

GOAT ISLAND

Conservation Management Plan

Volume 1

June 2011

NSW National Parks and Wildlife Service
The Office of Environment and Heritage NSW



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NSW National Parks & Wildlife Service



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1.0 INTRODUCTION

1.1 BACKGROUND

In September 2007 Paul Davies Pty Ltd in association with Nathanael Hughes, Photographer, Austral Archaeology and Geoffrey Britton were commissioned by NSW National Parks and Wildlife Service (NPWS), part of the Department of Environment and Climate Change (DECC) to prepare a Conservation Management Plan (CMP) for Goat Island. This Plan is required to bring together an extensive body of work previously undertaken on Goat Island and its component parts and provide a clear direction for the future.

The CMP follows directly on a Conservation Management Strategy for the wharves of the island which has also been prepared by Paul Davies Pty Ltd to allow urgent remedial and safety works to take place to those elements.

Two previous conservation management plans have been prepared and adopted for the island as a whole, the first by James Kerr in 1985 and the second by Schwager Brooks in 1996 as well as an archaeological management plan prepared by HLA-Envirosciences in 2003.

This Conservation Management Plan consists of four volumes:

- Volume 1: Goat Island Draft Conservation Management Plan (CMP - this report)
- Volume 2: Goat Island: A Contextual History
- Volume 3: Goat Island Inventory (for the main features of the island)
- Volume 4: Appendices

1.2 OBJECTIVES

This Conservation Management Plan (CMP) has been commissioned to provide a clear, concise and well presented analysis of the heritage values of the island and to develop policies from the analysis and assessment of significance to provide clarity in the development of a masterplan that will guide the future of the island as part of the Sydney Harbour National Park.

To achieve this, this report relies on *Volume 2: Goat Island: A Contextual History* for information on the historical development of the island, and this CMP provides:

- an historical summary,
- a chronology
- historical analysis of the island's cultural landscape
- physical analysis of the place
- assessment of the significance of individual elements, sites and the geographic context and
- strategies, guidelines and actions for the conservation of the heritage significance of Goat Island.

The CMP determines the cultural significance of Goat Island and its component items and provides policies that direct the future management, adaptive re-use, new works and interpretation of Goat Island and its heritage items. The CMP has been designed to inform the Plan of Management (PoM), which regulates the management of Goat Island. Conflicts between the CMP and the current (1995) PoM have been identified and resolved in co-ordination with DECC and highlighted within the report.

The Plan has been prepared with the purpose of submission to the Heritage Council of NSW or it's delegate for their endorsement. Endorsement of the Plan by DECC under delegation

requires that future management of Goat Island will be in accordance with the statutory requirements of the *NSW Heritage Act 1977* (as amended).

1.3 SITE LOCATION

Goat Island is located in Sydney Harbour (Port Jackson) approximately 600 metres north west of Balmain East public wharf (the wharf at the eastern end of Darling Street, Balmain). Goat Island is the second largest island in Sydney Harbour/Parramatta River (after Cockatoo Island) and one of eight remaining islands (of the original 14 islands) in the harbour. It is situated at the entry to Darling Harbour and separates the western end of the harbour defining the main channel to the Parramatta River and presents as a landscaped headland when viewed from the east or west. It is located close to both Balmain and Balls Head Reserve and is a dominant visual element within the harbour.

Active uses currently on the island are:

- National park
- Ship repair facility
- Provision of port navigation aids and other public utilities

Goat Island is clearly visible from the Harbour Bridge; Millers Point and Balmain East on the southern side of Sydney Harbour; and from Milsons Point, McMahon's Point and Balls Head on the northern side of Sydney Harbour. Figures 1.1 to 1.3 below illustrate Goat Island's location within the harbour and in relation to Sydney suburbs on either side of the harbour.



Figure 1.1 Goat Island's location in relation to nearby suburbs. Goat Island centre left.



Figure 1.2 Location of Goat Island (centre) within Sydney Harbour. Note Millers Point wharves and Harbour Bridge to right, Balmain to left of Goat Island, and Cockatoo Island to the left of Balmain.



Figure 1.3 Aerial view of Goat Island 2004. The major features are the shipyard located to the bottom left, the Harbour Masters Residence and cottages with terracotta tile roofs running north/south in the centre of the island, the former Water Police Precinct with its ancillary MSB buildings on the knoll separated by Barney's Cut on the top right and the heavily vegetated landscape through most of the central area of the island. Note the extent of wharfage around the island.

1.4 HERITAGE LISTING

Goat Island is registered as a heritage item on the NSW State Heritage Register (SHR). The boundary of the SHR listing, however, does not encompass the whole island, but only includes Lot 3, which was under the control of NPWS at the time of the SHR listing (see Figure 1.4 below. The lot is marked by the heavy outline and includes most of the original land form, approximating the early mean high water line, parts of the reclaimed land but none of the wharfage).



Figure 1.4 Goat Island Deposited Plan (DP837195)

The Register of the National Estate (former) lists the colonial sandstone structures (buildings and fortified wall) on Goat Island, both separately and as a precinct.

Goat Island and its component parts are heritage items within the DECC Section 170 Register numbered from item 3444 to item 3529 (65 separate items) and the island as a whole is an item in the HHIMS register (no 1387).

Goat Island is not included in any local government area and consequently does not appear on other heritage registers. The island has been in NSW State government ownership in its entirety since 1908, when the Commonwealth relinquished the control of the powder magazine area of the island to the State of NSW.

1.5 SITE DETAILS AND PRECINCTS

Figure 1.5 at the end of this section identifies all of the individual sites, structures and features on the island that are referred to in the text of this report and in the inventory sheets. The island has also been divided into seven precincts (indicated by green dashed lines on figure 1.5) that are used for management of the island. The precincts while named do not reflect boundaries of historically significant areas and are only used to provide manageable sections of the island for the descriptive and analysis sections of the report. The precincts follow the same boundaries as earlier reports, which also provides for ease of cross-referencing to those documents, particularly where precinct plans have been prepared.

The precincts are: (from south to north): Magazine Precinct, Shipyard Precinct, Central Precinct, Residential Precinct, South Depot Precinct, Water Police Precinct, North Depot Precinct.

1.6 SOURCES CONSULTED

A large number of reports have been prepared on Goat Island that have addressed a wide range of issues. However, there are no reports that have addressed the significance of the Island in its entirety. The most useful and complete assessment undertaken to date is the 1985 JS Kerr Heritage Assessment where most (but not all) of the built structures and wharves, landscape and archaeological features are identified and dated and most have graded significance attached.

The most recent CMP prepared by Schwager Brooks in 1996 provides some background and advice on the various built structures and wharves, landscape and archaeological features.

A recently completed (endorsed 2007) Conservation Management Strategy addressed the wharves around the island in detail.

There are numerous other studies on the various buildings and precincts, on archaeology and on landscape that provide good background information that have been used in the preparation of this CMP. Archaeological reports include complete surveys undertaken in 1985 for the MSB: European archaeology survey undertaken by Wendy Thorpe; and an Aboriginal archaeology survey by Elizabeth Rich.

Material that is relevant from previous reports is contained in comparative tables in this study by way of background information. It is noted that (due to the repetition of much material between reports) unless specifically relevant, material prepared for and held by NPWS is not specifically referenced to authors.

NPWS have separately commissioned a history of Goat Island titled: *Goat Island: A Contextual History*. This report forms Volume 2 of the study and is relied on as the historical base for analysis and assessment of significance.

There is a wealth of photographic material available on Goat Island from a range of sources, which has been used both for the history mentioned above, and for this CMP.

This CMP summarises the relevant information that is known about each structure, item or site, makes additional assessments and analysis of the various structures, items and sites and provides a set of plans and photos showing how Goat Island developed over time.

All of the reports, studies and material used in the preparation of this plan are set out in Appendix 7: Bibliography (Volume 4).

1.7 METHODOLOGY

The methodology used in this report is in accordance with the principles and definitions as set out in the guidelines of the *NSW Heritage Manual* (1996) as amended, and addresses significance under the *NSW Heritage Criteria*. The Plan follows the principles and methodology of the *Australia ICOMOS Burra Charter*, 1999 and *The Conservation Plan (Fifth Edition)* by James S. Kerr.

Heritage conservation fieldwork included compilation of information from all previous reports, detailed fieldwork including photographic recording and documentation of condition of buildings and elements, and recording of items either in inventory sheets or in the Elements tables in Section 3.0 of this report. A number of new items were identified, including paths and steps. In addition, fieldwork included an analysis of important views and vistas to and from Goat Island.

Archaeological fieldwork included inspection of all known sites and their immediate surroundings, photographic recording, and documentation of condition. During the course of this fieldwork, a number of new archaeological sites were identified and recorded. Information on archaeological sites collected from fieldwork and from previous archaeological reports has been presented either in inventory sheets or in the Elements tables in Section 3.0 of this report. The main criteria for including archaeological items or features either on inventory sheets or in the elements table is not a true reflection of their significance, but compliance with conditions of the Brief.

This report has also utilised previous historical and archaeological assessments of the site and information contained in statutory heritage inventories.

1.8 AUTHOR IDENTIFICATION

The overall report has been prepared by Paul Davies Pty Ltd, and specifically by Paul Davies, Director; Chery Kemp, Heritage Consultant and Chantal Danieli, Heritage Specialist, and has been reviewed by Paul Davies. Other consultants who formed the project team are: Nathanael Hughes, Photographer; Austral Archaeology - Pamela Kottaras and Karyn McLeod; and Geoffrey Britton Environmental Design. Primary research was conducted by Paul Davies Pty Ltd and other consultants as part of the Comparative Analysis and the Physical Analysis of the site.

Site inspections were conducted by Paul Davies, Chery Kemp, Chantal Danieli and Sally Vallis from Paul Davies Pty Ltd, Nathanael Hughes Photographer, Pamela Kottaras and Karyn McLeod of Austral Archaeology and Geoffrey Britton, Environmental Design during October to December 2007 and January 2008. All photographs (including aerial photographs) and maps in this report, except where other sources are given, are the work of Nathanael Hughes, Photographer.

1.9 ACKNOWLEDGEMENTS

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The project steering committee, which provided the detailed project brief, advice and direction, review and edit of each of the draft reports.

For provision of fauna and vegetation assessment, and images and information related to Norfolk Island.

Royal Australian Navy Spectacle Island
Newcastle City Council
Registration Manager for Heritage Tasmania
Heritage South Australia
Sydney Ports Corporation
SHFA
SHFA

1.10 TERMS and ABBREVIATIONS

Appendix 6, Volume 4, sets out the terminology and abbreviations used in this CMP.

2.0 HISTORICAL ANALYSIS

2.1 INTRODUCTION

The history of Goat Island is presented as a separate volume - *Goat Island: A Contextual History*, which comprises Volume 2 of this Conservation Management Plan.

Section 2.2 of this plan – Historical Summary - provides a short outline of the historical development of the island, specifically looking at the physical evidence that remains which demonstrates its varied and fascinating history.

Section 2.3 provides a brief chronology of the island's historical development.

Section 2.4 is an historical analysis of the development of the cultural landscape of the island.

Sections 2.2 and 2.3 should not be read in isolation and should not be relied on for a complete or comprehensive historical account of the many facets of the history of the place.

To assist in understanding the remaining elements of the place, both natural and built, the CMP has identified and used five historical phases of occupation of the island. These phases are used throughout the plan.

In summary the historical phases discussed are (noting that only major events are noted):

ABORIGINAL USE AND CONTACT: PRE 1831

Pre 1831 Use of Goat Island by the Wangal people and Bennelong

COLONIAL PERIOD: 1831-1900

1831	Quarrying
1833-1838	Construction of the gunpowder magazine complex
1838	Construction of Barney's Cut and the Water Police Station
1853	Construction of the Colonial Magazine
1859	Dawson additions to Colonial Magazine
1865	Eviction of the Water Police, takeover of the Water Police Station for use as a cartridge laboratory and construction of the Artillery Sergeant's cottage and the 1st bridge across Barney's cut
1870s	Additional magazines built
1880s	Possible use by Marine Board of NSW for storage

MARITIME PERIOD 1901 – 1993

THE SYDNEY HARBOUR TRUST:

1901-1903	Construction of the Harbour Master's Residence and first stage of fire brigade residences and first timber wharves and sheds
1901-1924	Construction of wharves, various residences over 20 years, workshops and adaptation of earlier buildings (former Water Police Station, former Artillery Sergeant's cottage, possibly adaptation of 1870s powder magazines) on the northeast side of the island
1925-1931	Goat Island shipyard construction and the first adaptation of magazine area for shipyard related use

THE MARITIME SERVICES BOARD:

1941-1943	Recreational improvements on the island: swimming enclosure, tennis court and pavilion, recreation hall and air raid shelter
1943-1949	Reconstruction of most of the wharves around the island, construction of most of the waterfront support buildings and the 150 ton slipway construction
1947-1949	Shipyard workshop built

1963	Hammerhead Crane added
1964	Last new wharf to be built
1965	500 ton slipway built
1969	Concrete decking added to most wharves.

NATIONAL PARK PERIOD: 1993 ON

1993-2008	Conservation and repair of existing structures and wharves
1993-2008	Vegetation management
2000	Lease of shipyard



Figure 2.1 The Queen's Magazine is perhaps the most significant built structure on the island. It is unique, the earliest example of a military gunpowder magazine in Australia, largely intact and is an exceptional achievement in terms of construction finesse. It is located within its fortified wall, with all of the magazine buildings built in the 1830's still standing and retaining their relationships to each other (see Figure 2.2 below). It is also now located between the 1925-29 Scow Shed, 1948 and 1963 amenities buildings and a corrugated iron clad addition to the south end of the building from the 1940's. The 1943 Ship Repair Workshop and its extensions to the west largely cut off views between the harbour and the magazine. Each of these structures have their own significance in relation to the later shipyard development of the precinct, however, apart from the 1948 amenities building and the 1943 Ship Repair Workshop, none are now used in relation to the shipyard.



Figure 2.2 The Magazine Precinct, as viewed from verandah of the Stores Building (2nd cooperage) (20), showing the relationship of the early magazine period buildings to each other. Paul Davies 2007.

2.2 HISTORICAL SUMMARY

Goat Island's history reflects the Aboriginal history of Sydney including early contacts between Aboriginal people and Europeans and the pre 1788 natural form of the island; the early Colonial history of Sydney including convict quarrying and building, early colonial garrisons and military powder magazines and the history of the Water Police in the early 19th century; the evolution of the managing authorities of Sydney Harbour in the 20th century (the Sydney Harbour Trust and the Maritime Services Board) as evidenced by their operational headquarters on the island, and, after 1994, the establishment of part of Sydney Harbour National Park.

This historical summary is largely based on *Goat Island: A Contextual History*, published by DECC in 2007, which comprises Volume 2 of this Conservation Management Plan. This summary provides a brief overview, organized into historical periods, concentrating on the history for which there remains physical evidence on Goat Island (either as extant structures or archaeological evidence).

Further examination of the historical images of Goat Island is included in Section 2.4 of this report (with a full guide to the historical images contained in Appendix 2), and Appendix 1 contains historical overlay maps of the island, which provide further illustration of Goat Island's history.

THE NATURAL ENVIRONMENT

Goat Island is a prominent island in a drowned river valley, and is one of 8 remaining islands of the 14 islands that existed in Sydney Harbour in 1788.

The island would originally have been a substantial knoll immediately adjacent to the main arterial of the Parramatta River. The rise of sea levels over the period 18,000 to 6,000 years BP transformed the Parramatta River into Sydney Harbour. The rising water levels, and in particular the shoreline erosion which accompanied that rise, would have removed the original soils from the flanks of the island. The resultant shoreline was composed of hard rock in the form of naked bedrock interspersed with a tumble of boulders. This formed the characteristic rocky inter-tidal zone still seen around much of the un-developed harbour. Typical examples of this type of rocky inter-tidal zone can be seen at Bradleys Head, Berry Island, Middle Head and North Head. Berry Island, now connected to the mainland, is the only island or former island (and headland) in the harbour not to have undergone extensive clearing and substantial change since 1788. It provides some indication of how Goat Island may have looked in the first years of the colony.



Figure 2.6 2008 photograph of Berry Island Reserve showing a rocky escarpment (containing Aboriginal carvings) and natural vegetation looking down towards the water.

The sections of the island which lay above the shoreline erosion zone and the resulting rock escarpments retained sandstone derived soils. In common with the adjacent mainland sites around the harbour, this thin layer of soil was interspersed with areas of lichen-covered exposed bedrock. Such exposed bedrock is visible immediately above the Queen's Magazine in the now open grassed and re-growth areas.

Goat Island is shown in early watercolour paintings of Sydney Harbour and some of the earlier photographs of the island as a low tree-covered island. The pre 1788 form of the island sloped steeply down to the harbour on much of the south, south-east and western shores however most if not all of the island was edged with rocky escarpments.

The natural environment of the island has been progressively modified from the commencement of quarrying for the magazine precinct through to the late twentieth century when it was incorporated into Sydney Harbour National Park. Apart from the obvious changes required to accommodate buildings and the infilling and reclamation of parts of the waterfront for wharfage and access, historic photographs (for example figure 2.7 which appears to be the earliest photograph of the island and pre-dates 1865) show the island varying from having almost no natural (or other) vegetation to having light tree cover to having denser vegetation particularly along the north-western shore.

Extensive parts of the Island were cleared in association with the 1830s magazine and Water Police station, though the northern and northwestern edges of the island appear to have escaped the same extent of clearing that the central and southern areas received. At some stage beyond the middle of the 19th century there seems to have been a policy of not keeping the northern and north central sections of the Island as rigorously clear as the areas further south as, by the 1870s, these areas appear quite well vegetated relative to the earliest pictures reviewed (though there always seems to have been a clear grassy understorey rather than shrubs).

However, during the latter decades of the 19th century it appears that trees were progressively removed (as the upper canopy vegetation gradually seems sparser) until, by the early 1900s, the north central area was largely cleared then, shortly after, built over for the Harbour Master's residence and then the associated Sydney Harbour Trust Fire Brigade married men's cottages.

The island now appears to have considerably denser and more mature natural vegetation than at any point since the mid nineteenth century. Much of the vegetation is re-growth in combination with introduced landscape plantings and some remnant and regenerated indigenous original vegetation around the rocky north-western edge.

A key outcome of this is that the open spatial quality of much of the Island, illustrated in photographs from 1890 through to the 1970 period, has changed substantially.

ABORIGINAL USE AND CONTACT: PRE 1831

The Aboriginal population for the Sydney region in 1788, at the time of contact, has been variously estimated as being between 5,000 and 8,000 people, of whom about 2,000 belonged to the inland Darug people. In the early days of European settlement at Sydney Cove Governor Phillip estimated that about 1,500 Aboriginal people were living in the Sydney region. These population estimations from the time of contact are however, notoriously problematic as Aboriginal groups generally were highly mobile and avoided the early European settlers.

Aboriginal people are thought to have lived in bands or communities of around 50 members. Each band retained their own hunting district, and each lived a semi-nomadic lifestyle, regularly changing location within their district¹.

The Wangal people, who are thought to have inhabited the area on the southern side of Sydney Harbour from Sydney Cove to Parramatta, followed a traditional way of life which was

observed by European colonists as being dominated by fishing for seafood utilizing tools such as fishnets, spears and bark canoes.

Goat Island was known to the Wangal people as “Memel” (various spellings known), with various meanings attributed associated with eyes or vision, the most logical being ‘a place from which you can see far’.

Bennelong, who is believed to have been a Wangal man, claimed a special family relationship with Goat Island. Bennelong was one of the two Aboriginal men (the other being Colebe) captured at Manly Cove on the orders of Governor Phillip in November 1789 for the purpose of promoting cross-cultural communication. Bennelong lived in the Governor’s house until May 1790, and later sailed to England in December 1792 with Phillip and was presented to King George III, returning to Sydney in September 1795. To the early European colonists of Sydney, Bennelong was the most familiar and well-known Aboriginal person. Bennelong had spent extensive time in contact with Europeans, both in Sydney and for nearly three years in London. It is clear that Bennelong was a major point of contact between Aborigines and Europeans in the central Sydney area in the early years of the colony.

David Collins reported Bennelong as saying that Goat Island belonged to his father, and Bennelong was observed to be attached to the island, having been often seen with his wife Barangaroo on Goat Island.ⁱⁱ

The Aboriginal population of the Sydney district declined dramatically following European settlement; the major contributing factor was the arrival of foreign diseases. The effect of influenza and small pox severely reduced Aboriginal populations soon after contact. This is one reason why accurate Aboriginal population estimation in the first few years of European settlement was difficult. The epidemic is thought to have caused the deaths of well over half of the Aboriginal population of the Sydney district in the early 1790sⁱⁱⁱ.

Rock engravings, stone and shell middens are often the only physical items to remain in the archaeological record and the only tangible indication of the material culture of Aboriginal Australia.

The only remaining confirmed evidence on Goat Island for this period is a single remnant shell midden. It is likely that the absence of other shell middens is a result of the activities of colonial European lime burners on the island in the early 19th century. It is also likely that Aboriginal sites were affected by the extensive quarrying, benching and construction over much of the island.

COLONIAL PERIOD 1831-1901

Quarrying

The first European use of Goat Island was for quarrying of dimension sandstone (1831) for use in the construction of Sydney.

Construction of the Magazine Complex

In January 1833 the construction of a military gunpowder magazine complex (or ordnance depot) was commenced on Goat Island using convict labour. Early construction work involved quarrying and construction of a stone wharf, which was completed by May 1833. The convicts were initially housed on ships moored off the island. In 1834 a convict stockade was built, consisting of three portable wooden houses. The convicts worked in iron chains, slowing the progress of the work: foundations for the Queen’s Magazine were not laid until May 1835. During 1835 convicts were given permission to work on the island without chains. By 1838 stone wharves, the Queen’s Magazine, designed for storage of 3000 barrels of gunpowder, (finished 1837), first cooperage, magazine compound wall, military barracks, kitchen and (since demolished) privy, lime kilns and possibly a blacksmith’s shop appear to have been constructed. The convicts were then relocated to Cockatoo Island to construct the convict prison (a place of secondary punishment) and grain silos there. The sentry box and adjacent stone wall to the north were constructed between 1838 and 1842, (as they are later,

of a different sandstone from the remainder of the magazine compound wall, and appear on an 1842 survey plan). The sandstone for the magazine complex, with the exception of the sentry box and adjacent section of wall, was sourced directly from the Magazine quarry – the product of cutting and benching the site of the magazine.^{iv}

The design of the magazine complex contains all the attributes and follows the accepted design of ordnance depot magazines constructed across the British Empire: the magazine itself being a massive buttressed masonry building with gabled slate roof and no roof guttering, timber shuttered window openings without glazing, copper sheathing to the double timber entry doors, copper screens to the window openings; and the complex including a massive masonry compound wall with a single doorway, a cooperage within the compound wall, a sentry box, and accommodation for troops outside the compound wall (more information on the design aspects of British imperial military gunpowder magazine complexes is contained in Section 4.4, titled “Powder magazines and their associated features and structures”).

The competence of stone selection and masonry work can be attributed to Andrew Petrie, Superintendent of Stockade & Overseer of Works on Goat Island in 1834, Walter Scott, Foreman of Works on Goat Island in 1837, and Captain George Barney, controller of the works from January 1836. Captain Barney commissioned a plan of the magazine and cooperage then under construction, and ordered Bangor slate for the magazine, cooperage and connecting passageway roofs.

The second cooperage on Goat Island was constructed in 1839 against the stone magazine wall, and the first cooperage (considered too small for a cooperage) converted to a cartridge laboratory. This structure was built by a contingent of 27 convicts on commuted sentences.

Anecdotal evidence suggests Anderson’s Couch (on the south-eastern part of the island north of the kitchen cottage, adjacent to the Magazine Walk) is from the period of the magazine construction and was also constructed by convicts. The convict Charles “Bony” Anderson is reputed to have been chained there in the period 1837 to August 1838 (after which he was transported to Norfolk Island).

Another building recorded on the island around 1836 was an elongated weatherboard building located on a high point on the southern part of the island (also known as “the house on the hill”) and generally believed to have been a temporary barracks. This is believed to have been demolished sometime after 1842 (date of a survey showing the building). After 1865 a Gunner Davis is recorded as occupying a three-room weatherboard cottage (since demolished) on elevated ground between the magazine and the former water police station (then a cartridge laboratory). Davis’ house may have been constructed with materials from the temporary barracks. There are several archaeological sites on the “hill” of Goat Island which may provide evidence relating to these buildings.

Construction of the Water Police Station

In October 1835 the Committee of Police and Gaols recommended stationing the colonial water police on the north-eastern tip of Goat Island. The Ordnance Department, which effectively controlled the island and managed the magazine works, agreed to allow the police to use the island in January 1837, and Captain George Barney ordered a ‘wet ditch’ to be cut by a small group of convicts to separate the Water Police Station from the remainder of the island. This ditch, quarried in 1838, came to be known as “Barney’s Cut”. The Governor ordered Colonial Architect Mortimer Lewis to design a Water Police Station. Lewis chose Design No. XIV from Loudon’s well known 1833 *Encyclopaedia of Cottage Farm & Villa Architecture*, modifying the design by removing the verandah, modifying some openings to arched windows or blind windows, and altering some of the internal layout to house an extra bedroom, constables rooms and twin holding cells, the holding cells being designed without windows. The Water Police Station was constructed of sandstone quarried from the adjacent “Barney’s Cut”.^v In June 1838 the *Australian* reported the completion and occupation of the Water Police Station and also noted that a telegraph (i.e. flag telegraph) was erected at the

Water Police Station to correspond with those at Garden Island and the Chief Magistrate's residence.

Figure 2.7 is the earliest known photograph of Goat Island. This photograph was taken prior to 1865 as the Water Police Station is shown in its operational state, with the flag telegraph pole adjacent (and there is also no sign of the Artillery Sergeant's cottage constructed in 1865).



Figure 2.7 Pre-1865 photo of Goat Island (centre) from the North shore, showing Water Police Station (marked by arrow) and adjacent flag (telegraph) mast to the right. (Extract of panorama by John Degotardi (aka Johann Nepomuk Degotardi). The photograph also clearly shows considerable natural vegetation remaining across the island at this time. (Source: Image LPF 889, North Sydney Heritage Centre, Stanton Library, North Sydney).

Construction of the Colonial Magazine

By the 1840s Goat Island principally housed a gunpowder storage facility (magazine complex) controlled by the Ordnance Department^{vi} with a small Water Police enclave on the north-eastern tip. The magazine complex was staffed by Imperial (British) infantry units, and in the 1860s by Royal Artillery units, many of which left graffiti on the fortified wall and sentry box (71).^{vii}

The island's gunpowder storage capacity was already stretched by this time as the facility was obliged to house not only British Government and Colonial administration gunpowder but also that of merchants, due to the passage of the Act *William IV No. 7* (1836) which required merchant's powders to be deposited in government care. Ordnance officers considered the storage of merchant's powder inconsistent with the operation of the Queen's Magazine. Protracted negotiations between the War Office in England and the Colonial Office eventually led to a decision in 1850 to construct a Colonial Magazine for storage of merchant's powder at Goat Island. During this period temporary gunpowder storage solutions included the use of moored vessels as floating magazines. Colonial Architect Edmund Blackett was directed to design the new magazine. Ordnance objected to Blackett's design as it did not follow the accepted design for powder magazines, however the design was eventually adopted and work commenced (possibly in 1852) for a single bay gable roofed sandstone Colonial Magazine, which was completed in late 1853. The floor of the Queen's Magazine was also renewed (completed by March 1854).

By the time the Colonial Magazine was completed it was already remarked on as having inadequate capacity. By 1855 rising demand for gunpowder storage, due to public works and the gold rush mining boom, again led to storage of gunpowder in ships as floating magazines, and in tents on Goat Island. Various new gunpowder storage proposals were discussed, however in 1859 Colonial Architect Alexander Dawson presented a plan to add extra storage capacity to the Colonial Magazine by adding two additional sandstone gable roofed bays, one each side of the existing bay, thus tripling the magazine's capacity. Despite objections to the

plans, Dawson's design was adopted and tendered in June 1859. The additional bays were completed by December 1859.

Eviction of the Water Police and construction of the first bridge across Barney's cut

By 1861 there were over 7000 barrels of gunpowder stored on Goat Island and by 1864 it was considered that the use of the first cooperage (located between the Queen's Magazine and the Colonial Magazine) as a cartridge laboratory posed an unacceptable safety risk. To address this issue, the Water Police were evicted from the island in 1865 and the former Water Police Station was taken over for use as a cartridge laboratory. A range of fit out and ancillary works were undertaken to the Water Police Station and its environs relating to the cartridge laboratory use in 1865. These works included fenestration alterations to the former Water Police Station, construction of a bridge across Barney's Cut and construction of a two-room sandstone cottage for a laboratory labourer (this actually housed an artillery sergeant). The 1st cooperage (previously used as a cartridge laboratory) was converted to an expense (small stocks) magazine. The roadway (Magazine Walk) between the magazine complex and the former Water Police Station was infilled and made good in February 1866.

Figure 2.8, an 1892 photograph from the north, clearly shows the former Water Police Station (47) and the Artillery Sergeant's cottage (46a) on the north eastern tip of the island. The flag telegraph pole was presumably removed in 1865, as one of the changes made when the former Water Police Station was converted for use as a cartridge laboratory.



Figure 2.8 Detail of an 1892 photograph taken from the north shore (McMahons Point) shows both the Water Police Station (1) and the Artillery Sergeant's cottage (2) on the northeast tip of the island. The photo also shows the considerable thinning of natural vegetation when compared to the pre 1865 photograph at figure 2.7. (Source: City of Sydney Archives Image no. SRC 14960).

The Magazine Complex mid to late 19th century

In the 1850s and early 1860s the 1838 Barracks building was altered internally^{viii}, however ongoing rising damp problems in the south-eastern guard room led to the accommodation function being moved to the former kitchen to the east.

Other works on the island in the early 1860s included a new jetty joined to the magazines via a covered way (1861-1862), construction of a new stone privy and erection of a derrick crane on the new jetty (1863).

From the late 1860s and early 1870s new blasting agents guncotton and nitro-glycerine, which could not be stored in proximity with gunpowder, were being imported into Australia. On the evening of March 4 1866, a shipbroker's office in Bridge Street, Sydney, was devastated by the accidental explosion of two bottles of nitro-glycerine. This event appears to have precipitated concern that the storage of explosives should be removed from the centre of Sydney. In November 1875, the *Report of the Storage of Gunpowder Board* (chaired by former Royal Engineer Gother Kerr Mann) made a number of recommendations, which included the removal of merchant's powder from Goat Island and the construction of a separate magazine for it on the bank of the Parramatta River.^{ix}

The Regulations of the *Gunpowder and Explosives Consolidation Act 1876 (40 Victoria, No. 1)* declared Goat Island magazine as a “public magazine”^x under the general control and management of the Ordnance Storekeeper and with an appointed Foreman.

