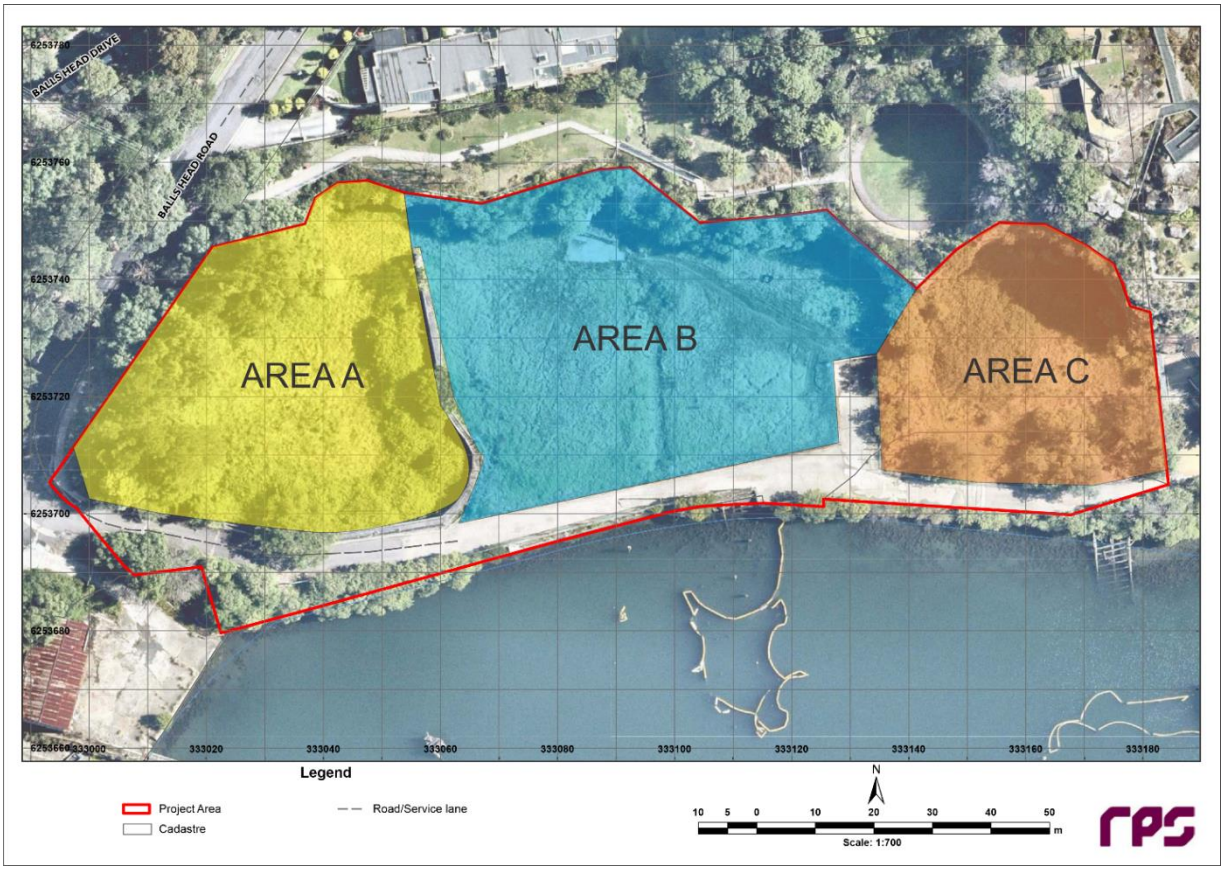

Figure 2-1: Archaeological Management Zones defined for the project site.

2.2 Methodology

The methodology determined to test the archaeological profile of these three areas was based on excavating a number of trenches over the sites of buildings identified from primary archival plans as well as beyond those footprints to test the ground surface. The two key archival plans dated from 1843 showing the site when it was in used by Berry and Wollstonecraft (Figure 2-3) and 1915 which showed the site shortly after it had ceased to be used as a naval base (Figure 2-4).

A total of six trenches were planned across all three areas: three in Area A, two in Area B, and one in Area C. The trenches in Area A and B all targeted specific historical features featured on either the 1843 or 1915 plans of the site. The five trenches across these areas were excavated as planned although the locations of two trenches (Trench 1 and 2) were slightly amended to avoid damaging mature shrubs. Trench 1 was shifted to the south by approximately 10 metres and still targeted the same features as intended. Trench 2 was moved around 12 meters to the east, into Area B but again still targeted the same historical structure. The conclusions made from the investigation of the trenches were not affected by the change in locations of the two trenches.

The single trench planned in Area C, which had no particular target or frame of reference from past occupation, was not excavated because of concerns over contamination issues.

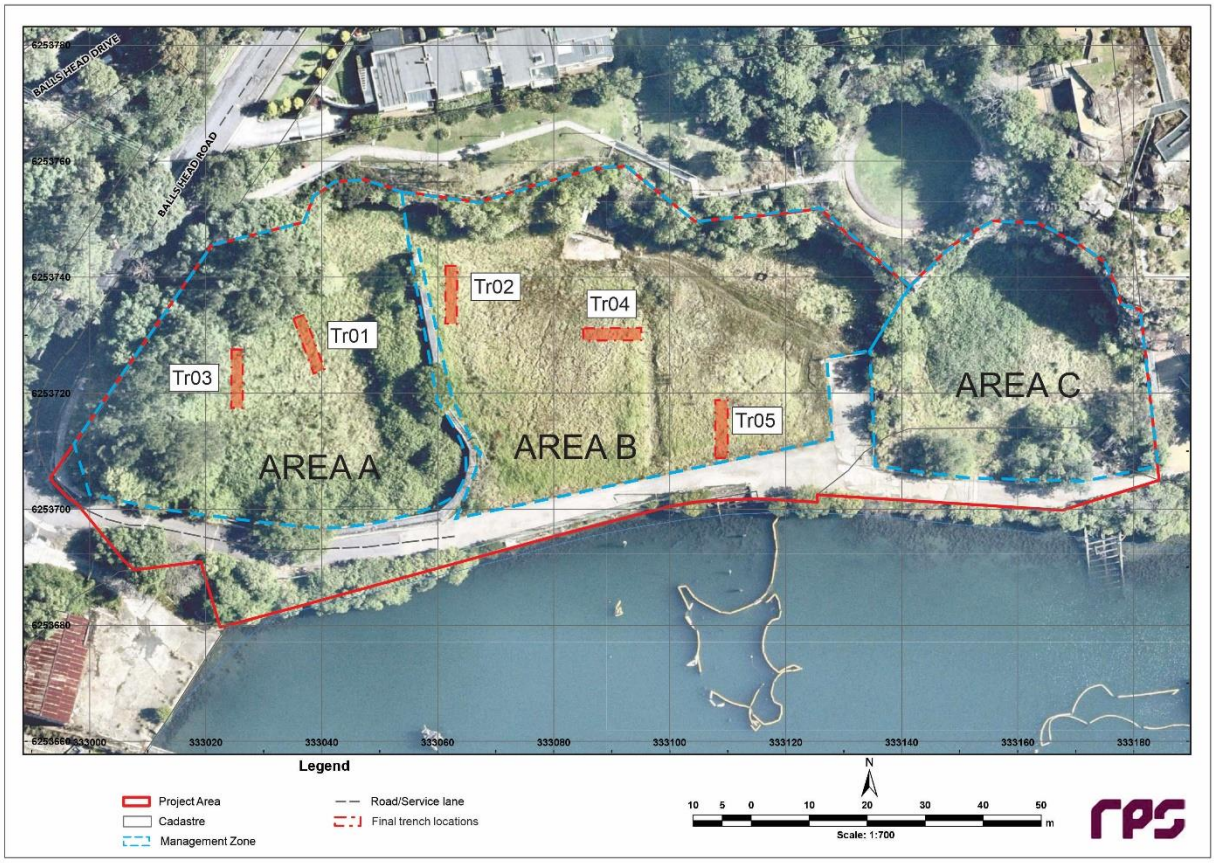

Figure 2-2: Trench Locations within Areas A and B.

