New Heritage Fleet Wharves at the Australian National Maritime Museum

Maritime Archaeological Desktop Assessment and Statement of Heritage Impact
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Maritime Archaeological Desktop Assessment and Statement of Heritage Impact

Client: Roads and Maritime Services

ABN: 76 236 371 088

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Executive summary

Roads and Maritime Services (Roads and Maritime) proposes to build a Maritime Heritage Precinct (MHP) in Darling Harbour to display the Sydney Heritage Fleet’s (SHF) collection of operational vessels alongside the ANMM’s own collection of vessels. The water-based elements of the proposal include construction of two wharves and installing a set of pontoons to accommodate the combined fleet. The wharves and pontoons would be designed to berth, display, and operate the heritage vessels, as well as accommodate a broad range of visiting vessels and maritime festivals (Figure 1).

Key water-based features of the proposal relevant to this maritime archaeology assessment include:

- Construction of two high capacity wharves including:
  - North Wharf – about 135 metres long by 10 metres wide with a 2,000 tonne capacity
  - South Wharf – about 149 metres long by 10 metres wide with a 6,000 tonne capacity
- Construction of a pontoon next to Wharf 7, referred to as the Wharf 7 Pontoon
- Construction of a Small Vessel Marina between the North Wharf and the South Wharf for smaller vessels
- Decommissioning and pile removal of the existing Pyrmont Bay Ferry Wharf including demolition and removal of the existing ferry wharf concrete approach deck and gangway and removal of the ferry bumper guard and associated piles
- Construction of a new Pyrmont Bay Ferry Wharf located at the end of the new North Wharf.
- Partial demolition and reconstruction of sections of the southern boardwalk and removal of timber piles for the construction of the North Wharf and South Wharf
- Construction of steps down to the water near the boardwalk

AECOM has been commissioned by the ANMM on behalf of Roads and Maritime to undertake a desktop maritime archaeological assessment that includes a Statement of Heritage Impact (SoHI) for any known or potential maritime archaeological remains that are present within the MHP.

The two new wharves would form part of the new MHP would be constructed over the location of the former Railway Wharves 51 and 52, constructed in c1890 and demolished in 1950. The MHP would open opportunities to interpret Australia’s maritime heritage to the public in a manner that is not currently achievable. Features associated with both wharves include the remains of piles and pile stubs protruding from the seabed, as well as, potential archaeological deposits associated with the operation of the wharves and from the vessels that were moored there. The Project would include the installation of 110 screw piles across the site that would have a cumulative impact of 26.5 m². This has been assessed as a minor impact to the archaeological resource present on and below the seabed. Mitigation of these impacts include undertaking archaeological baseline survey. The baseline survey would identify the location of the piles associated with the c1890 Railway Wharves 51 and 52 and would mitigate the impacts associated with the proposed wharf construction to these works, as designated under the Heritage Act 1977.

Based on the findings of this desktop maritime archaeological assessment and statement of heritage impact, the following recommendations can be made:

- An Exception application should be submitted to the Heritage Division, Office of the Environment and Heritage prior to the works commencing. The application would be made under exception 1B, whereby the proposed works are assessed as having a minor impact on the archaeological relics present on the former Railway Wharves 51 and 52. This application should be submitted along with this report as supporting documentation.
- A maritime archaeological survey of the Project area should be undertaken prior to any construction works. This survey is to create a baseline recording of the known maritime remains,
and assess the potential for relics to be present within the Project area. This recording would include video and diver recordings on the seabed, that can be used as a reference as to the current condition of the remains associated with both former Railway Wharves 51 and 52, and of the archaeological potential in the Project area.
1.0 Introduction

1.1 Background

Roads and Maritime Services (Roads and Maritime) proposes to build a Maritime Heritage Precinct (MHP) in Darling Harbour to display the Sydney Heritage Fleet’s (SHF) collection of operational vessels alongside the ANMM’s own collection of vessels. The water-based elements of the proposal include construction of two wharves and installing a set of pontoons to accommodate the combined fleet. The wharves and pontoons would be designed to berth, display, and operate the heritage vessels, as well as accommodate a broad range of visiting vessels and maritime festivals (Figure 1).

Key water-based features of the proposal relevant to this maritime archaeology assessment include:

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- Partial demolition and reconstruction of sections of the southern boardwalk and removal of timber piles for the construction of the North Wharf and South Wharf
- Construction of steps down to the water near the boardwalk

Detailed description of the proposed works is outlined in section 6.1 of this report.

AECOM has been commissioned by the ANMM on behalf of Roads and Maritime to undertake a desktop maritime archaeological assessment that includes a Statement of Heritage Impact (SoHI) for any known or potential maritime archaeological remains that are present within the MHP.

1.2 Site location

The investigation for this project is confined to the seabed in front of the seawall in Darling Harbour where the proposed two new wharves are proposed to be built (Figure 1).

This report includes a general history of the reclamation and seawall development in Darling Harbour and Cockle Bay (to the south of the Project area) to further understand the development phases of wharves within the Project area.

1.3 Project justification

The objective of the MHP is to provide a permanent home for the operational vessels of the SHF, together with the SS South Steyne. The MHP would consolidate the State and National collections of maritime heritage vessels in a single location and would be supported by a land-based infrastructure and programs provided by the ANMM.

1.4 Scope of work

The objectives of this investigation are to:
- Undertake a maritime archaeological desktop assessment to assess the potential for maritime archaeological remains to be present within the Project area; and,

- Prepare a SoHI, which includes statements of significance for any known or potential maritime archaeological remains, assessing the impact of the proposed works on the archaeological potential in the Project area.
Figure 1  Location of the proposed marine heritage precinct (in yellow zone)
1.5 Report methodology
This heritage assessment has been undertaken in accordance with the NSW Heritage Division guidelines Assessing Heritage Significance (NSW Heritage Office, 2001) and Statements of Heritage Impact (NSW Heritage Office, 2002) and includes:

- desktop searches of relevant heritage registers
- review of Project drawings and concept design reports
- review of the following key documents:
  - heritage register listings for the project area
  - relevant historic shipwreck databases
  - previous maritime archaeological assessments known to have been completed within and/or adjacent to the Project area
  - review of the Port Authority NSW Hydrographic Survey data
  - review of the drop camera footage taken of the seabed for the aquatic ecological assessment prepared for the project.
- assessment of the Project against the heritage significance of all known and potential maritime archaeological remains within the Project area. The assessment has been undertaken in light of the conservation processes and principles found in The Burra Charter: The Australian ICOMOS Charter for Places of Cultural Significance (2013). The Burra Charter is considered to be the pre-eminent guidance document for the management of change for places of heritage significance within Australia

1.5.1 Report authorship and acknowledgements
This report has been prepared by Chris Lewczak (Senior European Heritage Specialist and Maritime Archaeologist). Dr Susan Lampard provided a technical review of the content.

1.6 Report limitations
The purpose of this report is to identify and assess historic/maritime heritage and archaeological potential which might be impacted by the Project. Predictions have been made within this report about the probability of archaeological materials occurring within the site, based on surface indications and environmental contexts. However, it is possible that materials may occur in areas without surface indications and in any context. This report is based on the concept design for the Project. It is noted that during detailed design, details of the Project may change or be refined.

A summary of the statutory requirements regarding historical heritage is provided in Section 2.0. The summary is provided based on the experience of the authors with the heritage system in Australia and does not purport to be legal advice. It should be noted that legislation, regulations and guidelines change over time and users of the report should satisfy themselves that the statutory requirements have not changed since the report was written.
2.0 Statutory legislation

2.1 Commonwealth legislation

2.1.1 Environmental Protection and Biodiversity Conservation Act 1999

The *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) defines the ‘environment’ as both natural and cultural environments and therefore includes Aboriginal and non-Aboriginal historic cultural heritage items. Under the EPBC Act, protected heritage items are listed on the National Heritage List (NHL) (items of significance to the nation) or the Commonwealth Heritage List (CHL) (items belonging to the Commonwealth or its agencies). These two lists replaced the Register of the National Estate (RNE). The RNE has been suspended and is no longer a statutory list; however, it remains as an archive.

The National Heritage List is a register of natural and cultural places with outstanding heritage significance to the Australian nation. Each entry to the National Heritage List is assessed by the Australian Heritage Council as having exceptional heritage value and is protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The Act requires that approval is obtained from the Australian Government Minister for the Environment Protection, Heritage and the Arts before any action takes place that has, will have, or is likely to have, a significant impact on the national heritage values of a listed place.

Under Part 9 of the EPBC Act, any action that is likely to have a significant impact on a matter of National Environmental Significance (known as a controlled action under the EPBC Act), may only progress with approval of the Commonwealth Minister for the Department of the Environment and Energy (DoEE). An action is defined as a project, development, undertaking, activity (or series of activities), or alteration. An action would also require approval if:

- it is undertaken on Commonwealth land and would have or is likely to have a significant impact on the environment on Commonwealth land; and
- it is undertaken by the Commonwealth and would have or is likely to have a significant impact.

2.2 State legislation

2.2.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act), administered by the NSW Department of Planning and Environment (DP&E), requires that consideration be given to environmental impacts as part of the land use planning process in NSW. In NSW, environmental impacts include impacts to Aboriginal and non-Aboriginal (i.e., European) cultural heritage.

2.2.1.1 Development by a Public Authority

Division 5.1 applies to public authorities that assess and self-determine activities. The proposal to build a marina and any associated environmental impact would be assessed in line with clause 228 of the Environmental Planning and Assessment Regulation 2000 (NSW) (EP&A Regulation) and other relevant legislation as identified in the sections below. This would allow public authority to examine and take into account to the fullest extent possible, all matters affecting or likely to affect the environment by reason of the activity in line with section 5.5 (previously section 111) of the EP&A Act.