Presumably in response to the enquiry into Storage of Gunpowder and the subsequent new Act, by 1878 two new explosives magazines were built on Goat Island to the southwest of Barney’s Cut.^{xi} These are believed to have been weatherboard buildings with corrugated iron roofs. The earlier of the two, nearest the cut, was constructed in 1875, the later one in 1878. Both of the 1870s magazines are shown in Figure 2.10, an 1882c. photograph of Goat Island taken from Observatory Hill. Also at this time, the cartridge laboratory was moved out of the former Water Police Station (47) and back into the 1st cooperage (19).

In May 1870 the NSW Government had been advised that Imperial troops would be withdrawn by July or August of that year. In September 1870 the last British infantry unit, 2nd Battalion Royal Irish Regiment, departed NSW^{xii} and the Ordnance Storekeeper’s Department was simultaneously abolished (note the Imperial Navy continued to occupy sites such as Spectacle Island until Federation in 1901).

The Imperial Naval explosives stores on Goat Island were relocated to Spectacle Island in 1884. Shortly before March 1885, the Colonial Government stocks of explosives were relocated from Spectacle Island to Goat Island.^{xiii} In 1885 a further weatherboard explosives magazine was constructed on Goat Island, presumably to accommodate the Colonial Government stocks of explosives moved from Spectacle Island. Details of photos, Figures 2.9 & 2.10 show now lost late 19th century views of the magazine complex taken from the south-west (from Birchgrove or Long Nose Point). Figure 2.9 shows the magazine complex with all elements in place and lost elements such as covered ways, a waterfront building, and low fencing. Figure 2.10 shows the magazine complex in its final operational phase, showing the addition of a second waterfront building to the complex, and an additional single storey building (marked (2) on the photograph) within the magazine compound, against the northern side of the fortified wall, with the sentry box visible to the west of it. This additional single storey building in Figure 2.10 is believed to be the 1885 explosives magazine.

From March 1885 the Goat Island magazines appear to have been the repository for the Colonial Government’s and possibly merchant’s but not Imperial military explosives. The first magazine buildings were completed at Newington Armory in 1897, so it is likely that thereafter further explosives stocks were transferred from Goat Island to Newington.

From the 1870s Goat Island is reported as the central stores depot for the Marine Board of NSW (a predecessor to the Sydney Harbour Trust), however this has not been confirmed by research.^{xiv}

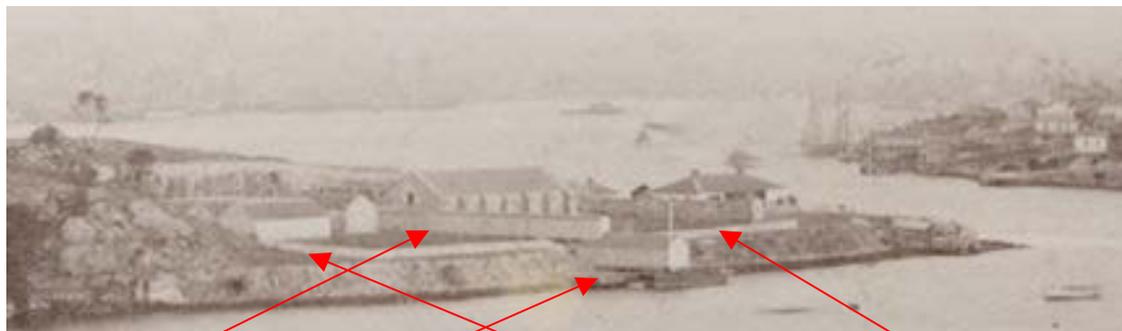


Figure 2.9 Detail of a pre-1885 photograph taken from the south-west shows an early view of the Magazine complex. This photo shows a covered way (1), a single waterfront building (2), the Colonial Magazine and low fencing (3), the sentry box and fortified wall (4) with the Barracks beyond. The photograph clearly shows the removal of natural vegetation from the south-western section of the island by the late nineteenth century with remnant trees remaining along the rocky western escarpment edge. (Source: State Library image PXA450 No. 22).

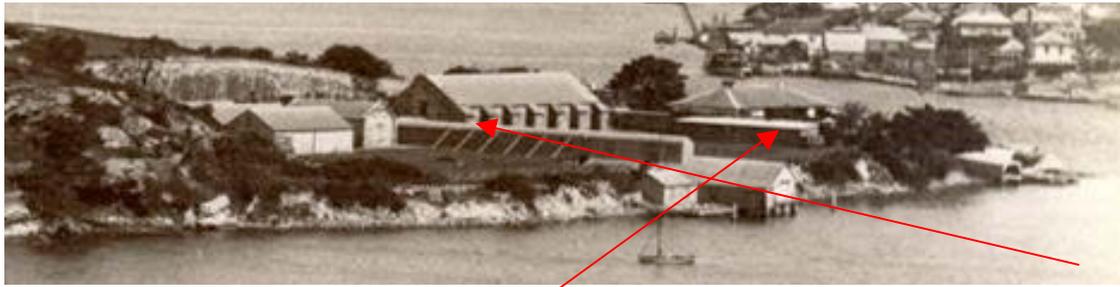


Figure 2.10 Detail of a photograph circa 1898 taken from the south-west shows the Magazine complex in its final state, including covered ways (1), two waterfront buildings, the Colonial Magazine and a single storey building (2) to the western side of the fortified wall (possibly the 1885 magazine building). Note sentry box is visible to right of this single storey building, and the Colonial Magazine in its unaltered state as a 3-bay stone structure is at left of the picture. This photograph also shows the establishment of a number of cultural or introduced plantings on the south-western end of the island and the re-establishment of natural vegetation along the western shoreline and escarpment. (Source: State Library PXE 711/53)

None of the magazines or other buildings constructed in the period 1870-1900 are extant. The two 1870s magazine sites remain as archaeological sites (81a and 131). Figure 2.11, taken circa 1882, shows the two 1870s magazines, as well as at least one extant outbuilding behind the Barracks Kitchen.

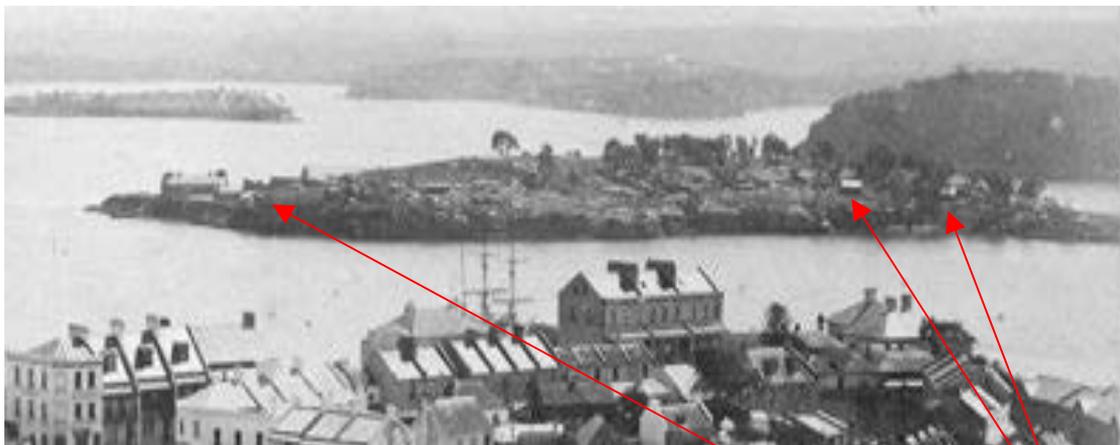


Figure 2.11 Detail of circa 1882 photograph taken from Sydney Observatory looking west shows the two 1870s explosives magazines (1 & 2) and the state of the south-eastern and eastern shore of the island at this time. An outbuilding (3) is visible behind the Barracks Kitchen. This photograph further illustrates the reduction in natural landscape on the island by the late nineteenth century. (Source: City of Sydney Archives image SRC 12220).

Prior to 1901 the perimeter of the island (the shoreline and escarpment edge), with the exception of the magazine area and an area at the northeastern end of the island affected by early quarrying, remained largely unchanged and in its natural state, though modified to provide five stone jetties (as evidenced in 1891 survey plans shown in Figures 2.12 and 2.13). The jetties were stone faced and filled with rock or rubble. In addition, one small timber jetty appears on an 1891 survey plan (Figure 2.13) near the north end of the island.

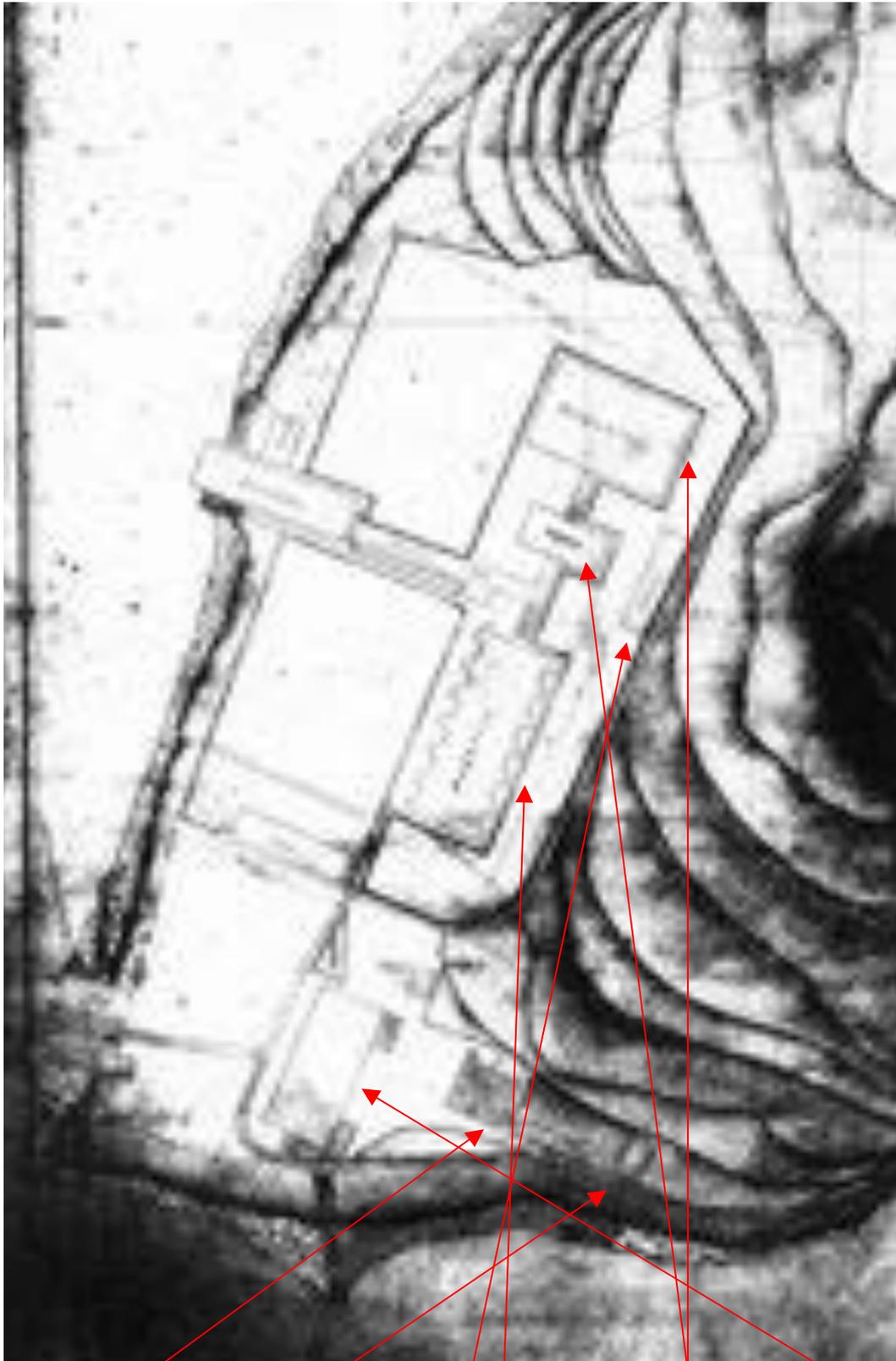


Figure 2.12 An 1891 plan of the magazine area showing the 1836 Queen's magazine, the 1836 Cooperage, the 1838 barracks building and kitchen behind with outbuilding to the right, the 1839 stores building, the 1852-59 magazine, 2 stores buildings on the wharf, covered ways and a shed built against the fortified wall. Other features shown are the wall, the various wharves (the magazine wharf, the western barracks wharf (still extant) and the southern wharf (now a ruin) and a slip, paths, gardens and an outbuilding behind the barracks, a stone wharf to the west and a stone jetty to the south. Magazine Walk is also clearly shown.

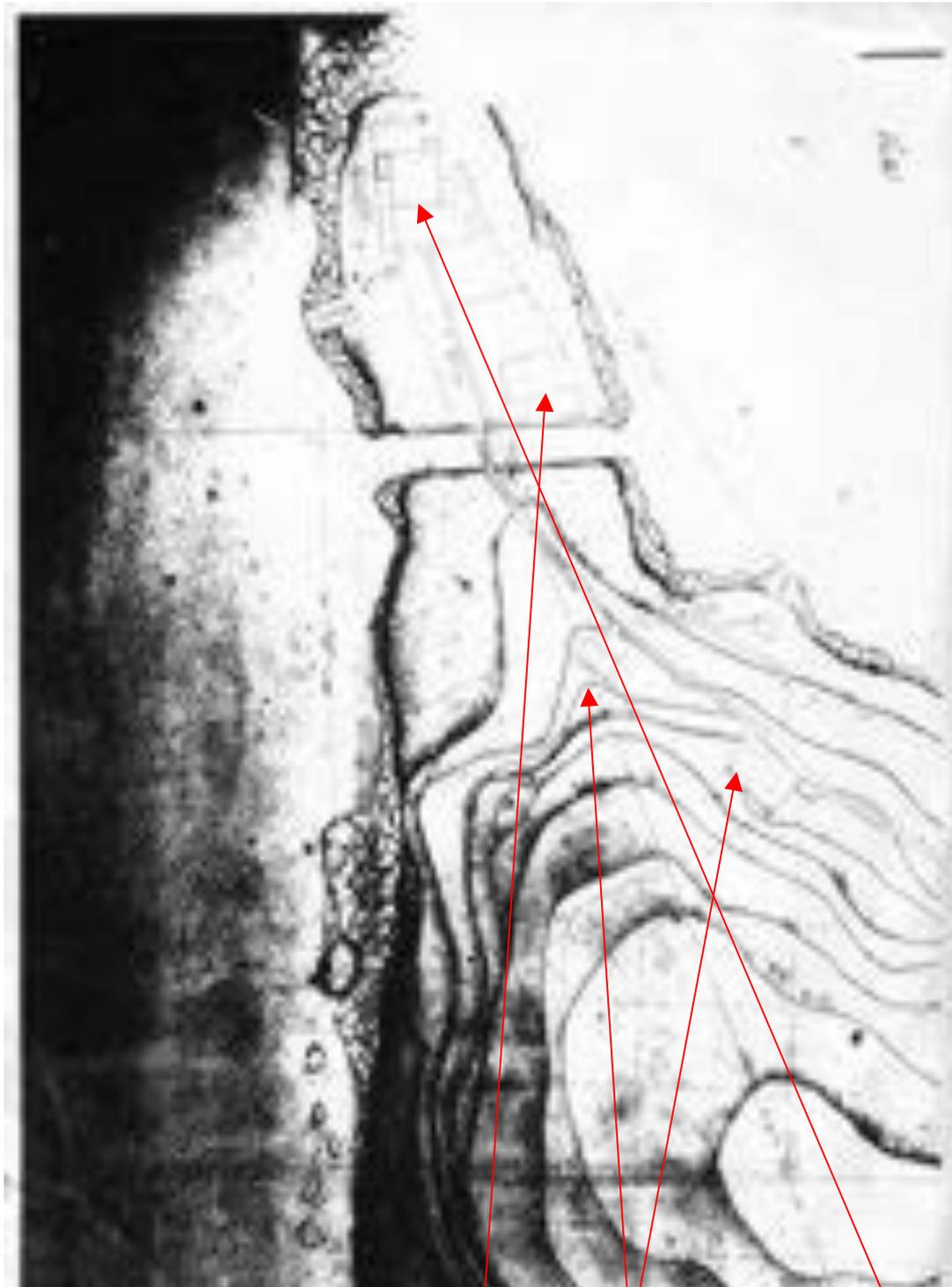


Figure 2.13 The 1891 plan of the north-east end of the island. The buildings evident in this plan are the former 1838 Water Police Building, by this stage with additions and outbuildings, the 1865 cottage and the 1875 magazines and store building. There is a stone jetty to the north of the water police station and the Cut is clearly shown as is the original shore line with its rocky outcrops. This jetty is now behind the sea wall and fill area. It is likely that it remains in situ and it may form part of the current sea wall. A second small jetty is on the southern side of the island, below the later magazines and with a small store building possibly of timber construction. It was removed in the early years of the twentieth century and there is some evidence of its location on the cliff face. The plan also shows a bridge over the cut (probably at a lower level than the present bridge based on site inspection) the main path connecting to the magazine precinct (Magazine Walk) and ancillary paths and fences. Interestingly the change of alignment in the Walk adjacent to the larger magazine is still evident in the path alignment.

1901-1936 THE SYDNEY HARBOUR TRUST

The outbreak of bubonic plague at Millers Point in January 1900 and the subsequent public outcry over the unhealthy state of the Sydney waterfront gave the NSW government an excuse to establish a harbour trust to manage Sydney Harbour, a proposal which had been under discussion from the 1890s.^{xv} Between January and August 1900, 303 cases of plague were reported in Sydney with a 30% mortality rate, claiming 112 lives by August.^{xvi} The Sydney Harbour Trust Act was passed in November 1900, establishing the Sydney Harbour Trust from 1901 with responsibility for the control, improvement and further development of Sydney Harbour.^{xvii}

Federation in 1901 meant the Imperial military were vacating and handing over sites to the new Australian government. There ensued a jurisdictional dispute between the Government of NSW, the new Federal Government and Balmain Council over Goat Island. During 1901-1902, with this dispute as a backdrop, the Sydney Harbour Trust established itself on Goat Island with the construction of the Harbour Master's Residence in a commanding position, followed by several staff cottages, and the establishment of harbour dredging and fire fighting depots with the first timber wharves and Harbour Trust buildings. In 1907 the Commonwealth's claims to the island were weakened when the last of the stored obsolete cartridges in the magazine area were destroyed. In 1908 the NSW government gained control of the whole of Goat Island through a deal transferring part of Cockatoo Island to the Commonwealth.

The Sydney Harbour Trust had an initial impact on the island with construction of the first wharves on the north edge comprising the harbour master's jetty in 1901, the first ferry wharf in 1902-03 and the first broadside wharf with a coal stage and two shore buildings for stores and workshops, also built around 1901-2 (figure 3.3). This work involved building stone sea walls (incorporating the 1835 stone jetty) and infilling an area to the north of the knoll.

At the same time as the relatively modest timber wharf construction on the north face of the island the Trust embarked on two ambitious building projects, the new workshop building fronting the north wharf and the first residences, particularly the Harbour Master's residence on the Crown of the hill oriented down the harbour, but also the first of the fire brigade houses (items 81d and e). As seen in earlier examples of Harbour Master's residences, a small observation tower was provided with a panoramic view of the harbour. It is assumed that sufficient vegetation clearing was maintained, particularly to the east of the Harbour Master's residence, to allow uninterrupted views of the harbour. A signal station was also constructed below the harbour masters residence above the Cut where it could be seen to the east along much of the length of the harbour. Remains of this are located on a stone outcrop.

The Sydney Harbour Trust's Goat Island fleet in 1901 consisted of 6 tugs, 5 dredges and 1 launch. By March 1902 a depot area including a wharf, a substantial two-storey timber workshop building and a coal store had been established on the northeast shore of the Island, east of the Cut.

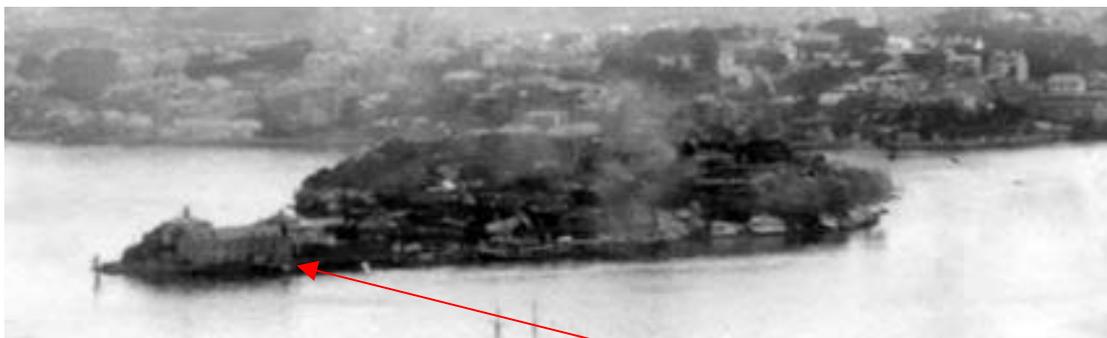


Fig 2.14 Detail of c. 1903-1911 photo shows a large 2-storey timber building (indicated by arrow) on the shore below the Water Police Station (demolished prior to 1943 according to aerial photos). The harbourmaster's residence is visible on the hill in this photo. (Source: Powerhouse Museum 85/1284-2651, 1/64 Tyrrell Inventory Number, 919 Kerry Studio Number, Glass negative, full plate, 'Balmain, from North Shore', Kerry and Co, Sydney, Australia)

Between 1903 and 1906 a fire fighting depot was established on the northern end of Goat Island, to the west of the Cut, including quarters for the fire captain and crew and wharfage. The accommodation included the weatherboard Cottages 81b, 81c, 81d, 81e and 81f (demolished by 1970) and Cottage 81a (since demolished), near the site of the weatherboard 1875 explosives magazine.



Figure 2.15 An informative 1924 plan of Goat Island, showing the extent of the Sydney Harbour Trust development just prior to their redevelopment of the magazine precinct. The Trust added the various residences on the ridge and to the east, added the fire brigade barracks, workshops and stores along the northern shore and converted the barracks and kitchen and the water police building for residential use. Many of the buildings built in this phase have been removed, including the workshop and stores buildings and six of the residences.

The wharves at this time comprise: the early stone jetties and wharves to the magazine precinct, an area of fill near the magazine in preparation for the new wharf construction, the first north wharf and ferry jetty, located with a parallel outer face, the stairs and jetty for the Harbour Master, the rough eastern wharf located off the shore line and several skeleton wharves further south braced off the cliff face. The only wharf elements remaining from this period are the stair to the residences and the alignment of the north wharf however both elements have been rebuilt.

This plan also shows the privy (94) and the small stores building (109) located near the barracks.

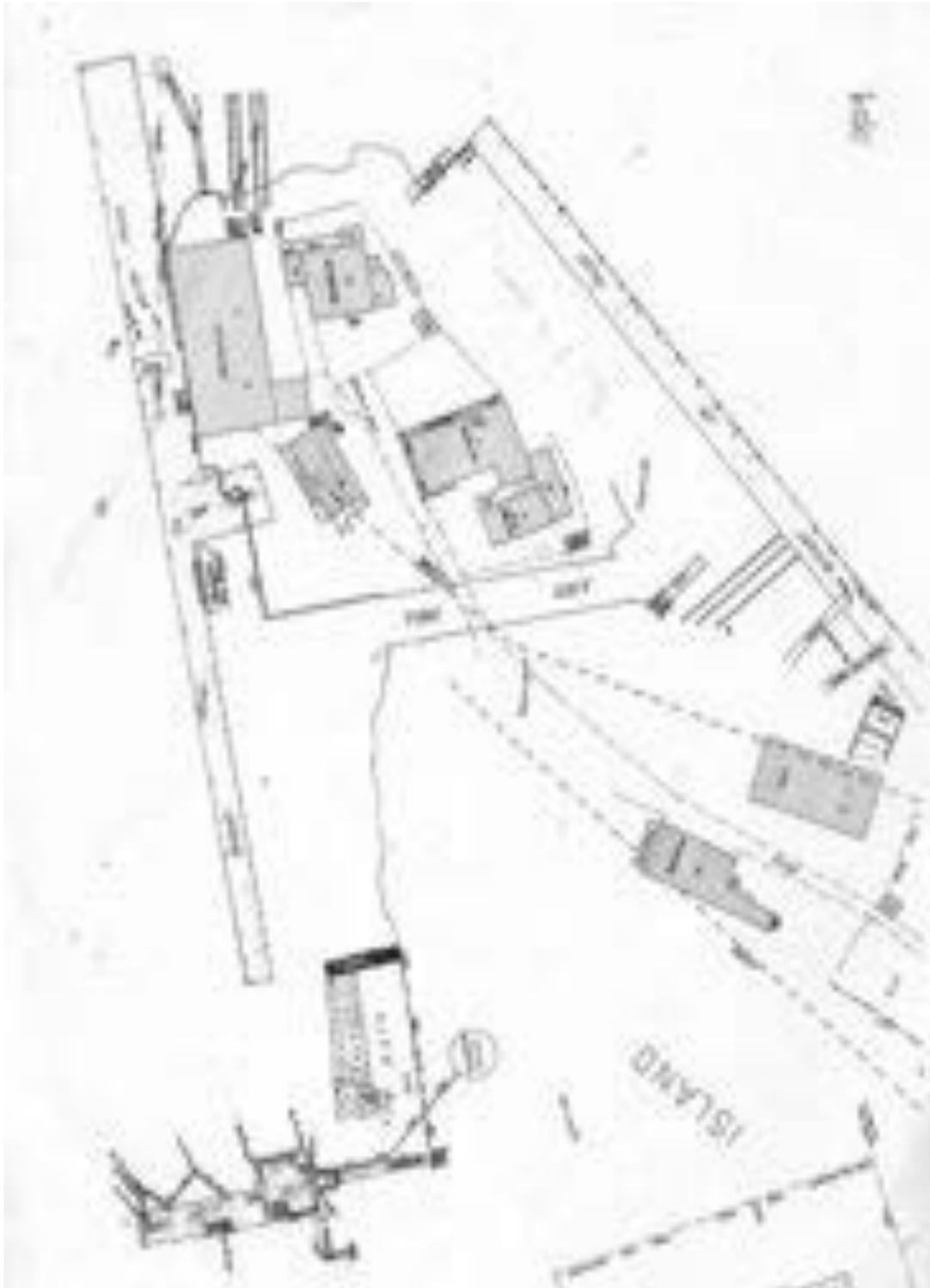


Figure 2.16 A detailed plan from 1929 (part of plan of whole island), nearing the end of the Harbour Trust's tenure, showing the northern area of the island with more detail of the layout of the buildings and wharves. It is interesting to observe the range of small buildings, sheds, boatsheds and ramps around the edge of the water, the full length of the cut that was modified around 1960, the fence line of the Harbour Master's residence and what appears to be the incorporation of one of the magazine buildings from 1875 into the residence visible in the centre of the drawing.

The stone seawall immediately to the north of the cut returning to the east appears to date from around 1901 and also appears to remain intact as the face of the current wharfage.

Figure 2.14, a photograph of the island from the north taken between 1903 and 1911, evidences Sydney Harbour Trust activities at this end of the island in this period, as the photo shows the Harbour Master's Residence on the hill and a large two storey timber building on the northeastern shore of the island (demolished prior to 1943 according to aerial photos). This timber building is marked "Work Shop" on the 1924 plan of the island (Figure 2.15), and appears again on the 1929 plan of the island (Figure 2.16).

In 1912 a barracks (46b) was constructed between the Water Police Station (47) and the Artillery Sergeant's Cottage (46a) as a barracks for the fire-fighting depot. The Artillery Sergeant's Cottage then served as a mess for the new Fire Brigade Barracks. The former Water Police Station was altered for use as a residence, with the addition of a verandah to the east elevation, a weatherboard kitchen and bathroom to the south elevation, and some internal alterations, by 1905. By 1916 four fire-fighting tugs were operating out of the Goat Island fire-fighting depot.

The development of the fire brigade with its need for crews to be available on call required residential accommodation on the island. By 1925 there were 27 Harbour Trust Firemen and their families residing on Goat Island in fifteen cottages and the barracks (46b). These fifteen cottages would have included the conversion of older buildings: the barracks (25) into a pair of semi-detached residences, the Kitchen cottage (26) and the former Water Police Station (47). The (extant) brick cottages 38a, 38b and 38c were all built in 1916, and cottage 38d in 1922, for the fire-fighting depot married men and their families. Plans (never undertaken) were prepared to extend the residential complex to the west of the current residences.

A 1924 plan (Figure 2.15) still shows fences separating the magazine from the rest of the island reflecting the dual use of the island. However, by the end of 1925 the SHT had moved into the old Imperial enclave, and begun construction of a new shipyard, involving extensive excavation into the escarpment, filling of the foreshore area and construction of slipways, installation of cranes, reuse of the former magazine complex buildings for shipyard related uses, and the construction of two new buildings - the Scow Shed (16) in 1925 (taking advantage of the quarry face and wall of the magazine building to effectively form the walls of the new structure) and the Timber Store (22) c1930. A tramway system was installed and a new timber amenities building constructed around 1929. The barracks and barracks kitchen were converted to staff residences, two in the barracks and one in the kitchen with bathrooms, kitchens, new fireplaces and ceilings.

Alterations were also made to the magazine complex buildings to accommodate SHT use, the Colonial Magazine (21) being radically altered by removal of stone walls and their replacement with corrugated steel walls, and replacement of the slate roof with corrugated steel roofing.

This area had numerous buildings added and removed during the period, as the shipyard uses increased and required new facilities. All of the pre-existing structures were utilised as part of the shipyard activity.

WHARVES

Between 1901 and 1926 the island was transformed into a major shipyard and berth facility, which required extensive wharf construction. After 1901 as the Trust's need for mooring increased, a series of timber wharves were constructed at the convenient access points around the island. Areas of easy access were developed first: these were at either end of Barney's Cut. Wharves and jetties were progressively added to from 1901, and there were several major construction phases 1901-1905 and 1920-1925. The first timber wharves were built on the northern side of Barney's Cut and comprised a small broadside wharf with a freestanding ferry wharf c. 1902. A small access wharf and stair was added around 1905 for small boat access near the ferry wharf. Increased need for vessel mooring appears to have been the motivation for adding the 275' broadside wharf to the east and the first skeleton wharf further along the eastern side of the island around 1911. The mid 1920s saw the peak

of development for the Trust with the new shipyards and slips and the northern and eastern wharves with a series of eastern skeleton wharves.