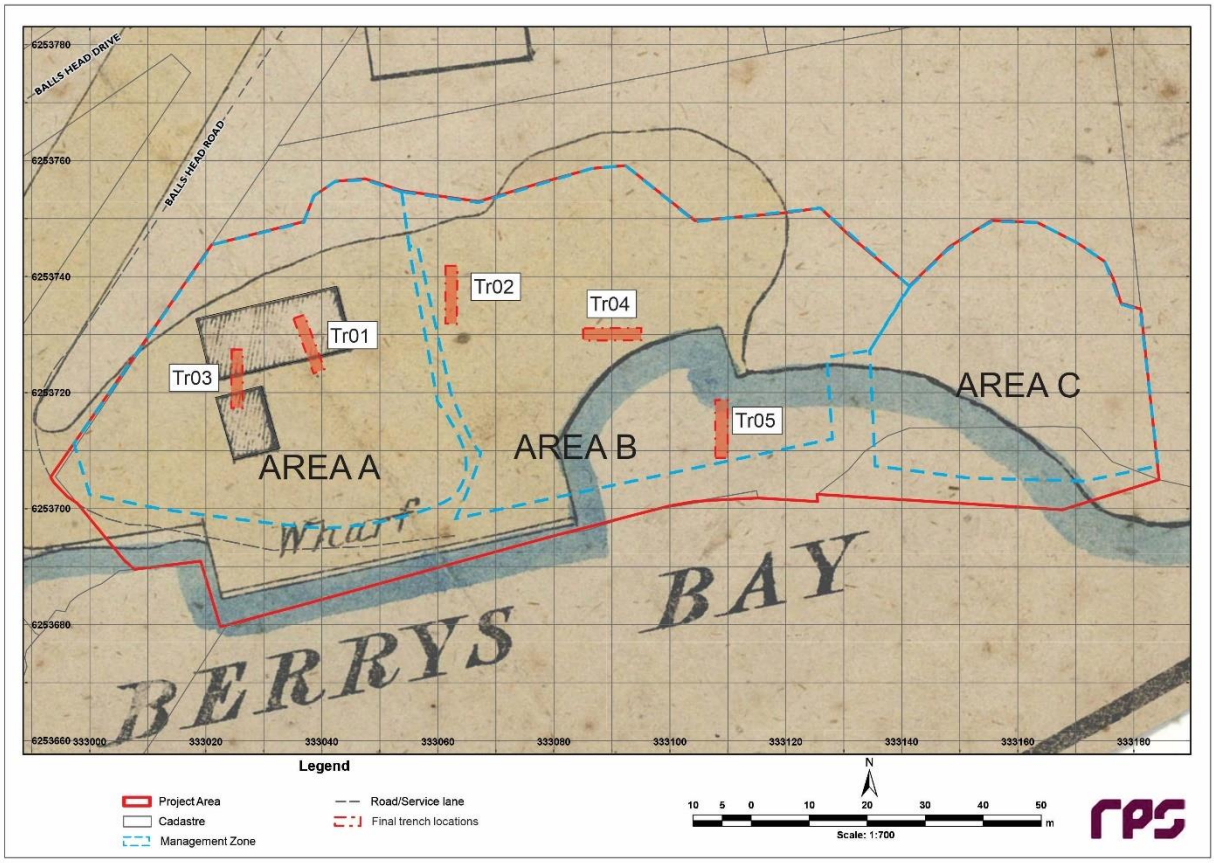

Figure 2-3: Trench locations on the 1843 plan showing the features targeted.

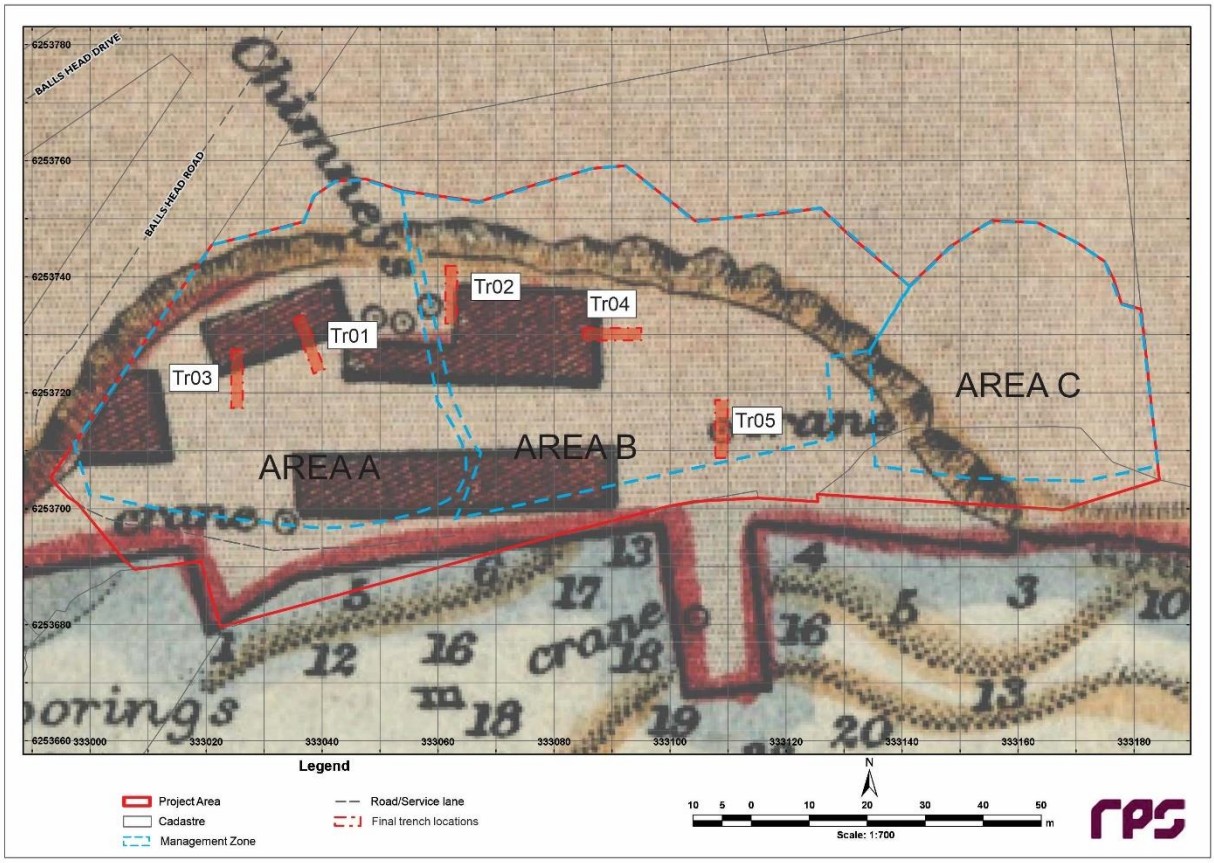

Figure 2-4: Trench locations on the 1915 plan showing the features targeted.

2.3 Objectives

The test excavations were undertaken to inform the conclusions reached in the assessment and guide future management of this area in respect of cultural resources. The principal objective of the programme of archaeological testing at the project site was to determine the presence or absence of an archaeological resource and, if present, its ability to address viable research objectives. To this end the objectives of the testing programme may be summarised as follows:

- Have the combined impacts of the twentieth century industrial development of the site, its remediation and subsequent reconfiguration as a park removed all or most traces of past activity that may have been preserved as an archaeological resource?
- Is this evidence consistent across the site?
- Is there a pattern or identifiable influences that determine whether evidence has survived or not?
- If not, what period or periods of occupation appear to have survived as an archaeological resource?
- What is the nature of the evidence that has survived?
- Is it capable of addressing research investigation that will provide new or expanded information about these phases of use that will compliment or expand documentary sources?
- Is the fragmentary evidence only capable of identifying a past place of use and providing a landmark in the landscape?

2.4 Tasks

The following tasks were undertaken to achieve the objectives of this programme:

- The five trenches (Trenches 1-5) were surveyed in and marked on the ground to ensure that they were in those locations that coincided with the sites of the former nineteenth and twentieth century buildings and the ground surrounding them as far as the existing shrubbery allowed for.
- In each case a mechanical excavator was used to remove the surface grass cover. From this point, each trench was excavated stratigraphically using a combination of mechanical and manual excavation. Manual excavation was undertaken by a team of two or three archaeologists.
- Single context recording was undertaken of all stratigraphic units. Each context number was four digits with the lead digit being the trench number. For example, context (2002) was the second context given out in Trench 2.
- Excavated material was temporarily stored in areas immediately adjacent to the trenches and placed on plastic sheeting.
- Surfaces of each layer of soil were cleaned and the sections of each trench and any features found within the trenches.
- The excavation ceased in each trench where bedrock was exposed by the work or a predetermined depth of 1.5 metres had been reached.
- All individual strata and features were photographed and the entire trench at each layer as well as commencement and completion stages.
- The information from each trench was recorded with respect to depths, constituents, the latter identified as individual documented strata assigned a unique context number.
- Throughout the excavation the trenches were monitored for potential pollutants and fumes or gases.
- At the completion of the excavation the trenches were backfilled using the excavated material and the ground surface made good.
- There were no artefacts recovered during the excavation programme.

3 RESULTS

3.1 Overview

The excavation took place between 05 June and 08 June 2023 during which time five trenches were excavated, all of which provided information regarding the nature and significance of the historical archaeological resource present on the site. Each trench is reported here individually including presenting its location and dimensions, the subsurface evidence encountered and conclusions that were drawn. In all instances context numbers are presented as four digits in parentheses with rounded brackets used for deposits and fills and square brackets for cuts.