The EP&A Act allows for the preparation of planning instruments to direct development within NSW. This includes Local Environment Plans (LEP), which are administered by local government, and principally determine land use and the process for development applications. LEPS usually include clauses requiring that heritage be considered during development applications and a schedule of identified heritage items be provided. The EP&A Act also allows for the gazettal of State Environmental Planning Policies (SEPP).
2.2.2 Sydney Regional Environmental Plan (SREP) – Sydney Harbour Catchment (2005)

NSW Regional Environmental Plans (REPs) are plans drafted by the Department of Planning and apply to a nominated “region,” covering broad issues such as urban growth, commercial centres, extractive industries, recreational needs, rural lands and heritage and conservation. They provide the framework for detailed local planning by councils. The local council of the area in which development is proposed to be carried out is usually the consent authority for that development for the purposes of the SREP, unless the Department of Planning selects to substitute the Minister or Director General of Planning as the consent authority in respect to particular forms of development.

The stated objectives of the SREP – Sydney Harbour Catchment (2005) with regards to foreshores and waterways areas are as follows (Section 53);

a. to conserve the environmental heritage of the land to which this Part applies, and
b. to conserve the heritage significance of existing significant fabric, relics, settings and views associated with the heritage significance of heritage items, and
c. to ensure that archaeological sites and places of Aboriginal heritage significance are conserved, and
d. to allow for the protection of places which have the potential to have heritage significance but are not identified as heritage items.

Note: Attention is drawn to the provisions of the Heritage Act 1977 and the National Parks and Wildlife Act 1974 under which an approval or permit under either or both of those Acts may be required for certain activities, whether or not development consent is required by this clause.

Part 5 of the SREP – Sydney Harbour Catchment (2005) contains provisions for the protection and conservation of cultural heritage sites, items and values – both Aboriginal and non-Aboriginal.

Under the REP, a “heritage item” is defined as:

a. a building, work, archaeological site or place:
   i. that is specified in an inventory of heritage items prepared for the purposes of this plan, being an inventory that is available at the head office of the Department, and
   ii. that is situated on a site described in Schedule 4 and identified on the Heritage Map, or
b. a place:
   i. that is specified in an inventory of heritage items prepared for the purposes of this plan, being an inventory that is available at the head office of the Department, and
   ii. that is described in the inventory as a place of Aboriginal heritage significance.

Clause 55 of the REP provides protection for heritage items. Under this clause, the following development may be carried out only with development consent:

a. demolishing or moving a heritage item,
b. altering a heritage item by making structural or non-structural changes to its exterior, including changes to its detail, fabric, finish or appearance,
c. altering a heritage item by making structural changes to its interior,
d. disturbing or damaging a place of Aboriginal heritage significance or an Aboriginal object,
e. erecting a building on, or subdividing, land on which a heritage item is located.

(2) Development consent is not required by this clause if:

a. in the opinion of the consent authority:
   i. the proposed development is of a minor nature or consists of maintenance of the heritage item, and
   ii. the proposed development would not adversely affect the significance of the heritage item, and
   iii. the proponent has notified the consent authority in writing of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development will comply with this subclause and that development consent is not otherwise required by this plan.

(4) Before granting development consent as required by this clause, the consent authority must assess the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item concerned.

(5) The assessment must include consideration of a heritage impact statement that addresses at least the following issues (but is not to be limited to assessment of those issues, if the heritage significance concerned involves other issues):

a. the heritage significance of the item as part of the environmental heritage of the land to which this Part applies, and
b. the impact that the proposed development will have on the heritage significance of the item and its setting, including any landscape or horticultural features, and
c. the measures proposed to conserve the heritage significance of the item and its setting, and
d. whether any archaeological site or potential archaeological site would be adversely affected by the proposed development, and
e. the extent to which the carrying out of the proposed development would affect the form of any historic subdivision.

(6) The consent authority may also decline to grant development consent until it has considered a conservation management plan, if it considers the development proposed should be assessed with regard to such a plan.

Clause 59 – Development in Vicinity of Heritage Items:

1. Before granting development consent to development in the vicinity of a heritage item, the consent authority must assess the impact of the proposed development on the heritage significance of the heritage item.

2. This clause extends to development:

a. that may have an impact on the setting of a heritage item, for example, by affecting a significant view to or from the item or by overshadowing,
b. that may undermine or otherwise cause physical damage to a heritage item, or

c. that will otherwise have any adverse impact on the heritage significance of a heritage item.

3. The consent authority may refuse to grant development consent unless it has considered a heritage impact statement that will help it assess the impact of the proposed development on the heritage significance, visual curtilage and setting of the heritage item.

4. The heritage impact statement should include details of the size, shape and scale of, setbacks for, and the materials to be used in, any proposed buildings or works and details of any modification that would reduce the impact of the proposed development on the heritage significance of the heritage item.

2.2.3 Heritage Act 1977

The NSW Heritage Act 1977 (as amended) was enacted to conserve the environmental heritage of NSW. Under Section 32, places, buildings, works, relics, movable objects or precincts of heritage significance are protected by means of either Interim Heritage Orders or by listing on the NSW State Heritage Register (SHR) Items that are assessed as having State heritage significance can be listed on the SHR by the Minister on the recommendation of the NSW Heritage Council.

Proposals to alter, damage, move or destroy places, buildings, works, relics, movable objects or precincts protected by an IHO or listed on the SHR require an approval under Section 60. The ‘relics provision’ requires that no archaeological relics be disturbed or destroyed without prior consent from the Heritage Council of NSW. Therefore, no ground disturbance works may proceed in areas identified as having archaeological potential without first obtaining an excavation permit pursuant to Section 60 of the Heritage Act 1977 or an archaeological exemption.

For the purposes of this Act, the State of NSW includes the seabed and the water column up to 3 nautical miles (nm) from the coast. The NSW Heritage Act 1977 therefore, within 3 nm of the NSW coast, can protect shipwrecks. Shipwrecks currently under the jurisdiction of the NSW Heritage Act are identified in the Historic Shipwrecks Register, maintained by the NSW Heritage Council. Part 3C of the Act contains provisions for the protection of shipwrecks over 75 years old. This section is included in the Act to provide a link to and consistency with the (Commonwealth) Historic Shipwrecks Act 1976. In NSW the ‘relics’ provision takes precedence over Part 3C when it comes to determining the legal and protected status of a wreck and associated artefacts.

Under Section 170 of the Heritage Act 1977, NSW Government agencies are required to maintain a register of heritage assets. The register places obligations on the agencies, but not on non-government proponents, beyond their responsibility to assess the impact on surrounding heritage items.

Archaeological features and deposits are afforded statutory protection by the ‘relics provision’. Section 4(1) of the Heritage Act 1977 (as amended 2009) defines ‘relic’ as follows:

a. “any deposit, artefact, object or material evidence that:
b. relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and
c. is of State or local heritage significance”.

2.3 Local legislation

2.3.1 Sydney Local Environmental Plan 2012

The Project area is located within the City of Sydney Local Government Area.

Part 5, Section 5.10 of the Sydney LEP 2012 deals with heritage conservation within the area covered by this LEP. All heritage items listed on the LEP are included in Schedule 5. The Sydney LEP states:

“(1) The objectives of this clause are as follows:
a. to conserve the environmental heritage of the City of Sydney,

b. to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,

c. to conserve archaeological sites,

d. to conserve Aboriginal objects and Aboriginal places of heritage significance.

(2) Development consent is required for any of the following:

- demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):
  - a heritage item,
  - an Aboriginal object,
  - a building, work, relic or tree within a heritage conservation area,

- altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,

- disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,

- disturbing or excavating an Aboriginal place of heritage significance,

- erecting a building on land:
  - on which a heritage item is located or that is within a heritage conservation area, or
  - on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,

- subdividing land:
  - on which a heritage item is located or that is within a heritage conservation area, or
  - on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.

2.4 Heritage register searches

In NSW there are four types of statutory listings for non-indigenous cultural heritage sites, objects and places:

- National Heritage List;
- NSW State Heritage Register;
- Regional Environmental Plan (REP);
- Local Environmental Plan (LEP); and,
- Section 170 Heritage and Conservation Register;

Heritage register searches were undertaken 18 June 2018 for the project area with the following results.

2.4.1 National Heritage List

There are no items listed on the National or Commonwealth Heritage List within or immediately adjacent to the Project area.
2.4.2 NSW State Heritage Register

S.S. South Steyne is listed on the State Heritage Register as a moveable Item of State Significance (Item Number 00755). S.S. South Steyne is currently moored against Harbourside Wharf in Cockle Bay.

The Pyrmont Bridge is listed on the State Heritage Register as an Item of State Significance (Item Number 01618). The listing includes a heritage curtilage area that extends to the either side of the bridge (Figure 2).

![Figure 2: SHR curtilage associated with the Pyrmont Bridge heritage listing](http://www.environment.nsw.gov.au/heritageapp/HeritageItemImage.aspx?ID=5053337#ad-image-8)

2.4.3 NSW Historic Shipwreck Register

The NSW Historic Shipwreck Register is a database maintained by the NSW Heritage Division and contains upwards of 1,800 wrecks.¹ This database has been built up around historical accounts of the loss of vessels, mainly through the systematic examination of newspapers from the 1790s to the

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The database has been augmented by other sources such as archival information from the Australian Hydrographic Office.

The database has been searched to locate any known or potential shipwrecks that have occurred specifically in Darling Harbour / Cockle Bay and greater in Sydney Cove. There are 112 registered vessels that are listed as wrecked in “Sydney Harbour” that have not been located. This description includes vessels that were reported lost within “Sydney Harbour Heads”, or general locations such as “just outside Circular Quay” whereby the location may be further afield than the location described.