Mooring was concentrated at the north and east wharves and access to the island was provided at the south end of the Broadside Wharf and the ferry wharf as principal access points. The shipyard activity was confined to the western end of the island around the former colonial magazine. As the island was the base of the Harbour Trust there was extensive activity and movement to and from the island and the wharves played an important part in access and operation. This contrasted to the earlier colonial period where the magazine use did not require extensive wharfage and access to the island was discouraged.

A south-eastern broadside wharf was built around 1916 with new connections to the shore, but the wharf was not attached otherwise to the shore.

The 1924 plan shows skeleton wharves built along the eastern shore to accommodate berthing of the growing Trust fleet and the 1830s southern stone jetty still in use, presumably until superseded by the new broadside wharves and their provision of boat access at the southern tip of the island.

The new 1925 slipways involved the construction of a new broadside wharf, coal bins and an undecked berthing grid (on the alignment of the current wharf).

1936-1994 THE MARITIME SERVICES BOARD

The Maritime Services Board was established in 1936, prior to the Second World War, subsuming the Sydney Harbour Trust and taking over Goat Island as its operational headquarters within Sydney Harbour (the MSB Administration Building at Circular Quay – now the Museum of Contemporary Art – was constructed in the 1940s). The MSB had charge of all waterways in NSW, including inland waterways.

A major change to the island commenced around 1942 and was completed around 1952. This work saw most of the wharves rebuilt and some extended and new wharves added, the Cut infilled to some extent, and further skeleton wharves (now demolished) added along the eastern shore. This was the major phase of wharf building that largely comprises the wharves that are now seen on the island. The wharves built during this phase were:

Table 2.1 Wharves on Goat Island built by the MSB

Item No	Date of construction	Description
56	1941	Steps and walkway
54b	1941-43	Boat Pens and walkways
55a	1942	Northern broadside wharf
55b	1942	Northern broadside wharf
52a	1942-43	Eastern broadside wharf
52b	1942-43	Eastern broadside wharf
54a	1942-43	Ferry wharf and steps
54a	1944	Ferry wharf extension
4a	1946-1949	Shipyard broadside wharf
4b	1946-1949	Shipyard broadside wharf
5	1946	Coal bunker wharf

In the shipyard and in and around the Magazine complex, the 1943 Ship Repair Workshop (1), 1942 southern addition to the Queen's Magazine (15a), 1945 Repair Workshop (2), Amenities Block (14), winch house (7), rebuilt slipways (29 and 30), 3 door boatshed (23a) and Substation (24) also date from this period.

In the north-eastern part of the island, occupied by the fire fighting and dredging depots, the 1943 Fire fighting building (50), the 1945 Gear Shed (49) and interior alterations to the 1912 Barracks (46b) date from this period.

Recreational facilities (no longer extant) were also built for the island's resident population in this period: the tennis court (15b) and tennis court pavilion (15c), recreation hall (73) and swimming baths.

With the exception of the 1969 finger wharf on the eastern side of the island, the 1940 wharf configuration is what is now seen around the island.

Figure 2.17, a 1951 aerial photo, shows Goat Island in the middle of the MSB phase, with extensive wharfage, large new buildings such as the 1946-49 Ship Repair Workshop, and the numerous cottages originally built by the SHT still providing housing for MSB staff.



Figure 2.17 Aerial photo of Goat Island, May 1951, during MSB use of the island. Note the general lack of vegetation except on the western edge, and the manner in which the island is now virtually surrounded by wharves.

The Dredge Office (48) was constructed in 1952 on the northeast end of the island, below the former Water Police Station, but the 1950s appear to have been quiet in terms of construction activity (possibly due to building materials shortages at the time).

However, major works were undertaken on the island by the MSB in the 1960s including:

- construction of the 500-ton slipway (30) and winch house (8) in 1960-64
- construction of the Port Emergency Services Building (45) in 1960-62;
- Relocation of the Hammerhead Crane from Morts Dock, Balmain, to the Goat Island shipyard in 1964;
- the construction of the Amenities Block (13) in 1964; and
- the refurbishment of the interior of the 1912 former Fire Brigade Barracks (46b) to provide shower, change and dining facilities for dredge service employees.

The small MSBB456 building (56) appears to be circa 1950s.

The Goat Island wharves were further upgraded by the MSB in 1969 with the introduction of concrete and steel elements, including concrete decking replacing much of the earlier timber decking. Apart from major upgrades it appears that work took place on a regular basis in maintaining the wharf structures. The late 1960s also saw a further upgrade of wharves with the finger wharf construction.

The Amenities Building (58), and the Metal demountable (59), located on the north-eastern end of the island below the former Water Police Station appear to be 1970s.

Many wharves have not been upgraded since the extensive work undertaken in the 1960s, however some major work was undertaken to the wharves in the 1980s.



Figure 2.18 Reconstruction of the eastern wharf.

Comparison with the above photo clearly shows that this wharf was completely rebuilt at this time. May 1944. *SLNSW GPO1-07894*.



Figure 2.19 "Samson" Coaling. 9.1.1952.

This is the clearest illustration of the coal platform that has now been removed. Also note the dolphins that were replaced when the new slipway was constructed. *SLNSW GPO1-10051*.



Figure 2.20 The completed shark-proof pool. 27.11.1941.

This informative photo shows the straight ferry wharf and the early northern wharf configuration prior to the new shore sheds in that area. The stone sea wall remains untouched from the c1901 phase of work. *SLNSW GPO 1-10268*



Figure 2.21 This photograph is entitled "New wharves". July 1944.

This is a view along part of the skeleton wharf (removed around 1969) looking towards the eastern tip of the island with the new broadside wharf in the background. *SLNSW GPO1-10052*.



Figure 2.22 Wharf construction c1940.

This picture has been attributed to the 1920 period but the ferry wharf was not angled until reconstruction in c1945. The pool area is visible to the left of the frame. The shed to the west of the pool seems to have been moveable – it appears in a number of locations in various photographs as construction works are carried out. This also shows the wharf at approximately half its current length suggesting that the photo was taken during construction. There is no documentary evidence that this wharf was built in stages. *SLNSW GPO1-19371*.



Figure 2.23 Construction of the ferry wharf. Undated

Most likely 1944 after the addition to the end of the wharf was complete. *SLNSW GPO 1-07969*

Relatively little of the Harbour Trust period infrastructure, apart from the accommodation for fire crews, the Scow shed and the timber amenities building survived the 1940-50 period upgrade. The overall presentation of the island's harbour authority structures now is based on the 1940 period redevelopment.

The 1960 period saw more works with the Port Emergency Services Building (45) added, the finger wharf (51) built and the skeleton wharves removed, the 150 ton slip excavated and constructed (30), further amenities building constructed (13), an addition to the workshops (1a) and boatshed (3) and the Hammer Head Crane (9) relocated to the site. Numerous other small works took place to paths, gardens and landscape elements particularly around the residences.

In many respects the core form of the MSB development of the island is seen in the works completed by 1950 even though some of the later works have had an impact on the place.

The island reached its peak use in the 1950's and early 1960's, until extensive changes in the movement of freight on wharves and the management of the waterfront saw the gradual decline of the MSB and its need for Goat Island.

THE SYDNEY HARBOUR NATIONAL PARK/MANAGEMENT BY NPWS PHASE: FROM 1993

In July 1994, management responsibility of Goat Island was transferred to the NSW National Parks and Wildlife Service (NPWS) and in November 1995 most of the island was incorporated into Sydney Harbour National Park (SHNP). The wharves around the island, the slipways and ship repair buildings were not included in the national park as the seabed under the majority of these structures is leased from NSW Maritime.



Figure 2.24 1999 Aerial photo showing the extent of buildings, wharves and the landscape early in the management of the island by NPWS. Note that wharfs are still being used for berthing at this time. (Source: DECC)

Since 1995, NPWS has undertaken extensive conservation planning and works to heritage buildings and structures, to the landscape of the island and infrastructure improvements to increase safe and enjoyable public access. Extensive conservation works have been carried out within the former gunpowder magazine complex and former water police station and Goat Island was connected to the mainland sewer-line. Public guided tours commenced and the Island has been made available for ticketed public access on each New Years Eve to watch the fireworks. From 1995 until 2002 several island buildings were used as sets for the TV series "Water Rats". In 1998 the former MSB shipyard was reactivated through a leasing agreement with a commercial operator. All of the wharves remained in their 1960s configuration however most were in poor condition. In recent years a number of the wharves have been removed or have collapsed, concrete decking has been removed from some wharves to prevent their collapse and some small wharf structures adjacent to the boat pens have failed and collapsed. There have also been major repairs and additional bracing undertaken to the southern end of the Broadside Wharf in 2007 and in 2008, the addition of a major entry point for public access with a pontoon and ramp for wheelchair access.

Goat Island continues to be managed as an integral part of SHNP.

2.3 GOAT ISLAND LANDSCAPE

The historic landscape periods were described and mapped in the 2006 Context draft landscape and heritage landscape management plan for the island. The following series of indicative drawings (Figures 2.25 to 2.31) from that plan, show the changes to the natural landscape of the island as development progressively took place. It is noted that the periods mentioned on these plans relate to the Context report and not the historical phases used in this report, however are self-explanatory.

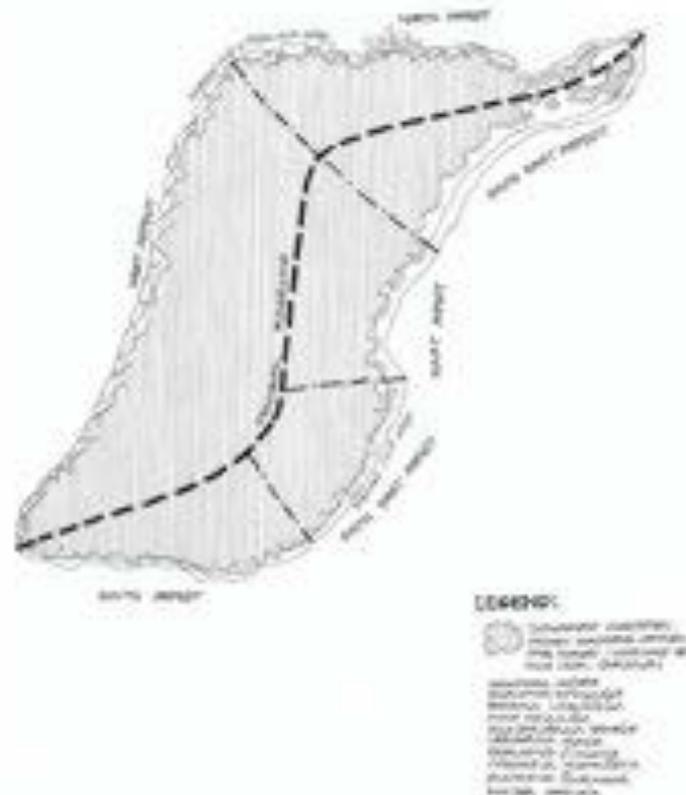


Figure 2.25 The extent of natural landscape on the island during the period of Aboriginal occupation - pre 1828 - 1830. The vegetation patterns just prior to European occupation were characterised by Sydney sandstone open forest/woodland with variations according to aspect. Possible changes as a result of Aboriginal use, such as occasional firing, sites of middens, and rock engravings. The island topography remained unchanged.



Figure 2.26 The extent of natural landscape on the island during the period of early quarrying - 1828 - 1833. During this period the open forest/woodland remained largely intact except for the eastern foreshore cleared for the quarry, a small area on the ridge cleared for convict barracks, and a small area near the southern foreshore cleared for a lime kiln. Selective clearing also provided wood for the kiln's fuel.



Figure 2.27 The extent of natural landscape on the island during the period of the Water Police and the Powder Magazine - 1833 - 1865. Quarrying in this period resulted in major alterations to the Western side of the Island with the construction of the Powder Magazine. Because of fire safety concerns, the Island's vegetation was cleared significantly from the southern section extending over the ridge to the eastern foreshore. During this period, the Barracks Kitchen Building Garden was established circa 1838.



Figure 2.28 The extent of natural landscape on the island during the period of the Powder Magazine - 1865 - 1899. During this period most of the Island's remaining endemic open forest was cleared except for isolated pockets on the western side of the ridge and denser pockets on the north western foreshore. The Context report diagram indicates the pattern of these pockets and also indicates a group of *Ficus macrophylla*, planted circa 1885, in association with the Barracks and jetty.



Figure 2.29 The extent of natural landscape on the island during the period of the Sydney Harbour Trust - 1900 - 1936. This period is marked by amenity planting associated with residences, the Barracks, and entrances. Detailed plantings are itemised below;

- The Coral Trees, planted near the Harbour Master's Residence, are directly associated with the building and this period, during which Coral Trees were a popular ornamental tree.
- Coral trees were also planted adjacent to the Barracks and Kitchen Buildings.
- Tree plantings of both indigenous and exotic trees and shrubs occurred adjacent to buildings, pathways and entrances to improve visual amenity.
- The former Formal Ornamental Garden in front of the Harbour Master's Residence was developed during the later period of the Sydney Harbour Trust.
- Federation Period Plantings included *Erythrina x sykesii*, *Ficus rubiginosa*, *Phytolacca dioica*, *Syragrus romanzoffiana*, *Phoenix canariensis*



Figure 2.30 The extent of natural landscape on the island during the period of the Maritime Services Board - 1936 - 1968. Amenity plantings continued the pattern established in the previous phase as follows;

- Brush Box (*Lophostemon confertus*) plantings were dominant, mainly along the central ridge.
- Also in the 1940's a grove of Brush Box were planted adjacent to the Recreation Hall as a memorial to Mrs B.L. Bennett, the first Treasurer of the Goat Island Social Club.
- After connection to Mains water in 1937, further Inter War Period Plantings included: *Eucalyptus ficifolia*, *Eucalyptus maidenii*, *Phoenix Canariensis*, *Lophostemon confertus*
- Post War Period Planting included: *Harpephyllum cafrum*, *Agonis flexuosa*, *Cupressus sp.*, *Jacaranda mimosifolia*, *Eucalyptus nicholii*, *Eucalyptus cladocalyx*



Figure 2.31 The extent of natural landscape on the island during the period of the Maritime Services Board/NPWS - 1969 - onwards. This period resulted in denser vegetation and resulting internal spatial definition. The species included: *Angophora costata*; *Eucalyptus botryoides*; *Eucalyptus haemastoma*; *Banksia integrifolia*; *Melaleuca armillaris*; *Casuarina cunninghamiana*; *Acacia spp.*; *Melia azederach*; *Westringia fruticosa*; *Grevillea spp.*

2.4 GOAT ISLAND CHRONOLOGY

The Chronology below is drawn from *Goat Island: A Contextual History* (Volume 2 of this plan). The Historical periods and dates of buildings are reflected on the maps at Figures 2.3, 2.4 and 2.5.

Table 2.2 Historic Themes on Goat Island

Dates	Historical period or event	NSW Historical theme/s	Sites on Goat Island which evidence this theme & phase
Historical phase: Aboriginal use pre 1830			
Pre 1831	Aboriginal occupation and use of Goat Island	Peopling Australia – Aboriginal cultures and interactions with other cultures	Aboriginal shell middens (62 & 68)
Historical phase: Colonial period 1830-1900			
May 1831	Quarrying	Developing local, regional and national economies – mining – quarrying	Evidence of quarrying (112, & 83) and extensively throughout the island.
1833 -1839	Construction of the gunpowder magazine complex (including barracks)	Peopling Australia – convict – Powder Magazines and military accommodation, treatment of convicts; Governing – Defence – powder magazines	Sandstone convict-built powder magazine - Queen's Magazine (15), cooperage (19); stores building (2 nd cooperage) (20); fortified wall and sentry box (71); barracks building (25) kitchen cottage (26), Anderson's couch (61) archaeological sites (63, 64, 65, 67, 91,92, 93,94,95)
1835-1865	Operation of the Water Police on Goat Island	Governing – Law and Order – The Water Police	Water Police Station 1838 (47); Barney's Cut 1838 (86); The Magazine Walk (69) from magazine area to former Water Police area of the island;
1850s	Construction of colonial powder magazine for storage of merchant's gunpowder	Developing local, regional and national economies – mining and public works	Colonial powder magazine (21) built as single bay by 1853, extended June to Dec 1859 (later converted to shipwright's shop)
1860s	Refinement of powder storage facilities 1862 Fit out of former Water Police Station as a cartridge laboratory 1865 1866 – new roadway between the powder magazine and the cartridge laboratory	Governing – Defence – powder magazines	Stone privy, New jetty and New jetty shed for powder magazine (archaeological sites, stone jetties) 1865 new fit out of former Water Police Station (47) (built 1838) for use as cartridge laboratory; 1865 construction of 2 room cottage (item 46a) for a Sergeant of Artillery; Alterations to the Barracks building (25)
1870s	Changed requirements for storage of new blasting agents (gun cotton and nitro-glycerine) – “Gunpowder and Explosive Consolidation Act 1876” and its regulations	Governing – Defence – powder magazines	Construction of two new magazines on the Island southwest of Barney's Cut (both buildings since demolished): archaeological sites Removal of cartridge laboratory use from former Water Police Station (47) and relocation in original cooperage (19) between the Queen's and Colonial magazines

Dates	Historical period or event	NSW Historical theme/s	Sites on Goat Island which evidence this theme & phase
1880s	1885 transfer of small arms cartridges and other explosives from Spectacle Island;	Governing – Defence – powder magazines	Construction of large weatherboard building in magazine area for extra arms storage (since demolished). No extant evidence
1890s	Continued but winding down use of Goat Island as explosives repository due to increasing role of Newington Armoury	Governing – Defence – powder magazines	No extant evidence.
1870s-1890s	Use of the island as a stores repository for the NSW Marine Board	Developing local, regional and national economies – sub themes Industry; Transport; Building settlements, towns and cites Utilities; Governing Subtheme: Government and Administration	No extant evidence
Historical Phase: Maritime period - Sydney Harbour Trust phase 1901-1936			
1900-1936	Outbreak of Bubonic Plague/Passing of the “Sydney Harbour Trust Act” November 1900/ Establishment of the Sydney Harbour Trust (SHT)	Developing local, regional and national economies – sub themes Events, Industry; Transport; Building settlements, towns and cites sub themes Towns suburbs and villages; Utilities; Accommodation; Labour; Governing sub theme Government and Administration	Harbour Master’s Residence (39); Cottages (38a-38d); Scow Shed (16); Timber Store (22); 1912 Fire Brigade Barracks (46b) and use and adaptation by SHT of former Water Police Station (47) and cottage 46a
Historical Phase: Maritime period – MSB phase 1936-1993			
1936-1949	Establishment of MSB (incorporating former Sydney Harbour Trust)	Governing – Government and Administration; Building settlements, towns and cities – transport; Building settlements, towns and cities - utilities, labour, accommodation	1946-1949 expansion and upgrade of shipyard/new shipyard buildings: Ship repair workshop (1) Coal loader (5), New wharf construction (4a, 4b);
			New office and amenities building (14); Addition to Queen’s Magazine (15a); Gear Shed (49) and Fire Fighting Building (50); Construction of tennis court (15b) and pavilion (15c) and recreation hall (73) 1941 – since demolished
1950-1992	Mid-late 20 th century development of the MSB	Governing – Government and Administration	1950-1992 new facilities: Dredge Office (48) 1952; Two storey Amenities Block 1964 (13); Port Emergency Services Building (45) 1960-62; Development of MSB museum in Barracks building (25)

Dates	Historical period or event	NSW Historical theme/s	Sites on Goat Island which evidence this theme & phase
Historical phase: National Park 1993-present			
1994 to the present	Late 20 th century/early 21 st century	Governing – Government and administration; Developing Australia's cultural life - leisure	Use of the island for production of "Water Rats" – remnant Water Rats set in 1 bay of Ship Repair workshop (1); use of Port Emergency Services Building (45) for water rats production. Lease of Shipyard; NPWS use of buildings (cottages 38a and 38d and Dredge Office (48)

2.5 HISTORICAL ANALYSIS OF THE CULTURAL LANDSCAPE

The following discussion involves a review of archival photographic and pictorial evidence in order to determine the status of the Island's vegetation – both indigenous and introduced – during the most critical period from the early 19th century up to the end of the 20th century, and also to assist in identifying historic cultural sites evident from the historical photographic evidence. Note that archaeological sites on the Island have been identified from historic photographs, documentary sources and also physical analysis of the Island. An amalgamation of all the information from these sources appears in the Site Development Plans in this report.

A larger selection of documentary material was actually reviewed but much of this was either repetitive or the images were too difficult to accurately read and were, consequently, too unreliable (e.g. 1930 and 1944 aerial photography), so that the examples below were chosen as representative of the available material.



Figure 2.32 1841: Watercolour by Frederick Garling, Goat Island - place of punishment for prisoners, 1841 (Source: State Library of NSW, DG*D 14)

From the vicinity of Millers Point Figure 2.32 includes, in the background, left, a view of Goat Island where the 1838 Water Police building is prominent, with the remainder of the island obscured by ship's masts.

As intended by Mortimer Lewis, the building forms a picturesque accent on top of the sheer sandstone knoll with unimpeded views across the harbour. The Water Police precinct – which is shown as largely bare – seems somewhat disconnected from the rest of the island, which appears to be mostly grassy. A track is shown curving from the southern end of Barney's Cut up over the ridge towards, then away from, the site of the later Harbour Master's residence. To the right of the Water Police building, level with the waterline, is what appears to be a rectilinear feature, which is probably the stone jetty (98), surviving beneath the existing but structurally poor timber wharf now in this location.



Figure 2.33 Ca. 1843: Watercolour by John Skinner Prout (Source: National Library of Australia nla.pic-an2431374)



Figure 2.34 Ca. 1843 Engraving by John Saddler of same view (National Library of Australia nla.pic-an7372827)

Figure 2.33, a watercolour by John Prout Skinner and Figure 2.34, the same view in an engraving by John Saddler, is a view from Balmain of Goat Island's western and southwestern sides where the 1830s magazine precinct is clearly shown. The scene includes an excellent record of the early geomorphology of the island as well as the fine group of sandstone buildings that read as a small village nestled below the hewn cliffs.

At least one building is shown at the summit of the island, which has the appearance of a low, long rectilinear building, possibly the earliest temporary barrack (demolished 1842). Gunner Davis' house was square or slightly 'L' shaped and so is unlikely to be this feature. Perhaps the most obvious characteristic of the depiction is that almost all of the island's taller vegetation has been cut down: only limited lines – presumably trees – remain at the northwest corner.



Figure 2.35 Ca.1848: Chromolithograph View of Sydney Cove, Goat Island and Darling Harbour by W. Gauci (printed by C. Hullmandel) (Source: National Library of Australia nla.pic-an813845)

Figure 2.35, a circa 1848 chromolithograph, is a view from the northwest looking across the harbour to Goat Island with Darling Harbour behind. The island morphology is well depicted, however the whole of the island appears to be shown with vegetative cover that contradicts the evidence provided in Figure 2.34.



Figure 2.36 Extract from an 1860s (pre-1865): photographic stereopair, Australian scenery, Parramatta River (Source: SPF/919, State Library of NSW).

Taken from Observatory Hill to the southeastern side of the island Figure 2.36 conveys a sense of bareness for most of the Island – especially the Water Police precinct, which is rather desolate. Figure 2.36 shows Barney's cut clearly – without a bridge – and no cottage (and is therefore pre-1865). Also clearly shown is the Barracks (25) with the Barracks kitchen (now noted as the Kitchen Cottage – 26) adjacent. A building is obvious on the ridge of the island, where the Recreation Hall (73) was to be built later. It is therefore clear that by this time, the early barrack building on the hill had been demolished and the residence for Gunner Davis built. The Barracks area at the southeastern end of the island appears largely clear of vegetation.



Figure 2.37 1870s: Goat Island from the North Shore (Source: State Library of NSW Pic. Acc. 1691 SPF/881)



Figure 2.38 ca.1870s: Goat Island & Balmain from the North Shore (Source: State Library of NSW SPF/882)

Figure 2.37 shows the Water Police building, its fenced enclosure and the 1830s wharf on the northern side near Barney's Cut. The Island appears well vegetated along the northern side and across the central area and, where the upper area had been previously cleared (especially the southern central area), there are signs of much regrowth.

Figure 2.38 shows most of the Island, though a willow in the foreground obscures the Water Police building at the extreme left. The 1865 cottage is visible as is the Cut and a bridge over it. Consistent with Figure 2.36, the northern and upper areas of the Island are shown as well vegetated with trees.



Figure 2.39 c.1873: Panoramic view (in two parts) of Blues Point looking towards Balmain and Goat Island (Source: State Library of NSW SPF/803 and SPF/804)

The photographs in Figure 2.39, taken from the north shore looking towards Goat Island and Balmain, show that the upper parts of the Island were very well vegetated (presumably mainly with locally indigenous tree species) at this time.

Perhaps these images even show the site vegetation at its zenith since the 1830s, as shortly later this vegetation steadily diminishes until almost totally cleared by 1900. The Water Police building, Barney's Cut and the small northeastern stone jetty (item 98 probably surviving beneath the existing timber wharf now in this location) are the only built features evident due to the angle of view.



Figure 2.40 1870-1875: Looking from McMahon's Point across Goat Island to Balmain etc., American & Australasian Photographic Company (Source: Holtermann Collection, Mitchell Library; NB. Reverse image posted on SLNSW Website ON 4 Box 81 No 1. Also ON 4 Box 77 No. 33).

As a contrast to the state of the Island's vegetation only 20 years later, the photograph in Figure 2.40 shows surprisingly well-vegetated northern and central parts. The 1865 cottage above Barney's Cut – as well as the Cut itself - is clearly evident. The photograph suggests that the majority of the site's vegetation may be regrowth of locally indigenous species such as Bangalay (*Eucalyptus botryoides*) – a typical Sydney Harbour foreshore tree.



Figure 2.41 Ca.1875-1879: John Degotardi photographic panorama (Part 3) (Source: Mitchell Library, Pic. Acc. 5864).

Figure 2.41 is a fine image of Goat Island from the north shore, which clearly shows the Water Police precinct with its enclosing paling fences, Barney's Cut, the stone jetty (98) and possibly the steps to the jetty, the roof of the 1875 explosives magazine nearby (since demolished) and a largely grassed island with many rock outcrops and a considerable number of trees across the central and northern parts of the Island. The distinct silhouetted outline of a Port Jackson Fig Tree is visible at the extreme right (northwestern) edge of the island.



Figure 2.42 1878: Ball's Head and Goat island from North Shore [notated between 1860 and 1879] (Source: National Library of Australia nla.pic-an2449698). The same photograph is in the State Library of NSW collection (SPF/794) and notated ca.1878 (attributed to J.Paine & Charles Troedel & Co chromolithograph (State Library of Victoria) Berry's Bay and Goat Island based on the photograph of the same scene.

The view in Figure 2.42, with a young man standing against a sandstone outcrop in the foreground, shows Goat Island in the background with a substantial amount of tree cover – at least on the northern side. The Water Police building still appears picturesquely prominent on its knoll, which seems strangely detached from the remainder of the island.



Figure 2.43 Extract of image 1875-1885 c.: Goat Island & Balmain from the North Shore (Source: State Library of NSW SPF/883)

Similar to various other images taken of Goat Island from the North Shore the photograph in Figure 2.43 clearly shows the Water Police building, the roof of the 1865 cottage just visible behind (to right of the Water Police Building's roof), Barney's Cut and the associated 1830s stone jetty as well as the small gabled building to the south of the Water Police building and Barney's cut (left of the Water Police building), which is presumably the 1875 explosives magazine (81a). Generally, the Island appears to have two main components of vegetation over the upper areas at this time – a grass groundcover and an open layer of trees. There is little evidence of a middle layer of shrubs or advancing regeneration.

Taken at a similar time to the photograph in Figure 2.44, Figure 2.35 records the other side of the Island from Observatory Hill, including the area of particular interest near the barracks building. On the basis of the extent of vegetation covering the upper parts of the Island it is likely that this image dates from the mid-1870s which also explains the absence of fig trees around the barracks building. There are, however, two (possibly deciduous) trees on the western side of the barracks though they no longer exist. On the upper part of the island the residence is clearly visible along with a medium-sized tree – possibly a pine tree – behind.

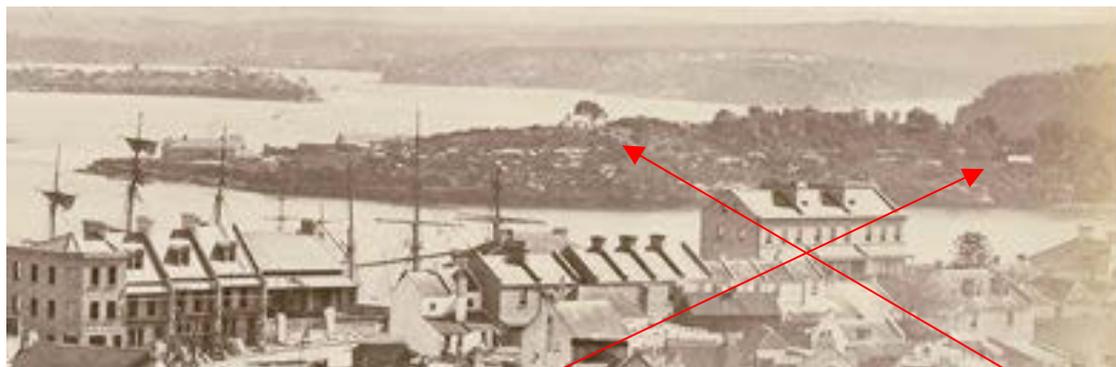


Figure 2.44 Ca.1875-1885, taken from Observatory Hill, Miller's Point, Sydney} (Source: State Library of NSW, SPF/921). Gunner Davis' cottage and one of the 1870s explosives magazines visible at right.

In the Magazine area, the Barracks building (25), Barracks kitchen (later Kitchen cottage – 26), and part of the roof of the Queen's Magazine are visible, as well as at least one small outbuilding to the right of the Kitchen (26) and a structure on the shore close to the Kitchen, which appears to be close to the water's edge at the base of the cliff: remains of a structure were identified by archaeologists during fieldwork at this location (archaeological site 92). The stone jetty near the Barracks (66) can also be seen in this image. On the hill, Gunner Davis' cottage is clearly visible, as a simple single storey building with a chimney on its southern elevation. The location of this building is likely to be near the former Recreation hall remains (73). At the far right, one of the 1870s explosives magazines is evident, probably the 1878 magazine (since demolished, archaeological site 131).