3.2 Trench 1

3.2.1 Location and dimensions

Trench 1 was located in Area A at the western end of the site and on the western side of the bund wall (Figure 3-1). It was designed to cross over the northern wall of the Berry and Wollstonecraft warehouse as well as provide a sample of the interior space of this building and the ground surface outside. The building was constructed in c. 1834/1835 (Figure 3-2). It was four storeys high, measured 18 meters long and 7 metres wide, and was made from ashlar sandstone with hardwood floors (Figure 3-3). The building was demolished in the 1930s and at least some of the stone from it was said to have been used in the construction of the bund wall which remains on the site, located to the east of the Trench.

Trench 1 had to be relocated because of the requirements to maintain existing shrubbery. To this end it was moved further south and crossed over the southern wall of the former warehouse and sampled both the interior and exterior space. It was in an area of cleared grass adjacent to the trees and rock cut slope at the northern end of the project site. Trench 1 measured 9.13 metres north-south and 2.27 metres east-west. The total depth reached by the excavation, to the surface of the bedrock was 1.4 metres.

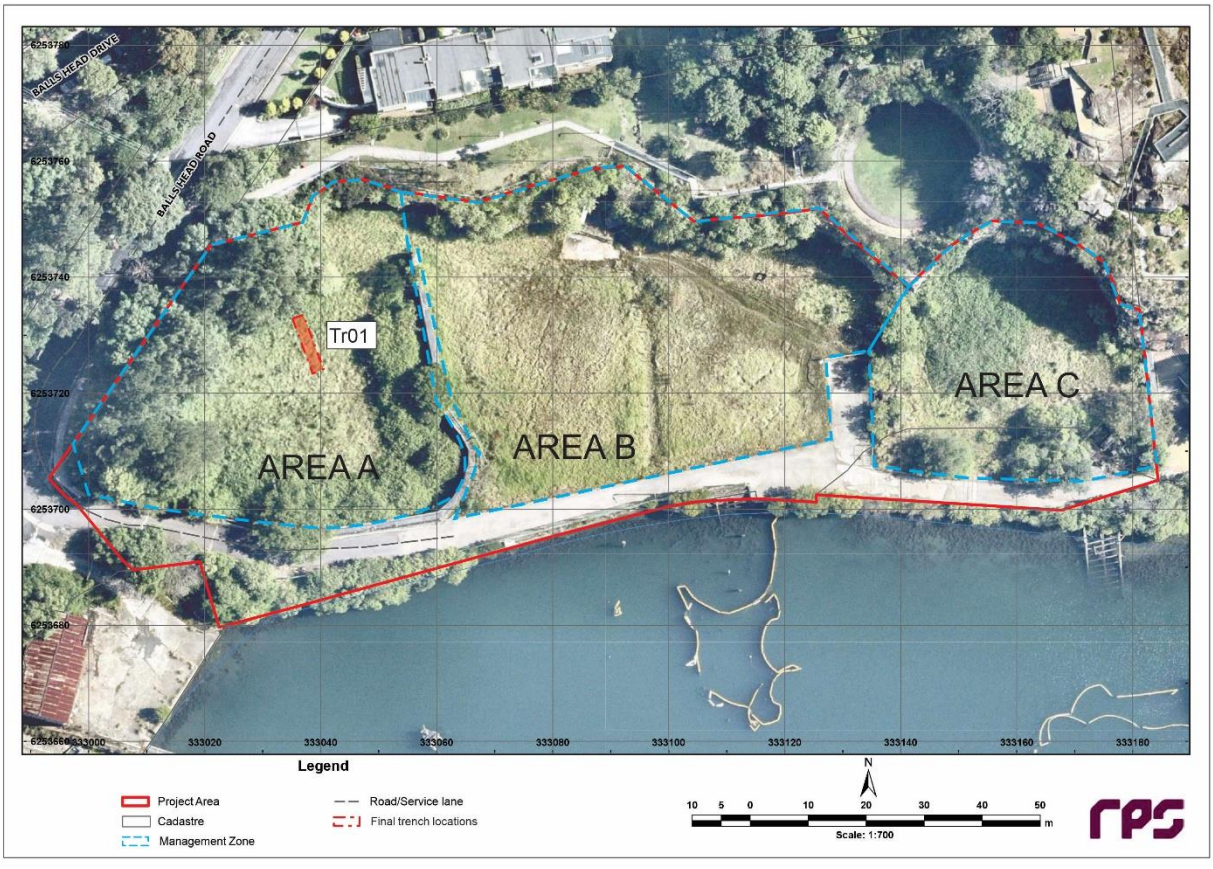

Figure 3-1: The project site showing the location of Trench 1 in Area A.

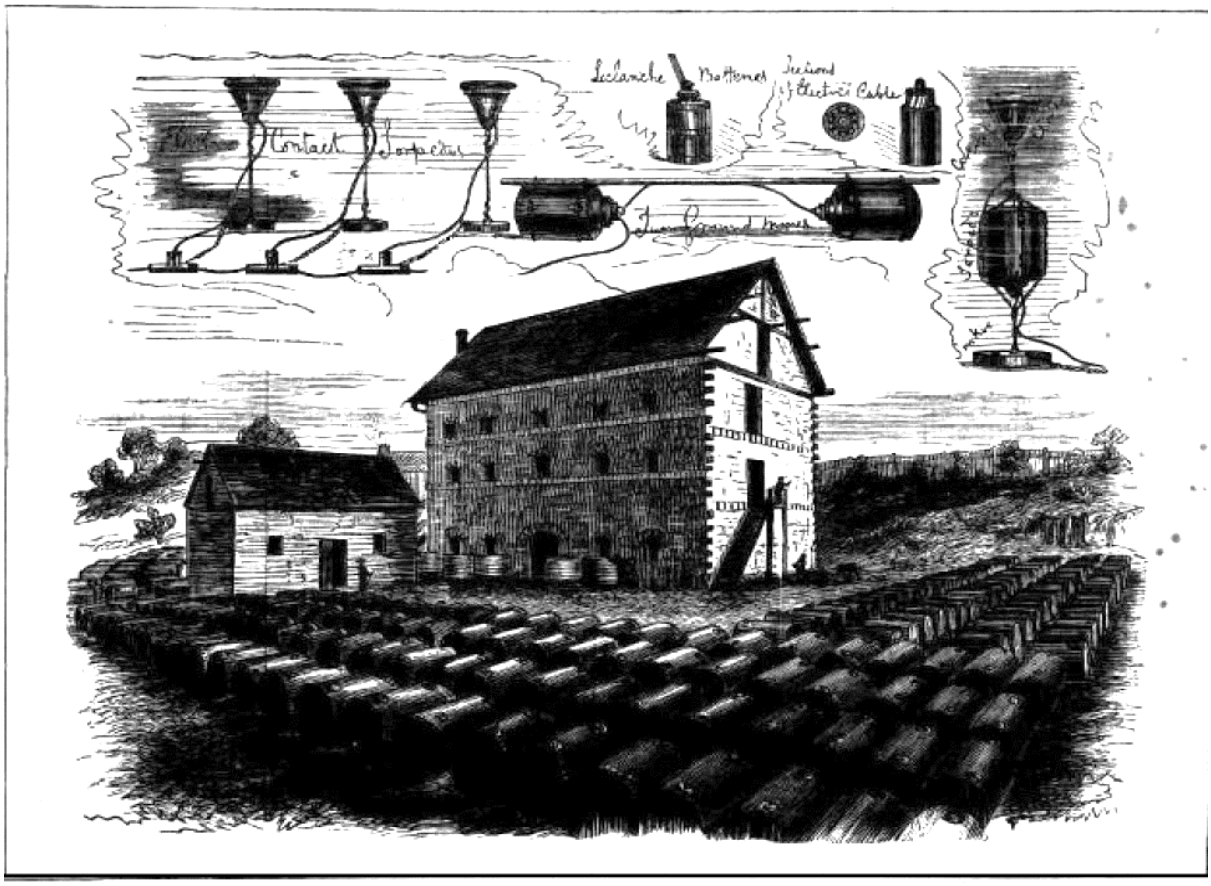

Figure 3-2: A view of the Berry and Wollstonecraft stone warehouse in 1878 by which time it was in used a store for torpedoes and other armaments managed by the NSW Torpedo Corps. Trench 1 targeted the interior of this building |Sydney Mail and NSW Advertiser 29 June 1878; 921|.