Refining the search to closer to the study area, there were four shipwrecks that have occurred in Darling Harbour. These were:

- **William Woolley** – 201 ton wooden hulled brig that was lost in 1854 when it caught fire and was scuttled while bringing timber into Sydney Harbour. The location of the wreck is unknown.

- **Orphan Girl** – a wooden hulled lighter that collided with another vessel in 1880. The vessel was travelling from Pennant Hills to Darling Harbour. The vessel was wrecked and its location is unknown.

- **Sterling** – an iron hulled single screw steamer lost in 1919 when it collided with another vessel at Federal Wharf. The vessel was later refloated and removed from the site.

- **Omeo** – 16 ton wooden screw steamer harbour tug who’s boiler exploded at its wharf at Bathurst Street Wharf.

The shipwreck of **Sterling** is unlikely to be present within the project area. Federal Wharf was located on the eastern side of Cockle Bay, to the southeast of the Project area. Therefore any archaeological remains of this wreck is not likely to be within or immediately adjacent to the Project area.

The vessels **William Woolley** and **Orphan Girl** have Darling Harbour included in their shipwreck register listings as this was their destinations. It is possible that both of these wrecks are within the greater Darling Harbour area, and therefore potential to be within the Project area.

The vessel of **Omeo** was lost at the Bathurst Street Wharf. This wharf was located on the eastern side of Cockle Bay. These wharves are now covered over by reclamation works and are located behind the current seawall. Therefore, the wreck is likely to be to the south and outside of the Project area.

### 2.4.4 Sydney Local Environmental Plan 2012

Identified items of cultural heritage significance within the project area are listed on Schedule 5 of the *Sydney Local Environmental Plan 2012*. Each item listed on Schedule 5 is subject to protection under the planning and development controls of the LEP.

- There are no listings on the Sydney LEP that are located close to the study area and be impacted by the proposed works.

### 2.4.5 NSW Section 170 Heritage and Conservation Register

All NSW State Government Agencies are required to keep an up to date record to assist in total asset management by providing information on their assets which have identified heritage significance. The Register has been prepared in accordance with the NSW Heritage Office guidelines and corresponds with information in the State Heritage Inventory, as managed by the NSW Heritage Office.

- Pyrmont Bridge is listed on the Sydney Harbour Foreshore Authority’s Section 170 Heritage and Conservation Register.
## 2.5 Summary

The table below outlines the known and potential heritage and archaeological items that are located within or immediately adjacent to the Project area.

**Table 1 Summary of listed heritage items within and adjacent to the Project site**

<table>
<thead>
<tr>
<th>Heritage list</th>
<th>Items within the Project Area</th>
<th>Level of significance</th>
<th>Items adjacent to the Project Area</th>
<th>Level of signifiance</th>
<th>Distance to Project Area (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Heritage List</td>
<td>Nil</td>
<td>n/a</td>
<td>Nil</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>National Heritage List</td>
<td>Nil</td>
<td>n/a</td>
<td>Nil</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Commonwealth Heritage List</td>
<td>Nil</td>
<td>n/a</td>
<td>Nil</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Register of the National Estate (non-statutory)</td>
<td>Nil</td>
<td>n/a</td>
<td>Nil</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>State Heritage Register</td>
<td>Nil</td>
<td>n/a</td>
<td>S.S. South Steyne – Movable heritage item (#00755)</td>
<td>State</td>
<td>Vessel is currently located in Berrys Bay and is outside of the Project area.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pyrmont Bridge – Sydney (#01618)</td>
<td>State</td>
<td>200m south</td>
</tr>
<tr>
<td>Sydney Harbour Foreshore Authority S170</td>
<td>Nil</td>
<td>n/a</td>
<td>Pyrmont Bridge</td>
<td>State</td>
<td>200m south</td>
</tr>
<tr>
<td>Sydney LEP 2012</td>
<td>Nil</td>
<td>n/a</td>
<td>Nil</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>NSW Historic Shipwrecks Register</td>
<td>William Woolley (location is unknown but may be located within the project area)</td>
<td>Protected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Orphan Girl (location is unknown but may be located within the project area)</td>
<td>Protected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sterling</td>
<td>Protected</td>
<td>Location is unknown but is likely to be greater than</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heritage list</td>
<td>Items within the Project Area</td>
<td>Level of significance</td>
<td>Items adjacent to the Project Area</td>
<td>Level of significance</td>
<td>Distance to Project Area (metres)</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------------</td>
<td>-----------------------</td>
<td>-----------------------------------</td>
<td>-----------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>150 m to the southeast outside of this project area</td>
</tr>
<tr>
<td>Omeo</td>
<td>Protected</td>
<td></td>
<td></td>
<td>Location is unknown but is likely to be greater than 150 m to the southeast outside of this project area</td>
<td></td>
</tr>
</tbody>
</table>
3.0 Historical context

The historical background has been put together from undertaking historical research using primary and secondary resources specific to the project area. This has included early maps and plans that show the location of the project area. Additional historical background of the development of Darling Harbour has also been taken from previous archaeological assessments that have compiled a development history of Darling Harbour, Cockle Bay and surrounding areas (Cosmos Archaeology June 2014; Cosmos Archaeology May 2015 and Cosmos Archaeology August 2017).

3.1 Darling Harbour and the first half of the 19th century

In 1811, Governor Macquarie ordered the construction of the first wharf in Cockle Bay. Market Wharf was established to receive produce from outlying settlements and serve the Sydney market place. In conjunction with the wharf, a new access road – Market Street – was laid out and the market itself was moved from Sydney Cove to the site of the present Queen Victoria Building.

Maritime activity began to expand from Sydney Cove around Miller’s Point into the northern end of Cockle Bay (Darling Harbour); towards the southern portion of the bay, however, remained largely undeveloped due to a combination of relatively shallow waters and limited access between the shoreline and the town grid. In 1815, Mr. John Dickson opened a steam powered mill near the base of current Goulburn Street, utilising the fresh water streams at the head of Cockle Bay; and for the following decade, Dickson’s wharf and mill complex comprised the only maritime structures south of Market Wharf (Figure 3). In 1826, Governor Darling renamed Cockle Bay “Darling Harbour” in honour of himself.

Figure 3 Plan of the town and suburbs of Sydney, August, 1822, Ferguson Collection, Map 107, State Library of New South Wales. The approximate Project area is shown in red.
During the late 1820s-early 1830s, the NSW colony saw a period of rapid expansion, economic growth and increasing transition towards free settlement and private enterprise. Shipping activities expanded further south into Darling Harbour and numerous water frontages along the eastern shore were taken up and private commercial wharves with associated warehouses constructed. The first episodes of land reclamation began to be undertaken by private settlers, particularly towards the shallower head of the harbour in order to facilitate construction and gain access to deeper water.

It is during the mid-1830s that allotments on the western side of Darling Harbour, closest to the project area, were subdivided, however, no development occurred near the project area at the time. (Figure 4).

In the 1840s, the trade of agricultural produce and other bulk materials through Sydney continued to expand, creating a boom in the coastal shipping industry and providing impetus for the increased establishment of wharf and warehouse facilities. The eastern shore of Darling Harbour saw rapid development, with large expanses of land reclamation and wharf construction conducted by private shipping companies and professional wharf owners who let the berths and provided storage and handling facilities. By the mid-1840s, the rapid growth in wholesaling activity firmly established the warehousing sector along the western side of Sydney township.

The eastern side of Darling Harbour went through several periods of land reclamation during the mid-1840s, and this side of Darling Harbour became the focal point for maritime development. This is likely due to its proximity to the main business districts. The western side of Darling Harbour, during this time, was only accessible via Harris Street, which was laid out some distance away from the foreshore area. Traveling to and from this side of Darling Harbour around to Sydney city as it was then required travelling around the marshlands, and later dam, present at the southern end of Darling Harbour (now south of Cockle Bay). Wharves were present further around at Pyrmont. These were mostly shipyards and other smaller private wharves (Figure 5). At this time, the project area was situated within Darling Harbour. There was no reclamation or other developments, including wharves, within this area. (Figure 5).
3.2 Second half of the 19th century

The discovery of large gold deposits in rural NSW in 1851 and the subsequent gold rushes led to a proliferation of industrial enterprises and warehouse facilities soon sprang up along the eastern shore of Darling Harbour, coinciding with a boom in the coastal shipping industry and intensification in maritime trade. More and more sections of the foreshore were reclaimed as maritime infrastructure was upgraded and expanded, and wharves were pushed out further into the harbour to accommodate larger ships needing deeper berths.

By 1853, almost the entirety of the eastern shore of Darling Harbour had been taken up. Land within the vicinity of the study area was more intensively occupied and the beginnings of additional land reclamation were being undertaken.

The western side of Darling Harbour remained mostly undeveloped. Again, it is likely that the proximity of the eastern side of the Darling Harbour to the main commercial and business districts made it more valuable, as well as, the existing infrastructure, being wharves and roads, meant that modifying these wharves to suit the shipping needs was easier.

Development on the western side of Darling Harbour did not commence until the mid to late 1850s. The wealth generated by the gold rush also reinvigorated the broader economy and provided venture capital for large scale development. Two significant features were completed at Darling Harbour during the mid-late 1850s; the Darling Harbour branch railway line on the western side of the harbour and the Pyrmont Bridge.