Figure 2.45 1882: View from Sydney Observatory (No. 7 in a series) (File 038\038617), NJ Caire, (Source: City of Sydney Archives Image No. SRC12220)

Figure 2.45 shows that by 1882 there is a noticeable decrease in tree cover across the upper parts of the Island compared with about 10 years earlier. The image shows the site to be mostly grass-covered with larger (presumably indigenous) trees towards the northern end and, significantly, no evidence of the fig trees to the south around the barracks area. Gunner Davis' residence has been demolished by this date. The clearing of vegetation at this time has been undertaken in response to the passing of the *Regulations* under the *Gunpowder and Explosive Consolidation Act 1876* (40 Victoria No. 1), which included:

Regulation 19: Undergrowth &c., not allowed at Magazines

19. No undergrowth must be allowed to accumulate within the precincts of the magazine; nor will any shrubs or cultivation of any kind be permitted in or near the magazine enclosures; and no animals must be allowed within the said enclosures.^{xviii}

The photograph in Figure 2.45 clearly shows the two 1870s explosives magazines at the northeastern end of the island, the 1875 magazine being the furthest north, with the 1878 magazine to the south (left of the 1875 magazine). The Barrack building (25), Barrack kitchen (later Kitchen Cottage – 26), a small outbuilding (since demolished) to the right of the Barrack

kitchen, and the stone jetty (66) associated with the Barracks, are all clearly visible. Part of the roof of the Queen's Magazine (15) is just visible to the right of the Barracks.



Figure 2.46 1892: View of Sydney Harbour from McMahon's Point (File 045\045015), c/- Lt Frederick RN (Source: City of Sydney Archives, Image No. SRC14960)

The photograph in Figure 2.46 shows the Water Police precinct, Barney's Cut and vegetation above the shoreline boulders along the northern side of the island as well as maturing fig trees at northwest side. The top of the island has large grassed areas though with some trees also.



Figure 2.47 Extract, 1903-1911 photograph (as the Harbour Master's residence is present but not the 1912 Fire Brigade Barracks): Balmain from North Shore, Kerry and Co., Tyrell Collection (1/64), (Source: Powerhouse Museum, Object No. 85/1284-2651). A large two-storey timber building is evident on the north shore of the island, below the Water Police building.

Figure 2.47, a photograph taken from the north shore between 1903 and 1911, is a slightly murky image with smoke or mist patches drifting across the scene. This particular image is the most curious of all, as it clearly shows a large two-storey building with dormer windows on the north side of the Water Police building on the shore. This building was demolished prior to 1929, as it does not appear on a 1929 survey of the island. The 1891 survey of the island also does not include this building. It is therefore likely that this building was a workshop constructed by the Sydney Harbour Trust in its earliest years of occupation of the island (e.g. 1901-1903).

In terms of the island's vegetation, the image does seem to suggest there has been an attempt at progressive clearing of site vegetation since the 1870s photographic records. The northwestern side of the island also seems to show the domed, dark-toned profile of at least one fig tree.

The image in Figure 2.48 is the best 19th century image of the Powder Magazine complex on Goat Island (note Figure 2.9 is a detail of the Magazine Complex from this image). This beautifully clear image is taken from either Birchgrove or Longnose Point looking east, with

part of Balmain peninsula visible to the far right, Darling Harbour behind the island, and Millers Point and the City of Sydney behind the island from the centre to the left of the photo. The date of the photograph in Figure 2.39 is after 1898 due to evidence from the City skyline beyond^{xix}.



Figure 2.48 1898-1900 Albumen photoprint taken from Birchgrove or Longnose Point (Source: State Library of NSW, PXE 711/53).

Figure 2.48 shows the magazine in its final state as an explosives magazine. In the detail image of the magazine area (Figure 2.9) the following features are visible: the Colonial Magazine to the left, the Cooperage (19), the Queen's Magazine (15) the covered way to the shore connecting to the covered way between the Queen's Magazine and the Cooperage, the fortified wall (71), with the sentry box just visible to the right of a single storey building built against the northern side of the fortified wall (note this single storey building is believed to be the since demolished 1885 explosives magazine). Also visible are (since demolished) shore buildings and jetties, which served the magazine. The Barracks (25) is visible beyond the fortified wall to the right, with the fig trees (still extant), jetties and more shore buildings (some remains extant) to the right of the Barracks.

In terms of the island's vegetation, this is a very helpful image in that it shows a dramatic thinning out of the island's tree cover over the whole of the upper area – apart from several sporadic and ravaged-looking indigenous trees, the only large trees remaining are those around the north-western foreshores (Port Jackson Fig Trees) and southern benches (Moreton Bay Fig Trees).



Figure 2.49 1905-1910: Looking west from [Sydney] Observatory, Kerry & Co, SPF/924, State Library of NSW

A large canopy is visible between the barracks and the barracks kitchen (Kitchen Cottage 26) indicating an earlier fig tree that is now missing. The canopies of the existing two Moreton Bay Fig Trees at the southwestern slipway are clearly evident and, given the narrow possible date range of the photograph together with about 15 years growth, this suggests the fig trees were planted in the mid-1880s.

The early 20th century photograph in Figure 2.49 records the large fig tree between the barracks building and the barracks kitchen, as well as the other fig trees to the west near the slipway. The Harbour Master's residence is just visible at the northern end on the hill, while the general state of vegetation across the upper parts of the Island confirms that much clearing has taken place since the 1870s.



Figure 2.50 1923: 1836 powder magazine (Source: State Records NSW Image No. 9856_a017_A017000035)

Coral Trees are mostly visible in the photograph in Figure 2.50 providing a backdrop to buildings 15 and 19. Almost all of these trees have now been removed. Given the size and form of the trees in 1923 it is estimated that they may be about 10 years old, which suggests they were planted in the early 1910s.



Figure 2.51 1928: Excavation for slipway, NSW Government Printer series, GPO 1 – 20851 (Source: State Library of NSW, MSBL945).

Similar to Figure 2.51, the photograph in Figure 2.50 also shows Coral Trees beyond (south of) the 1830s fortified wall and sentry box. The umbrageous form of a fig tree canopy is clearly profiled beyond the magazine building.



Figure 2.52 1930: Sydney Harbour Trust launch *Comet*, Goat Island (Source: State Library of NSW, GPO 1 – 19718)

In Figure 2.52, the launch *Comet* is shown on slipway blocks with the hewn sandstone cliff face (north of the 1830s magazine area) and part of the western shoreline beyond. On top of the cliff line a continuous line of silhouetted vegetation is shown that appears to be a mixture of indigenous plants and some emergent Coral Trees. At the extreme left of the photo the profiled forms of fig trees are evident at the shoreline.



Figure 2.53 January 1943: Overhead bridge: Goat Island (Source: State Library of NSW, GPO 1 – 10039, MSBL966),

Taken from the decking to the immediate north of Barney's Cut the photograph in Figure 2.53 shows the relative bareness of the area around the Cut. The northeastern side of the Cut reveals some small-scale ornamental stone walling with a well-trimmed shrub (Lantana?) above it. The other side of the Cut shows virtually no vegetation at this time.



Figure 2.54 July 1946: Goat Island fitters shop & wall, Goat island (Source: State Library of NSW, GPO 1 – 10134, MSBL1450)

Figure 2.54 shows the maturing Coral Trees and Moreton Bay Fig Trees to the south of the sentry box. The size and form of the Coral Trees accords with a planting date of early 1910s while the fig trees are already showing considerable form and development consistent with an age of about 60 years.



Figure 2.55 1947: Building construction: Goat island (Source: State Library of NSW, GPO 1 – 10054, MSBL958).

Taken just as the first steel framing is being erected for the MSB Ship Repair workshop, the photograph in Figure 2.55 shows the sentry box (left) the retaining wall that now sets the western edge for the magazine complex. Just beyond the sentry box some tall Coral Trees are visible and, further back again, the grand form of one of the present Moreton Bay Fig Trees. Given the size and extent of development of the fig tree it is estimated that it would be

about 60 years old (+ or – 10 years), which suggests its origin as the latter part of the 19th century.

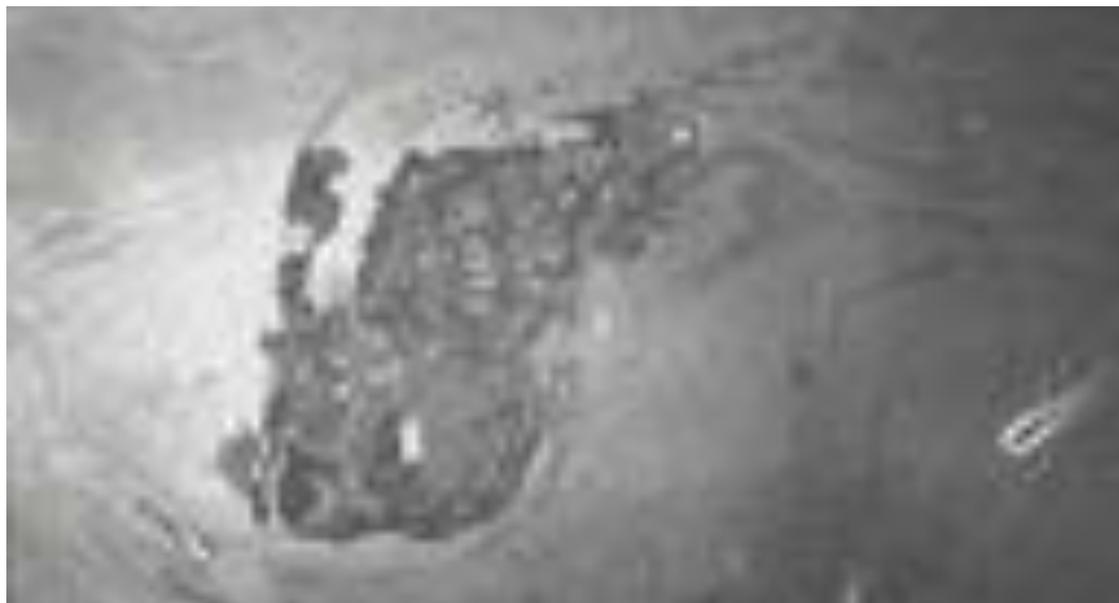


Figure 2.56 1949 Aerial photograph (Source: City of Sydney Archives, Image No. SRC2066)

Figure 2.56 shows the Coral Trees and fig trees at the southern end of the Island; the island largely cleared in middle though with dense vegetation (likely Coral Trees as canopies of this species appear in ground photos of the same period) to the immediate west of the former tennis court (presumably a windbreak). Lines of vegetation are visible around the perimeter fence of the Harbour Master's residence and sporadic vegetation along the northern and northwestern shoreline.



Figure 2.57 c.1950: Fireboats: Goat Island (Source: State Library of NSW, GPO 1 – 10040 (MSBL967)

In Figure 2.57, beyond the sprays from the fireboat's hoses is a useful record of the Island's vegetation over the central and southern areas in the mid 20th century. The 1940 Recreation hall dominates the centre of the image with a copse of dense trees (existing Brush Boxes) about as high as the hall's roof ridge (suggesting a planting date of the 1930s) and to the south of the hall are the two existing date palms indicating a planting date of the 1930s. Further to the south are the profiles of medium-sized trees – likely mostly Coral Trees – while further south again are the broadly domed profiles of the existing fig trees.

The 1951 aerial photograph in Figure 2.58 shows much vegetation around the southern end of the Island, consistent with the existing fig trees and the former Coral trees. It also shows vegetation around the Harbour Master's residence (Coral Trees and the Monterey Pine at the rear), dense vegetation along the western edge, a band of vegetation parallel to, and west of, the upper residences and sporadic dots of vegetation on the upper central part of the Island.

Included are the Brush Box group north of the Recreation Hall, the two date palms to the south of the hall and two fig tree seedlings to the southwest (now struggling Port Jackson Fig Trees of moderate size). Other vegetation in this area may include the fig trees on the eastern side of the former hall.



Figure 2.58 1951 Aerial photograph: Black & White (Source: DECC)



Figure 2.59 1951: Goat Island: Progress of new tug (Source: State Library of NSW, GPO 1 – 10044 (MSBL971)).

This fortuitous photograph in Figure 2.59 not only records the progress of the new tug construction but also records the now overgrown pathway that once linked the shipyard area with the Island's residential precinct. Clearly evident in the photo are the post and two-rail fencing and steps traversing the hill up to the Harbour Master's residence, the back of this building as well as traces of the other cottages. In the left foreground is the 1946-49 ship repair workshop and, in the right middle ground, the 1930 timber store (without a water tank tower). The pathway is shown curving past quite dense vegetation on the northwestern part of the Island with low, but dense, re-growth south of the path while along the top of the Island is the profiles of scattered taller trees.



Figure 2.60 1961 Aerial photograph: Black & White (Source: DECC).

As far as the island's landscape is concerned the aerial photograph in Figure 2.60 is virtually a copy of that of the 1951 aerial photograph in Figure 2.58, and is only mentioned here to indicate that the basic landscape was static for this period. Later aerial photography demonstrates that the island's landscape character was to change rapidly and dramatically.



Figure 2.61 1968: Harbour Master's residence: Goat Island, (Source: State Library of NSW, GPO 1 – 10059).

Figure 2.61 shows the Coral Trees formerly at the front and northern side of the Harbour Master's residence, which dominate this view. All of these trees have now been removed for safety reasons. Behind the residence, at left, is the present Monterey Pine and, by its size, this image confirms a planting date of the 1930s. The Coral Trees around the residence may have been planted shortly after the house was built, but are more likely to date from the MSB period. While this kind of landscape can be seen in several locations on the island it is unlikely to be part of the planned setting at the time of construction unlike the low sandstone retaining wall to the north and the former perimeter fence (removed at least at the front by 1968) which appear to date to the construction period.



Figure 2.62 c.1970 oblique aerial (Source: State Library of NSW GPO 1 – 20852).

Although slightly blurry the image in Figure 2.62 nevertheless reveals some substantial blocks of vegetation over parts of the largely bare Island. The upper central area remains devoid of any significant blocks of vegetation, unlike the northwestern corner where dense trees (presumably indigenous vegetation including Port Jackson Fig Trees) dominate. Dense plantings are also evident around the Harbour Master's residence and at the south of the Island where Coral Trees and Moreton Bay Fig Trees are dominant.



Figure 2.63 1972 Aerial photograph: Black & White (Source: DECC)

Figure 2.63 shows that even by 1972 the overall landscape context of the Island had changed little since the 1961, or even 1951. Obvious exceptions include the addition of more plantings around the apex of paths between the Harbour Master's residence and the Water Police building – presumably introduced in the 1960s. More vegetation appears around the back of buildings that subsumed the c.1875 magazines as well as along parts of the northern cliff line.



Figure 2.64 1986 Aerial photograph: Black & White (Source: DECC)

Figure 2.64 shows again that what is remarkable about the island's vegetative context is that, even by 1986, very little has changed since the 1950s. Virtually all of the vegetation shown on the previous aerial photographs since 1951 is still present though larger. New vegetation is mainly obvious to the north at the edge of the Harbour Master's residence front lawn area and to the south of the date palms on the upper area.



Figure 2.65 1999 Aerial photo (Source: DECC)

By 1999, as can be seen in Figure 2.65, something of the present landscape character of the Island is beginning to emerge, where re-growth of native vegetation and the self-propagation of exotic material is beginning to coalesce into large blocks of vegetation. This image emphasises the changes that have encompassed the island in the period of a decade. Since 1999 the progression of vegetative 'infill' has continued, such that areas that were known as distinctive open spaces since the 1830s have become transformed into a series of smaller spatial compartments. Without further intervention these spaces will be entirely reclaimed by vegetation.

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- i Murray, R. & K. White *Dharug and Dungaree: The History of Penrith and St Marys to 1860*. Hargreen Publishing Company in conjunction with the Council of the City of Penrith, 1988
- ii Dept. of Environment & Climate Change (DECC) NSW *Goat Island: A Contextual History*, 2007 p. 29
- iii Attenbrow, V. *Sydney's Aboriginal Past. Investigating the Archaeological and Historical Records* UNSW Press. 2002, p. 21
- iv Petrographic analysis of the sandstone of the Queens Magazine and the Magazine precinct quarry indicates that the stone for the magazine buildings was derived from that location.
- v Franklin, B. Dr. *Report on Petrographic Analysis, Goat Island* (for Heritage Group, NSW State Projects, Appendix A to Condition Report on Exterior Paint Surfaces: Water Police Station, Goat Island) 1997 p. 8
- vi The Ordnance Department, established under Governor Bourke in NSW in 1836, had custody of military stores and materials. It later became the Ordnance Storekeeper's Department, and was finally abolished in 1870 with the withdrawal of imperial forces from NSW in 1870 – see State Records Authority of NSW Guide to Ordnance Storekeeper on investigator.records.nsw.gov.au/Entity.aspx?Path=%5CAgency%5C1919
- vii A full list of infantry and artillery units stationed at Goat Island is given in DECC NSW *Goat Island: A Contextual History*, 2007 pp. 89-91
- viii DECC NSW *Goat Island: A Contextual History* 2007, Figure 53
- ix Clarke, Mary Shelley & Clarke, Jack *The Islands of Sydney Harbour* Kangaroo Press, 2000, p.18
- x The Act's Regulation states: "The magazines established as "Public magazines" for the storage of explosives are those at Goat and Spectacle Islands, in the Harbour of Port Jackson, the magazine at Gulgong, and the floating magazine in the Port of Newcastle." See Spectacle Island History website http://users.tpg.com.au/borclaud/spec_island/regulations.html
- xi DECC, NSW *Goat Island: A Contextual History*, 2007 p. 94. The buildings are shown on an 1891 survey plan.
- xii Oppenheim, P. *The Fragile Forts: the fixed defences of Sydney Harbour 1788-1963* Army History Unit, Dept. of Defence, Canberra ACT, 2004, p. 89
- xiii Spectacle Island History website http://users.tpg.com.au/borclaud/spec_island/goat_island.html
- xiv NSW State Records website – concise guide to Marine Board of NSW <http://www.records.nsw.gov.au/cguide/lo/marine.htm>, especially record series 11. Further research into this aspect of the island's history through examination of the primary documents is recommended.
- xv Tull M, *The Development of the Port of Sydney*, article in *The Great Circle: Journal of the Australian Association for Maritime History*, Vol. 4, No. 2, October 1982, pp. 93-94
- xvi DECC 2007, *Goat Island: A Contextual History* p. 99
- xvii DECC 2007, *Goat Island: A Contextual History*, 2007 pp. 102-103
- xviii The City skyline behind the island in the photo provides clues to the photo dating: the Sydney GPO including the tower clock (completed 1891) is there; the Sydney Town Hall including its clock tower (completed 1884) is there; a dome of the Queen Victoria Building completed 1898, is visible, there is no Harbour Master's Residence, nor any evidence of Sydney Harbour Trust activities in Millers Point in the photo, so the photo is prior to the establishment of the Sydney Harbour Trust in 1901.
- xviii *Regulations under the Gunpowder and Explosive Consolidation Act 1876* (40 Victoria No. 1) available on users.tpg.com.au/borclaud/spec_island/regulations.htm

3.0 PHYSICAL ANALYSIS

3.1 GENERAL DESCRIPTION OF GOAT ISLAND

Goat Island forms an outstanding visual landscape, being one of several prominent Sydney Harbour islands that contribute to the overall beauty and pattern of the harbour. The island, located 1.2 km west of the Sydney Harbour Bridge, is visually prominent in the inner harbour at the confluence of Port Jackson, Darling Harbour and the Parramatta River.

The island comprises a natural land area of approximately 5.4 hectares, with a further 1.1 hectares of landfill and wharfage built over areas originally below high tide level. The island is notable for its steep cliffs, central ridgeline, rocky shoreline, remnant sandstone outcrops and areas of vegetation regrowth. Whilst the island's central position in the inner harbour provides spectacular and varied views from its elevated areas, it is viewed in a number of ways from different parts of the harbour, varying from a vegetated outcrop as seen from the city and Darling Harbour areas to a working shipyard when viewed from the west.

The character of the island has also changed over the last 170 years since it was first developed after settlement. These changes are outlined in detail in both Section 2.4 of this report - an examination of historical photographs, paintings, and engravings - and in Appendix 1 - which contains a series of historic overlay maps - both showing Goat Island at different stages through the mid to late 19th century and through the 20th century.

Modifications to the pre-European landscape of Goat Island have been extensive and substantial, seen in both the landform and the locally indigenous vegetation.

Initially a vegetated knoll with rock escarpments to the water, the island underwent quarrying, benching and cutting in the 1830s and then over the ensuing years had most, but not all, of the natural vegetation removed. The areas of the island that were not completely cleared were around the steep edges to the unaltered escarpments on the western and northwestern edges of the island, that had little functional value for magazine, water police or maritime activities, and were difficult to access or use. The 19th century clearing of vegetation was probably driven by a need for firewood, both for building activities (such as blacksmithing and lime kilns) and for residential fires for warmth and cooking by those residing on the island at various times, as well as by the need to provide cleared areas around the magazine to reduce fire risk.

Similarly the edges of the island that were more easily accessible to the water were developed for access through, initially, stone wharves and jetties and a single timber jetty (1891) and then from 1901 through extensive timber wharves. The addition of wharves around the island has had a significant impact on its shape and form with a recent aerial photograph at Figure 3.2 indicating the contrast between the natural rocky edge and the defined and straight edges of the wharves and sea walls, noting that a number of wharves have since been removed.

Areas of reclaimed land, particularly on the eastern edge of the island, where it is not contained by sea walls, are now eroding, exposing fill material and in some locations exposing the earlier foreshore line.

The island has a central ridge that extends roughly north-south and the landscape is now a combination of dense vegetation and open grassed areas with rocky outcrops looking out both to the east and west. Plantings and regrowth gives the island the appearance, particularly from the water, of being densely vegetated. The vegetation now conceals much of the built development that is remaining on the ridge. A key feature of the island is the Magazine Walk skirting around the southern and eastern edges of the island, providing an outlook extending from Balmain to North Sydney.

The historical aerial and other historic photographs of the island in Section 2.4 show it in various states of clearing or openness, but with consistent retention of planting along the north-western escarpment extending around to the shipyard, and at the southern edge of the

island behind the colonial period buildings. The last twelve years has seen the island substantially re-vegetated, particularly when compared to its appearance in 1961.

Aerial photos in Figures 3.1 and 3.2 show how vegetated the appearance of the island in 2007 (Figure 3.2) compared even to the less vegetated form in 1980 (Figure 3.1).



Figure 3.1 Aerial photo of Goat Island in 1980 (DECC)



Figure 3.2 2007 aerial photo of Goat Island (DECC)

3.2 TOPOGRAPHY

Goat Island is a vegetated Hawkesbury sandstone formation rising to 20m above sea level, approximately 300m wide in a north/ south direction and 180m long in an east/ west direction. The topography is defined by a central relatively flat ridgeline, running north/south, surrounded by embankments, rock outcrops, cliffs and sandstone walls to the waters edge. The overall form and elevational variations of the island are still discernable though it has been substantially altered through quarrying on the south western and eastern aspects of the island, the creation of a sandstone cut to separate the eastern knoll from the rest of the island, and the reclamation of foreshore land. The quarrying and benching for the construction of the Magazine complex has left an area, defined by the fortified wall, with an altered landform and devoid of vegetation.

Approximately two thirds of the original Goat Island shoreline remains in substantially intact form. The main areas of relatively intact shoreline are shown in Figure 3.3 and include the south east, eastern and north western shorelines. The remaining sections of shoreline have been modified to a greater or lesser extent. The modifications tend to fall into two main categories, sections where the original shoreline has been cut back and 'hardened' through the construction of a retaining wall, and those where the land surface has been expanded by the introduction of landfill. This latter category is usually also subject to some form of seawall construction, although in several areas this has subsequently failed, exposing the fill to shoreline erosion. The different types of modified shoreline are also shown in Figure 3.3.

Large areas of both the intact and modified shorelines are obscured by the placement of wharves. The relationship between the current extent of wharfage and the various types of shoreline is also shown in Figure 3.3. The location of wharves is important in relation to modified shorelines, as the wharf structures have arguably played a role in protecting the seawalls from wave action and erosion.

3.3 SOILS

The extent of unmodified soils is an important aspect of the natural heritage of the island. Unmodified soils have the greatest potential to hold remnants of the seedbank of the original vegetation. In many Australian contexts elements of early seedbanks have survived for more than a century. In addition, the structure and nutrient profile of unmodified soils has the greatest potential to successfully propagate and support native species irrespective of the seed source.

There are five processes by which the original soils have been modified on Goat Island, each of which has different implications for the potential for these areas to support native vegetation. The different soil groups on Goat Island are categorised as follows:

1. Unmodified soils. Soils that have not been disturbed.
2. Mildly disturbed soils. Soils where there is evidence of past disturbance which will have altered the soil structure however, there remains some potential for seedbanks and the basic soil characteristics remain suitable for the propagation of locally endemic species.
3. Heavily modified soils. Soils where there is substantial evidence of disturbance and there is a strong likelihood for elevated nutrient status through the addition of fertilisers or seabird nesting. The potential for the successful propagation of locally endemic species is limited.
4. Areas of Fill. These are areas where 'new' soils of uncertain provenance have been introduced. The potential for the successful propagation of locally endemic species is generally limited.
5. No soil. Areas where the bedrock is exposed or the surface has been hardened and covered by concrete, asphalt etc.



Figure 3.3 Plan of Goat Island showing the extent of modified and non-modified shoreline, areas of fill and excavation around the shoreline and the wharfs. This plan indicates that most of the shoreline remains intact or with only very minor modifications to the natural edge. This plan is based on the 2007 aerial photograph and it is noted that sections of wharfs 4a, 4b, 5 and 51 and wharves 52b, 54c, 55a and 55b have collapsed and been removed.

Figure 3.4 shows the areas of the site that have undergone the most modification in terms of cut and fill and where there are substantial changes to the soil class. While all of the soil classes (except class 5) have some potential for the growth of certain native species (eg. *Ficus* sp.), the logical focus for attempts to replicate the original vegetation communities of Goat Island would be in areas with Class 1 or 2 soils which are outside the areas indicated in figure 3.4.



Figure 3.4 Plan of Goat island showing Areas of landform modification. The areas shaded green on the plan are the sections of the island that have undergone substantial landform modification through either quarrying and excavation and or fill including foreshore reclamation and cut and fill to create building platforms. Minor landform changes are not indicated. This plan is based on the 2007 aerial photograph and it is noted that sections of wharfs 4a, 4b, 5 and 51 and wharves 52b, 54c, 55a and 55b have collapsed and been removed.

3.4 FLORA

Before the major phases of European intervention Goat Island is likely to have had a typical vegetation profile similar to the other islands and foreshore areas adjoining the harbour. This would have included Sydney Sandstone Gully Forest and Coastal Sandstone Heath, across the main part of the Island, with species such as Bangalay (*Eucalyptus botryoides*), Smooth-barked Apple (*Angophora costata*) and the Coastal Banksia (*Banksia integrifolia*). In more protected areas the local Port Jackson Fig Tree (*Ficus rubiginosa*), Blueberry Ash (*Elaeocarpus reticulatus*), the vine *Pandorea pandorana* and the ubiquitous *Pittosporum undulatum* would have been present.

Many other species are likely to have been found on the Island, however an extensive list would be conjectural. At least the species mentioned above, as well as a few other locally indigenous species, are still found on Goat Island and are probably the progeny of plants that have survived despite concerted efforts from the 1830s and later in the 19th century to clear this vegetation.

Notable introduced vegetation from the late 19th century and early 20th century include the magnificent Moreton Bay (*Ficus macrophylla*) and Small-leafed Fig Trees (*F. obliqua*) as well as the unusual Ombu (*Phytolacca dioica*) at the southern side of the Island, various date palms including a less common *Phoenix dactylifera*, a large *Bougainvillea spectabilis* once associated with an earlier residence (now demolished) and Coral Trees (*Erythrina x sykesii*) that were planted by the 1910s. There is even a Prickly Pear (*Opuntia* sp.) attempting to cling tenaciously to the northern cliff line as a reminder of an interesting experimental biological control phase during the 1920s.

It is now difficult to appreciate how bare the Island was even as recently as two decades ago as it is now more heavily vegetated, though certainly not entirely with locally indigenous flora.

Aerial photographs in Figures 3.1 and 3.2 illustrate the radical change in vegetation cover on the island since 1980. Various well-meaning, though less than desirable, phases of new planting have left many species across the Island that, collectively with other regenerating and self-propagating species, have begun to fill the hitherto distinctive open spaces on the island as well as colonise refuge areas of locally indigenous species.

Though many acknowledged weeds - such as Camphor laurel (*Cinnamomum camphora*), Hackberry (*Celtis* spp.), Mickey Mouse Plant (*Ochna serrulata*), Privet (*Ligustrum* spp.) and African Olive (*Olea europaea* var. *Africana*) - were popular in the Colonial period, not all earlier planting endeavours may necessarily be responsible for the various weed species on the Island, as seed dispersal by birds may have introduced some of these species.

Other species with the propensity to become a nuisance are likely to have been used as feature plants within garden bedding or otherwise innocently introduced as feature trees - eg. Giant Bird-of-Paradise (*Strelitzia nicolai*), *Furcraea foetida* and *Lantana*. The latter include many of the trees and palms that have become associated with various precincts. These species include the non-indigenous fig trees, Kaffir Plum (*Harpephyllum caffrum*), Brush Box (*Lophostemon confertus*), Canary Island date Palm (*Phoenix canariensis*) and the non-indigenous Wattles (*Acacia* spp.). Other species currently becoming a nuisance include *Convolvulus*, *Cestrum* and *Cassia*.



Figure 3.5 *Furcraea foetida*. This plant is to the north of the Harbour Master's residence, others to the east of the Recreation hall site are under tree canopies and are much darker green



Figure 3.6 *Nerium oleander*. This plant at right is one of many oleanders near the southern part of the Island's upper central area



Figure 3.7 *Yucca* sp.



Figure 3.8 *Cordyline australis*

3.5 FAUNA

Goat Island may once have hosted a diversity of fauna species due to the varying vegetation and habitat types. The fauna assemblages would quickly have become depleted following clearing of the native vegetation and habitat types and the introduction of exotic predators (eg. feral cats and black rats). The current status of the Island's fauna is outlined below.

MAMMALS

The only remaining native land mammal species recorded recently on the Island (2000) is the Eastern Water Rat (*Hydromys chrysogaster*). The Grey-headed Flying Fox (*Pteropus poliocephalus*) regularly visits the Island at night to forage from food trees but utilises day roosting sites in other areas, such as the Royal Botanic Gardens. Several insectivorous bat species have been recorded, including the Eastern Bent Wing bat (*Miniopterus schreibersii oceanensis*), Large Forest Bat (*Vespadelus darlingtoni*) and Gould's Wattled Bat (*Chalinolobus gouldii*), but it is not known if any of these species breed on the Island.

The Island now has only one introduced vertebrate, the Black Rat (*Rattus rattus*). The Rat is probably partially responsible for the decline in reptiles and ground nesting birds. Feral cats (*Felis catus*) were recorded on the Island following the departure of the Maritime Services Board, however the last cat appears to have died in 2003.

REPTILES

Only two reptiles have been recorded on the Island, the skinks *Eulamprus tenuis* and *Lampropholis delicata*.

AMPHIBIANS

The Striped Marsh Frog (*Limnodynastes peronii*) has been recorded breeding in a pond.