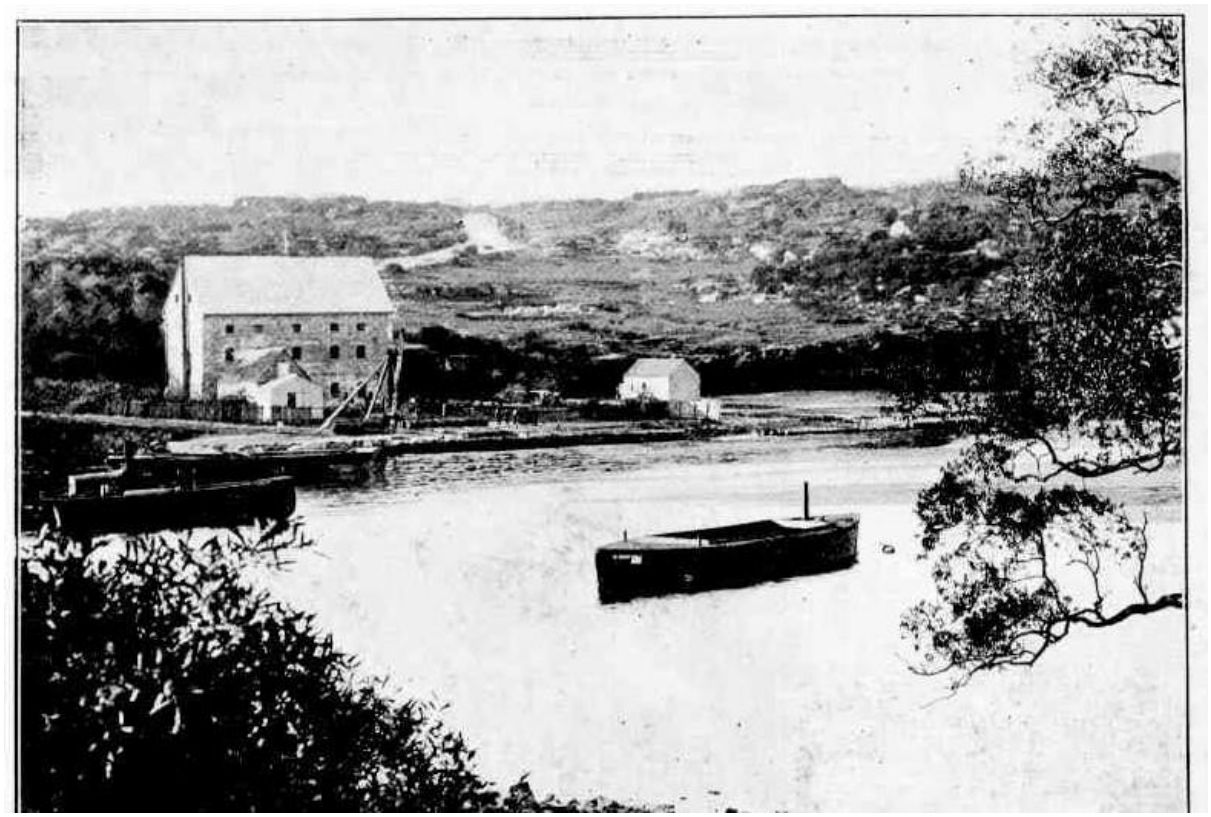

Figure 3-3: Another view of the warehouse in 1908 |Australian Town and Country Journal 25 March 1908; 21|.

3.2.2 The evidence

Trench 1 was covered in surface grass (1000) which was bedded in a deposit of relatively clean topsoil up to 200 millimetres in depth (1001) (Figure 3-4, Figure 3-5). Below this and to the base of the excavation was mixed fill (1002) (Figure 3-6). It encompassed a matrix of dark brown-grey loamy soil with numerous inclusions of broken bricks and sandstone, all quite small, no more than 100 millimetres in diameter. Although the inclusions were numerous, they were spread widely throughout the soil matrix. This was not a filling event derived from a primary demolition deposit. This had the appearance of demolition material that was left over after the larger pieces such as whole bricks had been removed by a shaker bucket. The coarse pieces in this soil were the fragments that were small enough to fall through the bucket grid (Figure 3-7). The depth of this fill varied between approximately 700-900 millimetres.

At the base of the excavation was sandstone bedrock (1003). Here it was very flat, and evidence of a toothed excavation bucket could be clearly seen particularly at the northern end where the teeth had scored the surface of the rock (Figure 3-8,Figure 3-9). There were no other deposits or features in this trench and no artefacts.

Figure 3-4: The ground conditions in Area A prior to excavation of Trench 1 and Trench 3. |CRM for RPS 2023|.

Figure 3-5: Trench 1 prior to excavation showing the grass coverage (1000). View to the north, scale 2 metres. |CRM for RPS|.

Figure 3-6: Trench 1 following the removal of the surface grass demonstrating the introduced topsoil (1001). View to the north, scale 2 metres. |CRM for RPS|.

Figure 3-7: The eastern and northern sections of Trench 1 showing the topsoil (1001) and well sorted fill (1002) above bedrock (1003). View to the northeast, scale 2 metres. |CRM for RPS|.

Figure 3-8: Bedrock (1003) at the base of Trench 1. In the foreground the parallel gouges in the rock caused by an excavator bucket are clearly evident. View to the south, scale 2 metres. |CRM for RPS|.

Figure 3-9: Overhead view of Trench 1 and the cessation of excavations demonstrating the bedrock (1003) base with excavator bucket marks evident. View to the west, no scale. |CRM for RPS|.

3.2.3 Conclusions

No evidence of the warehouse remained in Trench 1. This trench was within the site of one of the largest refinery tanks, shown on an image of the site in 1942 (Figure 3-10). This large refinery tank was built over the location of the former warehouse. The deposits in this trench almost certainly derive from the remediation works undertaken in the period between c.2000 and 2005 after the removal of this tank. The deposits in the upper part of the trench are from the subsequent levelling and landscape works to create the current grassed park.

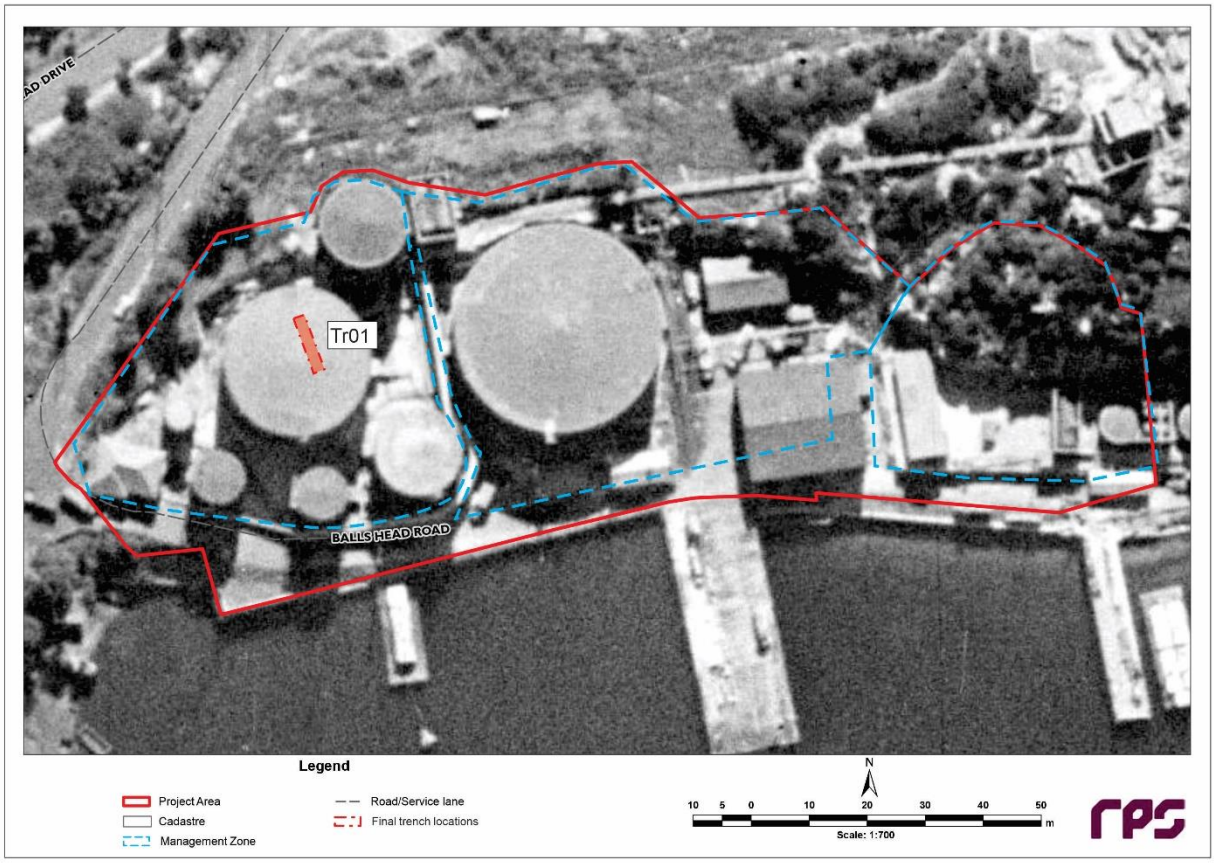

Figure 3-10: The location of Trench 1 shown on the 1943 aerial photograph demonstrating that it was located within the footprint of one of the largest refinery tanks on the site.