In 1853, the Pyrmont Bridge Company was formed to erect a bridge across Darling Harbour, connected to the existing Market and Union Streets. Completed in 1857, the bridge, designed by Edward Orpen Moriarty, NSW Department of Public Works Engineer-in-Chief, included an opening bascule span to allow passage of ships to the wharves at the southern end of the harbour. The railway goods line at Darling Harbour commenced planning for a new rail goods yard in 1849. The Sydney Railway Company, formed in 1849, approached the Harris family with the prospect of purchasing a strip of seven acres of land for the construction of one mile of railway line joining the Sydney railway terminus near what is now Central Station, with proposed wharfage facilities at Darling Harbour. The proposal was accepted by the Harris family who saw the economic advantages of industrial and port development on the western side of the Harbour. The land was sold in 1853, however, like most international private railway companies, the Sydney Railway Company fell into
financial difficulties and was taken over by the NSW Government in 1854 (SHFA 2016). The railway, ultimately connecting Darling Harbour and Parramatta, was opened in 1855.

The line divided the peninsula, largely alienating the Darling Harbour shoreline strip of land from Harris Street, a factor which was to influence the development of Ultimo and is still strongly evident today. Pyrmont Bridge opened in 1857, and it was intended that there should be a rail and bridge interchange or terminus, so that goods could be brought across the Bridge from Sydney (and indeed the Darling Harbour wharves) and thence transported by rail, and vice-versa.

The expansion of the railway line throughout NSW in the 1870s and later to the Queensland Board in 1880, coupled with the expansion of Darling Harbour that included the reclamation of the southern end of Darling Harbour (Cockle Bay) and the construction of the Iron Wharf, being the first major wharf constructed in the south-western portion of Darling Harbour, meant that the Darling Harbour goods line was connected and could reach the whole of NSW (SHFA 2016). The project area at this time remains on the seabed. Images from the 1870s show that this greater section of Darling Harbour was used as a general mooring area (Figure 6).

This continued to lead to the growth of Darling Harbour as an important shipping and rail focal point, with goods being able to flow both into and out of Darling Harbour. Between 1885 and 1893, a plan to expand the good railway line was proposed to extend the line under Pyrmont Bridge, undertake reclamation works and construct two new wharves at the end of Darling Harbour. The wharves become known as Railway Wharves 51 and 52. Wharf 51 contained berths one and two on Wharf 52 was berths 3 and 4 (Figure 9).

Both Wharves 51 and 52 were constructed at the same time, and from historical records including plans and photographs, appear to have been 600 ft (180 m) in length and 60 ft (21 m) wide (Maritime
Services Board 1948). The wharves were constructed from timber pile and headstock with timber deck construction. The railway lines were placed along both sides of the wharves. Three cranes were installed near the northern end of both wharves, servicing berths 1, 2 and 4. Later, a travelling crane appears to have been added to wharf 52 (Figure 7 and Figure 13).

Figure 7: “NSRW Pyrmont Jetty Coal Handling Plant – Drawing of Elevator Stage”. This plan showing railway layout and coal elevator section drawings of Wharf 52. Plan also shows details of the pile and other wharf arrangement. (Plan held at Australian Railway Historical Society archives)

Figure 8: “NSWR Pyrmont Jetty Coal Handling Plant – Central Drawing”. Detailed plan of the coal elevator located on Wharf 52. Plan also shows details of the pile and other wharf arrangement. (Plan held at Australian Railway Historical Society archives)
An outbreak of bubonic plague in Sydney in January 1900, commencing in the waterfront areas and spreading throughout large portions of the city, was the catalyst for the NSW Government to improve building and planning controls, sanitation and general public health issues. In May 1900, the Government commenced the resumption of large tracts of private property and associated wharfage...
along the eastern side of Darling Harbour – areas deemed particularly susceptible to disease and most in need of cleansing and redevelopment – as the first step in the “Darling Harbour Improvement Scheme”. The scheme commenced from Dawes Point and down the eastern side of Darling Harbour, but didn’t include the southern or western side. The Railway Wharves and other wharves existing to the west around to Darling Island were not included in the initial plan (Figure 11). Henry Walsh, the chief engineer in charge of the new design and wharf plan later included Pyrmont, Jones Bay and Woolloomooloo, but did not include any modifications or resumptions to the Railway Wharves. (http://adb.anu.edu.au/biography/walsh-henry-deane-8968).

![Figure 11: E. Le Bihan’s 1900 Plan of Darling Harbour, showing the proclaimed resumption. The two Railway Wharves 51 and 52 were not included in the land to be resumed. (Source: SLNSW http://www.sl.nsw.gov.au/collection-items/plan-darling-harbour-showing-proclaimed-resumption)](image)

3.3 1901 and the reconstruction of Darling Harbour

In 1901, the NSW Parliament formed the first port authority, the Sydney Harbour Trust, to oversee the redevelopment of wharves and adjacent areas. This major port improvement scheme involved extensive demolition of existing maritime infrastructure – particularly clusters of small, private jetties and wharves, construction of larger finger wharves and the establishment of a “rat proof” seawall around the entire length of the Sydney port waterfront.

Some of these works were carried out while the existing wharves remained, however, along the eastern side of Darling Harbour there were various stages of wharves being demolished and new wharves being constructed. By the early 1910s, goods traffic on the railway branch line to Darling Harbour and adjacent suburban lines had become excessive, with over one thousand wagons using the network every day. The NSW Railway Department proposed to construct additional goods lines to Darling Harbour and substantially extend the Darling Harbour goods yards. In 1917, via extensive conference with the Sydney Harbour Trust Commissioners, a scheme was adopted whereby the southern portion of Darling Harbour from the head to Bathurst Street, would be reclaimed using spoil from the excavation of the Sydney City Railway underground tunnels (a scheme proposed by the NSW Public Works Department in 1915 to improve the passenger railway system), providing land for the expansion of the goods yards.
Construction of the underground Sydney City Railway scheme finally commenced in 1923, allowing the reclamation of the head of Darling Harbour to be undertaken using the excavated spoil (Figure 12).

During the period of demolition and new wharf construction, the Railway Wharves would have been in higher demand. The ability to berth at a wharf and move cargo to and from trains, including refrigerated material, would have been required to keep cargo moving in and out of Darling Harbour while all other improvements were occurring. In the years following World War II, Sydney enjoyed an economic boom due to international demand for raw materials such as wool and wheat and the Darling Harbour railway goods yards and large cargo wharves north of the Pyrmont Bridge consequently saw increasing trade. The domestic coastal shipping traffic that occupied the southern end of Darling Harbour, however, began to decrease due to the rise of motor vehicles and road cargo transport networks.

There appears to have been a modification made to Wharf 52, with an extension of the wharf constructed between 1910 and 1930. The wharf numbers changed during this period, with the Railway Wharves changing berth numbers from Wharf 51 to Pyrmont Berths 1 and 2, and Wharf 52 to Pyrmont Berths 3 and 4 (Figure 13 to Figure 17 inclusive).

Figure 12: 1923 panorama showing commencement of reclamation works at the head of Darling Harbour (Source: Foster, A. E., 1923, "Panorama of Darling Harbour and Pyrmont Bridge from Pyrmont, 1923." Box 32, No. 357, Series 86; Sydney views, ca. 1916-1947, State Library of New South Wales)

Figure 13: Portion of “Darling Harbour depicting [Pyrmont] from Millers point, Sydney” showing Railway Wharves 51 (red arrow) and 52 (blue arrow). (Source: Museum of Applied Arts and Sciences Digital collection 85/1284-466 https://ma.as/29863)
Figure 14: Section of Parish of St Andrews 1930 showing the layout of the two “Railway Jetties” at Pyrmont.
Figure 15: Photograph showing the two wharves believed to be Wharves 51 and 52 in Darling Harbour (Source SLNSW digital collection FL1822556).

Figure 16: 1930 aerial photograph of Darling Harbour showing wharves 51 and 52 at the bottom of the photograph. (Source: SLNSW digital collection FL1769164).
3.4 Decline and removal of the wharves

In the late 1940s into 1950s, the Maritime Services Board commenced an extensive remodelling scheme throughout Sydney Harbour, directed towards the removal of ageing infrastructure, alteration and expansion of wharfage to serve the larger international cargo and container ships, and the overall improvement of cargo handling facilities. The maritime infrastructure at the head of Darling Harbour, however, received little attention as the shallow waters and confined space prevented the establishment of large shipping facilities and the continued decline of the coastal trade made upgrading wharfage largely unnecessary.

In 1949, the construction of Wharf 7 commenced as the need for wider and deeper berths were identified. As part of these construction works, Railway Wharf 52 was removed to accommodate the new, wider Wharf 7. Wharf 51 remained until the completion of Wharf 7 when the old wharves were removed (Figure 18 and Figure 19).

Figure 17: 1949 Aerial photograph of Sydney Harbour showing Darling Harbour and the two Railway Wharves (Source: Sydney City Archival Pics SRC2039)
Figure 18: Aerial photograph from later in 1949 showing the construction of Wharf 7 and the removal of Railway Wharf 52. Wharf 51 remains in situ until Wharf 7 is constructed. (Source: Sydney Historical Atlas: City of Sydney – Aerial Photographic Survey, 1949: Image 20)
By the late 1960s, however, the continued growth of container trade made increasing demands on wharf space and facilities in Sydney ports and led to the construction of a custom-built container terminal at Port Botany. This ultimately led to the demise of the commercial shipping and railway freight industry in Darling Harbour.

In the early 1970s, the Sydney City Council began considering options for remodelling parts of Darling Harbour for recreational and/or residential purposes. By the early 1980s, both the State and Federal Governments began to see wider opportunities to convert much of the southern extent of Darling Harbour to a public recreation precinct, particularly in light of the approaching NSW bicentenary and the opportunity for international exposure during celebrations.