BIRDS

The following table lists common bird species recorded on the Island:

Table 3.1 Bird breeding on Goat Island

Birds recorded breeding on the Island	Birds not recorded as breeding on the Island
Silver Gulls	Little Pied Cormorant
Masked Lapwing	Pied Cormorant
Noisy Miner	Great Cormorant
Tawny Frogmouth	Little Black Cormorant
Australian Magpie	Feral Pigeon*
Grey Butcherbird	Spotted Turtle Dove*
	Rainbow Lorikeet
	Laughing Kookaburra
	Welcome Swallow
	Willie Wagtail
	Australian Magpie-Lark
	Pied Currawong
	Common Myna*
* introduced	Australian Raven

Migratory, transitory or irregular bird species include:

Table 3.2 Birds recorded on Goat Island

Birds recorded breeding in Park	Birds not recorded as breeding
Brown Quail	White-necked Heron
	White-faced Heron
	Maned Duck
	Crimson Rosella
	Black-faced Cuckoo-shrike
	Golden Whistler
	Yellow-faced Honeyeater
	White-naped Honeyeater
	Silvereve

A Silver Gull colony commenced breeding on the Island in 2004. The concentration of birds, their faeces and nesting is impacting on the ground vegetation of the Island, which will, in turn, continue to reduce available habitat for other native birds. There is no historical evidence of the Gulls ever having previously established on Goat Island.

THREATENED SPECIES

Only two threatened species classified under the Threatened Species Conservation Act 1995 have been recorded on Goat Island: the Eastern Bent-wing Bat (vulnerable) and the Grey-headed Flying Fox (endangered).

3.6 THE ARCHAEOLOGY OF GOAT ISLAND

PRE CONTACT PERIOD

The only identified site remaining from this period is a remnant shell midden now overgrown with vegetation (62). Earlier discussion (Section 2.2) and Appendix 4 provide a fuller discussion of this period of the archaeology of Goat Island in the Port Jackson context, outlining the likely types of Aboriginal sites which may have been present on the Island prior to disturbance through early Colonial activities such as quarrying and lime burning.

COLONIAL PERIOD

The Colonial Government's decision to utilise the Island for construction of a magazine complex influenced the development and subsequent archaeological landscape of the Island. Although currently overgrown with vegetation in many locations, there is evidence of quarrying in a number of locations. The extraction of sandstone, particularly in the south western part of the Island, had a two-fold purpose: that of supplying building material for construction on the island and other locations in Sydney and benching - the preparation of platforms clear of vegetation to construct the magazine complex and other structures on the island. The magazine quarry wall (72), where the bulk of the sandstone was sourced, has been finished in a way that conceals its initial function and now forms the substantial base of the fortified wall (71) surrounding the Colonial magazine structures. Excavation in combination with removal of much of the vegetation on the Island during the 19th century resulted in soil movement down slope and the necessity to construct retaining walls around the barrack (25), barracks kitchen (26) and various parts of the shoreline. Modifications associated with the early preparation of the Island and the construction of ancillary structures were not necessarily recorded by the authorities and were probably considered insignificant events in the overall scheme of the Island's operations.

LIME KILNS

Some of the features that do not appear in the contemporary documentary sources include the lime kiln (63) identified by Kerr (1987) and the partial remains of another (95) that was identified during the recent field survey for this project. It is possible that other lime kilns existed on the Island. The newly identified lime kiln, constructed of sandstone blocks, is built into a low rock face, which appears to be a mixture of natural and cut stone. It is beneath the southernmost *Ficus* of the pair in the south west corner of the island and directly behind the boat shed (23a) near a rock overhang. No evidence of a midden was noted beneath or around the overhang but shell fragments were noted eroding from between the roots of the *Ficus* directly above. This has been identified as a possible remnant shell midden (68). It should be noted however that when the boat shed was constructed in the 1940s the rock face to the south was cut back to accommodate it and the shed was built within 600 mm of the west facing rock face. Any midden in the vicinity is likely to have been removed by this period but it is possible that a midden (and therefore evidence of one) was located in this area, prompting the construction of the kiln.

Although using the same general design of cylindrical shaft kilns, the two lime kiln structures on Goat Island display different construction methods. The larger kiln (63) is built similarly to a "D" shaped kiln in that a large part of the structure has been cut out of the bedrock to form a cylinder, which is closed off by a flat masonry wall. This larger kiln however, does not fall into the accepted size range of a "D" shaped kiln being of smaller dimensions and the presence of multiple ash boxes cannot be determined as the base of the kiln is now obscured by vegetation.

The partial kiln (95) located in front of the Barrack building (25) is constructed of sandstone blocks built into the bank, of which approximately 120 degrees of the original circumference survives. The simpler construction of the partial kiln may be an indication that it was one of the earliest built, as it was close to the shore and a potentially abundant source of shells.

The presence of lime kilns may well account for the general lack of shell middens on the Island, as the shells would have been utilised in the production of lime.

BLACKSMITH'S SHOP

Another archaeological feature on the Island that is not identified in the contemporary sources is the blacksmith's shop archaeological site (67). Cuts into the bedrock and the remnants of an ashlar block wall have been attributed by Kerr to a "presumed blacksmith's shop" based on a number of hand forged iron artefacts scattered in the area¹. Kerr also dates it to the 1830s, prior to the construction and use of the Queen's Magazine. The date that Kerr proposes is credible and would suggest a sequence that places the kilns and the blacksmith's shop (if this is what the site represents) in the very earliest phase of Colonial use: quarrying to extract building material and to prepare the area for the magazine complex as well as construct stone jetties for access; a blacksmith's shop to produce and maintain quarrying equipment; and the kilns to begin stockpiling lime in preparation for the early building phase.

At the completion of the quarrying operations and the magazine complex construction, a blacksmith's shop so close to explosives would not have been prudent and the shop would most likely have been decommissioned. The artifacts noted by Kerr were not visible on the surface during the last field survey, nor has there been any further historical research or survey to determine the layout, however cuts into the bedrock and the ashlar wall are still present. The item retains high archaeological sensitivity and clarification of the nature of the structure would enhance an understanding of activities carried out on the Island.

The kilns were temporary structures abandoned when no longer needed but, unlike the blacksmith's shop, they have survived in partial form through a combination of their robust construction and their inconspicuous locations.

ANDERSON'S COUCH

Another early feature on the Island referred to as "Anderson's Couch" (61), is where the convict Charles Anderson is reputed to have been chained to a bench cut into the face of a rock outcrop. Whilst weight is given to anecdotal evidence and oral history, little substantive evidence has been found to confirm this use. The feature's proximity to the lime kiln (63) should also be considered in an explanation for its existence. The ground at the foot of Anderson's Couch has been built up with deposit and the site retains high archaeological potential for future clarification of its function.

STOCKADE, BARRACKS AND GUNNER DAVIS COTTAGE

In the earliest phases of the Island's Colonial use, a temporary timber barrack was erected on the ridge. Later, Gunner Davis' cottage was constructed on the ridge.

Possible archaeological sites from this phase, which are supported by documentary evidence but not by visible archaeological evidence, include the temporary convict stockade, the temporary barrack (also known as the house on the hill), privies and Gunner Davis' cottage. Despite images, plans and descriptions of the buildings, no archaeological investigation has been undertaken. A number of archaeological sites have been identified on the hill which may (or may not) relate to the above buildings: Sandstone footings (91), Artefact scatter (93) and Quarrying sites on ridge (77).

The Sandstone footings (91) disappearing beneath the western side of the former tennis court (15b) have been attributed to Gunner Davis' cottage although the most likely location of his cottage is where the Artefact scatter (93) has been located approximately 30 m to the north east and upslope.

Despite recommendations made by the Storage of Gunpowder Board in 1875 to remove the merchant's powder, clear all the underbrush from the Island, and remove Gunner Davis' cottage, the powder was still there ten years laterⁱⁱ and it is unclear how much longer the cottage survived demolition. A photograph taken by John Degotardi dated to between 1875 and 1879 shows a building on the ridge of the Island that cannot be represented by the sandstone footing adjacent to the tennis court as the building would not be visible from the angle that the photograph is taken.

An 1857 painting by Rebecca Martens shows a building on the ridge at a time when Gunner Davis' cottage was still standing. It is interesting to note that the artefact scatter (93) is eroding out of the side of the ridge, in the location depicted in the image. Although it can be argued that Martens' illustration is not a wholly truthful representation of what she saw (refer discussion Figure 3.10), another photograph (not Degotardi's) dated prior to 1885 shows a single-storey cottage on the ridge, which confirms the existence of a building at this location after the demolition of the timber barrack and long before the erection of the recreation hall (73) in the 1940s.

The probable location of Gunner Davis' cottage is on the ridge rather than by the tennis court. This assertion is based on several factors - the presence of a cottage-like building on the ridge (as shown in Martens' 1857 illustrations Figures 3.9 and 3.10, and after the temporary barracks were dismantled in 1842), the 1870s Degotardi photograph, and the presence of the artefact scatter. Whilst Kerr appears to be confident that the footings by the tennis court belonged to Gunner Davis' houseⁱⁱⁱ, the photographic evidence does not support this. Identification of the archaeological sites may be possible through physical investigation but for the present, neither site can be positively identified as Gunner Davis' cottage.

WATER POLICE BUILDING

The Water Police building located on the separated eastern tip of the Island is constructed on a modified building platform and retaining wall. Several phases of additions to the building were undertaken during the Colonial period and a mound that appears to be the building platform of an undocumented structure is visible on the western side. The underfloor deposit in the Water Police building is largely intact and represents an archaeological resource of high

sensitivity. Evidence of the wharf and stone steps serving the Water Police Station has survived (87, 101) and there may be evidence of the original Water Police stone jetty (98) beneath later timber wharves. The location of the earliest privies is not known.

ARTILLERY SERGEANT'S COTTAGE

The 1865 Artillery Sergeant's cottage would also retain intact underfloor deposits, and there are several locations around the cottage where the sites of earlier outbuildings including a privy are recorded. These sites are likely to have archaeological potential.

OTHER SITES

Documented archaeological sites from the later colonial period include the sites of two 1870s explosives magazines (117 and 131). Both sites are likely to be archaeologically sensitive.



Figure 3.9 Mitchell Library, image No: Pic Ac 5864. Rebecca Martens produced at least two artistic renditions of Goat Island in 1857 - a sketch as well as a watercolour. In the above sketch, the Barracks, Queen's Magazine, Kitchen Cottage, Gunner Davis' cottage on the hill and at least one building in the privy area beside the Kitchen Cottage are all visible. A wall beside the kitchen shows a darkened area (doorway?) to the left. This may be the Kitchen Cottage Alcove (26a) (red arrow), but it does not appear in the watercolour. The view in both images is to the north west with the Barracks Building (25) the largest visible structure. It is clear that Martens has embellished the landscape around the Island to a degree, and all the buildings in the watercolour do not appear in the sketch.



Figure 3.10 Rebecca Martens, a watercolour rendition of the same view, 1857. Note in this image, three outbuildings appear to the east of the Kitchen Cottage (which is likely to be artistic license: only one outbuilding is evident in this location in later photographic evidence). Note also the high cliffs in the background, which do not exist in reality, in the location of Balls Head.

It is not possible to accurately predict the existence and survival of smaller, undocumented sites on the island, however consideration should be given to the presence of features that would be associated with the settlement of the island.

Features likely to have been present during this phase include privies, wells, tanks or cisterns for supply or storage of water, sheds and outbuildings for storage of materials such as fuel, gardens, retaining walls and rubbish dumps. Archaeological fieldwork undertaken for this CMP has identified features such as: a stone structure on the shore (92), which is a possible privy remnant and footings of former outbuildings to the Barracks Kitchen (94).

MARITIME PERIOD

Sydney Harbour Trust: 1901-1936

During the SHT phase a range of buildings were erected and works carried out that now have potential archaeological value.

In the centre of the island the Harbour Master's house erected between 1901–1903, fire brigade barracks (the 1912 one extant) and nine residences, completed by 1923, for the firefighters and their families. Six of these weatherboard residences were demolished by 1970 and are now archaeological sites on either side of the Magazine Walk at the eastern side of the Island (sites 81a, 81b, 81c, 81d, 81e, and 81f). These sites have high archaeological sensitivity.

During this phase, changes to earlier buildings and features were also made including extensive changes to the Colonial Magazine including the removal of sandstone walls and replacement with corrugated iron walls.

In the magazine and shipyard precincts, the addition of sheds, amenities, the ship yards and a 150 ton slip, new sea walls and wharves was undertaken. The kitchen and barrack buildings were converted for use as residences with the removal of internal walls and addition of a laundry, WC and bathroom. The additions were removed in 1970 and archaeological testing has confirmed their remains have survived.

The Water Police precinct underwent modification to the shoreline, which included land reclamation and the construction of various buildings and the addition of timber wharves.

Other undocumented features include a possible drainage cut oriented north-east south west in the bedrock behind the Harbour Master's residence and continuing down slope past the existing cottages (111). Numerous engravings are also found in this area. A mound to the west of the Harbour Master's house may be related to a previously unrecorded building. The Residential, Water Police and Magazine precincts were supplied with septic systems at an unknown date, but these have been superseded by sewage connection to the mainland. Terracing and excavation for the addition of services appears to have been common during this phase (evidence at site 102).

The Maritime Services Board: 1936-1993

The SHT was absorbed into the Maritime Services Board (MSB) in 1936. The archaeological resource for this period reflects the change in use of the Island to the residence of the MSB fire brigade staff and their families and a focus on repair and construction of MSB vessels. Recreational facilities and their associated amenities as well as pathways were provided for the entertainment of the residents and by 1941 the Island boasted a tennis court (15b) and pavilion (15c) and a Recreation Hall (73), all of which appear to have been constructed either near or on top of the remains of Colonial period buildings. The construction of the tennis court required fairly extensive modification of the landscape including blasting and removal of rock outcrops at the northern corner in order to prepare a flat surface. A swimming enclosure was also installed on the western side of the Island further modifying the shoreline.

The expansion of the Shipyard precinct required cutting into the original shoreline on the western side of the Island impacting on the wharf and buildings serving the magazine. In the magazine area, tramways were installed along with cranes, further wharves, foreshore buildings such as the Ship Repair Workshop (1) and seawalls, either removing the original shoreline or filling and building over it.

Most of these sites have archaeological potential.

NATIONAL PARK PERIOD: 1993 ON

Under the management of the National Parks and Wildlife Service (NPWS), few changes have been made that impact on the level of preservation of the potential archaeological sites.

Management of the archaeological resources of the Island will become increasingly important in this last, ongoing phase. While a large part of the attraction of the Island for visitors is its history, some of that history is now in archaeological form, and increasingly obscured or overgrown by a range of vegetation. The impact of weeds and other vegetation on the archaeological resource will require ongoing management. Revealing select sites has the potential to enhance the interpretive capabilities of the Island.

CONCLUSION

The heritage of Goat Island is the combination of its various parts, including extant structures, archaeological features and the landscape. The archaeological resource on the Island possesses high scientific value and a high level of interpretation potential. Known and potential sites have the ability to add to our knowledge of the Island's development and clarify outstanding issues of identification.

While some of the items on the Island would benefit from archaeological excavation for conservation, maintenance or interpretation purposes, retention of the archaeological resource *in situ* is generally the most appropriate management option. Archaeological excavation must add substantially to the body of knowledge for that item or place to be justified. In the case of Goat Island, a number of items are not well understood or deteriorating and excavation may enhance their cultural significance.

3.7 WHARVES

IDENTIFICATION OF THE WHARVES

The following table is a complete list of all the wharves identified on the island.

Table 3.3 Wharves UPDATE THIS SECTION TO REFLECT CURRENT SITUATION

Item No	Date of construction	Description and Status
STONE JETTIES		
64	1835	Stone jetty - intact
66	1835	Stone jetty remains - ruin
97	1835	Stone jetty remains - within reclaimed area
98	1835	Stone jetty remains - within reclaimed area
TIMBER WHARVES AND PILES		
56	1941	Steps and walkway - steps collapsed
54b	1941-43	Boat Pens and walkways - intact
55a	1942	Northern broadside wharf - demolished 2008
55b	1942	Northern broadside wharf - demolished in part 2008, western end remains intact and repaired 2010
52a	1942-43	Eastern broadside wharf - poor condition
52b	1942-43	Eastern broadside wharf - demolished 2008
54a	1942-43	Ferry wharf and steps - poor condition
54a	1944	Ferry wharf extension - poor condition
4a	1946-1949	Shipyard broadside wharf - partially rebuilt
4b	1946-1949	Shipyard broadside wharf - poor condition, grids 32-37 collapsed. Wharf scheduled for removal.
5	1946	Coal bunker wharf – collapsed, piles remaining, scheduled for removal
5a	1963c	Line of fenders - intact
51	1969	Finger wharf - decking demolished 2009, steel piles remain



Figure 3.11 Site plan of Goat Island showing location and identification of wharf structures. Wharves that are assessed in this report are coloured orange and identified by existing numbering systems. Plan based on JS Kerr plan of Goat Island contained in the 1987 Goat Island Investigation.

3.8 PRECINCTS

For convenience, and not based on any operational or historic basis, the island in earlier studies was divided into seven precincts. This study has retained this approach for consistency and this section provides a short description of each precinct. Detailed descriptions of some significant elements within each precinct are located in Volume 3 Inventory Sheets. The overall map of the Island showing all significant sites and with precincts shown is at Figure 1.5, earlier in this report.

MAGAZINE PRECINCT



Fig 3.12 The magazine precinct is the remaining area occupied by the colonial magazines and their related infrastructure but does not include the shipyard precinct, which was overlaid on the waterfront from 1924. It includes both extant buildings and the sites of buildings and early features.

This is a core area of the island that contains the majority of the colonial period buildings centred around the extensive quarried cut bench for the construction of the powder magazines and their enclosing fortified stone wall. The area was significantly altered by the overlaid maritime shipyard use which reclaimed the foreshore, placed buildings and wharves into the forecourt of the magazine and saw some significant changes to the colonial period buildings.

While the western edge of the site is the most modified part of the island, its location facing away from the city and the magazines sheltered, in case of explosion, by the island itself, the southern and eastern edge of the precinct retains much of its natural form and edge to the harbour. This has been modified immediately to the south of the barracks and kitchen where a stone jetty was located but further east there is little modification to the shoreline. Above the escarpment line there is evidence of minor quarrying extending back through the area to create the route for the path that has traversed the island since first development and possibly earlier, for the construction of the blacksmith's shop and around the lime kiln. There are also potential archaeological sites related to the colonial period in this area possibly related to privies and outbuildings.

Within the Magazine Precinct exists a group of plantings of historical and aesthetic significance located near the south-east and southern part of Island including:

- 2 x *Ficus macrophylla* near SE landing area (Item No.132)
- 2 x *F. macrophylla* and 1 x *F. obliqua* east of 1838 kitchen block (Item No. 133)
- 1 x *Phytolacca dioica* to the NE of same (rare at this age in Sydney with only two others known of this size at the eastern entry to Centennial Park and one at Babworth House, Darling Point) (Item No. 134)
- 1 x *Phoenix canariensis* south of curved 1838 defensive wall (an older palm planted in the 1930s within the Maritime Period: SHT phase) (Item No. 136)
- Surviving *Erythrina sykesii* along southern shore (probably interwar plantings associated with the Maritime Period: SHT phase) (Item No 141)

The Magazine precinct effectively falls into three separate areas, the area enclosed by the fortified wall, the area around the barracks and kitchen extending down to the west and the area to the east of the kitchen which retains a more natural character even though the landscape is dominated by exotic plantings.

This area of the island has been heavily modified from earliest colonial use and retains almost no indigenous vegetation.

The elements of the precinct are set out in table 3.4.



Figure 3.13 Plan of Magazine Precinct indicating the various elements with their date of (generally) first or major construction within the precinct.

Table 3.4 Elements of the Magazine Precinct

Note items for which detailed inventory sheets have been prepared (contained in Volume 3: Heritage Inventory) are marked with an * next to the item number in the table below.

Item No	Date	Name	Level of intactness	Condition
Aboriginal Use and Contact				
-	-	-	-	-
Colonial Period				
15*	1836	The Queen's Magazine	Largely intact	Good/fair
		<p>The Queen's Magazine is a rectangular shaped building of block sandstone construction with a gabled slate roof. An interior stone vault is supported by massive buttresses along the side walls. The main entrance doors, located on the north elevation, are original timber, sheeted over with copper on the outside. Directly above the entrance is a hood mould integral with the stone lintel. Above the hood mould are two sloping chases with two rectangular sockets at their outer ends. A broad sandstone block protrudes from the adjacent stonework directly above the pediment forming the sill of the upper level opening. The upper level shutters are screened by a grill of fine copper wires within a weathered timber frame and the opening has a hood mould above similar to that over the entry doors. Above this is a rectangular date plaque toward the apex of the gable. Two ventilation assemblies consisting of a hexagonal and single vertical slit, each with hood mould, are located symmetrically either side of the main doors. There are two rectangular openings in the wall close to ground level. Conduiting runs across the face of the north elevation, and on the west corner are a series of corroded metal fixings.</p> <p>The east and west elevations consist of a series of sandstone buttresses forming evenly spaced bays. At the centre of each bay are hexagonal and vertical slit with hood moulds over, matching those on the gabled elevations. Toward the base of the wall within each bay is an opening in the stonework. On the south wall (inside the corrugated iron shed one of these openings has a bronze grill). An upper opening and ventilation motifs similar to the north elevation are evident on the south elevation, above the roof the shed.</p> <p>The roof to the magazine is covered with weathered Welsh slates which are randomly scarred, quite extensively toward the ridge. The lower portion of the eastern roof of the gable is a darker colour than the rest of that roof. The ridge capping is lead and appears to be in good order. Copings to the gable ends and buttresses are broad stone cappings, some of which are weathered.</p>		
19*	1836	The Cooperage	Largely intact	Good/fair
		<p>Originally the Cooperage the building was quickly adapted for other uses and has principally served a storage function over its life. It is constructed of coursed dressed stone blocks with small corner buttresses, stone gable ends and stone copings to the parapets. The roof is slate to match the magazine. The building has timber joinery windows and doors, a timber framed roof and floor. Symmetrically designed it was connected with covered ways that are since removed. A door to the rear elevation has been infilled. It is currently fitted out with storage racks as part of the shipyard use.</p>		

Item No	Date	Name	Level of intactness	Condition
20*	1839	The Stores Building	Largely intact	Fair
			A dressed and coursed stone shed built adjacent to the quarry wall to house a new cooperage with a simple skillion roof with skylights now clad in corrugated iron. It was built by a contingent of 27 prisoners on commuted sentences from the Moreton Bay Penal settlement. Similar to the design of the barracks the building has a recessed verandah with two squared stone columns and a timber floor, a single room at each end of the building, the eastern room with a later window cut in and the western room having an early timber framed double hung multi-paned window.	
21*	1852-1859	The Colonial Magazine	Extensively altered	Fair/poor
			Originally a single bay gable roofed sandstone powder magazine designed by Government Architect Edmund Blacket, it was extended in 1859 by Government Architect Alexander Dawson with 2 additional sandstone bays to form a 3-bay building. In 1925-1931 under SHT control, most of the stone walls were removed leaving only some stone piers. At a later period at the southern end even the stone piers were removed, and the building was reclad in corrugated iron. It has a later corrugated iron skillion roofed addition to the north end and is now completely clad in corrugated iron with a concrete floor to most of the building. A small section of floor has been removed in one corner revealing the original stone foundations.	
25*	1838	The Barracks	Largely intact, early form largely recovered in restoration works	Good/fair
			Built as the barracks for the garrison it is of sandstone construction with a hipped slate roof and loggia supported on pairs of Ionic stone columns. The building underwent conversion in the late 1850s/60s to accommodate 16 men comprising a Foreman of Magazine, two labourers and a military detachment of 13 who had previously been housed in a 'barrack room' at the southeast end. Works included removal of the wall between the barrack room and Foremans Office (creating a larger living space for the detachment at the southern end of the structure), refurbishment of the central four rooms occupied by the Magazines Foreman which featured three chimneys, use of the northernmost two rooms to accommodate the two labourers. During 1924 the Sydney Harbour Trust converted the building into two residences with various timber additions and new openings in the walls, and removal of two internal walls. Much of this work was reversed by the Maritime Services Board in 1978, when the building was altered for museum use, returning it to its approximate 1850s form. SHT alterations which remain include the blocking up of the rear doorway that formerly connected to the kitchen beyond (which remains blocked), pressed metal ceilings and fireplaces added to the interior in 1924.	
26*	1838, 1857, 1887	The former Barracks Kitchen, now known as the Kitchen Cottage	Extensively altered and extended	Fair
			Originally a 2 room sandstone kitchen building located symmetrically behind the barracks building of sandstone with a hipped roof, it was converted and extended to 4 rooms in sandstone c1857 with a skillion roofed addition to the north side; again extended c1887 with rendered brick laundry/wc extension to northern end of west elevation; prior to 1924 the SHT undertook a rendered brick extension to the east and alterations to change use to a cottage; 1956 MSB sunroom extension and removal of sandstone walls to north.	

				
26a*	1838	Kitchen Cottage Alcove	Partially intact	Fair/poor
		<p>At the rear of the kitchen is an alcove partially cut into the rock face on the western side and constructed of 8 courses of stone on the eastern side. The roof consists of at least 4 large lintel stones 150 mm thick x 1250 mm wide x 680 mm long. The interior has been painted or lined in the past and measures 2.4 m in depth x 1.9m in height. This may have acted as a food or wood store although it is particularly well constructed and in good condition.</p>		
61*	1836	Andersons couch	Intact	Good
		<p>A large rock outcrop adjacent to the path on the southern side of the Island contains a cut shelf measuring 1.5m long and 300mm-500mm wide and 600mm above the ground surface. Evidence of three attachments to the rock and a number of sandstone blocks in the ground in front of the shelf.</p> <p>A recalcitrant convict, Charles "Bony" Anderson, was chained to a rock in Sydney Harbour for several weeks before being transported to Norfolk Island. This place has been associated with his incarceration, although no descriptions of the exact location are known.</p>		
64*	1833c	Stone jetty	Largely intact but partially covered by later works	Fair/poor
		<p>The first jetty was built of stone quarried from the island and completed in 1833 prior to the construction of the magazine. Remains of this are likely to be the oldest surviving built structure on the island. The jetty located at the western side of the island in front of the barracks and adjacent to the boat shed is in the same location as the original jetty but is likely to be rebuilt. It consists of at least four courses of massive ashlar blocks and a set of narrow stairs.</p> <p>The jetty was extensively modified in 1862 although the lower courses appear to be original. A more recent sandstone sea wall (1925) has been partially built over the northern edge of the jetty on a slightly different alignment.</p>		

Item No	Date	Name	Level of intactness	Condition
66	1835c	Stone jetty remains	A ruin below high water mark	Ruin
			<p>Located on the south western end of the Island, the jetty is almost completely destroyed although still well defined at both high and low tide. The 1985 survey identified at least three courses still standing while it appears that only one course now survives intact, the rest is rubble. It measures 16m x 2.5m and blocks have been robbed to create the swimming pool on the western side.</p> <p>Several authors suggest a range of dates for construction between 1840-1899. Hosty (HLA: 17) states the stone jetty dates between 1839-42 but it is not on plans dating to 1844. The HLA phasing plan places it post 1860 and Thorp dates it to phase three 1840-1899 and it does not occur on plan in Kerr's report until 1891.</p> <p>There is no evidence of access to the jetty.</p>	
67*	1830s	Remains of Blacksmith's Shop	Archaeological site, markings on rock face remaining	Good/fair
			<p>Located on a rocky outcrop to the south east of the magazine wall, the site consists of a number of channels and slots cut into the rock face and a partially intact sandstone ashlar wall. The cut rock face appears to form the eastern wall of several structures including an 'L' shaped cutting indicating a structure built against the rock face and a wall consisting of six courses of ashlar sandstone extending from the cut rock face approximately 20 m to the north. The blacksmiths shop is not described in documentation nor is it located on any plan, so interpretation is speculative. No artifacts have been observed or recovered during any studies in the past. The retaining wall of the tennis court sits above the rock platform directly behind the rock face.</p>	
68	Pre 1830	Shell deposit	Remnant, covered by grasses	Poor
		<p>A small deposit of shells found within the root system of the southernmost fig tree by the path. The deposit may be a shell midden, but is more likely to be related to the operation of the kiln (item 95) directly below.</p>		
69*	1836	Magazine Walk	Alignment intact, reworked	Good
			<p>It is likely that this alignment operated from the first development of the island as it connects the outbuildings (94), Anderson's couch and the lime kiln all from the 1830s and would have been the easiest and most level route between the ends of the island. Later the 1870 magazines were built on its alignment.</p>	

Item No	Date	Name	Level of intactness	Condition
70	1838	Magazine precinct Stone retaining walls	Largely intact	Good/fair
			A series of coursed stone retaining walls behind the barracks and kitchen block to provide a levelled platform for the construction of these buildings. These walls are more rustic in construction than the fortified wall but are well laid and remain in sound condition.	
71*	1838	Fortified wall and sentry box	Largely intact	Good/poor
		 	A coursed stone perimeter wall to the north, east and south of the magazine built on the edge of the quarry with a gateway, loop-holes and single sentry box on the southern alignment. The wall is finely dressed with even courses and the main gate is carefully detailed. The wall itself is plain coursed sandstone with a curved projecting coping. The wall is of considerable height at its western end and lower where it tops the quarry face. It is a compound wall rather than a blast wall (for security rather than for the containment of explosions), consistent with the standard British Imperial plans for early to mid 19 th century powder magazine complexes. However, the wall's construction by convicts in locally quarried sandstone gives it unique links to Goat Island and the early 19 th century history of the colony of NSW and of Sydney. British Imperial Infantry and artillery units sent to Goat Island on Garrison duty to guard the magazine between the 1830s and 1870 left a record of their presence by carving their regimental numbers on the sandstone sentry wall. The 'graffiti' records the almost continuous occupation by Imperial infantry regiments till 1870 and indicates which units spent time on the Island. The sentry box and a small section of wall to the immediate east of the sentry box appears to have been added to the wall slightly after the completion of the remainder of the wall and is of a different sandstone (possibly sandstone quarried from Barney's Cut in 1837-1838) (petrographic analysis by D. Young, 2007).	
72*	1830s	Magazine precinct quarry face	Largely intact quarry faces remain	Good/fair
			A quarried rock face up to approximately 7 m in height and related to the construction of the Queens Magazine, underlies almost the full extent of the Magazine Wall (no. 17). In 1833 ironed gangs were reported to be employed quarrying at the western end of the Island to level the ground and to provide stone for the magazine and a wharf. Apart from the obvious flat picked surface of the rock face, there is very little evidence of quarrying techniques. Several vertical and horizontal slots are cut into the rock face around the cooperage shed roof suggesting the roof may have been replaced. The Queens magazine and the cooperage are constructed from the same stone as that excavated from the magazine precinct quarry (Dr. R. Franklin.). The quarry produced high quality sandstone in substantial dimensions. A considerable amount of the stone was also cut for public building construction in Sydney. The large quarry into which the magazine complex was placed was cut by convicts to provide the stone for the buildings and the fill to create the edge of the levelled (or benched) platform on which the buildings are located. The quarry face remains largely in the form that it was cut with evidence of excavation, the quarry floor is up to a metre below the current ground level, allowing for foundation areas and drainage. It appears that the quarry has not been reworked or enlarged after the magazine was complete.	