3.3 Trench 2

3.3.1 Location and dimensions

Originally this trench was also located in Area A at the western end of the site. It was intended to test for the exterior wall of a later nineteenth century military workshop, its interior, and a chimney located immediately outside this building on its northern side. These works were present in 1915 but their date of demolition is unknown, almost certainly in the 1920s or between 1915 and that period.

This trench also had to be relocated because of the necessity of preserving shrubbery growing along the bund wall. It was moved to the eastern side of the bund wall (Figure 3-11). The location allowed for testing one of the eastern walls of the same later nineteenth century building. As with the original location it also aimed to test interior space of the building. It was also in close proximity, and possibly, on the site of a second similar chimney intended for investigation in the original location. The site of the relocated trench is shown on the plan and image below.

Trench 2 measured 9.49 metres north-south and 2.08 metres east-west. The total depth reached by the excavation, to the surface of the bedrock was 0.8 metres.

Figure 3-11: The project site showing the location of Trench 2 in Area B.

3.3.2 The evidence

Trench 2 was covered in grass (2000) rooted in imported top soil (2001) (Figure 3-12, Figure 3-13, Figure 3-14). This was the same as that recorded in Trench 1 (1000, 1001). Below this was a similar layer of fill (2002) as that also found in Trench 1 (1002) (Figure 3-15). Here the clay-loam matrix was greyer in colour than that in Trench 1, but it had the same constituents of very small pieces of broken brick and stone throughout in small concentrations.

Trench 2 differed from Trench 1 in that below this layer of fill (2002) was another shallow and different deposit of compacted soil (2003) (Figure 3-16). It was no more than 200 millimetres thick and grey-brown in colour. It did contained some broken building debris within it but of a different type to that present in (2002). For example, the debris in (2003) were larger with a higher proportion of concrete. This deposit had been cut through by a rounded excavation [2005] although only a portion of this cut was within the trench on the western side (Figure 3-17). It had been backfilled by a shallow layer of dark brown clay (2006). Below this cut and the lower fill deposit (2003) was sandstone bedrock (2004) (Figure 3-18). The bedrock (2004) had been exposed at the base of the circular cut [2005] (Figure 3-19).

Figure 3-12: Trench 2 prior to excavation showing grass cover (2000). The bund wall is west of the trench at the top of the image above. View to the west, no scale. |CRM for RPS|.

Figure 3-13: Trench 2 prior to excavation showing the grass cover (2000). View to the north, scale 2 metres. |CRM for RPS|.

Figure 3-14: Trench 2 following the removal of the surface grass demonstrating the introduced topsoil (2001). View to the south, scale 2 metres. |CRM for RPS|.

Figure 3-15: Trench 2 showing the surface of the most recent layer of compacted fill (2002). View to the north, scale 2 metres. |CRM for RPS|.

Figure 3-16: The surface of the lower level of fill (2003) found beneath (2002) in Trench 2. View to the south, scale 2 metres. |CRM for RPS|.

Figure 3-17: The small cut feature [2005] in the western side of Trench 2 that may have occurred during the removal of an earlier structure. View to the south, scale 2 metres. |CRM for RPS|.

Figure 3-18: Northern section of Trench 2 showing the full sequence of fills including the dark fill (2006) immediately above the bedrock within the circular cut [2005]. View to the north, scale 1 metre. |CRM for RPS|.

Figure 3-19: Trench 2 at the cessation of excavations showing the earlier cut feature [2005] with bedrock (2004) exposed. The lower fill (2003) is present across the remainder of the trench. View to the west, scale 2 meters. |CRM for RPS|.

3.3.3 Conclusions

The upper deposits in this trench (2000, 2001 and 2002) almost certainly derive from the remediation works undertaken in the period between c.2000 and 2005 and the subsequent levelling and landscape works to create the current grassed park. The upper fill deposit (2002) which raised and levelled the ground is a different colour to that in Trench 1 but had the same appearance and consistency. This indicates that it most likely also derived from the detritus of soil being sieved through a shaker bucket. It also likely derived from the works of 2000 onwards.

However, the brown compacted fill below (2003) appears to belong to an earlier period of work. That it lay immediately above bedrock could suggest it relates to the earlier refinery development although predating 1942 when the aerial image of that date shows that Trench 2 was located partly under the outer edge of a refinery tank and within hard paved surfaces surrounding it. This evidence infers a pre-1942 date for the brown fill at the latest.

The evidence of an earlier excavated cut feature [2005] in the centre of the Trench might indicate the removal of either a remnant of the naval period or the early refinery. The cut feature [2005] had been surrounded by the brown soil (2006) and then backfilled with the same material and made good during the later years of the refinery site. Trench 2 was located close to one of the chimneys recorded in 1915 and this raises the possibility that the cut feature may be part of early twentieth century work to remove the naval period chimneys prior to the construction of the refinery in the 1920s. Alternatively, it may relate to the removal of an early refinery period element from the 1920s in the 1930s. In the latter case, the fill of the cut feature and that ran over it (2006) would be part of the reshaping of the site in the c.1930s prior to the expansion of the refinery shown in the1942 aerial image. There were no artefacts or other deposits to confirm either possibility or to provide an external form of dating.

It is tempting, because of the location of this feature, to consider that it may have been a remnant of the chimney which was recorded in this location in 1915. There was no physical evidence in the trench to provide an association though, and there were no deposits which could be associated with industrial use or the by-products of burning. It is more likely to relate to the early refinery period development. It might only be a trace of some site preparation from that period which in turn was further truncated by the remediation works from c.2000 and 2005.

The excavation of Trench 2 further confirmed the results from Trench 1 that the project site appears to have been almost comprehensively stripped of any archaeological profile.

3.4 Trench 3

3.4.1 Location and Dimensions

Trench 3 was located in Area A aligned with the southern wall of the Berry and Wollstonecraft sandstone, four-storey warehouse. As well, the trench crossed the site of the northern wall of the keeper's cottage that was built at the south-western corner of the warehouse at about the same date of 1834/1835. Historical research indicates that the cottage was built of timber. It was demolished in the early years of the twentieth century, probably at the same time as the warehouse.

The trench was located well to the west of the bund wall and was in an area of cleared grass adjacent to the trees and rock cut slope at the northern end of the project site (Figure 3-20).

Trench 3 measured 9.17 metres north-south and 2.13 metres east-west. The total depth reached by the excavation, to the surface of the bedrock was a maximum of 1.6 metres.

Figure 3-20: The project site showing the location of Trench 3 in Area A.

3.4.2 The evidence

Trench 3 was covered with grass (3000) as was the case with all the Trenches (Figure 3-21). This grass was rooted in introduced topsoil (3001) that varied in depth between 300 to 400 millimetres (Figure 3-22). Below this and extending down to bedrock was fill that came from the remediation of the site in 2000-2005 (3002) (Figure 3-23). It was the same dark grey colour as that recorded in the nearby Trench 1 (1002). It had the same inclusions of small pieces of broken brick and concrete as (1002), appearing to be the small detritus from a shaker bucket. This fill deposit was between 1000 millimetres and 700 millimetres in depth (Figure 3-24). Immediately below this introduced soil was bedrock (3003). It demonstrated clear evidence of the lines created by an excavator bucket that had scored the surface (Figure 3-25, Figure 3-26).

Figure 3-21: Trench 3 prior to excavation showing the grass coverage (3000). View to the north, scale 2 metres. |CRM for RPS|.

Figure 3-22: Trench 3 following the removal of the surface grass demonstrating the introduced topsoil (3001). View to the northwest, scale 2 metres. |CRM for RPS|.

Figure 3-23: Surface of the imported fill (3002) laid during the remediation works in Trench 3. View to the north, scale 2 metres. |CRM for RPS|.

Figure 3-24: Northern and eastern sections of Trench 3 showing the imported topsoil (3001), imported fill (3002) sitting on bedrock (3003). View to the northeast, scale 2 metres. |CRM for RPS|.

Figure 3-25: Bedrock at the base of Trench 3 (3003) with clear scars from an excavator bucket. View to the south, scale in 0.5 metre increments. |CRM for RPS|.

Figure 3-26: Overhead view of Trench 3 at the cessation of excavations showing the bedrock (2003) base with excavator bucket scars. View to the west, no scale. |CRM for RPS|.

3.4.3 Conclusions

The upper deposits in this trench (2000, 2001 and 2002) almost certainly derive from the remediation works undertaken in the period between c.2000 and 2005 and the subsequent levelling and landscape works to create the current grassed landscape. There was no evidence in Trench 3 of any aspect of the Berry-Wollstonecraft period of occupation or the subsequent naval works. All evidence of earlier occupation has been removed from here.