In 1982-1984, a development design plan was prepared by the NSW Department of Planning and Public Works Department, with the major components being a new exhibition centre, convention centre, market building and maritime museum on the western side of Darling Harbour, with landscaped gardens and a harbour promenade on the eastern side. A new government agency, the Darling Harbour Authority, was subsequently formed in 1984 to manage and deliver the redevelopment project. Over the course of the following four years, the Darling Harbour railway goods yards and wharves, and all wharves, warehouses and associated facilities along the southern and eastern shores of Darling Harbour south of Pyrmont Bridge, were demolished to make way for the construction of the proposed new recreational waterfront facilities. The Darling Harbour redevelopment project was completed in 1988 and officially opened during bicentenary celebrations; with the head of the harbour and associated entertainment precinct renamed “Cockle Bay”. The works continued in the 1990s as part of Stage 2 of the Darling Park Development.
3.5 Wharves

Based on the historical research on the Project area and surrounds, there were only two wharves constructed within the Project area. These were Railway Wharves 51 and 52. Prior to their construction the area was located away from the coastline and was not developed (Figure 20). There are no known mooring or other known anchorages in this area.

Figure 20: 1930s plan of Darling Harbour showing Wharves 51 and 52 overlayed on top of current aerial photograph of the project area.
4.0 Review of existing data

4.1 Bathymetric multi-beam survey

A multi-beam survey of over the Project area was conducted by Royal Haskoning DHV on 27 March 2018. The survey area was along the Heritage Fleet Wharf extending east approximately 180m and encompassing the old and new Pyrmont ferry wharves (Port Authority Hydrographic Survey Report 5 May 2018). The report noted that the survey vessel had zig zagged to minimise shadowing caused by piles being hidden in the shadow of another pile.

The report authors found that there was numerous debris located throughout the survey area. The debris appears to be mainly old piles that have been left on the seabed when upgrades and remediation has taken place (Port Authority Hydrographic Survey Report 5 May 2018).

The results of the multi-beam survey have been reviewed by the maritime archaeologist for this report. At the southern end of the project area, immediately in front of the boardwalk, the remains of cut down piles can be seen protruding from the seabed in the location of both former Railway Wharves 51 and 52. The piles can be seen extending from the current alignment of the boardwalk on a northern orientation. Further out into the harbour, there are less visible cut down piles, however, the multi-beam has recorded a high number of scours on the seabed. This is likely due to material present on the seabed causing depressions on the leeward side of the current and sediment movement in Darling Harbour. This indicates there is material present on the seabed that the multi-beam survey has not been able to record protruding from the seabed, but has picked up the scouring that the material has caused. These are likely to be additional piles, however this cannot be positively confirmed from the multi-beam data alone (Figure 21).

Along the western edge of the Project area, immediately adjacent to Wharf 7, there are the remains of piles that have been cut down and left on the seabed. These are likely to be the remains of some of the piles that were cut off from the seabed associated with the former Railway Wharves 51 and 52, but also piles associated with the adjacent smaller wharves that were removed when Wharf 7 was constructed in 1949 (Figure 21).

Within the project area and immediately surrounding it, the multi-beam data shows there are a lot of unidentified anomalies present. The data shows potentially deep scours present that may be associated with large bulky items that have not been picked up by the multi-beam equipment but has recorded the scour caused by the object being present (Figure 21).
Figure 21: Multibeam survey of the Project area undertaken by Port Authority of NSW in March 2018. Image on the left is the original image, Image on the right has been marked up by the maritime archaeologist (Source: Port Authority of NSW). This information is provided courtesy of the Port Authority of NSW. Copyright is owned by Port Authority of New South Wales.
4.2 Drop tow video

Two drop tow video transects were undertaken as part of the aquatic ecological survey of the seabed in the Project area. This footage was also viewed by the maritime archaeologist to assess and identify any known or potential for maritime archaeological deposits. The visibility of the seabed varied through both video transects, due to material floating in the water column, the speed of the video run, and the height of the camera was above the seabed.

The seabed appears to consist of a fine silt covering heavier silts or clays that are easily disturbed (Figure 22). There is very little marine growth in the project area, making the visibility of the seabed good (subject to the video transects noted above). There were very few cultural items visible in the video footage: where present, these were modern material consisting of plastic and possibly modern glass bottles and more recent paper material (rubbish).

One former wharf pile was identified in the footage. The pile appears to protrude 0.5 m above the seabed and is covered in marine growth. It is difficult to determine the diameter of the pile, however, it is likely to be between 0.3 m and 0.4 m (Figure 23).

![Figure 22: Example image of the seabed type taken from the drop tow camera footage from the Project area.](image-url)
4.3 Maritime archaeological potential

Based on the historical research and the review of the multi-beam and video data, predictions about the maritime archaeological potential of the Project area can be made.

Prior to the development and reclamation of the western side and northern point of Darling Harbour, the Project area was located away from the coastline, within Darling Harbour. It is possible that this area may have been a layover or other type of mooring location. Early maps and plans of the area do not show any formal designated mooring area, however, historical photos of Darling Harbour prior to 1890 show vessels anchored further north of this area.

The construction of Railway Wharves 51 and 52 were the first maritime structures built within the Project area. The wharves were constructed in the early 1890s and as such, were not of the design that Walsh later defined for wharf construction in Sydney Harbour after the resumption of wharves in 1901. Both wharves were of heavy timber pile construction, 600 ft long and likely to be six piles across. Wharves constructed in the later 19th century typically had a bent spacing of 9 to 12 ft (1 bent is the structure from one set of lateral piles to the next). This would equate to approximately 66 bent long structure, and between 300 and 396 piles used for the wharf construction. It is predicted that the archaeological deposits associated with wharf 51 covers an area approximately 3,780 m², and for 3,780 m² for wharf 52. This is based on the seabed footprint area of each wharf, being approximately 180 m long and 21 m wide. A section of the northern end of wharf 52 has been built over by wharf 7. This equates to an area approximately 500 m² that is underneath wharf 7 and outside of the project area. The total archaeological potential in the project area is expected to cover an approximate area of 7,060 m².

Both wharves were removed in 1940-1950 at a time when shipping was increasing, both in size of vessels and the number of movements of vessels in Sydney Harbour. The two wharfs were removed to make way for the new Wharf 7. As such, the piles are likely to have been cut off at, or close to, the

Figure 23: Remains of a pile located within the Project area. Note modern bottle behind pile
seabed to guarantee depth of water for the new vessels passing over the top of the former wharf location. The multi-beam survey of the Project area shows the remains of piles protruding from the seabed, extending out from the current boardwalk out towards the north into Darling Harbour. The drop tow video footage from the project area also shows one possible pile. From this, it is deduced that piles were cut from the seabed and not pulled from the site, indicating that there is the high potential for piles remains to be present in the Project area.

The potential for archaeological deposits on the seabed, specifically relating to relics associated with both wharves, is based on a number of factors, such as what the use of the wharf was, how long the wharf was employed for that use and how the wharf was decommissioned, including any post-decommissioning dredging. The wharf was used as a cargo wharf, associated with the railway goods line that lead to Darling Harbour to the rest of NSW via rail. The archaeological potential associated with the wharf would include the potential for lost or dropped cargo that was dropped onto the seabed during loading and unloading of vessels. There is also the potential for other cultural material, such as refuse, associated with the vessels that were berthed at the wharf to have been accidently or deliberately deposited overboard. The location of this potential archaeological material would be located directly around the berthing location of vessels. Material is likely to be slightly more concentrated between the berthing location and the wharf.

There is a low potential for shipwrecks or shipwreck material to be present within the project area. From the historical research, two shipwrecks are identified as being lost in “Darling Harbour”, however review of the multi-beam survey does not indicate that there are shipwreck or other anomalies that are likely to be shipwreck related. This conclusion cannot be confirmed, however, as there has not been an underwater maritime archaeological survey undertaken as part of this assessment.

There are other anomalies on the seabed recorded by the multi-beam survey that may depict cultural material. There is the potential for earlier moorings to be present in this area dating to prior to the extension of the goods line and construction of Railway Wharves 51 and 52. Early moorings can be made of old anchors or large heavy metal objects that were salvaged from various locations, such as from the railways. If these anomalies were moorings, there is also the potential for maritime archaeological remains to be present associated the vessel that used these mooring.
Figure 24: Overlay image showing the outline of Wharves 51 and 52 (based on the 1930 Parish Map), proposed new wharves outline and the current layout of the Project area.
5.0 Assessment criteria

5.1.1 Significance assessment criteria

In order to understand how a development would impact on a heritage or archaeological items, it is essential to understand why an item is significant. An assessment of significance is undertaken to explain why a particular item is important and to enable the appropriate site management and curtilage to be determined. The process of assessing heritage significance is outlined in the guideline *Assessing Heritage Significance* (NSW Heritage Office, 2001) which is part of the *NSW Heritage Manual* (Heritage Branch, Department of Planning). The *Assessing Heritage Significance* guidelines establish seven evaluation criteria which reflect four categories of significance and whether a place is rare or representative.

A heritage item can be identified as being significant at a local level (i.e. to the people living in the vicinity of the site), at a State level (i.e. to all people living within NSW) or be significant to the country as a whole and be of National or Commonwealth significance. In accordance with the guideline *Assessing Heritage Significance*, an item would be considered to be of State significance if it meets two or more criteria at a State level, or of local heritage significance if it meets one or more of the criteria outlined in Table 2. The Heritage Council require the summation of the significance assessment into a succinct paragraph, known as a Statement of Significance. The Statement of Significance is the foundation for future management and impact assessment.