Item No	Date	Name	Level of intactness	Condition
92	1830s	Stone structure on shore	Archaeological site	Poor
			Located on the water's edge to the south of the kitchen and outbuildings. Consists of two stone walls 7 courses high (approx 1.2m) which meet at right angles at the base of the retaining wall and adjacent to the submarine cable. Large pieces of slate and numerous artifacts are located here as well. No documented evidence for its function.	
94*	1838-1891	Privy and outbuildings site	Archaeological site, no visible remains	n/a
			Located to the east of the kitchen building, the rock face that runs around the southern edge of the island is extensively quarried. Historic plans and documents locate privies and other out buildings in this position. The site consists of an 'L' shaped cut and several square and 'V' shaped channels likely to relate to the 1860s privy and drainage for the kitchen gardens above and to the north of the area, or simply as a source for quarried stone. Two courses of brick channeling that were identified in 1985, were not visible.	
95	1830s	Remnant lime kiln	Archaeological site, kiln altered by later construction	Poor
			In the rock face to the rear of the boatshed the partial remains of a circular stone structure consisting of 9 courses of ashlar stone 2.5m high which would have had a diameter of approximately 1.5m. The retaining wall to the north on which the fig tree is growing was constructed later and on a different alignment to the circular structure. The construction of the retaining wall or the boat shed may have resulted in the disassembly of the structure and incorporation of the stone elsewhere.	

Item No	Date	Name	Level of intactness	Condition
99	Colonial period to Maritime Period	Gardens and garden features	Site of Garden and garden features related to Barracks (25). This is also the location of the Canary island date palm (136)	n/a
			Remnant garden plantings in the Barracks area, including Canary Island Date palm (Maritime period) .	
109	1838c	Site of former building	Archaeological site, grassed over	n/a
			Adjacent and to the north of the barrack building a raised rectangular mound over which a later stone retaining wall is constructed. Gardens and a possible outbuilding were located here.	
115	1838c	Stone retaining wall and steps	Remains of pathway	Deteriorated
			Between the barracks and the fortified wall a low stone wall and remnant steps indicating a path leading around the wall.	
119	1890s c	Foreshore fill site	Unknown	Eroding
		An area along the southern foreshore above the rock escarpment that has been filled to create a levelled platform around the colonial and later buildings. The extent of fill is not known however it can be partially ascertained by inspection of the eroding edge that has revealed fill and artifacts.		

Item No	Date	Name	Level of intactness	Condition
132	mid 1880s	2 Moreton Bay Fig Trees (<i>Ficus macrophylla</i>)	Mature	n/a
			Two mature Moreton Bay Fig trees (<i>Ficus macrophylla</i>) remain either side of the ascending pathway near the southwestern slipway and appear to have been planted about the mid-1880s. Safety reports have been completed for the trees by Naturally Trees Arboricultural Consulting (Items 5 and 6) in 2005 and recommended actions carried out. The surface roots of the southern-most tree have enveloped a loose sandstone retaining wall such that, together, they form an interesting sculptural feature. The other tree has large areas of decay around its base and its southern buttresses have formed a wall along an old path alignment with the eastern-most root almost pointing the way to the Barracks front door. The trees have been a major feature of the southern side of the Island for about 100 years and represent one of the few tangible elements remaining on Goat Island of the late imperial period.	
133	mid 1880s	2 Moreton Bay Fig Trees (<i>Ficus macrophylla</i>) and 1 <i>Ficus obliqua</i>	Mature	n/a
			Line of three mature fig trees (2 x <i>Ficus macrophylla</i> and 1 x <i>F. obliqua</i>) to the east of the 1838 barracks mess. The form of these trees is different to the western fig trees as a result of numerous Coral Trees (now removed) in the vicinity forcing the fig trees to grow more vertically. As with the other fig trees these have been a major feature of the character of the southern shoreline for about 100 years and may have been part of a longer line of fig trees as there is photographic evidence of another fig tree to the west of the mess. The trees have been assessed by Naturally Trees Arboricultural Consulting (Items 19, 26 and 27) in 2005.	
134	1890s- 1910	Ombu (<i>Phytolacca dioica</i>)	Date unknown but probably late 19 th to early 20 th century planting	
			Mature <i>Phytolacca dioica</i> above and to the northeast of the 1838 barracks mess. Although common in its native South America, Ombu of this age are rare in Sydney – others of a similar size include an example at the Centennial Park eastern entry and one at Babworth House, Darling Point. This tree has oleanders growing around its base as well as much <i>Cestrum</i> . It is Item 13 in the 2005 arboricultural assessment of Naturally Trees Arboricultural Consulting.	

Item No	Date	Name	Level of intactness	Condition
Maritime Period: Sydney Harbour Trust Phase				
16*	1925-1928	The Scow shed	Largely intact, recent removal of parts of roof and drainage	Fair/poor
		<p>The Scow Shed is a galvanised iron roofed timber framed structure between the Queens Magazine and the quarry face. It is an elongated single storey open structure with an overhead moveable crane supported on a steel girder track. It is constructed with a timber post and trussed roof. The ground finish has a bituminous coating over fill. The rear wall is clad in corrugated iron over a light timber frame. Recently the west side has been excavated and the roof removed to improve drainage to the magazine building.</p>		
22*	1930c	Amenities building	Reasonably intact	Fair/poor
		<p>This building is a weatherboard single storey building, with a "tower" at the south end (to house a water tank to supply water to the showers below). The building was built as an amenities building for the workers of the Shipyard. Workers would have a shower in the south lean-to addition and then go into the main area to get changed, where locker facilities were located. Hot water was gravity fed to the showers from a tank in the tower above the south addition. The larger room was a mess room. After 1948 when the new amenities building was constructed, the building was used for small fibreglass work.</p> <p>The building is a rectangular, single storey building of timber framed construction with weatherboard cladding. It has a hipped roof of corrugated iron. The building has lean-to weatherboard additions on either end with corrugated iron skillion roofs. A timber tower is located on the south addition. The building has timber framed double hung windows with horizontal glazing bars. There are small louvred windows in the lean to additions, located in the ends of the building. The southern wall has metal louvres. The doors are timber, framed and ledged.</p>		
25a	1924	Sites of Privy and laundry attached to Barracks	Archaeological sites (2 locations to southwest and northeast corners of Barracks), grassed over	n/a
		<p>These areas are now grassed and paved areas under which are likely to remain evidence of the additions made to the barracks building by the Sydney Harbour Trust in 1924, related to the conversion of the Barracks building into two residences (SHT residences 15 and 16) at the time.</p>		
65	1830s, 1925c	Stone jetty	Largely intact over earlier slipway	Fair
		<p>Constructed c. 1926 as part of the first shipyard works to the area, this structure overlies the earlier 1830s wharf visible to the right in the photograph. It is on the site of a slipway and shed from the 1830s.</p>		

Item No	Date	Name	Level of intactness	Condition
96	1925	Winch House	Largely intact	Fair/poor
			A simple timber framed corrugated iron clad skillion roofed shed located immediately north of the Scow Shed (16), housing the winch mechanism that powered the rope line, moving vehicles on the rail tracks from the wharf up the gentle slope to the magazine area. While the tracks have been removed or covered over, the winch and its housing and shed remain.	
				
136	c.1930s	Canary Island Date Palm (<i>Phoenix canariensis</i>)	Mature	n/a
			In various locations on the Island there are mature plantings of date palms most of which are the common Canary Island Date Palm (<i>Phoenix canariensis</i>). This mature palm is located south of curved 1838 defensive wall north of the barracks. As can be expected the progeny of these palms are evident in various parts of the Island.	
141	Interwar period	Coral Tree (<i>Erythrina x sykesii</i>)	Mature	n/a
			Once common around the southern part of the Island and around the Harbour Master's residence, only a few mature trees remain. The species is susceptible to major limb failure and can be a risk to public safety. It is also prodigious at self-propagation. The remaining mature trees are along the southern shoreline and it is likely that these were planted by the 1910s through the SHT. Other large trees are north of the Harbour Master's residence with younger plants spreading into other areas of the island (eg. east of upper central area).	

Item No	Date	Name	Level of intactness	Condition
Maritime Period: MSB Phase				
13	1964	Amenities Building	Reasonably intact	Fair
		A large two storey amenities block was built to replace a number of redundant and overcrowded structures and featured a large downstairs change room with locker accommodation and ablutions, with an upstairs dining area seating 150 with wet weather gear storage. The structure featured concrete masonry (bessa) blocks, with the eastern and western walls fabricated of aluminum curtain walls with panels of exposed aggregate with fire resistant sound insulating fabric called 'vermicite plaster'		
14*	1948	Amenities Building	Reasonably intact	Good
		Built by the Maritime Services board as a amenity block for shipwrights and fitters it is a typical building from the period with a hipped tiled roof, mid brown face brick walls and classically proportioned with a recessed verandah to the south. The siting of the building is practical but intrudes into the forecourt of the magazine. The building features limited decoration and austerity in overall design.		
15a*	1942	Addition to Queen's Magazine	Largely intact	Fair/poor
		A timber framed skillion roofed addition built on the end of the magazine as a store with a door cut through the end wall of the magazine to connect it. Like the workshop buildings it has a simple parapet to provide a squared front rather than reveal the skillion roof. It has no linings, is of very basic construction and is attached to the stonework of the magazine.		
23a*	1943	Boatshed	Reasonably intact, slipways removed, erosion to seafront	Fair/poor
		This is a utilitarian and simple rectangular brick building with a gabled corrugated iron roof, and three pairs of timber doors facing south opening onto the water's edge. The sliprails have been removed and are stacked nearby. The building is cut into the shoreline which involved the partial demolition of an early lime kiln. The foundations are washing away at the southeast corner and the front edge of the building is becoming undermined by wave action.		
24*	1943	Substation	Intact	Good
		An inter-war Georgian style building that was designed carefully in relation to the adjacent barracks building reflecting design elements such as the use of segmental arch and label mold features of the earlier building. It is a simple rectangular rendered brick building with a gabled corrugated iron roof and symmetrically placed openings. The end walls feature the recessed arched form. The guttering returns around the ends of the building.		

Item No	Date	Name	Level of intactness	Condition
90	1960c	Incinerator	Intact	Poor
		<p>A standard c1960 prefabricated incinerator inserted between the rear of the stores building and the perimeter wall on a convenient rock outcrop. It is utilitarian in nature.</p>		
107	1955-1962	Remains former mess room slab	Archaeological site, slab remains visible	Fair
		<p>A concrete slab that remains after demolition of an addition to the amenities building. The addition appears to date to the early 1960s and was a meal room attached to the change rooms. It had a garden behind which had a small fish pond that survives.</p>		
National Park Period				
-	-	-	-	

SHIPYARD PRECINCT



Figure 3.14 Aerial view of shipyard precinct on the lower right of the photo, note a number of wharves are no longer extant.



Figure 3.15 View of the shipyard precinct from wharf 4b

The shipyard precinct is the area fronting the waterfront excised from the Magazine precinct in 1925 when the major shipyard construction, including filling to extend the foreshore and further quarrying for slipways, took place. This work, along with the 1940s and 1960s additions and reconstruction of the area, form the current presentation of the precinct. From the water the area is now completely overlaid by operating maritime and shipyard use. The precinct comprises three related components:

- 1 The slipways both above and below high water mark with their leveled platform cut into the rock of the island, excavation of the cliff face and the operational infrastructure (including the Hammerhead Crane) noting that a large part of the precinct is below high water mark.
- 2 The wharves.
- 3 The Ship Repair workshop buildings, located largely on the reclaimed and filled land.

- _____
- i Kerr, James Semple, *Goat Island MSB & National Trust*, 1987, p. 13
- ii Kerr, James Semple, *Goat Island MSB & National Trust*, 1987, p. 30
- iii Kerr, James Semple, *Goat Island MSB & National Trust*, 1987, p. 28

This is an industrial precinct, virtually devoid of natural or introduced landscaping, that has been in operation since the mid 1920s. It is the most modified section of the island and has no relationship to the former natural edge or landscaping on the island.

Finishes are either cut rock for the slipways, formed concrete to access routes and wharves and some areas covered with asphalt or gravel.

It is likely that earlier remnant features such as the colonial jetties and footings of colonial foreshore buildings remain under the current finishes. Rail track remnants from the Sydney Harbour Trust period of the shipyard are also evident.

The Shipyard Precinct has one identified cultural planting:

- Frangipani (*Plumeria rubra*) north of building 14 and is probably contemporary with it (1948), identified as Item 143

The current form of the precinct is principally the 1940s construction overlaid on the 1925 site works that created the slipways. Some later construction is overlaid adding facilities, minor additions and amenities to the site. The precinct remains in use for slipping and boat repair and maintenance.

The elements of the precinct are outlined in Table 3.5



Figure 3.16 Plan of Shipyard Precinct indicating the various elements within the precinct.

Table 3.5 Elements of the Shipyard Precinct

Note items for which detailed inventory sheets have been prepared (contained in Volume 3: Heritage Inventory) are marked with an * next to the item number in the table below.

Item No	Date	Name	Level of intactness	Condition
Pre Contact Period				
-	-	-	-	-
Colonial Period				
-	-	-	-	
Maritime Period: Sydney Harbour Trust Phase				
113*	1926	Slipway	Reasonably intact	Fair
		The first slipway to be constructed by the SHT remains adjacent to the broadside wharf and now partially covered by workshop buildings. Cut into the base rock along the shoreline it did not require excavation of the cliff face as the later slips required. It comprises 2 sets of iron rails fixed to the sloping rock base.		
122	1926	Remains of railway	Archaeological Site	Poor
		Remains of the Harbour Trust rail system that operated on the wharves and within the magazine precinct, sections of rail and possibly turntables remain under the asphaltic finish. The alignment of the former tracks and the winch house are strong visual reminders of this phase of use. The tracks on the wharves were removed with reconstruction and other sections appear to have been removed for other construction.		
Maritime Period: MSB Phase				
1*	1946-1949	Ship Repair workshop	Reasonably intact, some alteration	Fair
		A saw tooth roofed corrugated iron clad building with corrugated iron parapet to south, built from 1946-1949. Timber framing to south wall, timber framed windows with horizontal glazing bars, steel trusses to roof, and steel structural posts to interior, which are also used for equipment. Concrete floor. Rear (north) wall is concrete to lower section, with corrugated iron cladding and timber framed windows above. Corrugated iron clad timber partitions dividing the building's interior into bays. Built onto eastern end of the Broadside Wharf. Roller shutters to south (waterfront) wall.		
1a*	1962-3	Ship Repair Workshop addition	Reasonably intact	Fair
		A simple skillion addition to the main workshop building of timber framing clad in corrugated iron. It has roller doors and was sited to avoid the rail system which closely abuts it.		

Item No	Date	Name	Level of intactness	Condition
2*	1945	Repair Workshop	Reasonably intact	Fair
			<p>The first section of this shed to be built was the southern section with a floor level located at wharf height and apparently built over the earlier slip rails. Originally with central timber columns, they were removed and a steel support structure added to provide for clear spanning. A small mezzanine is located at the south end.</p>	
2a*	Post 1945	Repair Workshop Addition	Reasonably intact	Fair
			<p>A separate building built onto the end of the workshop building retaining the former external wall within the building. Used for stores its construction suggests the 1950s period but it does not appear on plans from the period.</p>	
3*	Post 1945	Slipway Workshop	Reasonably intact	Fair/poor
			<p>An addition to the workshop building that provided cover over the upper part of the 1926 slipway for working on vessels, this is the only covered section of slipway. It is a timber framed building with timber trusses with a perimeter walkway.</p>	
4, 4a,*	1946	Broadside Wharf	Reasonably intact	Good
			<p>The Broadside Wharf is a single wharf, however for convenience described in two sections: 4a being the part of the wharf fronting the Ship Repair Workshop, 4b being the part of the wharf north of Ship Repair Workshop.</p> <p>4a is a timber framed wharf on hardwood piles (350x350) with timber headstocks (350x350) and girders (350x250), a concrete deck (120-150 thick) and painted timber handrail to the southern end, set in front of and attached to a stone sea wall and providing access to the sea side of the shipwright's shop. The wharf extends and connects to wharf 4b and also extends around the southern end of the Ship Repair Workshop (1) as a narrow walkway linking to the shore. A set of access stairs is located at the south-west corner to provide small boat and ferry passenger access. The wharf is partially concrete decked but was originally timber decked. The core construction that remains dates from the mid 1940s reconstruction of the area when adjacent buildings were also constructed on an area of reclaimed land. The construction is standard, uses a regular pile grid and is similar to the other 1940s (and later) period wharf construction, all of which had a common designer and construction period. A number of fenders are located along its length these are 200 - 300mm squared timber with a splayed top. The wharf has</p>	

Item No	Date	Name	Level of intactness	Condition
			<p>undergone extensive repairs during 2007, using new hardwood piles and headstocks, and concrete decking. It is used in conjunction with the commercial use of the shipyard in contrast to general mooring as seen on the north side of the island</p> <p>The wharf is used to provide access between vessels to the shore buildings containing stores and workshops. Use of the wharf is currently shared between the shipyard lease (northern part) as the main access point to the island for staff and public (southern end).</p>	
4, 4b*	1946	Broadside Wharf	Partial collapse	Very Poor
			<p>Wharf 4b is a long timber framed wharf extending from the Ship Repair Workshop (1) alongside the slipways as a freestanding wharf set on hardwood piles (350 x 350mm) with raking piles at every second grid. It connects to the coal loader wharf at its northern edge. The wharf is partially covered in a concrete topping.</p> <p>The construction is standard with timber decking (under the concrete in places), a concrete deck of approximately 120-150mm thick, headstocks (350 x 350mm), girders (300 x 300mm) and evenly spaced cast iron bollards. The wharf featured a small hand operated crane and several light standards. It has several timber ladders extending into the tidal zone and several fenders.</p> <p>The wharf was used for berthing of vessels under repair or construction with rail access to the workshops.</p> <p>The wharf is in very poor condition with most piles missing or failed. In 2010 a section of the wharf collapsed including the hand-operated crane that is now under debris on the harbour floor. Due to its condition, the wharf is currently disused and it is proposed to remove the wharf as it is not recoverable.</p>	
5*	1946	Coal loading Wharf	Partial collapse	Very poor
			<p>Located at the end of the Broadside wharf, only the wharf structure remained from the former wharf and coal stage, the latter being removed as the wharf became unstable. It had the same construction as the adjacent wharves with the addition of a cluster of piles at the corner to protect the structure from shipping. It had a concrete deck through which the former superstructure framing extended, this was all removed to deck level. The superstructure required bracing and inclined structural members survive in part immediately below the deck level. The wharf was used to hold coal reserves in timber framed and lined bins for fueling vessels used by the MSB. The structure is in very poor condition with most piles failed and the decking has collapsed leaving only a small number of piles. Access is not available due to its condition.</p>	
5a	1965	Dolphins + line of fenders	Intact	Fair/poor
			<p>This structure comprises a series of steel circular piles (approx 300mm diameter) linked by steel channels at the upper level and timber beams at the lower levels bolted to fixing plates welded onto the piles. It was constructed at the time of the construction of the 500 ton slip to prevent ships entering the slipway from drifting onto the shore. It runs parallel to the Broadside wharf and turns away following the shore to ensure that wayward vessels are guided onto and off the slip.</p> <p>It is in fair condition but the timberwork requires repair and maintenance.</p>	

Item No	Date	Name	Level of intactness	Condition
7	1949	Winch House	Reasonably intact	Fair
			<p>The corrugated iron clad and timber framed shed housing the winch mechanism for the 1949 slip and a stores area. It is gabled roof.</p>	
8	1965	Winch House 500 ton	Reasonably intact	Fair
			<p>A utilitarian brick shed with open section housing the winch and a secure area housing the winch motor. The shed has a flat roof. Built in conjunction with the 500 ton slip, it accommodates the winch mechanism.</p>	
9*	1963	Hammerhead Crane	Not operational	Fair/poor
			<p>The Hammerhead Crane is a large, visually dominating, industrial landmark on Goat Island. Built in 1924 in Glasgow, Scotland, it was originally sited at Mort's Dock at Balmain before re-erection by the MSB at Goat Island in 1963. It has been in use until late 2010 but is no longer operational. The crane is currently being assessed to determine future actions.</p>	
29*	1949	150 ton slipway	Reasonably intact	Fair
			<p>The 150 ton slipway retains its original formation near the water with the use of timber logs to support the rails and stone infill, the higher levels have been upgraded with concrete construction.</p>	
30*	1965	500 ton slipway	Reasonably intact	Good
			<p>The 500 ton slipway required further excavation of the cliff edge and the magazine area to accommodate the rails, overhang and the winch house. This was the last major work to be undertaken in the shipyard.</p>	

Item No	Date	Name	Level of intactness	Condition
114	1963c	Shed	Reasonably intact	Fair/poor
			<p>A simple steel clad shed built within the frame of the hammerhead crane probably around the same time as the crane was installed.</p>	
120	1945c	Jib crane	Condition unknown	Assumed poor
			<p>An early hand operated jib crane apparently added to the 1945 wharf. Its former location and use (it is significantly older than the wharf on which it was located) and history are not known. The crane is now beneath wharf debris on the floor of the harbour after the collapse of this section of the broadside wharf.</p>	
121	1945c	Jib Crane	Reasonably intact	Poor
			<p>A jib crane with braces located on a small section of wharf near the repair workshop. The crane appears to date from the 1945 period.</p>	

Item No	Date	Name	Level of intactness	Condition
143	1948c	Frangipani (<i>Plumeria rubra</i>)		
		<p>The Frangipani is planted near the northwest corner of the 1948 Office & Amenities Building (14) and likely to be associated with this building. This is the only significant planting in the Shipyard Precinct.</p>		
National Park Period				
-	-	-	-	

CENTRAL PRECINCT



Fig 3.17 The central precinct is marked by the dense landscape cover around the eastern edge of the island (foreground) and the open ridge overlooking the shipyard.



Fig 3.18 General internal view of the precinct looking towards the shipyard and Balmain in the background.

The central precinct is the largest precinct and contains landscape, both natural and introduced but no extant structures. It contains a number of archaeological sites, evidence of quarrying, modifications to the landscape to create leveled platforms that contained buildings

and the tennis court, remains of former paths, the current main access paths across the island and smaller scale elements such as seats and memorial plaques.

The landscape varies across the precinct from the natural both remnant and re-vegetated edge to the north-west with relatively little landscape change, to the cleared ridge line, to areas of substantial regrowth and introduced plantings, including weeds, along the ridge and to the natural escarpment edge to the south-east.

The Central Precinct became progressively a cleared grassed and lightly tree covered area from the 1830s until the 1980s (150 years), but with surviving and regenerated native vegetation along its northwestern edge (135). Older palms planted in the 1930s within the Sydney Harbour Trust period within this area include:

- 1 x *Phoenix canariensis* (137)
- 1 x *Phoenix dactylifera* south of the Recreation Hall site (and pre-dating *Phoenix canariensis* above) (137).

Over the last twenty years this precinct has had substantial regrowth of native and introduced species and has also suffered from extensive weed growth.

It is a section of the island that has not had an industrial, residential (apart from an early convict barracks which appears to have been ephemeral in impact and Gunner Davis' cottage, also no longer extant) or other uses apart from early quarrying, recreation and access. This is largely due to this being a part of the island that was used during the colonial period to provide physical separation between the magazine area and the water police station. This area was later used for open space for the workers and residents of the maritime authorities, as the central spine was not easily accessed from the water or useful for other purposes. This recreation use was reinforced during the 1940s by the construction of the community hall on the ridge line and the tennis court benched in below it to the south-west. These elements added by the MSB shortly after their occupation of the island reinforced the zoning of the island into waterfront activity along the north-eastern and south-western edges and residential and recreational use along the central ridge.

The elements of the precinct are outlined in Table 3.6



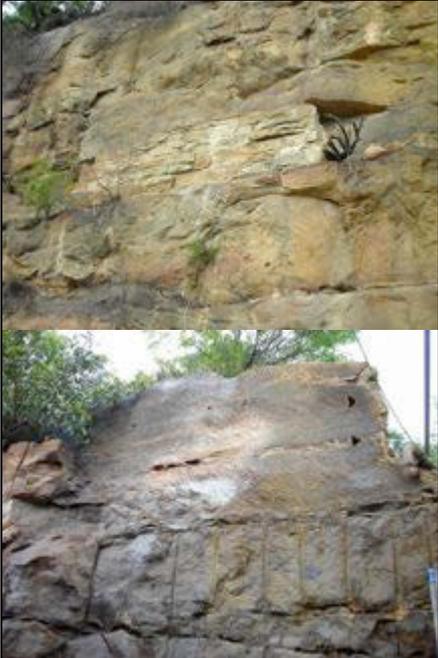
Figure 3.19 Plan of Central Precinct indicating the various elements within the precinct.

Table 3.6 Elements of the Central Precinct

Note items for which detailed inventory sheets have been prepared (contained in Volume 3: Heritage Inventory) are marked with an * next to the item number in the table below.

Item No	Date	Name	Level of intactness	Condition
Pre-Contact Period				
135	Ongoing	Remnant indigenous Sydney Harbour vegetation community along north-western edges of island		Good
			Persistent representatives of the earlier vegetation community have remained around the northwestern edges of the island and include <i>Ficus rubiginosa</i> , <i>Eucalyptus botryoides</i> , <i>Angophora costata</i> , <i>Elaeocarpus reticulatus</i> , <i>Ceratopetalum gummiferum</i> , <i>Pandorea pandorana</i> (very large vine suggesting some age), <i>Banksia integrifolia</i> and <i>Pittosporum undulatum</i> .	
Colonial Period				
63*	1830c	Lime kiln	Partially intact and infilled	Fair
			<p>The lime kiln is located just to the east of Anderson's couch. It is cylindrical, overgrown and silted up, measuring 2 m diameter and is 2.2 m deep. While it is constructed partly of ashlar blocks and brick, much of the structure is cut into the natural contours of the rock outcrop. Slag is used in the mortar and the kiln contains associated ash and lime deposits and evidence of high temperature burning.</p> <p>Lime kilns are generally temporary structures, built near the site where lime was required. This example would have been oriented over the water to the south east to ensure that the opening in its base provided an accelerated updraft to guarantee that the shell was well burnt. While the lime kiln is small and primitive, it is consistent with penal establishments of the 1830s (Kerr 1987).</p> <p>Mortar on the top stones suggest several courses may be missing and several slots cut into the top of the upper-most stones suggest a roof or platform was built over the top.</p> <p>Much of the surrounding stone has been quarried or shaped and four metal pins have been mortared into small holes cut into the southern face of the rock.</p>	

Item No	Date	Name	Level of intactness	Condition
69*	1836+	Magazine Walk	Alignment intact, later changes to finishes and levels	Good
		This section of Magazine Walk is located between rocky outcrops and runs along the edge of the escarpment. It was separated by a white fence that has been replaced with an inappropriately designed but OH+S compliant fence. The route provides views to the city.		
77	1836c	Evidence of quarrying on the edges of the ridge	Visible but difficult to access	n/a
		Remnant cut areas of rock along the ridge and extending down the western slopes from former quarrying.		
91*	1857c	Archaeological site 1	Archaeological site, sandstone footings	n/a
		Sandstone footings directly adjacent to and west of the tennis court. The site is overgrown and the footings are aligned in such a way that they veer towards the tennis court. View south.		
93*	1830s	Artefact scatter	Archaeological site	n/a
		Artefact scatter – possible site of early building/"House on hill" - site of former 3 room weather board cottage (now demolished) on elevated ground in Residential Precinct. The artefacts in the scatter appear to date from between 1845 and 1900, and include a pipe stem, flint and ceramic sherds.		

Item No	Date	Name	Level of intactness	Condition
110c	1840s c	Rock cut	Archaeological site	n/a
			Function unknown. Likely evidence of early quarrying or related to a structure, now removed. Visual inspection limited due to vegetation overgrowth.	
112	1836	Quarry face	Archaeological site along cliff edge	Fair
			A distinctive area of quarrying on the western escarpment that is difficult to access. Part of the evidence of the extensive quarrying around the island.	
Maritime Period: Sydney Harbour Trust Phase				
60	1925	Path from shipyard to residences	Archaeological site, remnant path, poles and fencing	Poor
			Remains of the former access path linking the shipyard to the residential precinct. Extending along the edge of the cut for the slipway and originally accessed from a timber stair at the base, it had a concrete kerb, stone steps (now dislodged) timber rails along the cliff edge and extended to the rear of the residences. It is now overgrown and difficult to access.	

Item No	Date	Name	Level of intactness	Condition
Maritime Period: MSB Phase				
15b	1941	Tennis court foundation	Foundation intact, no longer in use	Deteriorated Poor
15c	1941	Tennis court pavilion site	Archaeological site, no extant evidence	n/a
			Constructed in 1941 on what was probably a reasonably flat area to the south of the magazine precinct, the tennis court was the first of a number of recreational facilities constructed for the inhabitants of the Island. The court is assembled on fill and cut into the bedrock on the north eastern side, retaining evidence of modern explosives to remove the rock. A dry stone retaining wall supports the southern and part of the western side of the court. The bitumen surface is almost completely overgrown with only patchy evidence of the white lines intact. The 1985 survey identified a single net post still standing, however this no longer survives. The site of the pavilion was to the west of the tennis court, but apart from stone stairs cut in the rock platform, nothing of this building survives. 8 metres of sandstone block footings from an earlier structure (91) are visible on the western side of the court running under the tennis court at a different alignment.	
73	1941	Recreation hall archaeological site	Archaeological site, footings remain visible	Fair
			The remains of the Recreation hall (17.08m x 7.9m) are located on the highest point of the island's ridgeline, between the tennis court and the rear of the cottages. Named 'Victory Hall', it was constructed in 1941 around the same time as the swimming pool and the tennis court in order to foster community spirit and provide entertainment for the 26 men and a number of family members living on the Island. Constructed of wood on brick footings with an iron roof, the building was considered handsome and could accommodate 250 persons. The building was rectangular in shape with small additions to the rear. The Hall was rebuilt after fire damage and demolished in 1960. Dry pressed double brick foundations, evidence of ancillary buildings and associated pathways still survive.	
74	1937c	Stone retaining walls creating platforms	Largely intact with some failure of loose laid walls	Fair/poor
			A series of low dry stone walls built from stone collected on the island and presumably from part of the quarrying activity used to bench the site to create leveled areas for recreational use. The illustration is the wall below the tennis court, other walls created a leveled area on the ridge line for the recreation hall building.	
103	1943	Seat on the ridge line	Intact	Good
			A rustic stone seat set between a grove of trees on the ridge line adjacent to the plaque (76).	