3.5 Trench 4

3.5.1 Location and dimensions

Trench 4 was located in Area B towards the centre of the project site (Figure 3-27). Beyond the eastern end of the trench was a large drainage channel that runs through the site from north to south. The Trench was placed over the eastern end of a large naval industrial building associated with the later nineteenth century occupation of the site. This building was present in 1915 but was likely demolished between this date and the early 1920s. There is no available archival evidence for the purpose or fabric of this building. Trench 4 was also located within the footprint of the largest and oldest of the refinery tanks evidenced by the 1942 aerial image of the site. This tank was present in 1930 and likely to have been from the initial period of refinery development in the 1920s.

Trench 4 measured 8.84 metres from east to west and 2.09 metres from north to south. The excavation was 1.1 metres deep across the majority of the trench at which point a consolidated surface was found. At the eastern end of the trench this was broken through to excavate to a depth of 1.6 metres as a means of investigating the profile below this surface.

Figure 3-27: The project site showing the location of Trench 4 in Area B.

3.5.2 The evidence

Trench 4 was covered with grass (4000) on introduced topsoil (4001). This grey/brown topsoil contained small brick and concrete inclusions; detritus left over from the remediation of 2000-2005. It was approximately 650-1000 millimetres deep across the trench. It was the same kind of soil recorded in Trenches 1, 2 and 3 used for this purpose.

Underlying this at the eastern end of the trench was relatively clean ochre-coloured fill, with only some small concrete inclusions (4003). This encompassed approximately the eastern 2.5 metres of the trench and continued east beyond the excavation. A sondage (a small archaeological trench excavated to clarify stratigraphic sequences) made into this fill at the eastern end demonstrated that it continued below the maximum required depth of excavation at 1.5 metres.

The remaining approximately seven metre area, from (4003) to the western end of the Trench, was filled with highly compacted fill encompassing cement with a dense aggregate of brick and concrete fragments (4004). It had a very flat surface and a straight edge where it met the ochre fill (4003). A small sondage was made into this compacted material (4004) at the western end which demonstrated that it continued to an unknown depth below the 1.5 metres required for the excavation. There was some slight evidence of an excavator bucket scraping the surface of this flat surface.

Because these deposits were shown to fill the ground to at least a depth of 1.5 metres, which was the maximum required depth of investigation, no further work was undertaken in Trench 4. The depth of bedrock and the nature of any deposits below this material is unknown.

Figure 3-28: Trench 4 prior to excavation showing the grass coverage (4000). The drainage channel is in the foreground running north to south. View to the west, scale 2 metres. |CRM for RPS|.

Figure 3-29: Trench 4 following the removal of the grass (4000) and topsoil (4001) showing the surface of the remediation fill (4002). View to the west, scale 2 metres. |CRM for RPS|.

Figure 3-30: Eastern section of Trench 4 showing the remediation fill (4002) in section and the surface of the ochre coloured fill (4003). View to the east, scale 1 metre. |CRM for RPS|.

Figure 3-31:Trench 4 following the removal of the remediation fill (4002) with the ochre coloured fill (4003) in the foreground and the grey cemented surface (4004) beyond that covers most of the trench. View to the west, scale 1 metre. |CRM for RPS|.

Figure 3-32: Trench 4 following the removal of the ochre coloured fill to a depth of 1.5 metres to the point where it abutted the flat cemented surface (4004). View to the west, scale 2 metres. |CRM for RPS|.

Figure 3-33: The cemented surface in the centre and western end of Trench 4 (4004) immediately below the reclamation fill (4002) visible in section. View to the northeast, scale 2 metres. |CRM for RPS|.

Figure 3-34: Sondage through the cemented surface (4004) demonstrating the inclusions of brick and concrete. View to the west, scale 0.5 metres. |CRM for RPS|.

Figure 3-35:The southern section of Trench 4 showing the location of the sondage through the cemented surface (4004). The remediation fill (4002) can be clearly seen in section. View to the east, no scale. |CRM for RPS|.

Figure 3-36: The southern section of Trench 4 showing the sequence of deposits. View to the south, scale 2 metres. |CRM for RPS|.

Figure 3-37: Trench 4 at the cessation of excavations showing the cemented surface (4004) and ochre fill (4003). View to the north, no scale. |CRM for RPS|.

3.5.3 Conclusions

The upper levels of Trench 4 (4000, 4001 and 4002) are the same as those found in the other trenches and represent the remediation and revegetation of this portion of the site from circa the year 2000 to 2005. The two base deposits, the ochre fill (4003) and the hard cemented flat surface (4004) most likely derive from the refinery and specifically the large tank that appears to have been one of the original components of this development from the 1920s. It is not possible to confirm this association from the evidence recorded in this trench.

3.6 Trench 5

3.6.1 Location and Dimensions

Trench 5 was located in the eastern side of Area B (Figure 3-38). This trench was placed to investigate whether any evidence of a crane base recorded in 1915 remained which may also indicate the survival of other non-recorded features. This was also the site of a later concrete jetty which extended into the site as a landing area or cargo area as part of the refinery. This had been constructed by 1942 and was still in use up to the closure of the site.

Trench 5 measured 8.56 metres from north to south and 2.23 metres from east to west. The excavation reached a maximum depth of 0.8 metres at the southern end. The majority of the trench could not be excavated to this depth because of compacted material found across it. A test sondage was placed into the southern end of the trench to the maximum allowed excavation depth of 1.5 metres. Fill deposits still remained here.

Figure 3-38: The project site showing the location of Trench 5 in Area B.

3.6.2 The evidence

Trench 5 was covered with grass (5000) and introduced topsoil (5001) to a depth of approximately 300-400 millimetres (Figure 3-39). Under the grass and topsoil was the same grey remediation fill containing small pieces of brick and stone (5002) found in all trenches (Figure 3-40). Across the entire trench below this grey fill was a thick and compacted deposit of ochre-coloured clay soil with a dense addition of broken brick and pieces of blue stone and sandstone (5003) (Figure 3-41). There were similarities to the ochre-coloured fill (4003) found in Trench 4 but in Trench 5 there was a greater concentration of the inclusions. At the southern end of a trench the excavation was taken to 1.5 metres and revealed the base of this deposit; here it was approximately 400 millimetres thick. Over the majority of the trench, though, this deposit was shallower, only being approximately 250 millimetres deep. It lay atop a compacted cemented surface (5004) (Figure 3-42).

The compacted surface (5004) was found across most of the trench except at the southern end and was similar to the cemented surface found in Trench 4 (4004) (Figure 3-43). It was comprised of the same constituents of broken brick and stone formed into a very hard and flat surface. It was not removed, and the full thickness of this feature is not known. A test sondage at the southern end of the trench confirmed it was at least 600 millimetres thick (Figure 3-44, Figure 3-45).

The test sondage also showed that below the ochre-coloured fill (5003) there was a deposit of dark brownish black fill (5005). This black fill contained inclusions of brick and stone and what appears to be charcoal or ash and was at least 400 millimetres thick. It is not a natural soil, and it has been added to the site (Figure 3-43).

Figure 3-39: Trench 5 following the removal of the grass showing the surface of the topsoil (5001). View to the south, scale 2 metres. |CRM for RPS|.

Figure 3-40: The surface of the remediation fill (5002) in Trench 5. View to the south, scale 2 metres. |CRM for RPS|.

Figure 3-41: The hard cemented surface (5004) in Trench 5. The remediation fill (5002), ochre coloured fill (5003), and dark fill (5006) can all been seen in section. View to the south, scale 2 metres. |CRM for RPS|.

Figure 3-42: The southern section of Trench 5 showing the remediation fill (5002), ochre coloured fill (5003), and dark fill (5006). View to the south, scale 1 metre. |CRM for RPS|.

Figure 3-43: Western section of Trench 5 showing the cemented surface (5004) ochre coloured fill (5003) above. View to the southwest, scale 1 metre. |CRM for RPS|.

Figure 3-44: The cemented surface (5004) seen in section from the sondage at the southern end of Trench 5. View to the north, scale 1 metre. |CRM for RPS|.

Figure 3-45: Overhead view of Trench 5 at the cessation of excavations showing the cemented surface across the trench. View to the west, scale 2 metres. |CRM for RPS|.

3.6.3 Conclusions

The upper deposits of the trench (5000, 5001 and 5002) derive from the remediation of the site from c.2000 to 2005 onwards. The ochre coloured deposit (5003) and the cemented surface (5004) have many similarities to the similar features found in Trench 4 (4004). They are likely to be contemporary and relate to the development of the refinery and in Trench 5 likely to the jetty and specifically its shore platform. The lower introduced darker fill (5005) therefore most likely is associated with the construction of the same works in the c. 1920s-1930s.

4 RESPONSE TO THE RESEARCH DESIGN AND CONCLUSIONS

4.1 The evidence from the Trenches

All five of the trenches were consistent in the upper portions; grass and imported topsoil laid over fill and debris that derived from the remediation of the site in the period of c.2000 to 2005. In Trench 1 and Trench 3 this fill was laid directly over the exposed bedrock and in the latter was evidence of the work undertaken to clear the site; scored lines in the rock that resulted from a toothed excavator bucket scraping the surface.