### Table 2 Significance assessment criteria

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Inclusions/exclusions</th>
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</thead>
<tbody>
<tr>
<td><strong>Criterion (a)</strong> – an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).</td>
<td>The site must show evidence of significant human activity or maintains or shows the continuity of historical process or activity. An item is excluded if it has been so altered that it can no longer provide evidence of association.</td>
</tr>
<tr>
<td><strong>Criterion (b)</strong> – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area).</td>
<td>The site must show evidence of significant human occupation. An item is excluded if it has been so altered that it can no longer provide evidence of association.</td>
</tr>
<tr>
<td><strong>Criterion (c)</strong> – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area).</td>
<td>An item can be excluded on the grounds that it has lost its design or technical integrity or its landmark qualities have been more than temporarily degraded.</td>
</tr>
<tr>
<td><strong>Criterion (d)</strong> – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</td>
<td>This criterion does not cover importance for reasons of amenity or retention in preference to proposed alternative.</td>
</tr>
<tr>
<td><strong>Criterion (e)</strong> – an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</td>
<td>Under the guideline, an item can be excluded if the information would be irrelevant or only contains information available in other sources.</td>
</tr>
<tr>
<td><strong>Criterion (f)</strong> – an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area).</td>
<td>An item is excluded if it is not rare or if it is numerous, but under threat. The item must demonstrate a process, custom or other human activity that is in danger of being lost, is the only example of its type or demonstrates designs or techniques of interest.</td>
</tr>
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</table>
5.2 Assessment of significance for archaeological remains associated with the former Railway Wharves 51 and 52

Below is the significance assessment for the archaeological remains, including the structure and potential maritime archaeological deposits, associated with the former Railway Wharves 51 and 52 (Table 3). The current boardwalk and existing ferry wharf are not considered to be of heritage significance. Both items are modern, with the boardwalk being installed in 1988 and the ferry terminal being more recent. Therefore, both of these items are not assessed as part of this impact assessment.

Table 3  Significance assessment of the former Railway Wharves 51 and 52 at Darling Harbour, NSW.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criterion (a)</strong> – an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area).</td>
<td>The former Railway Wharves located at the northern end of Darling Harbour on the western side, served as part of the Darling Harbour, and the greater Sydney Harbour, shipping and trade hub for Sydney Harbour from 1890s through to 1950. The two wharves were owned by NSW Government and operated by the Railway Commission and allowed for the direct movement of cargo through NSW via railways, and export of goods out of NSW via shipping. Both Wharves 51 and 52 were not resumed as part of the resumptions of 1901. With a reduced number of wharves in operation during this period, the importance of Wharves 51 and 52 would have increased due to the reconstruction of wharves on the eastern side of Darling Harbour being undertaken between 1901 and 1918. The wharves were eventually decommissioned and removed from Darling Harbour as part of the evolution and growing needs of the shipping industry and the use of Sydney Harbour. The remains of the former Railway Wharves 51 and 52 (c1890 to 1950) are considered to be of local significance under this criterion.</td>
</tr>
<tr>
<td><strong>Criterion (b)</strong> – an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local to area).</td>
<td>Both wharves were constructed and operated by the NSW Government up until the wharves were decommissioned in 1950. The berths do not appear to have been leased to private companies and were used to import and export cargo via the NSW railway network to markets outside of NSW. While the wharves were owned and operated by the NSW Railways and the NSW Government, the wharf is not considered to have had, or still have, a strong special association with the life or works of a person or group of people important to NSW. The archaeological remains of the wharf are not considered to meet the requirements of this criterion on a state or local level.</td>
</tr>
<tr>
<td><strong>Criterion (c)</strong> – an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical</td>
<td>Archaeological remains associated with the ca.1890-1950 wharves are visible on the former site and there is a high potential for further maritime archaeological remains to be present below the seabed. These remains are likely to be associated with the structural remains of the wharf, and are not likely to be unique. As such, the archaeological remains of the former wharves are not</td>
</tr>
<tr>
<td>Criterion</td>
<td>Assessment</td>
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<tr>
<td>achievement in NSW (or the local area).</td>
<td>considered to demonstrate aesthetic characteristics or show a creative or technical achievement, and as such, the former wharves are not considered to meet the requirements of this criterion.</td>
</tr>
<tr>
<td><strong>Criterion (d)</strong> – an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons.</td>
<td>The ca.1890-1950 wharves were part of the import/export system present in Darling Harbour and were part of the larger wharf system in operation in Sydney Harbour. While the former Railway Wharves were an integral part of the transportation needs of NSW, there were no single particular community or cultural groups who were associated with the wharf. As such the former Railway Wharves 51 and 52 are not considered to meet the requirements of this criterion.</td>
</tr>
<tr>
<td><strong>Criterion (e)</strong> – an item has potential to yield information that will contribute to an understanding of NSW’s cultural or natural history (or the cultural or natural history of the local area). Significance under this criterion must have the potential to yield new or further substantial information.</td>
<td>There are known and potential archaeological remains associated with both Railway Wharf 51 and 52 expected to be on the site. The historical information relating to the construction of both wharves is limited, with only primary sources, mostly photographs and maps, which reveal the construction of the wharf. No detailed construction plans have been identified. Geophysical surveys and limited underwater video footage show that there are pile remains associated with both wharves. Artefacts discarded, accidently or deliberately, from either wharf and vessels moored alongside can contribute towards knowledge of the variety of traffic and goods that passed between Sydney and the rest of the world during the 20th century. It can also contribute to our understanding of the working and operation of both wharves. The archaeological site associated with former Wharves 51 and 52 has the potential to contribute to a greater understanding of wharf construction prior to the standard design created by the then Chief-Engineer Walsh after 1901. Repair and upgrading that has not been documented in the archaeological record previously may also be apparent in the archaeological record. As such, the archaeological site associated with both former Railway Wharves 51 and 52 are considered to be of local significance under this criterion.</td>
</tr>
<tr>
<td><strong>Criterion (f)</strong> – an item possesses uncommon, rare or endangered aspects of NSW’s cultural or natural history (or the cultural or natural history of the local area).</td>
<td>Wharf 51 and 52 were constructed in the period prior to standard designs. The resumption of wharves throughout Sydney and the eventual demolition and reconstruction undertaken from 1901 were carried out to a standard design used to modernise the wharf system and secure Sydney Harbour from rat and other vermin plagues brought in by international shipping. The archaeological remains of the former Railway Wharves 51 and 52 are likely to be one of the last to be constructed before the resumption works in 1901. The archaeological remains of the site have the potential to reveal the design of wharves prior to the introduction of the new standard. This has the potential to include information relating to pile type and construction, and other materials used including fastenings. This information also has the potential to be compared to other maritime archaeological survey results of other pre-1900 wharves constructed in Darling Harbour and in Sydney Harbour that can be used to demonstrate and understand changes to wharf design.</td>
</tr>
<tr>
<td>Criterion</td>
<td>Assessment</td>
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<tr>
<td>-----------</td>
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</tr>
<tr>
<td>The maritime archaeological remains associated with the former Railway Wharves 51 and 52 are considered to be of local significance under this criterion.</td>
<td></td>
</tr>
</tbody>
</table>
| **Criterion (g)** – an item is important in demonstrating the principal characteristics of a class of NSW’s (or local area’s):  
  - cultural or natural places cultural; or  
  - natural environments. | The site of the former Railway Wharves 51 and 52 consists of maritime archaeological remains that are present on and below the seabed and are not considered to be intact or complete. As such, the site is not considered to retain the principal characteristics of its type or design. The former wharves are not considered to meet the standards of this criterion. |

### 5.2.1 Statement of significance

The site of the former Railway Wharves 51 and 52 were associated with the maritime transport in Sydney Harbour since c.1890. The two wharves were part of the expansion of the railway goods line at Darling Harbour, which allowed direct access between ship and rail modes of transport for import and export goods. By the 1870s, with the advent of refrigeration, the potential to use rail and shipping to move fresh produce intra and interstate meant that getting goods and materials directly to ships allowed for the opening of greater market opportunities for produces.

The two wharves operated continuously despite the resumption of wharves long the eastern side of Darling Harbour. Other than the extension of Wharf 52 early in the 20th century, the wharves were not upgraded. Both Wharves 51 and 52 were decommissioned in 1950 when the new Wharf 7 at Pyrmont was constructed to cater for the larger vessels and greater number of vessel movements in Sydney Harbour.

The archaeological resource present on the seabed relates to the type of wharves constructed pre-1900. Archaeologically, these remains are not considered to be rare, but do have high research value in understanding the construction type, method and other particulars relating to this era of wharf design.
6.0 Impact assessment

6.1 Proposed works

6.1.1 Overview

Roads and Maritime proposes to build a MHP in Darling Harbour. It is intended that the Australian National Maritime Museum would lease the MHP to display the SHF collection of operational vessels alongside the ANMM’s own collection of vessels. The water-based elements of the proposal include building two wharves and installing a set of pontoons to accommodate the combined fleet. The wharves and pontoons will be designed to berth, display, and operate the heritage vessels, as well as accommodate a broad range of visiting vessels and maritime festivals.

Key water-based features of the proposal relevant to maritime archaeology include:

- Construction of two high capacity wharves including:
  - North Wharf – about 135 metres long by 10 metres wide with a 2,000 tonne capacity
  - South Wharf – about 149 metres long by 10 metres wide with a 6,000 tonne capacity
- Construction of a pontoon next to Wharf 7, referred to as the Wharf 7 Pontoon
- Construction of a Small Vessel Marina between the North Wharf and the South Wharf for smaller vessels
- Decommissioning and pile removal of the existing Pyrmont Bay Ferry Wharf including demolition and removal of the existing ferry wharf concrete approach deck and gangway and removal of the ferry bumper guard and associated piles
- Construction of a new Pyrmont Bay Ferry Wharf located at the end of the new North Wharf.
- Partial demolition and reconstruction of sections of the southern boardwalk and removal of timber piles for the construction of the North Wharf and South Wharf
- Construction of steps down to the water near the boardwalk (Figure 25 and Figure 26).