Item No	Date	Name	Level of intactness	Condition
104	1941	Memorial plaque on the ridge line	Intact	Good
			A plaque in memory of Mrs Bennett, first secretary of the Goat Island social club noting that the trees in the grove were planted in her memory.	
105	1946	Memorial Brigademan J Burgesson	Inscription	Good
			An inscription in memory of one of the MSB fire brigade crew whose ashes were placed under a tree in the vicinity.	
106	1945	Memorial	Inscription	Good
			Inscription marking the planting of a grove of trees by the Royal Historical Society in 1945.	
116	1937c	Path		
		Circa 1937 path through central precinct which runs off the Magazine walk to the southwest across the central precinct to the Residential Precinct. This path has been recently resurfaced.		
National Park Period				
108	1999c	Access paths	Paths intact	Good/fair
			There are several access paths through the area, this stone flagged path connecting to magazine walk being a recent addition on the alignment of an earlier track. It skirts around the hall remains and aligns roughly with the ridge.	

WATER POLICE PRECINCT



Figure 3.20 Aerial photo of the Water Police Precinct from the east with the marine precincts surrounding it.



Figure 3.21 Overview of the precinct and the Cut.

This small precinct occupies the knoll at the eastern end of the island separated from the rest of the island by Barney's Cut. The precinct includes the rock escarpments and cut rock faces with their steps and other features extending around the knoll as well as the access bridge, the three extant buildings and various slabs and remains of demolished structures. The 1838 Water Police Station is the earliest element at this end of the island and features in several early illustrations, marked through its starkness and remoteness.

Once largely inaccessible up the steep rock faces, it is now surrounded by reclaimed foreshore in the adjoining precincts and the knoll has in part lost its dramatic setting as seen in the historic illustrations.

The landscape is modest, comprising mostly grassed areas with several small trees and some planting on the slopes but also weed growth around the edges of the precinct. Paths extend across the precinct linking the three buildings and the access points. The edge of the rock escarpment is fenced for part of its length with tube framed and mesh infilled low fencing and also features a range of stone and some brick retaining walls and embankments. It is now difficult to determine the original rock edges from the modified landscape. The precinct includes the rock face but not the filled foreshore areas below.

A key feature of the landscape is the dramatic cut rock face of Barney's Cut, which remains largely unmodified on its northern face.

The Water Police Precinct includes the following cultural planting:

- 1 x Phoenix canariensis south of the 1838 Water Police building (Item No.138).

There is some archaeological potential through known sites of demolished structures and additions to the buildings, however most of these appear to date to the twentieth century with little evidence of earlier structures.

Features of the precinct are outlined in Table 3.7.



Figure 3.22 Plan of Water Police Precinct indicating the various elements within the precinct.

Table 3.7 Elements of the Water Police Precinct

Note items for which detailed inventory sheets have been prepared (contained in Volume 3: Heritage Inventory) are marked with an * next to the item number in the table below.

Item No	Date	Name	Level of intactness	Condition
Pre-Contact Period				
-	-	-	-	-
Colonial Period				
46a*	1865	Cottage (aka Artillery Sergeant's cottage)	Altered but reasonably intact externally	Fair
			<p>A sandstone two-room building with a hipped roof and central chimney, associated with cartridge laboratory use of the Former Water Police Station, the cottage was built as accommodation for a Sergeant of Artillery. From 1912 when the adjacent Fire Brigade Barracks (46b) was built, the cottage was used as a Fire Brigade mess room. From 1963 the cottage was used as a wet-weather gear store for MSB Dredge staff (south room) and as a paint shop (north room). This involved installation of a pipe partition and coat racks to the south room (still evident). The north room appears to have later been used as a tea room for MSB staff (see kitchen fitout). The roof is now clad with corrugated iron (replacing slate) and the building's exterior has been painted over the sandstone. The verandah to the east elevation appears to be an early Sydney Harbour Trust addition, and does not appear on the 1891 survey of the Island. There are areas of archaeological potential in the vicinity of the cottage, being the sites of earlier structures including former additions, laundry and privy.</p>	
47*	1838	Water Police Station	Reasonably intact, additions removed	Fair/poor
			<p>An ashlar sandstone walled Water Police Station designed by Government Architect Mortimer Lewis to an adapted design from Loudon's "Villa and Cottage Architecture". It was altered in 1865 after eviction of the Water Police for conversion to a cartridge laboratory. From evidence in documentary sources, the verandah to the east elevation appears to have been added during the 1880s. The building had a range of later alterations for SHT use, including the weatherboard addition remaining on the south elevation.</p> <p>The building has a hipped roof clad in slate, a simple front verandah and blind windows to complete the symmetry of the design. The side windows are set in arched recesses. Much of the joinery has been replaced. The building is unoccupied and requires considerable conservation work.</p>	
86*	1837	Barney's Cut	Reasonably intact but partially infilled	Good/fair
			<p>Barney's Cut severs the eastern tip from the main part of Goat Island by a convict-excavated wet ditch approximately five meters wide. It was constructed to separate the Water Police from the western part of the island as a security measure, also providing a source of stone. The good quality stone excavated from the site was used to construct the Water Police Station completed in 1838. The Cut may also have provided a safe place for the storage of small boats. The cut has since been modified on the western side by excavation for the site of the Port Emergencies Services building. The Cut has featured a number of footbridges since at least 1865, the current footbridge being of relatively modern construction. Several slots and cuts within the flat well-finished walls suggest some type of attachments to the rock face.</p>	

Item No	Date	Name	Level of intactness	Condition
87	Pre 1900	Stone steps	Largely intact	Fair
			Set of steps partially cut into the rock and partially constructed connecting the knoll to the waterfront. Now fitted with a steel pipe hand rail.	
88	1865c	Access path	Intact	Fair
			The early alignment of the access to the bridge over the cut which has been indicated in all plans as an access area. The current finish is asphalt, possibly overlaying earlier finishes.	
89	1865 and later	Access bridge	Current bridge intact, evidence of earlier bridges extant	Fair
			The first bridge over the cut was constructed in 1865 after the removal of the Water Police from the Island. The Water police station building was converted to a laboratory and a new store was constructed which required the cut to be bridged to provide access. Hand carts were used to transport materials from one end of the island to another. The current bridge is approximately 2.5 m wide and constructed of hardwood planks on steel beams with a metal and wire handrail. The original bridge was approximately 1.5 m lower than at present and was probably raised to its current height when it was rebuilt some time in the early 20th century as suggested by the English Bond brickwork. The metal and wire railings replaced earlier wooden palings sometime after 1945 (based on aerial photography).	
100	nd	Remains of timber stair	Archaeological site, remnant elements remain	Poor
			Remains of the stairs leading down from the Water police precinct to the wharf/jetty constructed in 1836 on the northern side of the Island. Photographic evidence shows the wooden hand rail and stairs still in place in 1945. Only 4 rectangular slots for rails now remain cut into the rock face and a cut 1m wide ramp where the wooden stairs were likely to be located. View south.	

Item No	Date	Name	Level of intactness	Condition
101	nd	Stone steps and walls	Archaeological site, remnant elements remain	Poor
			An early set of stone steps, probably dating from the time of construction of the water police station leading down to the point. The edge of the escarpment has been built up with dry stone walling to retain the upper level area in front of the building. The lower edge of the photo shows further excavation.	
Maritime Period: Sydney Harbour Trust Phase				
46b*	1912	Barracks	Altered but reasonably intact	Fair
			A rectangular facebrick building with a gabled slate roof with lead ridge capping, exposed timber rafter ends, and colorbond guttering. The building has a small wing facing the 1865 cottage with a later verandah. It has timber framed double hung windows with 4-pane top sashes, however a number of window openings have been altered, some with glass louvres inserted. The barracks was converted to an amenities building for Dredge workers by the MSB in 1963, resulting in extensive alteration to the interior.	
126	Post 1912	Amenities slab	Archaeological site	Ruin
			The remains of a former outbuilding described as an amenities building with evidence of toilets and drainage extant. This location has been occupied with a structure of some form from the Trust period, although the exact nature of the building is not known. This is one of the few remaining visible slabs of buildings that were located throughout the area.	
138	SHT phase	Canary Island Date Palm (Phoenix canariensis)	Mature	
			A mature palm near the southeast of the Water Police Station, likely to be a planting from the Maritime Period: SHT phase (1901-1936)	

Item No	Date	Name	Level of intactness	Condition
Maritime Period: MSB Phase				
88	Post 1945	Access path	Altered	Fair
			<p>Remains of concrete path extending from buildings to the waters edge, originally two strips and later infilled. A navigation marker has been constructed on the path and undergrowth has encroached.</p>	
-	Post 1945	Fences	Altered	Fair
			<p>Fencing surrounds the precinct and now comprises low steel tube framing with steel mesh infill. The fencing now principally protects the escarpment edge and the moat around the barracks, earlier fencing in the area, which appears to be timber picket was used to define yards, the access path and service areas.</p>	
129	1970s-1980s	Maritime markers	Intact	Good/fair
			<p>This is the rear lead beacon for commercial vessels approaching from Darling Harbour. Steel framed structure with lights. Date not known but believed to be circa 1970s-1980s.</p>	
			<p>Day marker for commercial shipping vessels approaching from the east. Steel framed structure, built over a former accessway to the water. Date not known but believed to be circa 1970s-1980s.</p>	
National Park Period				
-	-	-	-	-

RESIDENTIAL PRECINCT



Figure 3.23 The residential precinct with the five remaining residences, the open lawn areas to the east and west and the dense vegetation cover to the north and west. Much of the precinct features its natural rock edge.



Figure 3.24 An overview of the open lawn areas to the east of the residences with the background of vegetation.

The residential precinct occupies the balance of the ridge of the island (not occupied by the Central Precinct) and is integrally linked to the Central Precinct. The area contains five extant houses, arranged in a line all facing east, and the sites of six demolished houses arranged either side of the central access path (Magazine Walk) through the area. Benching of the site involving quarrying the rock formation and provision of retaining walls as well as other features remain from the construction of these buildings and the earlier magazine store buildings.

The area is bounded and defined in part by the alignment of the rear fences (or former fences) to the residences, the escarpment edges to north and south and the top of the quarry cut behind the Port Emergency Services Building and the edge of Barney's Cut to the east. The area is generally grassed with remnant gardens and site features related to the residential uses. Most of the surviving garden elements date from the post 1950 period although plantings are identified back to c1900. Parts of the site around the extant houses are benched and leveled and there are remains of paths and stairs extending from the Harbour Master's house to its former wharf to the north. The remnants of a concrete reservoir are also in this location now surrounded by overgrown garden areas that appear to step down over the edge of the escarpment with rockeries and introduced plantings.

The area contains both natural vegetation, regrowth and introduced plantings.

The precinct includes the following cultural plantings:

- *Pinus radiata* behind Harbour Master's residence (probably 1930s) (Item No 140)
- *Bougainvillea spectabilis* near site of building 81a (appears in 1943 aerial but is possibly much older) (Item No. 139)

There are other plantings within this precinct such as the older *Harpephyllum caffrum* (though definitely post WW11), a second *Ficus obliqua* (probably seeded from the earlier one), a Cypress near the former eastern cottages and possibly other, younger *Ficus rubiginosa* but with developing form, however they are likely to be self-seeded.

Overall the Island also has some smaller exotic species that appear to have been used from the Colonial period onwards that may be the progeny of earlier garden plants. These include *Furcraea foetida* (south of 'Victory Parade' walk and north of Harbour Master's residence), *Nerium oleander* (around the *Phytolacca*, within the Magazine Precinct), *Yucca* sp. and *Cordyline australis* (both near *Furcraea* and south of Island).

The only gazetted Aboriginal site is within this precinct. Given the high level of disturbance to much of the island edge it is likely that other sites were on the island but have been removed over the long quarrying and development history of the site.

Two of the residences have been occupied by NPWS staff and the other buildings are vacant. All of the buildings require maintenance but are in generally sound condition.

This precinct retains its Sydney Harbour Trust period character with most extant elements surviving from that period and almost no later MSB structures or features with the exception of garden plantings and paths which were progressively upgraded over their occupancy. This is overlaid on the small amount of development that was in place prior to 1901, namely the two small magazines and Magazine Walk. There are also a number of potential archaeological sites from temporary buildings that are referred to in documentary evidence but are not identified.

Much of this precinct, particularly the eastern edge on the former building sites is now a park landscape with benches and seats with extensive views to the city and the Harbour Bridge. In contrast the northern edge is heavily overgrown with weed and invasive plantings making access difficult.

The elements of the precinct are outlined in Table 3.8.



Figure 3.25 Plan of Residential Precinct indicating the various elements within the precinct.

Table 3.8 Elements of the Residential Precinct

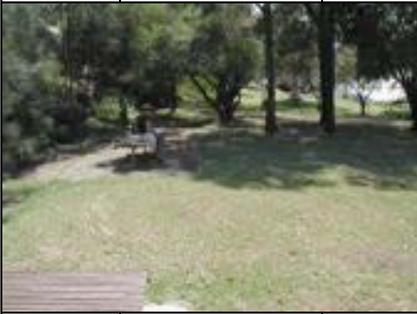
Note items for which detailed inventory sheets have been prepared (contained in Volume 3: Heritage Inventory) are marked with an * next to the item number in the table below.

Item No	Date	Name	Level of intactness	Condition
Pre-Contact Period				
62*		Shell midden	reasonably intact, covered by grasses	Fair
		<p>The shell midden was not visible during the survey conducted for this report. It was identified in 1985 but is now overgrown and has not been visible since.</p> <p>A small shell midden was located by Rich (1985) on a rock platform on the north eastern side of the island, in the forecourt of the residential precinct. According to the report, it measures 1200 mm x 400 mm and 150 mm deep and consisted of predominantly (c.75%) <i>Anadara trapezia</i>, or cockle, the remainder being made up of Hairy Mussel and a small number of inedible univalves. The deposit did not contain charcoal, bone, or stone artefacts and was considered to be highly disturbed, 'mixed around' and no part of the deposit was considered to be in situ (Rich 1985). Given the inedible nature of some of the shellfish species, the lack of artefacts and other food remnants as well as its proximity to the nearby buildings, a question as to the identification of this feature is raised, however the midden may also be exceptionally old.</p>		
135	Ongoing	Remnant indigenous Sydney Harbour vegetation community		
		<p>Indigenous vegetation on the northwest shore are persistent representatives of the earlier vegetation community and include <i>Ficus rubiginosa</i>, <i>Eucalyptus botryoides</i>, <i>Angophora costata</i>, <i>Elaeocarpus reticulatus</i>, <i>Ceratopetalum gummiferum</i>, <i>Pandorea pandorana</i> (very large vine suggesting some age), <i>Banksia integrifolia</i> and <i>Pittosporum undulatum</i>.</p> <p><i>Pandorea pandorana</i> near northern shore</p>		
				

Item No	Date	Name	Level of intactness	Condition
			<i>Ceratopetalum gummiferum</i> at northern shoreline	
Colonial Period				
69*	1836+	Magazine Walk	alignment intact, later changes	Good
			This section of the walk connected the lower group of residences and earlier the magazines to both ends of the island. The edge of the path is marked by retaining walls, rock cuts, stairs and various features providing access to the house platforms and yards.	
117	1875	Site of former magazine	archaeological site	Ruin
			Site of first dynamite store built in 1875, just to the west of the cut. The building was later the site of a Sydney Harbour Trust cottage, later demolished and there are only ephemeral remains of a building platform surviving. The magazine was originally a wooden structure with an iron roof. Documentary evidence indicates the former magazine functioned as a Sydney Harbour Trust residence 1901-1913, when it was vacated. Documentary evidence implies the building may have been converted to a weatherboard and tile residence in 1913, however on 1920s survey plans the 1913 Sydney Harbour Trust residence in this location has both a different footprint and different orientation to the 1875 magazine.	
131	1878	Site of former magazine	archaeological site	Ruin
			Site of former magazine built in 1878, south of site 117. The building was later demolished and there are only ephemeral remains of the building platform surviving. Originally a wooden structure with an iron roof.	

Item No	Date	Name	Level of intactness	Condition
Maritime Period: Sydney Harbour Trust Phase				
38a*	1916	Cottage No 1	Reasonably intact	Fair
		<p>A group of three face brick Federation Queen Anne style cottages with hipped and gabled unglazed terracotta tile roofs with brick roughcast stuccoed chimneys. All three cottages are elevated, with timber steps up to front verandahs facing views east to Sydney Harbour. The cottages each have symmetrical front elevations, with a central front door with fanlight and sidelight and a pair of timber-framed double-hung windows to each side of the front door. Each cottage features simple timber framed double hung windows, plaster ceilings with ceiling roses but without cornices (some modern replacement ceilings), and fireplaces, generally retaining original timber surrounds. All three cottages have corrugated iron skillion roofs to the rear (west) over a laundry and toilet and are bounded by paling fencing to the rear and sides, with picket fences to the front (east).</p> <p>The front verandah and steps of no 38a have been replaced and a modern front door inserted. It has a small weatherboard addition to the rear (west).</p>		
38b*	1916	Cottage No 2	Reasonably intact	Poor
		<p>See 38a for general description.</p> <p>Features 4 panel interior doors, ceiling roses, no cornices to ceilings, picture rails, carpeted floors to front rooms. Front verandah partially enclosed with weatherboard and windows.</p>		
38c*	1916	Cottage No 3	Reasonably intact	Poor
		<p>See 38a for general description.</p> <p>Interior doors are timber 4-panel. Features plaster skirting boards, picture rails. Masonite ceiling to loungeroom installed below original fibrous plaster ceiling. Rear weatherboard addition. This is the cottage in the worst repair, having been unoccupied for some time.</p>		
38d*	1922	Cottage No 4	Reasonably intact	Fair
		<p>A Former Fire Brigade face brick cottage built 1922 to a different design to the earlier remaining cottages reflecting the change in styles from federation to interwar periods, with hipped roof and unglazed terracotta tile roof. The cottage is elevated on brick piers and has extensive views to the harbour to the east. The front verandah on the northeast end of the front (east) elevation has been enclosed. Windows are timber-framed multi-paned double-hung. The timber front steps are deteriorated.</p>		

Item No	Date	Name	Level of intactness	Condition	
39*	1901	Harbour Master's Residence	Reasonably intact	Fair/poor	
			The Harbour Masters Residence is a substantial face brick, asymmetrical residence with a complex hipped and gabled unglazed terracotta tile roof featuring an east-facing eyelid dormer, roughcast stuccoed gablet, prominent viewing tower roofed in unglazed terracotta shingles and four tapered roughcast stuccoed chimneys. The residence is Federation Bungalow style, with some Federation Arts & Crafts detailing (use of roughcast stucco, tapered chimneys). The principal elevation of the residence has extensive views east to the main harbour. The ground floor exterior features a return verandah with timber balustrade to the main east elevation and part of the north and south elevations. French doors open onto the verandah. The ground floor accommodates 7 main rooms, plus servant's quarters, kitchen and laundry to the rear (west) with south facing (now enclosed) verandah, plus bathrooms, halls, pantry and storage rooms. The large roof form contains a first floor level with two bedrooms and a stair hall, including stairs to the viewing tower. The square, hipped roofed viewing tower has multipaned casement windows on all four elevations. All major interior rooms to the ground floor feature marble surrounds to fireplaces, minor bedrooms (except to first floor where fireplaces have been removed) have timber surrounds to fireplaces. Ceilings are plaster on metal lath, generally with ceiling roses. Interior doors are timber 4-panel except where replaced with modern flush doors.		
76	1903+	Paths	Largely intact	Good/fair	
			A number of paths have been cut into bedrock and in some cases, such as the path leading to the Harbour Masters Residence, have been asphalted.		
78	1916+	Fencing to rear yards	Intact but in poor condition	Fair/poor	
			Paling fences, replaced over time, remain in location around the four fire brigade residences similar to fencing around the precinct from its first construction.		
79	1908	Reservoir	Ruin	Fair	
			Located on the north of the island near the ferry wharf (former fresh water service wharf) the remains of the 20,000 gallon (90,000 liter) circular water reservoir constructed in 1908 is highly overgrown and appears to be in a poor condition. The remains stand no higher than 1 m with a circumference of 6.65 m and constructed of sandstone with a concrete skin, which is delaminating. Water was brought from the mainland and stored here for the use of the occupants. Iron tanks were also used on the island to service the cottages.		

Item No	Date	Name	Level of intactness	Condition
80	1903-1905	Timber stairs to waterfront	Collapsed	Ruin
			<p>The stair dates from around 1901 and the lower walkway (item 54b) from 1941 although it is probable that it has all been reconstructed. The stair has collapsed and the end of the walkway is in poor condition. It was the first connection to the wharf for the new harbour master's residence and connects to a series of paths on the cliff top.</p>	
81a*	1875/1916	Site of residence	Archaeological site	Fair
			<p>Site of first dynamite store built in 1875, just to the west of the cut. The building was demolished in 1970 and there is only ephemeral remains of the building platform surviving. Originally a wooden structure with an iron roof, the building also functioned as an ammunition shed and the most easterly of all the residences.</p>	
81b*	1913-15	Sites of residence	Archaeological site	Fair
			<p>The site of the former duplex constructed in 1913 is the most indicative of all the residential sites. The area has been terraced and a stone retaining wall faces the path on the northern side. Concrete stairs lead up to the building platform which retains the concrete front veranda and evidence of the wooden railing at the front.</p> <p>At the rear, the green painted concrete remains of the laundry floor are visible as well as several slots and cuts in the quarried rock face and iron attachments suggesting the position of a lean-to outbuilding.</p>	
81c*	1913-15	Sites of residence	Archaeological site	Fair
			<p>Same as 81b site of the former duplex constructed in 1913 is the most indicative of all the residential sites. The area has been terraced and a stone retaining wall faces the path on the northern side. Concrete stairs lead up to the building platform which retains the concrete front veranda and evidence of the wooden railing at the front.</p> <p>At the rear, the green painted remains of the laundry floor are visible as well as several slots and cuts in the quarried rock face suggesting the position of a lean-to outbuilding.</p>	
81d*	1901-03	Sites of residence	Archaeological site	Fair
			<p>A grassed flat area that is more distinct as a building platform than the site to the west (81e). Demolished in 1970, there is no evidence of building material and there are no visible artefacts. Originally constructed of weatherboard and tile.</p>	

Item No	Date	Name	Level of intactness	Condition
81e*	1901-03	Sites of residence	Archaeological site	Fair
		A modified grassed area with dips and humps on the southern side of the path. The land form slopes down to the water and the former weatherboard and tile building may have been supported by piers on the southern side. Demolished in 1970, no structural remains from the cottage are visible.		
81f*	1913-15	Sites of residence	Archaeological site	Fair
		A modified flat grassed area on the southern side of the path for a cottage that was constructed of wood with brick and concrete footings in 1913. A concrete slab remains between the site of the house and the path and up to 5 courses of stone form a retaining wall at the front (south) of the house.		
99	1916+	Gardens and garden features	Varied intactness	Generally poor
				
102	1901	Benching of lawn areas	Largely intact	Fair
		The area around the harbour masters house was benched with the construction of a low drystone retaining wall including steps to the northern lower lawn area. The whole area was fenced early in its use but there is no remaining evidence of fencing. The level change is minor but clearly defines the extensive garden and lawn area around the house.		
110a	nd	Archaeological site rock cut	Archaeological site	n/a
		Stair cut into bedrock in front of Residential Cottage No. 3.		

Item No	Date	Name	Level of intactness	Condition
110b	nd	Archaeological site rock cut	Archaeological site	n/a
111	1901-03	Possible drainage cuts	Archaeological site	n/a
			Located close to the corner of the Harbour master's Residence (39) and Residential Cottage No. 38a.	
123	1901	Signal Mast remains	Fixings only	Fair
			The signal mast set in a prominent location with clear views down the harbour comprised a steel post, now cut down, two sets of three guy points for signal ropes and four corner fixing points for stays. All of the fixings remain.	
140	1930s c	Monterey Pine (<i>Pinus radiata</i>)		
			Associated with the Harbour Master's Residence	
142	1920s c	Prickly Pear (<i>Opuntia</i> species)		
			An interesting remnant of the interwar phase of biological control experiment with <i>Cactoblastis</i> moths and Prickly Pear	

Item No	Date	Name	Level of intactness	Condition
Maritime Period: MSB Phase				
75	1941	Timber stairs to waterfront	Recently rebuilt	Good
		Timber access stair dating from the 1940 development but recently replaced to a modified design but in the same location. These stairs provided access to the bathing enclosure and the small boats area from the residences and to the waterfront when the Cut was infilled.		
76	various	Paths and retaining walls	Paths to public areas	Fair
		A network of paths extends through the precinct with a number of stone flagged paths, now in poor condition, dating from the later period of occupation. The paths along the northern edge are related to gardens that extended onto the rock edge and include stone retaining walls, steps and various decorative features.		
-	Post 1940s	Fences	Fences to public areas	Poor
		A range of fences from steel tube and mesh to painted timber post and rail are located throughout the precinct at stairs and to protect edges alongside access paths. Most fences are deteriorated and the paths overgrown.		
129	1970s-1980s	Navigation markers	Intact	Good
		Day marker for commercial shipping vessels approaching from the east. Steel support structure with painted triangular marker. Date not known but believed to be circa 1970s-1980s.		

Item No	Date	Name	Level of intactness	Condition
139	1940s c	Bougainvillea spectabilis		
		<p>This <i>Bougainvillea</i> plant appears in a 1943 photograph, but could be earlier. Flowering.</p>		
National Park Period				
-	-	Seats	Intact	Good

NORTH DEPOT PRECINCT



Fig 3.26 The north depot precinct is the narrow strip of land and the wharves that extend across the northern and eastern face of the island with the distinctive boat pens at the western edge of the area.

The North Depot area is defined by the area below the escarpment and quarried face along the northern edge of the island extending around the eastern tip. It comprises the remaining wharves, a section of the sea wall and areas of reclamation that now contain a series of maritime buildings built during the Maritime Period: MSB phase of occupation. The area was first reclaimed in 1901 and has had progressive reclamation and excavation through to the late 1940's.

Much of the precinct is outside the original edge of the island and has a history solely related to the post Colonial Period development. The exception is the possible and likely remains of the first wharf built for the water police which is located directly behind the current sea wall and a wharf built in the first quarry and used as part of the 1875 magazine. The land area is generally flat grassed or paved and is faced with a part stone and part concrete sea wall built in a number of stages commencing in 1901.

The precinct has several eucalypt trees of recent origin, areas of grass but no other plantings or landscape elements.

The elements of the precinct are outlined in Table 3.9.



Figure 3.27 Plan of North Depot Precinct indicating the various elements within the precinct.

Table 3.9 Elements of the North Depot Precinct

Note items for which detailed inventory sheets have been prepared (contained in Volume 3: Heritage Inventory) are marked with an * next to the item number in the table below.

Item No	Date	Name	Level of intactness	Condition
Pre-Contact Period				
-	-	-	-	-
Colonial Period				
98	1835c	Stone jetty	Archaeological site, partially intact	n/a
		<p>Wharf constructed of stone blocks partially visible extending from under the partially demolished timber wharf (55b). This area has been filled but originally served as the water police wharf from 1836.</p> <p>North at top. The edge of the early wharf now forms part of the sea wall.</p>		
Maritime Period: Sydney Harbour Trust Phase				
82	1901	Stone block sea wall	Largely intact	Fair
		<p>Built as an extension of the Cut wall, this appears to be the first stone wall built by the Harbour Trust as they set up their wharves and infrastructure in 1901. Now built over it remains in reasonable condition.</p>		
83	1901+	Quarry and quarry face	Largely intact	Fair
		<p>The north-eastern edge of the island was originally in natural form but was gradually reclaimed and reworked from 1901. The rock faces appear to be quarried to "square-up" the end of the island related to reclamation works. A dry stone retaining wall is constructed directly above to provide a small grassed area in front of the water police building.</p>		
128	1920s	Light bracket	Largely intact	Fair/poor
		<p>A decorative steel light bracket fitted to a timber power pole on the ferry wharf that predates the present wharf construction and appears to date from the Maritime Period: SHT phase. It has a new light fitted directly above it.</p>		

Item No	Date	Name	Level of intactness	Condition
Maritime Period: MSB Phase				
48*	1952	Dredge office	Intact	Fair
			<p>The dredge office is one of the last structures to be erected on this part of the island and had a specific use in relation to the operation of harbour dredges which were moored adjacent. It is of the same basic construction as the earlier Gear Shed with timber frame, timber floor, AC sheet and timber cladding and hipped corrugated iron roof. It has a small porch and has a better fitout than the other buildings in the area due to its office use.</p>	
49*	1930-1946	Gear Shed	Largely intact	Fair
			<p>The Gear Shed replaced the earlier workshop building that was built to the shoreline. Built as part of the wharf upgrade and enlarged at each end around 1945-46 and following the relocation of the workshops to the shipyard precinct it is a lightweight building of timber framing with AC sheet and timber cladding with a hipped corrugated iron roof and multiple pairs of doors opening onto the wharf area, some with rail tracks to move heavy equipment. It is likely to have been reclad when altered.</p>	
50*	1930-1939	Fire Fighting Building	Largely intact	Poor
			<p>This building replaced a series of earlier buildings on the site also related to fire brigade use. It is timber framed clad with corrugated iron with a corrugated iron skillion roof. It is partially open with several secure rooms and appears to have been built in several stages containing storage areas, secure stores, small workshops and later staff areas. It is a basic industrial structure with timber and steel framed windows, metal clad doors and fitout comprising workbenches.</p>	
54a*	1942-44	Ferry Wharf	Largely intact	Fair/poor
			<p>The Ferry Wharf was being partially reconstructed at the time of inspection for this report. The work follows the design of the previous wharf. It comprises pairs of piles (300 x 300mm), fenders with 350 x 350mm headstock, 300 x 300mm girders and 100mm thick timber boarding. The wharf has a painted timber handrail to the end, two sets of timber steps for boat access, timber ladders and bollards. A waiting shed is located adjacent to the access stairs. This structure has been the major arrival point at the island for visitors for over 60 years. The structure has pedestrian access stairs at its end and a small timber waiting shed. Upon completion the wharf will be in good condition.</p>	

Item No	Date	Name	Level of intactness	Condition
54b	1941-43	Small Boat Enclosure	Largely intact	Good
			<p>The boat pens are located behind the ferry wharf and have been reconstructed a number of times, more recently in 1995 and again around 2005. The walkway and pens are in sound condition and are used to moor NPWS operational vessels. The remaining structures comprise a walkway supported on pairs of 350mm diameter piles with 350 x 350mm headstocks and 300 x 300 girders, 100mm deep timber decking with a painted timber handrail to the shore side (and Harbour side of the outer section), timber ladders providing access to small vessels that may be moored alongside and a series of pens with sloped access ramps, reconstructed as originally constructed. Various additions to this area have collapsed or been removed over time. A corner pile is missing from the walkway.</p> <p>A small shed remains at the western end of the pens supported on four detached piles and framing. It is a movable structure.</p> <p>An attached walkway and stair connecting to the top of the rock escarpment is known as the Harbour Master's Stair. It now forms part of the boat pen area but formerly, before the construction of the boat pens, connected to a separate wharf. The stair has collapsed and the walkway is in poor condition.</p>	
55a	1942	North-east Broadside Wharf	Demolished	NA
			<p>A standard hardwood pile wharf, two bays wide with timber superstructure attached to a stone seawall. The wharf extended for the full length of the reclaimed foreshore on the northern face of the precinct. This wharf featured round timber fenders located on each grid with metal-banded tops. Several additional square fenders were located at key locations, this detail is not found on the other broadside wharves on the island. A set of access stairs was located on the northern corner. Piles were 350mm diameter, headstocks 350 x 350mm, girders 300 x 300 laid out on a 3 metre grid.</p> <p>The wharf has been demolished.</p>	
55b	1942	Northern Broadside Wharf	Demolished eastern end - west end reconstructed 2008,	Good
			<p>A standard hardwood pile wharf (350mm diameter), two bays wide with timber superstructure of headstocks (350 x 350mm) and girders (300 x 300) attached to a stone seawall. The wharf extended for the full length of the reclaimed foreshore on the eastern face of the precinct and projected past this point to connect via a ramp to the eastern wharf. This was the last section of wharf to be built around this end of the island. The western end, providing access to the ferry wharf has been repaired, the remainder of the wharf has been demolished.</p>	
58	1970c	Amenities Block	Intact	Poor
			<p>A small concrete block 1970s toilet and shower block wedged between the Gear Store and the cliff face. It has a flat roof and is of basic construction on a concrete slab.</p>	

Item No	Date	Name	Level of intactness	Condition
59	1990c	Metal Demountable	Removed from site	NA
			A demountable building that was set on concrete blocks dating from the last period of maritime use. The use of the building is not known. It was a temporary structure that did not belong to the infrastructure of the island. The structure was removed during the preparation of this plan.	
56	1950c	Shed MSB B456	Demolished	
			A movable building with an MSB number over the door indicating it was moved a number of times. It appears in several photos in different locations on the island. It is timber framed and clad with weatherboards with a gabled iron roof and windows to all sides. The structure was removed from the island during the preparation of this plan.	
57		Corrugated iron shed	Largely intact	Fair/poor
			A simple timber framed galvanised iron clad shed with gabled roof and access door but no windows. Built as part of the fire brigade precinct it was used for storage related to the brigade.	
125	1940s	Fire brigade gallows	Partial remains	Poor
			The fire brigade gallows remains only in part, missing its cross rails and braces. Used to hang drying hoses it also had pulleys and ropes. It was an essential part of the fire brigade infrastructure. It was braced back to the rock face and was adjacent to a timber access stair.	