Trenches 2, 4 and 5 had deposits that appear to derive from the refinery. In Trench 2 this was a shallow deposit of fill above bedrock that surrounded a circular cut feature that was subsequently removed and the exposed rock under it was infilled. Trenches 4 and 5 had more substantial deposits and features that may be associated with a large refinery tank, the oldest on the site, and an adjoining jetty and shore platform. At most these appear to be works and fill used to create a base for those constructed items.

There was no evidence in any of the trenches of either the later nineteenth century naval works or the early nineteenth century Berry and Wollstonecraft warehouse, shed, associated works, nor artefacts. The impacts of developing the site for the refinery and then its remediation appears to have comprehensively removed this evidence across the site.

4.2 Outcomes

The test excavations have demonstrated that the site is almost devoid of any archaeological evidence and that what remains is highly unlikely to address any research objectives or be of significance. In respect to the objectives of this programme of work the following is concluded:

Question	Response
Have the combined impacts of the twentieth century industrial development of the site, its remediation and subsequent reconfiguration as a park removed all or most traces of past activity that may have been preserved as an archaeological resource?	Yes, with the possible exception of some bulk deposits used for site forming in relation to tanks and a shore platform for the refinery and possibly other works not sampled in this programme.
Is this evidence consistent across the site?	Yes
Is there a pattern or identifiable influences that determine whether evidence has survived or not?	Yes; the c.2000 to 2005 remediation programme after the closure of the refinery appears to have comprehensively removed everything except those bulk deposits used as foundations for larger works.
If not, what period or periods of occupation appear to have survived as an archaeological resource?	As above, fragmentary evidence of the twentieth century refinery
What is the nature of the evidence that has survived?	Bulk deposits of soil in places compacted.
Is it capable of addressing research investigation that will provide new or expanded information about these phases of use that will compliment or expand documentary sources?	No
Is the fragmentary evidence only capable of identifying a past place of use and providing a landmark in the landscape?	At the very most

4.3 Conclusions

The conclusion from this programme of test excavation is that no further archaeological work is required in this place for the reasons that little of any profile survives and it is unlikely to provide useful information or evidence for its primary period of association, the twentieth century refinery. The conclusions reached in the ARDEM have been confirmed by this programme of work.

Appendix A – Artefact Conservation Management Plan

international conservation services
SYDNEY | CANBERRA | MELBOURNE

Artefact Conservation Management Plan for Berrys Bay, Waverton

Prepared for
RPS Australia Asia Pacific

Date
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Contents

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1 Introduction

This Artefact Conservation Management Plan (ACMP) for the Berrys Bay - former BP site - has been prepared by International Conservation Services (ICS) for RPS as part of the Western Harbour Tunnel project. This is required under the Ministers Conditions of Approval (MCoA) for SSI 8863 for the site to support the archaeological excavation program. Specifically, the MCoA requires an Artefact Conservation Management Plan (ACMP) for later inclusion by the Main Works contractor into their Non-Aboriginal Heritage Management -Sub-plan.

The purpose of this ACMP is to provide information and guidelines on the recovery, evaluation, conservation, documentation, analysis and management of archaeological artefacts and collections with historical significance, both before they are unearthed and during the excavation process, as well as after they have been removed from the site.

The ACMP is divided into the following sections:

- Section 2: The background to the project and the broader archaeological context and significance
- Section 3: The general approach that is to be taken with any artefacts that are recovered from the site during the archaeological excavation.
- Section 4: The specific approach that is to be taken during fieldwork
- Section 5: The post excavation requirements for the care and management of the artefacts

2 Background

2.1 Consent and statutory requirements

Under Conditions of Consent E61, an ACMP must be prepared to support the archaeological excavation programs and be prepared with the support of a conservator. The ACMP must include historical and maritime relics recovered by the project. Artefact specialists must be engaged to analyse and report on the different assemblages as part of the final reporting for the CSSI. This must include details of analysis, processing and management of the collection including its curation needs in the short and long term.

2.2 Site history

Berrys Bay is a small bay located on the northern shore of Sydney Harbour in the suburb of Waverton. The area was historically used as a site for shipbuilding and other maritime activities. The bay was named after Alexander Berry, a prominent Scottish merchant and pastoralist who established the first European settlement in the Shoalhaven region of New South Wales in the early 19th century. Berry was granted land in the Berrys Bay area by the colonial government, which he used to establish a shipyard and wharf in the early 1820s.

Throughout the 19th and early 20th centuries, Berrys Bay was a bustling hub of maritime activity, with numerous shipyards, wharves, and slipways operating in the area. The bay was home to a number of significant shipbuilding and engineering firms, including the Union Steamship Company, which constructed a large shipyard in the area in the 1880s.

During World War II, Berrys Bay was used as a base for the construction and maintenance of naval vessels, with many of the area's shipyards and facilities being converted for wartime use. In the postwar period, Berrys Bay became increasingly industrialized, with the construction of factories, warehouses, and other large-scale commercial buildings. Many of the area's historic shipyards and wharves were demolished or repurposed during this time, and the bay's maritime heritage began to fade.

British Petroleum (BP) established a lubricant manufacturing plant in Berrys Bay in the late 1920s, which became one of the largest in the Southern Hemisphere. The site included a wharf, storage tanks, processing buildings, and a laboratory. The company produced a range of lubricants, including motor oil, and used the location's proximity to the water for importing and exporting products. During World War II, BP's Berrys Bay plant was a vital supplier of lubricants for the Australian war effort. The plant continued to operate until the 1980s, after which it was closed and the site was remediated.

In recent years, there has been a renewed interest in the history and heritage of Berrys Bay, with efforts to preserve and celebrate the area's maritime past. The site of the former Union Steamship Company shipyard has been transformed into a public park, and a number of historic buildings and structures in the area have been restored and repurposed for new uses.

Berrys Bay is an important location in the planning and construction of the proposed Western Harbour Tunnel project in Sydney, Australia. The Western Harbour Tunnel is a proposed underground motorway tunnel that would connect WestConnex, a major motorway in Sydney's west, to the Warringah Freeway in the north. Berrys Bay was originally the proposed location of a construction site for the Western Harbour Tunnel project. However, following a competitive tendering process an alternate design and methodology of a Tunnel Boring Machine (TBM) is the preferred methodology to cross Sydney Harbour. This means Berrys Bay will not be used during construction and no cofferdam will be required at Balls Head.

The NSW Government is committed to improving public open space and will enable the delivery of a new foreshore park at Berrys Bay, which can be delivered much earlier than planned for the benefit of the local community. The Berrys Bay master plan will provide a vision to transform the former industrial land of Berrys Bay into usable public open space. To see the draft master plan, refer to nswroads.work/bbportal

2.3 Statement of Significance

An understanding of the significance of a site informs the Research Design, Excavation Methodology, Artefact Retention Policy and other aspects of a field project.

The following Statement of Significance is drawn from the State Heritage Inventory (SHI) for the Berrys Bay BP site:

The BP fuel storage site is significant for its historical association with eminent merchants Edward Wollstonecraft and Alexander Berry. The site retains evidence of its former industrial usage as well as physical evidence of the house lived in by Berry's manager, WG Mathews. The BP site also has archaeological potential to reveal information about subsequent occupation including that of the : General Screw Steam Company, W G Mathews, the Rag & Famish Distillery, the NSW Torpedo Corps Depot, and then the liquid fuel storage functions commencing with the Anglo-Persian Oil Company, Commonwealth Oil refineries and British Petroleum The site is jointly significant with Carradah Park for its ability to demonstrate the physical requirements and scale of oil storage facilities as made evident by the sandstone rock

cuttings, extensive retaining walls, the bund wall and terraced areas. The bund wall on the BP Site is believed to be constructed from convict hewn sandstone, obtained from the demolition of Berry's warehouse on the site. The site is associated with Aboriginal occupation however, no known evidence survives.

It is important to note that the understanding of the site's significance may change during excavation or post-excavation analysis. As a result, this Statement of Significance may need to be updated at the end of the project to reflect the investigation's results and the artefact analysis (see Section 5.4).

3 General Approach

The extent of any artefact assemblage that may result from the site excavation is currently unknown. However the broad approach towards how any artefact assemblage is to be approached is detailed in this section.

3.1 Artefact Retention Policy

The site's significance, site conditions, research design, and excavation methodology will be used to establish an Artefact Retention Policy before investigation and excavation begins. It will be developed by the project archaeologist and agreed with the project conservator. This policy will be used to inform decision making on what artefacts are retained as the excavation proceeds.

3.2 Artefacts sampling and discard

Artefact sampling and discard will be permitted at the discretion of the project archaeologist where it is evident that the archaeological contexts lack integrity.