6.1.2 Removal of existing structures

The concrete structure, connecting the boardwalk with the ferry wharf, would be demolished and all associated piles would be removed. The pontoon-based ferry wharf would be relocated to the end of the proposed northern wharf. All piles would be removed completely from the bed unless it is demonstrated that by applying a vertical upwards load of 50 tonnes per pile, that the pile cannot be removed. In this situation consideration would be given to leaving such a pile in place and cutting the pile 500 mm below the bed level. All existing services associated with the ferry wharf would be terminated at the boardwalk and made safe. The ferry bumper guard and all associated piles would also be removed.

Sections of the timber boardwalk on the northern and western faces of the ANMM would be demolished. The removal of sections of boardwalk would enable the proposed northern wharf deck to extend to the Wharf 7 forecourt and the proposed southern wharf to extend to the ANMM carpark. These connections would allow direct access for trucks and cranes from existing hard stand areas to the wharves. The position of the new wharves would require reconstruction of the boardwalk and connection to the new concrete wharf decks.

All materials to be removed would be loaded onto a barge by barge mounted crane and transported to an appropriately approved and licensed facility.

6.1.3 Construction of the wharves

Constructing of the new wharves would require anchoring across the site. Anchoring and/or mooring requirements have not been detailed as yet, but would be required for the installation of the new wharves.

Screw piles would be transported by barge to the site. Each pile would be lifted from the barge and installed using a barge-mounted crane. Piles would be installed by screwing into rock and then
hammered to achieve the required capacity. The Southern Wharf would require 42 piles and the Northern Wharf would require 40 piles. A further four piles would be required for the relocated ferry terminal and 22 piles would be required for the pontoon system. It is anticipated that the installation of each pile would displace approximately 0.16 m² of the sea bed. In total, it is anticipated that the installation of all 110 piles would displace approximately 26.5 m² of the seabed.

The headstocks and wharf decking would be pre-fabricated /pre-cast and transported to site by barge from an off-site facility. In situ work would include concrete pours (involving about 80 concrete trucks) over about four days (likely non-consecutive) to construct the concrete deck and to fix the piles.

Lifting and placement of components (headstocks and precast slab panels) of the wharves would be carried out using a barge mounted crane. This activity would be undertaken during calm conditions. If necessary, intricate lifting may be conducted at night to take advantage of calm weather and still water.

6.1.4 Construction of pontoons

The small vessel pontoons and ferry pontoon would be built off site then towed to site in calm conditions. Piles would be screwed in before the pontoons arrive and the pontoons would then be fitted around the piles. Each section of pontoon would be fixed to the previously installed section. On completion of the pontoons the power and water services would be installed and the attachments (services bollards, mooring cleats, hose reels, ladders and fendering) installed.

6.1.5 Earthworks

There may be a need for minor dredging if pile needs to be cut and removed from the seabed. This would be concentrated only to the area immediately around each pile to facilitate the cutting the pile below the seabed level.

The electricity supply from the new substation kiosk to the wharves would be laid in conduits in trenches approximately 600mm deep and 300mm wide. This excavation would occur within previously disturbed, reclaimed land.

The water supply (potable water and hydrant main) from the existing supply point to the proposed wharves would be laid in conduits in trenches approximately 600mm deep and 300mm wide and would be excavated into reclaimed land.

The sewerage system pipes from the proposed wharves to the pump room would be laid in trenches approximately 600mm deep and 300mm wide.
Figure 25: General layout of the new ANMM Heritage Fleet Wharves
Figure 26: Typical cross section of the new ANMM Heritage Fleet Wharves.
6.2 Heritage impact assessment

6.2.1 Summary of impacts

The Project includes the removal of the existing boardwalk and ferry wharf. These items have been assessed as holding no heritage significance. Their removal would not constitute an impact to a heritage item.

The proposed work has the potential to impact on known and potential archaeological deposits assessed to be in the project area. These impacts would arise through the removal of the existing boardwalk and ferry wharf and, subsequently, the installation of the piles for the proposed Southern and Northern Wharves. While impacts to any archaeological deposits are likely to have occurred when the ferry wharf and boardwalk was installed, their proposed removal, by pulling the pile out from the seabed, also has the potential to create localised subsidence and slumping of the seabed deposits in that area, causing further disturbance. If the piles cannot be removed from the seabed, then they will be cut 0.5m below the current seabed. Removing piles and causing disturbance to the seabed would disturb artefacts that are in the local area, but not remove them. While the artefacts are likely to be moved, this would not impact on their significance or provenance as there is not expected to be any stratigraphic deposits associated with the seabed. Artefact movement and sorting within the seabed deposits is also likely to have occurred due to natural influences, include wave and currents across the site. Movement and disturbance of the seabed can affect the location and positioning of relics, both horizontally and vertically within the seabed deposit. This is likely to occur until relics penetrate further through the soft silt deposits and reach firmer silt and or clay based deposits. The action of removing a pile would only effect a very localised area where the piles is being removed.

Further potential impacts to the archaeological deposits would also occur during the construction of the new wharf. It is proposed to install 44 piles for the Southern Wharf and 40 piles for the Northern Wharf. A further six to eight piles would also be required for ferry wharf pontoon system and 15 piles for the pontoon system. The piles are proposed to be screwed into the seabed and then hammered into the rock. The archaeological deposits cover an approximate area of 7,060m². Within this, the piling activities would result in a cumulative impact of 26.5 m² to the potential archaeological resource. Therefore, the potential impact to the archaeological resource is expected to be 0.38 % of the archaeological resource.

Minor localised dredging may be required immediately around any piles that are needed to be cut off below the seabed. This is not expected to have an impact to archaeological material.

It is anticipated that a number of the piles associated with the c.1890 wharves may be directly impacted during the installation of the proposed wharf. The number of piles likely to be impacted is difficult to determine as many of the pile remains are likely to be below the seabed and not visible. However, as the piles are considered a work under the Heritage Act 1977. As such no permit is required to disturb the piles, however, the impacts will still need to be managed as the remains of the former piles have been assessed as having heritage significance.

Impacts to potential archaeological deposits from the project would require a permit from the Heritage Division, Office of the Environment and Heritage, prior to any construction works commencing.

6.2.2 Impacts to significance

Table 4 assesses the impact of the proposed works against each of the heritage criteria from the significance assessment undertaken in Section 5.2 of this report.
Table 4 Assessment of heritage impact of project against significance assessment of the remains associated with Wharves 51 and 52

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Statement</th>
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<tbody>
<tr>
<td><strong>a) Historical significance:</strong> The former Railway Wharves located at the northern end of Darling Harbour on the western side, served as part of the Darling Harbour, and the greater Sydney Harbour, shipping and trade hub for Sydney Harbour from 1890s through to 1950. The two wharves were owned by NSW Government and operated by the Railway commission and allowed for the direct movement of cargo through NSW via railways, and export of goods out of NSW via shipping. Both Wharves 51 and 52 were not taken as part of the resumption of wharves in 1901, but the importance of the wharves would have increased due to the reconstruction of wharves on the eastern side of Darling Harbour was being undertaken between 1901 and 1918. The wharves were eventually decommissioned and removed from Darling Harbour as part of the evolution and growing needs of the shipping industry and the use of Sydney Harbour.</td>
<td>The proposal to construct two new wharves is not expected to have an impact to the heritage significance associated with the two former wharves under this criterion. The proposed impact would be from the installation one pile over the top of the remaining cut down piles as well as a direct impact to part of the potential maritime archaeological deposits in the area. While the archaeological deposits may be disturbed, there would be no removal of material from the project area and, due to the nature of seabed deposits, these deposits would be retained in a form that would allow for future investigation.</td>
</tr>
<tr>
<td><strong>e) Research significance.</strong> There are known and potential archaeological remains associated with both Railway Wharves 51 and 52 expected to be on the site. Known archaeological remains are associated with structural material associated with both former wharves. Potential archaeological remains are associated with relics related to the use of the wharf and vessels that were moored within the study area. The historical information relating to the construction of both wharves is limited, with only primary sources, mostly photographs and maps, which reveal the construction of the wharf. Geophysical surveys and limited underwater video footage show that there are pile remains associated with both wharves. Artefacts discarded, accidently or deliberately, from either wharf and vessels moored alongside can contribute towards knowledge of the variety of traffic and goods that passed between Sydney and the rest of the world during the 20th century. It can also contribute to our understanding of the working and operation of both wharves.</td>
<td>The Project would have a minor impact to the known and potential archaeological resource present on and below the seabed, but is not likely to result in the loss of the archaeological resource, both in terms of its rarity or significance. The project will include vessels anchoring over the site and the removal of piles associated with the former Wharves 51 and 52 from within the project area. If the piles cannot be removed from the seabed, the piles will be cut below the seabed. The removal of piles would be necessary to facilitate the construction of the new wharf and associated piling works. The project would include the installation of 110 screw piles for the new wharves, pontoons and ferry wharf. This will also require anchoring of vessels over the site. The displacement of the archaeological material would not impact on its research significance as seabed deposits are not typically stratified due to disturbance of the deposits by the actions of the sea. The proposed works are not expected to be exposed or eroded the site; however, this cannot be discounted. The management of potential relics on the site must</td>
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</table>
The archaeological site associated with the former wharves 51 and 52 has the potential to contribute to a greater understanding of wharf construction prior to the standard design created by the former chief-engineer Walsh after 1901, and to repair and upgrading that has not been documented in the archaeological record previously. As such, the archaeological site associated with both former Railway Wharves 51 and 52 are considered to be of local significance under this criterion.

f) Rarity significance. The late 19th century wharves constructed in Sydney Harbour were constructed on a different standard and design of wharves that are present and survey today. The resumption of wharves and the eventual demolition and reconstruction undertaken from 1901 were done to a standard wharf design used to modernise the wharf system and secure Sydney Harbour from rat and other vermin plagues brought in by international shipping.

The archaeological remains of the former Railway Wharves 51 and 52 are likely to be one of the last to be constructed before the resumption works in 1901. The archaeological remains of the site has the potential to reveal the design of wharves prior to the new standard that was introduced. This has the potential to include information relating to pile type and construction, and other materials used including fastenings. This information also has the potential to be compared to other maritime archaeological survey results of other pre-1900 wharves constructed in Darling Harbour and in Sydney Harbour to understand changes that were made to wharf design.

The project does not include the removal of material from the seabed as there would be no “seabed clean up” or other formal dredging works required for the installation of the new wharves. The Project would include the installation of 110 screw piles for the new wharves, pontoons and ferry terminal. The Project would have a minor impact to the known and potential archaeological resource present on and below the seabed, but is not likely to result in the loss of the archaeological resource, both in terms of its rarity or significance. Archaeological monitoring would be undertaken after one year of wharf use that would monitor the impact the construction and use of the wharves have to the seabed and known and potential maritime archaeological deposits present. This would be compared to a baseline assessment undertaken prior to construction works commencing on site.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Statement</th>
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<tbody>
<tr>
<td>The archaeological site associated with the former wharves 51 and 52 has the potential to contribute to a greater understanding of wharf construction prior to the standard design created by the former chief-engineer Walsh after 1901, and to repair and upgrading that has not been documented in the archaeological record previously. As such, the archaeological site associated with both former Railway Wharves 51 and 52 are considered to be of local significance under this criterion.</td>
<td>be taken into consideration and should include pre-construction survey and post construction monitoring on the site after the construction of the piling works after use of the two new wharves. Monitoring works would allow for an understanding of any long-term impacts that the new wharves would have to the known and potential maritime archaeological remains and deposits in the Project area.</td>
</tr>
<tr>
<td>f) Rarity significance. The late 19th century wharves constructed in Sydney Harbour were constructed on a different standard and design of wharves that are present and survey today. The resumption of wharves and the eventual demolition and reconstruction undertaken from 1901 were done to a standard wharf design used to modernise the wharf system and secure Sydney Harbour from rat and other vermin plagues brought in by international shipping. The archaeological remains of the former Railway Wharves 51 and 52 are likely to be one of the last to be constructed before the resumption works in 1901. The archaeological remains of the site has the potential to reveal the design of wharves prior to the new standard that was introduced. This has the potential to include information relating to pile type and construction, and other materials used including fastenings. This information also has the potential to be compared to other maritime archaeological survey results of other pre-1900 wharves constructed in Darling Harbour and in Sydney Harbour to understand changes that were made to wharf design.</td>
<td>The project does not include the removal of material from the seabed as there would be no “seabed clean up” or other formal dredging works required for the installation of the new wharves. The Project would include the installation of 110 screw piles for the new wharves, pontoons and ferry terminal. The Project would have a minor impact to the known and potential archaeological resource present on and below the seabed, but is not likely to result in the loss of the archaeological resource, both in terms of its rarity or significance. Archaeological monitoring would be undertaken after one year of wharf use that would monitor the impact the construction and use of the wharves have to the seabed and known and potential maritime archaeological deposits present. This would be compared to a baseline assessment undertaken prior to construction works commencing on site.</td>
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</tbody>
</table>
7.0 Statement of heritage impact

The objective of a Statement of Heritage Impact is to evaluate and explain how the proposed development, rehabilitation or land use change would affect the heritage value of the site and/or place. A Statement of Heritage Impact should also address how the heritage value of the site/place can be conserved or maintained, or preferably enhanced by the Project.

This report has been prepared in accordance with the NSW Heritage Office & Department of Urban Affairs and Planning NSW Heritage Manual (1996) and NSW Heritage Office Statements of Heritage Impact (NSW Heritage Office, 2002). The guidelines pose a series of questions as prompts to aid in the consideration of impacts based on the type of Project. The Project involves a major addition adjacent to an area of known and potential maritime archaeological remains. The guideline suggests the following questions be used to direct discussion in relation to the Project.

These questions are addressed, based on the impacts to the heritage significance of the maritime archaeological research as Darling Harbour within the Project area, as outlined in Section 6.2.

Table 5 Statement of heritage impact for the remains of wharves 51 and 52.

<table>
<thead>
<tr>
<th>Development</th>
<th>Discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>How is the impact of the new development on the heritage significance of the item or area to be minimised</td>
<td>The Project would have a direct impact from the installation of 110 screw piles over and around the location of the former Railway Wharves 51 and 52. These piles would be screwed into the seabed, potentially resulting in the displacement of archaeological deposits and the demolition of piles associated with Wharves 51 and 52. This would result in a cumulative impact of 26.5 m² impact to the archaeological resource within the broader archaeological site, which has been estimated to be 7060 m² in size. There is the potential for some minor dredging works immediately around any piles that cannot be removed from the seabed. Dredging would only occur around the individual piles to allow for them to be cut off below the current seabed. Piles associated with the former Wharves 51 and 52 are designated as a work, rather than a relic and therefore not protected under the Heritage Act 1977. While the piling would have the potential to displace known and potential archaeological deposits associated with the use of the wharves and vessels that were berthed. This displacement would, however, would result in any archaeological relics to remain on the seabed in a form that would allow for future investigation. The design of the new wharves would ensure that the maritime archaeological remains not being directly impacted from the pile installation are not likely to be impacted once both wharves are in operation and would remain on and within the seabed.</td>
</tr>
<tr>
<td>Why is the new development required to be adjacent to a heritage item?</td>
<td>The new wharves are located adjacent to the existing ANMM wharves, near Pyrmont Wharf 7 to accommodate the Sydney Heritage Fleet’s (SHF) collection of operational vessels alongside the ANMM’s own collection of vessels. Wharf space in Sydney Harbour is limited, as is the potential to construct new wharves. Along with the existing wharves, these two new wharves would collectively create a Maritime Heritage Precinct in Darling Harbour in association with the ANMM. This would open opportunities to interpret Australia’s maritime heritage to the public in a manner that is not currently achievable.</td>
</tr>
<tr>
<td>Development</td>
<td>Discussion</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?</td>
<td>There are known remains of the former wharves and potential archaeological remains associated with the former Railway Wharves 51 and 52 below and adjacent to the Project area. Alternate locations were not investigated as part of this project as new wharves cannot be located to the south of the existing ANMM wharves as this would potentially impede vessel movement under the Pyrmont Bridge and associated navigation buoys. Impact to the archaeological resource have been limited to the 26.5 m² required for the installation of the 110 screw piles. There would be minimal dredging required immediately around piles that need to be cut from the seabed. There will be no large scale dredging or other ‘seabed clean-up’ activities are required for the project.</td>
</tr>
<tr>
<td>Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)</td>
<td>Alternate designs of the new wharves have not been considered for the proposed piling works as the size, diameter and style of the wharves is required to meet current marine safety and design standards.</td>
</tr>
</tbody>
</table>

### 7.1 Summary

The design of the two new wharves would require the installation of 110 piles on top of and adjacent to the known piles remains associate with the former Railway Wharves 51 and 52. This includes the cut down stubs of piles on the seabed, the top section of piles cut off and left on the seabed as well as any other timber sections from the former wharves. Archaeological potential in the area would be associated with the use of the wharves, as well as, from vessels that were moored at the wharves that may have deposited items on to the seabed. Most of the piles range from 457mm to 610mm in diameter and would have a cumulative impact of 26.5 m² to the seabed. The expected potential archaeological site associated with both wharves is approximately 7060 m². Therefore, the potential impact to the archaeological resource is expected to be 0.38 % of the archaeological resource.

Once the construction works have been completed, there are not expected to be any long term indirect impacts to the archaeological resource on and below the seabed once the construction works have finished and the wharves are in operation.

Based on the above arguments, the impact to the piles and potential archaeological remains associated with the former Railway Wharves 51 and 52, including the potential maritime archaeological remains are considered to be minor. These works are considered to be an acceptable impact, but should be done with an Exception under Section 139(4) of the *Heritage Act 1977* and with a plan to undertake pre construction archaeological recording of the site.
8.0 Conclusion and recommendations

The two new wharves would form part of the new MHP would be constructed over the location of the former Railway Wharves 51 and 52, constructed in c1890 and demolished in 1950. The MHP would open opportunities to interpret Australia’s maritime heritage to the public in a manner that is not currently achievable. Features associated with both wharves include the remains of piles and pile stubs protruding from the seabed, as well as, potential archaeological deposits associated with the operation of the wharves and from the vessels that were moored there. The Project would include the installation of 110 screw piles across the site that would have a cumulative impact of 26.5 m². This has been assessed as a minor impact to the archaeological resource present on and below the seabed. Mitigation of these impacts include undertaking archaeological baseline survey. The baseline survey would identify the location of the piles associated with the c1890 Railway Wharves 51 and 52 and would mitigate the impacts associated with the proposed wharf construction to these works, as designated under the Heritage Act 1977.

Based on the findings of this desktop maritime archaeological assessment and statement of heritage impact, the following recommendations can be made.

- An Exception application should be submitted to the Heritage Division, Office of the Environment and Heritage, prior to the works commencing. The application would be made under exception 1B, whereby the proposed works are assessed as having a minor impact on the archaeological relics present on the former Railway Wharves 51 and 52. This application should be submitted along with this report as supporting documentation.

- A maritime archaeological survey of the Project area should be undertaken prior to any construction works. This survey is to create a baseline recording of the known maritime remains, and assess the potential for relics to be present within the Project area. This recording would including video and diver recordings on the seabed, that can be used as a reference as to the current condition of the remains associated with both former Railway Wharves 51 and 52, and of the archaeological potential in the Project area.
9.0 References


Maritime Services Board of New South Wales, *Port of Sydney Journal*, vol 1 no. 2 October 1946