This may particularly be appropriate in cases where an excessive amount of redundant material has been unearthed, especially in the case of building materials. In instances where the quantity of a particular class of artefacts is substantial enough to be adequately represented it may not be necessary to retain the entire collection., Nevertheless, before discarding any artifacts or cultural material, proper documentation of them should be made to enable valid statistical assessments including, at a minimum, material, dimensions, stratigraphic location and photographs.

3.3 Artefact management

The process of artefact management on site as they are excavated will be ensured through the provision of enough space on-site for artefact cleaning and processing, a structure or shelter for artefact processing and storage, clean water and amenities, and the necessary furniture and materials for processing. This will be the responsibility of the project archaeologist and agreed with by the project conservator.

4 Fieldwork

Once the fieldwork is underway as guided by the approved Archaeological Research Design and Excavation Methodology, the following processes will be followed.

4.1 Conservation in the field

The project archaeologist will appoint a project conservator prior to excavation beginning.

The project archaeologist and conservator are responsible for ensuring that artefacts are treated with proper conservation techniques when exposed and recovered from the site.

If any artefacts with urgent conservation needs are found, the project conservator will be notified immediately and advice sought as to how best to excavate, especially if they are of high significance.

4.2 Approach to artefacts during excavations

Some artefacts may start to deteriorate immediately during or after excavation without appropriate conservation methods.

Organic artefacts like leather, and metal artefacts such as coins and medallions, may require urgent conservation treatment. Both organic and metal artefacts will have reached an equilibrium with their environment in the ground, and upon excavation and the resulting reoxygenation, they may quickly deteriorate.

Before separating artefacts from the assemblage for conservation, ensure that they are assigned catalogue numbers, preliminary cataloguing is completed, and their location is noted in the catalogue.

For detailed information on how to approach artefacts during the excavation refer to:

Stabilising Stuff - A Guide for Conserving Archaeological Finds in the Field

NSW Government 2012

https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Heritage/guide-for-conserving-archaeological-finds-in-the-field.pdf

4.3 Discovery of dangerous materials

As a former industrial and military site, there may be dangerous or contaminated material discovered during the archaeological work. This could include asbestos, fibreglass or other hazardous synthetic mineral fibres, potentially explosive objects (including ammunition), toxic, flammable/explosive or asphyxiant gases (for example, methane), putrescible or infectious materials (for example, medical waste), oils and tars, pesticides, radioactive waste, and arsenic, cadmium, mercury pigments, industrial wastes, mining wastes, or poison. If any potentially dangerous or contaminated material is uncovered during excavation work, all work will immediately cease, and the client representative will be contacted.

If any potentially explosive objects (munition) are discovered, work in the subject area will cease immediately, and the Police will be contacted. The Police will arrange for the attention and disposal of the artefacts by military personnel. Any artefacts thought to be unexploded ordnance will be left undisturbed, an appropriate exclusion zone with signs established around and people kept a safe distance until the area is declared safe.

If artefacts containing asbestos are excavated, they will be catalogued and then disposed of according to the guidelines provided by the Environment Protection Authority. https://www.epa.nsw.gov.au/your-environment/contaminated-land/other-contamination-issues/managing-asbestos-in-and-on-land

4.4 Discovery of human remains

If any suspected human remains are discovered or exposed at any time, it is necessary for all works in the vicinity to cease immediately and for New South Wales Police and the client representative to be notified.

Note that under MCoA E63, an **Unexpected Heritage Finds and Human Remains Procedure** must be prepared to manage unexpected heritage finds (including maritime discoveries) in accordance with any guidelines and standards prepared by Heritage NSW and submitted to the Planning Secretary for information before the commencement of construction.

5 Conservation, analysis, and reporting

5.1 Artefact conservation proposal

Once the excavation works are complete and the full extent of the artefact assemblage is understood, an Artefact Conservation Proposal (ACP) will be prepared. This will detail the conservation works that are proposed for the recovered artefacts. It will be prepared by the project conservator working with the project archaeologist to ensure that the significance of the site, its context and artefacts accurately informs the development of the ACP.

It will also be informed by an understanding of the significance of the site, individual contexts, object groups, object types, material types and individual items.

The ACP will include details of all proposed artefact management and conservation work including that undertaken by the project conservator and archaeologist. The ACPwill also detail how conservation treatments will be recorded, how artefacts will be stored both in the short term and long term, and how their ongoing condition will be monitored. The information and recommendations in the ACP will be re-evaluated and used to inform the Management Recommendations (Section 5.6) upon conclusion of the post excavation works.

The ACP will include timeframes for the completion of the proposed conservation and artefact management work.

5.2 Catalogue

The artefact catalogue is an essential tool for analysing and tracking artefacts recovered during archaeological investigations. It serves as the primary data source for addressing research questions and establishing the significance of the site and overall assemblage. Through the catalogue, artefact and stratigraphic information can be synthesized and comparative analysis can be performed.

All stratified finds and significant artefacts will be recorded with their find context and location, and assigned a unique identifying number before being labelled. All collected artefacts will be photographed, catalogued and stored in plastic containers in a safe and secure location until the conclusion of the project.

An Excel spreadsheet of the catalogue will also be included in the Project Report.

5.3 Analysis

Artefact analysis is a crucial aspect of site investigations, as it provides valuable information and research that can help mitigate the permanent damage caused by excavation and disturbance. It allows archaeologists to understand the site's history and inform its interpretation. Additionally, it informs the Statements of Significance for the site and the assemblage.

To ensure the provenance of elements within the assemblage can be designated to an area, feature, and phase of the site, the distribution of artefacts will be presented along with quantities of artefacts in each functional and sub-functional category, by major feature and/or activity area and by phase, where relevant. Minimum numbers of domestic glass and ceramic forms, clay pipes, small finds, and other artefact types, along with makers' marks, manufacturing dates, and the synthesis of artefact date ranges associated with major features, will also be included.

The information derived from artefact analysis will be synthesised with results from the excavation and background research to develop an understanding of the site formation processes and activities. The project archaeologist will work with the project manager to ensure that appropriate resources are allocated for all aspects of artefact processing, cataloguing, analysis, and reporting, and that staff are suitably qualified and experienced. If necessary, the archaeologist will liaise with the project conservator to ensure that any information that has come to light during conservation is incorporated into the cataloguing and analysis.

It may be necessary to engage an individual with expertise in specific areas of artefact analysis. If the site proves to be particularly rich in artefacts the development of an artefact type series may be required.

5.4 Statement of Significance for Assemblage

Subject to the project archaeologist's assessment of the significance of the artefact assemblage, a Statement of Significance for the artefact assemblage will be prepared.

The statement will provide a detailed evaluation that addresses the NSW Heritage Council's significance criteria, identifying how and why the assemblage is significant. Factors such as the site's integrity and deposits, the size and diversity of the assemblage, and its ability to address significant research questions will be considered, along with the potential for further analysis of the assemblage and the potential for further finds on site based on the project archaeologist's view.

Assemblages of high significance typically come from deposits of high archaeological integrity, are large and diverse in the range of artifact types and have potential for research or display. On the other hand, low significance assemblages come from deposits of little or no archaeological integrity, are small, and lack diversity in the range of artifact types included.

The level of significance will determine the assemblage's suitability for use and curation. Hence, the Statement of Significance will be detailed, accurate and informed, including recommendations for the assemblage's future retention and management.

If the assemblage is recommended for discard, the NSW Heritage Council will be consulted before taking any action, and the reasons and circumstances for the discard will be fully documented in the report. The final catalogue will retain information about the discarded

artefacts, including representative photographs, and clearly indicate that they are no longer part of the assemblage.

5.5 Revised Site Statement of Significance

The site Statement of Significance will be reassessed by the project archaeologist following completion of the fieldwork in the light of the site findings, the artefact analysis, and the Statement of Significance for the artefact assemblage. It will indicate the results of the excavation and artefact analysis and how they have contributed to a better understanding of the site significance and whether this has changed that significance.

5.6 Management recommendations

Clear and practical management recommendations will be made upon completion of the artefact analysis and the revised statement of significance about how the site and the assemblage should be appropriately conserved, stored, managed and protected. This will fit into the proposed interpretation of the site, noting that the on-site display and storage of artefacts is complex and requires specific environmental conditions as part of any long-term maintenance plan .

If the only option is for offsite storage of artefacts, the location and storage conditions of the assemblage will be carefully considered and practical management recommendations included.

5.7 Artefact report and records

Upon conclusion of the post site works the project conservator will prepare a project report specifically addressing the artefacts and artefact assemblage and their management recommendations for inclusion in the Project Archaeologist's site report. This will include all the elements covered in this ACMP and the artefact catalogue in Excel form. It will also provide a qualitative and quantitative summary of the artefact assemblage.

6 Authorship

This ACMP was prepared by Julian Bickersteth, CEO, ICS.

The NSW Heritage Office does not currently have guidelines to inform the preparation of this ACMP. Its preparation has relied in part on Heritage Victoria's Guidelines for investigating historical archaeological artefacts and sites.