Item No	Date	Name	Level of intactness	Condition
130	1945c	Shed	Largely intact	Fair/poor
		 <p>A small timber shed that has been relocated a number of times around the wharves and has had a range of uses. It is a basic and simple structure of timber framing and timber cladding.</p>		
127	1945c	Waiting Shed	Largely intact	Fair/poor
		 <p>A timber framed, waiting shed with vertical timber external boarding, a gabled tiled roof with projecting eaves, coloured glass window and seats built into the interior. It has an opening onto the wharf. It appears to have survived several wharf rebuilds and may date to the harbour trust period.</p>		
129	1987	Navigation markers	Intact	Good
		 <p>Front and rear tanker leads for tankers entering Gore Cove (day and night). One is on the ferry wharf and one on the corner of the filled area of the island. They replace earlier markers in similar locations. Date known from an MSB plan.</p>		
National Park Period				
-	-	-	-	-

SOUTH DEPOT PRECINCT



Fig 3.28 The south precinct is the small area to the south east of the former water police station including the Port Emergency building and the finger wharf that extends a considerable distance along the eastern shore. Most of this precinct is on land that has been reclaimed for maritime use.

The South Depot Precinct is defined by the face of the escarpment around the eastern tip of the island, the quarry face adjacent to Barney's Cut, includes the southern end of Barney's Cut and extends along the escarpment edge to include the whole of the finger wharf and the former locations of skeleton wharves. Apart from the escarpment face adjacent to the remaining structure of wharf 51, the precinct comprises either filled or excavated land benched to a common level most of which fronts the remaining section of broadside wharf. The sea edge of much of the reclaimed area is severely eroded. The area of fill includes filling part of the Barney's Cut which early in its history was a passage for water.

The precinct contains only one building, the relatively recent Port Emergency Services Building, but several wharves from the 1940 and 1960 period.

This precinct has been severely modified from its original form and relates exclusively now to maritime uses as completed by the MSB, even though the early quarry (later extended to building the Port Emergency Building) is part of the early development of the site.

The filled areas around the building and into the cut are flat and grassed or paved with very recent and inappropriate landscaping that relates to the use of the site as a film set.

The elements of the precinct are outlined in Table 3.10.



Figure 3.29 Plan of South Depot Precinct indicating the various elements within the precinct.

Table 3.10 Elements of the South Depot Precinct

Note items for which detailed inventory sheets have been prepared (contained in Volume 3: Heritage Inventory) are marked with an * next to the item number in the table below.

Item No	Date	Name	Level of intactness	Condition
Pre-Contact Period				
-	-	-	-	-
Colonial Period				
85	1831/1968	Quarry face	Altered	Fair
		Northeastern tip of the Island (later the site of the Water Police Station) was established as a quarry. The quarry was opened and overseen by Captain Charles Wilson of the Department of Public Works and the principle purpose of the quarry was to supply high quality sandstone for public buildings in Sydney. The stone was cut by convicts and shipped the short distance (1.4 km) to Sydney Cove where it was utilized. The quarry ceased in 1832 but during its short period of operation was intensely used.		
97	1831 c.	Stone jetty	Archaeological site under jib crane	n/a
		The remains of the first stone jetty on the island related to the first quarry remain under later fill for the infilling of the area for the 1914 wharf and crane construction. Comprising large stone blocks it is likely that most of the early structure remains under the current fill.		
Maritime Period: Sydney Harbour Trust Phase				
-	-	-	-	-
Maritime Period: MSB Phase				
45*	1960-62	Port Emergency Services Building	Reasonably intact	Fair
		The Port Emergency Services Building is a modern steel framed structure with lightweight infill walls, concrete decks and a membrane covered flat roof used as an observation deck. It was the last building to be constructed for maritime use. It contains toilets, change rooms, kitchen and office spaces as well as storage and works area.		
51*	1969	Wharf Mooring Floating Plant	Partially demolished	Poor
		A narrow wharf, the last to be constructed on the island, using concrete filled steel octagonal piles in a narrow alignment to which a range of vessels were moored. The piles project above the former decking level by 1200mm forming the mooring fixings. Square timber fenders are fixed to each pile of approximately 200 x 200mm size. Access was via a narrow plywood over timber boarding walkway that may have been added over the skeleton timber framing. The framing unlike trafficable wharves runs along the line of the piles with a single structural layer and boarding mounted directly to it. Vessels were moored on each side of the structure. It was an efficient structure for mooring large numbers of vessels. The wharf		

			has a series of light poles and steel ladders extending to water level. There are remains of former access ramps to pontoons that have been removed. The walkway is approximately 1 metre wide. The decking has been removed. The piles appear in sound condition.
52a	1943	Broadside Wharf	Extant, N/A
52b	1943	Broadside Wharf	Demolished NA
			<p>The eastern wharf (more correctly the southern wharf) contrasted to the northern wharf structure in that it was freestanding from the shore with connecting access ramps. The wharf was constructed of 350 mm diameter piles, 350 x 350mm headstocks, 300 x 250 girders, raking piles, a 250 x 300mm kerb, bollards, square timber fenders on every second pile, all laid out on a 3 metre square grid with an overall width of 6 metres.</p> <p>The area between the wharf and the shore was backfilled over time with debris that now encroaches well under the former structure and which has eroded. The wharf is in very poor condition and the later concrete decking has been removed over much of the wharf to reduce the risk of collapse. The western end of the structure retains its concrete decking and houses a stiff leg crane (mounted on the shore); this area is in sounder condition than the eastern end. The finger wharf extends from the western end of the structure.</p> <p>The wharf was braced back to the shore using a combination of round timber posts (approx 300x300mm)(used as beams) and unusual steel tie rods that may predate the present structure. The tie rods have a hinge (now rusted) that probably allowed for some movement in the wharf with its free standing form. The wharf was used for materials handling from ship to shore and for berthing of vessels that required access from a wharf in contrast to berthing on skeleton and finger wharfs.</p> <p>The southern end of the wharf is in deteriorated but fair condition, the northern end of the wharf has been demolished.</p>
84	1943	Jib crane	Intact Fair
			A 1940s jib crane mounted on the 1945 wharf with stiff legs on a concrete base. The crane is typical of small cranes from the period.
118	Post 1914	Eroding shoreline	Deteriorating Poor
			The eastern shoreline behind the eastern wharf has been progressively filled with building materials and debris probably for the last 90+ years. Unlike the northern wharves sea walls were not used to contain material. The shoreline is severely eroding and will in time return to the original rock shoreline.

Item No	Date	Name	Level of intactness	Condition	
124	1945c	Jib Crane Base	Reasonably intact	Fair	
			The mass concrete mounting blocks for the 1914 period crane set over the first wharf and quarry base. Only two of the three bases remain, one being removed for the Port Services Building construction. They have holding down bolts for the steel superstructure still in place.		
129	c.1970s-1980s	Navigation marker	Reasonably intact	Fair	
			Front lead beacon for commercial vessels approaching from the east. Steel structure with lights. Date not known but believed to be circa 1970s-1980s.		
National Park Period					
-	-	-	-	-	

3.9 VIEWS TO AND FROM THE ISLAND

CURRENT VIEWS TO THE ISLAND

Located at the confluence of Port Jackson, Parramatta River and Darling Harbour, Goat Island is visible from a number of vantage points around the harbour. Goat Island is a component of the headlands and islands that characterize the harbour and is an evocative reminder of the Harbour's industrial past. Located in close proximity to Balls Head Reserve, Goat Island and Balls Head create a striking vegetated entrance to/from the Parramatta River.



Fig 3.30 Location of vantage points offering views to Goat Island (DECCW, 2007).

The island is viewed from many prominent locations and with its vegetated higher ground is a striking feature within the Harbour setting. It is viewed at water level from passing boats, from the eastern foreshores of Darling Harbour and the soon to be created Barangaroo area, Balmain East, Birchgrove, the north shore, particularly Balls Head, and from Dawes Point. It is viewed from higher locations such as the Harbour Bridge, Balls Head Reserve and a range of taller buildings around that part of the Harbour. The views juxtapose built and natural features.

The Island is circumnavigated by busy ferry and harbour-cruising routes supplying picturesque views to passers-by. The differing landscape character around the Island creates a range of different views to the Island and can be broadly described as bushland, colonial, parkland, maritime and industrial.

The most prominent views of the island are from vantage points to the east, south, west, north and north-east, in summary they are;

1. To the east, Miller's Point, Walsh Bay and Observatory Hill provide views that highlight the bushland character of the Island's south-eastern aspect, the more formal parkland character of the Residential Precinct, the maritime character of the South Depot and Water Police Precincts and glimpses only of the Magazine Precinct. The cottages and Harbour Masters Residence are partially obscured by trees. The natural shoreline of the south-western aspect is readily apparent. The Port Emergency Services Building is the dominant built structure viewed from these locations.



Fig 3.31: View of Goat Island from Millers Point (DECCW, 2009)

2. To the south, Balmain East provides a view of the colonial character of the Magazine Precinct and parkland character of the archaeological sites within the Magazine precinct (ie east of the Kitchen Cottage). The southern elevation of the Ship Repair Workshop and the Hammerhead Crane adjoin but do not obscure these views.



Fig 3.32: View of Goat Island from Balmain East (R Newton, 2008).

3. Vantage points to the west, including Mort Bay, Ballast Point and Yurulbin Point, provide views of an industrial character on the water's edge surrounded by a vegetated canopy. The shoreline is almost completely obscured by buildings and wharfage. Subject to its position (the crane can rotate 350 degrees), the Hammerhead Crane can be a striking landmark feature, or blend almost completely into the Island, CBD or Harbour Bridge background.



Fig 3.33: View of Goat Island from Ballast Point (DECCW, 2009)

4. Balls Head, to the North provides an excellent elevated view of the bushland character of the north-western side of the Island and the maritime character of the Northern Depot and Water Police Precincts. The Residential precinct is almost completely obscured by vegetation.



Fog 3.34: View of Goat Island from Balls Head (DECCW, 2008).

5. To the north-east, Blues Point provides a lower view of the maritime character of the Depot Precincts, Water Police and Residential Precincts, however from this vantage point vegetation is the dominant feature of the landscape.



Fig 3.35: View of Goat Island from Blues Point (DECCW, 2008)

Following is a pictorial analysis of landscape elements as viewed from the water.



Figure 3.36 A close view from the Harbour of the north-east corner of the island. The immediate view was dominated by the wharves and later buildings around the foreshore. As the viewer moves east, the form of the island with its ridge and the Water Police Station (47) take more prominence. The close view reinforces the industrial character of the island, with the Maritime Services Board's Dredge Office (48) and Gear Shed (49) being obvious.



Figure 3.37 A close view from the north of the former eastern wharf (52) with the Wharf Mooring Floating Plant (51) visible on the far left. From this view position the wharves dominate the scene with the Port Emergency Services Building (45) being the most visually dominating element on the northern part of the island through its mass and light colouring, with the Harbour Master's Residence (39) visible behind.



Figure 3.38 A close view of the ferry wharf (54a) and end of the northern wharf (55). This photograph illustrates the changes in visual setting of the wharves with the northern wharf closely related to built development along its edge and stepping up the hill where to the right the ferry wharf is set against the natural escarpment and the vegetated headland. MSB firefighting building (50), various sheds (56, 57) western end of Gear Shed (49) visible, with north elevation of the SHT Fire Brigade Barracks (46b) visible on the promontory behind. Note that the Harbour Master's Residence (39) is virtually invisible from this angle, whereas in the early 20th century it was prominent from this direction.



Figure 3.39 A close up view of the ferry wharf (54a) and former northern wharf (55) looking towards the east and the Harbour Bridge. This is an important view as it is taken from the main channel of the Harbour. The Water Police Station (47) is prominent centre left.

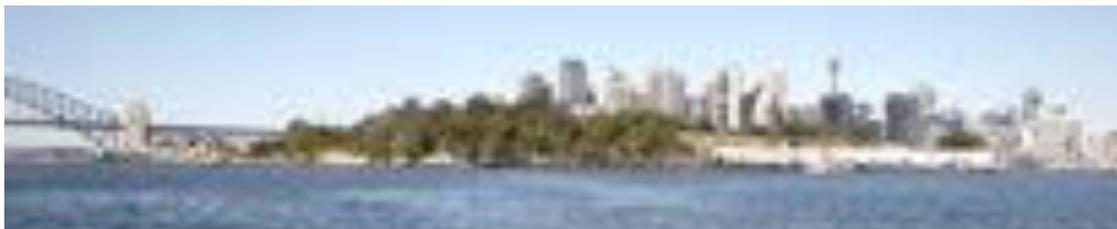


Figure 3.40 The distant view from the west where the vegetation frames the Harbour Bridge with Balls Head (not in the picture) to the left. The dominant elements of this view are the vegetation canopy and the intensity of development in the shipyard and magazine precincts (to right) with the broadside wharf (4) forming a strong edge to the base of the island. The northern wharf area can be seen on the left but plays a minor role in the view until the viewer moves to the location of the illustration above. The cleared grassy hill above and east of the magazine complex is also visible in this view.



Figure 3.41 A more distant view from the north where the wharves provide the edge of the island with buildings seen inside the landscape canopy. The reason the wharves are defined is the deep shadowing under the decking that gives depth to the wharf edge. The main buildings visible on the Island are the Harbour Master's Residence (39), centre, and the Water Police Station (47), left.



Figure 3.42 A longer view of the island from the north with the edge of Balls head on the right. The dominant form of the island is the rise and the rock escarpment. The ferry wharf (54a) and small boat enclosure (54b) are a minor element in the view plane, while the built development to the east forms a more solid visual element. From this distance the northern wharf plays a relatively minor role in the view. The Harbour Master's Residence (39) and at least one of the adjacent cottages (38a) appears to be visible among the foliage, centre, and the Water Police Station (47) can be seen to the left. However most buildings on the ridge cannot be seen.



Figure 3.43 A view from mid-channel from the north-east where the northern edge development, while visible, takes a minor role in the view in relation to the vegetated form of the island. The Harbour Master's Residence (39) and the roofs of some of the adjacent cottages (probably 38b and 38c) are visible, centre, amongst the foliage, while the Water Police Station (47) retains some prominence, with various mid 20th century MSB buildings below it (Dredge Office (48), Gear Shed (49), Fire fighting building (50)).



Figure 3.44 A more distant view of the island from the east. From this distance the northern built elements, particularly the Water Police Station (47) retain some visual dominance but the vegetated form dominates the view. The Harbour Master's Residence and adjacent cottages are virtually hidden by vegetation.



Figure 3.45 The view of the island from near the Harbour Bridge. This is an important view that frames the island between the Walsh Bay finger wharves and Balls head in the background and Blues Point and Blues Point Tower in the mid ground. From this location the island is a vegetated outcrop contrasting with the heavily developed Balmain Peninsula behind. Buildings and wharves play almost no part from this distance in the viewscape. The roof of the Harbour Master's Residence (39) is just visible.

HISTORICAL VIEWS TO THE ISLAND

The various nineteenth and very early twentieth century historical images of the island, a number of which include the island as part of a broader view (but which for the purpose of detail have been cropped in this report focusing on the island) are taken from Balls Head, East Balmain, Birchgrove or Observatory Hill where there are vantage points to look out over the harbour. The known historic views of the island are generally not specifically of the island but of the harbour setting which includes the island, the exceptions being the 1850s paintings of Rebecca Martens and the photographs of the government photographer J. Degotardi.

The paintings of Rebecca Martens and later photographs taken from either Balmain or Observatory Hill show the island with the eastern end of the Magazine complex: the fortified wall, the Barracks, Barracks kitchen and outbuildings at the southern end, and the Water Police Station at the northern end, with varying levels of vegetation over time, dramatically thinning in the late 19th century (presumably as a result of the November 1875 recommendations of the *Report of the Storage of Gunpowder Board* recommending the clearing of the island as a safety measure, an activity which does not appear to have been undertaken until around 1882 according to photographic evidence). Rebecca Martens' 1850s paintings also show a "house on the hill" at the southern end of the island. An 1860s photograph of the island (Figure 2.36 in Section 2.4) shows a building at the southern end of the hill that is likely to be Gunner Davis' cottage (demolished as a recommendation of the 1875 *Report of the Storage of Gunpowder Board* mentioned above). By the early 1880s photographs evidence that there were no buildings on the hill of the island.

Photographs from Balmain and Observatory Hill in the 1880s and 1890s clearly show the Magazine Walk and the two 1870s magazines, as well as Barney's Cut, the Water Police Station and the 1865 Artillery Sergeant's cottage. At the southern end of the island, while change to this view has occurred over time - including disappearance of an outbuilding behind the Barracks Kitchen, conversion of the Barracks Kitchen to the Kitchen Cottage (26) by the Sydney Harbour Trust, addition of the Substation (24), the 3-door boatshed (23a) and the southern end of the Ship Repair Workshop (1), the eastern elevation of the Barracks and what is now the Kitchen Cottage are still viewed from this direction. From Balmain, the changes outlined have had the same effect. The fig trees (*Ficus Macrophylla*) flanking the path from the stone jetty up to the Barracks (25) which appear to be mid 1880s plantings, have gradually become larger and are now dominating elements of the southern end of the island in the view from Balmain and Observatory Hill.

The Water Police Station (47) when built in 1838 sat prominent and alone on a rocky outcrop surrounded by natural shoreline altered only by the addition of a stone jetty and Barney's Cut. In 1865, with the conversion of the Water Police Station to a cartridge laboratory, a bridge was built over Barney's Cut, the Artillery Sergeant's Cottage (46a) and a privy were built, and the Magazine Walk (69) was "made good". In 1875 and 1878 the two additional weatherboard magazines built south of the Cut and vegetation clearing made the north east Water Police area less isolated from other activities on the island. From 1901 the Water Police Precinct and

its surrounds were utilized heavily by the Sydney Harbour Trust, with the conversion of existing buildings to new uses, and the addition of buildings (such as the Barracks 46b) and wharves and the filling of foreshore areas. All this activity ended the view of the Water Police Station as an isolated structure with few surrounding buildings, which had largely remained throughout the 19th century.

An invaluable c.1898 photo taken from Birchgrove, showing the Magazine complex in its final phase shows one of the most important lost views of the island. The shore, the shore buildings, and this view of the Magazine complex changed from the 1925 takeover of the complex for a Sydney Harbour Trust shipyard until this view from the water and from Birchgrove was virtually completely lost with the construction of the Ship Repair Workshop (1) and the Broadside Wharf (4a and 4b) in 1943.

In the 20th century the activities of the Sydney Harbour Trust from 1901 followed by the Maritime Services Board profoundly changed the island. The construction of the Harbour Master's Residence (39) in 1901-1903 in a prominent location at the northern end of the island's hill, a deliberate siting of the building to both be seen (as an advertisement for the SHT) and to encompass views east down the Harbour, was followed by the construction of various residences on the eastern and central part of the island (those south of the Harbour Master's Residence still remaining), as well as the activities mentioned above within and around the Water Police Precinct. A photo taken 1903-1911 from the north shows a large timber building on the shore below and west of the Water Police Station, testifying to the extent of early SHT activity.

During the 1940s the Recreation Hall, tennis court and Tennis Court pavilion were added to the southern end of the island's hill, along with numerous operational buildings both in the shipyard (1, 2, 3, 14 and 7) and below the Water Police Station (48,49, and 50).

The 1960s amenities building within the Magazine Complex and the 1963 Port Emergency Services building (originally built for the MSB fire brigade) were the last major structures built on the island. By the end of the 1960s the island had its maximum extent of structures, with 16 occupied residences, a working MSB shipyard, MSB water fire brigade and dredging operation, and recreational facilities. This crowded island is evident in the 1968 aerial photo at Figure 3.30.

The various SHT residences were prominent on the hill of the island throughout most of the 20th century. With the lower residences demolished in the 1970s, the upper residences and the Harbour Master's Residence remained prominent even as late as the early 1980s. In the late 20th century the regrowth of vegetation on the island has obscured (though not completely) the view of the residences, including the Harbour Master's, from the east.

Early photos and plans of the Island show that prior to 1902, the Island was without timber wharves and had only very modest stone (and timber) jetties. The period to 1929 saw construction of long wharves at the north-eastern end of the island, the straggle of berthing or skeleton wharves along the south-eastern shore and the commencement of the shipyard activities with wharves attached. However, it was not until 1946-49 that the current extent of wharves was established, wrapping around a large part of the island.

The view of the island from the east and the Harbour Bridge (since 1932) and the northeast until the MSB left the island in 1993, was a view of an island surrounded by moored vessels with little wharfage or the edge of the island actually visible.



Figure 3.46 1968 aerial photograph of Goat Island, showing the maximum extent of wharves and buildings on the island

CURRENT VIEWS FROM THE ISLAND

The views that are now experienced from the island, apart from the specific views noted above, are impressive and provide panoramas of large sections of the harbour and the surrounding foreshores. In particular the views to the south and east to the city and Darling Harbour from the Magazine Walk as it winds along the eastern shoreline are spectacular. Similarly the views from the ridgeline, although now less panoramic due to revegetation, provide panoramas particularly to the west. These views have been available since the 1830s and while they are generally not recognised or recorded by paintings or photographsⁱ, provide continuity with the history of the island.

There are views available from and also to many of the built structures on Goat Island. Most of these views are incidental and most buildings were not designed to have views, as discussed above, however a number of significant buildings can be seen from various vantage points, which is of significance in the presentation and potential interpretation of the island and its history.

The more important views are:

- Views from the Water Police Station (47) as discussed above,

- Views from the Harbour Master's Residence (39) also as noted above
- The narrow vista from the Fortified wall (71) and particularly the sentry box, to the harbour to the south, is all that remains of the colonial magazine's original connection with the harbour and, while now a modest view, is of historical significance.

The wharves also have a visual value to the island that is separate to the broader discussion of views to and from the place. They are a distinctive feature of the island covering more than half of the perimeter and their various forms create visual interest as well as demonstrating a significant phase of historic use of the island.

The Port Emergency Services Building (5%) has extensive views of the main harbour to the east, and can be seen, partially through its lighter contrasting paint scheme, against the ore subdued backdrop of the island.

The visual value of the wharves lies in the following areas:

- Their relationship to the shipyard with the defining horizontal alignment of the Broadside Wharf that separates the slipways from the Harbour proper and sets the waterfront buildings on a solid plinth that is a traditional relationship between stores/workshops and the Harbour.
- The ferry wharf and boat pens are the most visually interesting wharf elements with their narrow and winding forms and the capacity to moor a range of boats.

It is noted that a separate study of the wharvesⁱⁱ addresses these issues in greater detail and that the very poor condition of a number of the wharves does not allow access to take advantage of views either from or to the island.

The following photos illustrate the principal views from the island from key locations, specifically the Magazine Walk (69) sections of the wharves and the foreshore, the front verandahs of the Harbour Master's residence (39) and the Water Police Station (47) and from the cleared ridge line looking to the west. There are many views available from all around the island, all of which have interest due to the location of Goat Island and its potential to view in many directions. Historically it is the views directly down the harbour (to the east) that are of particular importance as they are linked to the use of the island for maritime management.



Figure 3.47 View from Magazine Walk (69) adjacent to barracks building (25) looking to Balmain east. This is the closest shoreline to the island and shows the prominence of the southern buildings in this area (25, 24, 23a) to Balmain.



Figure 3.48 The view from Magazine Walk (69) towards the city taken adjacent to the Barracks Building (25). Expansive views are available to the city along the walk as evidenced in the following sequence of photographs.



Figure 3.49 The view from the Magazine Walk (69) towards the city, taken from the Central Precinct and looking back towards Darling Harbour.



Figure 3.50 The view from the Magazine Walk (69) towards the city taken from the northern edge of the Central Precinct and looking back towards Darling Harbour.



Figure 3.51 The view from the roof of the Port Emergency Services Building (45) looking south along the shoreline of the island towards the city and Darling Harbour. The flat roof of the building provides a large viewing platform with uninterrupted panoramic views.



Figure 3.52 A more elevated view to the city looking over vegetation in the foreground from the Central Precinct.



Figure 3.53 The view from the edge of the northern wharf (55) towards Millers Point. Note the wharf is no longer accessible.



Figure 3.54 The view from the edge of the Magazine Walk looking north to Blues Point Tower. Wharf Mooring Floating Plant (51) visible in foreground.



Figure 3.55 The view from the front verandah of the Harbour Master's residence (39) showing the orientation of the dwelling directly down the harbour (but slightly obliquely to the bridge which was constructed later). The importance of the location of the residence, its direct views and its prominence were part of the initial design of the facilities on the island by the SHT.



Figure 3.56 A similar view to above but from the front verandah of the Water Police Station (47). Both buildings share the same orientation directly east looking down the harbour in elevated and prominent locations that could both see out and be seen from a wide range of aspects.



Figure 3.57 The view from the northern wharf looking towards Balls Head with its densely vegetated form. Views to the island are available from the headland.



Figure 3.58 The view from the rear of the residences looking through tree cover towards the western harbour including Long Nose Point.



Figure 3.59 The view from the ridge line in the Central Precinct looking south-west over the magazine complex towards Balmain. The view is open in part, framed by tree plantings and is modified by the hammerhead crane (9) and buildings in the foreground.



Figure 3.60 The view from the edge of the Magazine wall looking over the shipyard to the north-western end of the harbour. The view in this direction is less dramatic but provides excellent views into the western part of the harbour.



Figure 3.61 The view from the edge of the Magazine wall looking over the shipyard to the western end of the harbour. The view in this direction is less dramatic but provides excellent views into the western part of the harbour.



Figure 3.62 This plan identifies that the main views are elevated and look past the features on the island. The wharves play little role in views out from the island. (DECCW, 2007).



Figure 3.63 This plan identifies specific views. It is important to note the views from the wharves and that only the northern and eastern wharves are identified. It is also significant to note that the views from these wharfs are equally available from the shoreline immediately behind the wharves and that due to the removal of decking most of these wharves are now not accessible.

While the wharves frame the foreground for some of the views from the island it is the distant views that are identified as significant. (DECCW, 2007)

HISTORICAL VIEWS FROM THE ISLAND AND WITHIN THE ISLAND

The first recognition of views from the island is indicated by the island's Aboriginal name "Memel", the translation of which means "place from which you can see far."

Views from the island and down the harbour were recognised as important from the first stages of colonial development with the Water Police Station located in the most prominent location on the northeastern promontory looking directly east down the harbour.

This was a practical view providing clear sightlines for the police stationed there and their flag signals, rather than an aesthetic view. However the 'cottage ornee' design of the Station suggests careful consideration of the building's form and placement in relation to how it would be seen from both the water and the adjacent shorelines. The views to and from the water police building are of high significance in understanding the functioning of the island during the Colonial phase of occupation. Mid 19th century photographs of the Island from the north shore and Observatory Hill show the Water Police Station and Barney's Cut as prominent landmark structures.

The view from the island was again of importance with the location and siting of the Harbour Master's residence, again oriented to look east down the harbour, with the building located on the highest point of the island with the most commanding views. This was further reinforced with the design of the viewing tower which provided for 360 degree viewing of the harbour. The view from the Harbour Master's residence to the east is another view of high significance in understanding the maritime use of the island in the early 20th century.

In contrast, while the other Sydney Harbour Trust cottages have some views, these appear to be more incidental.

Design to incorporate views or aspect did not appear to feature in the development of the magazine complex. Views both to and from the area were available due to the proximity of the Island's shore but there is no indication that the building layouts were developed with views in mind. Views also generally did not figure in the twentieth century maritime authority developments where buildings were placed without regard for views either to or from the island, resulting in the separation of the magazine complex from the water, and the surrounding of the Water Police Station with a range of different buildings and structures, some of considerable scale, over time. For example the reclaiming of the foreshore and construction of the Dredge Office (48), Gear Shed (49) and Fire fighting building (50) during the 20th century, while contributing to the maritime aesthetic of the island, interferes with the historic view of the 1838 Water Police Station (47) which was originally seen as an isolated building on a promontory.

The exception to the general disregard of views by the maritime authorities on the island in the 20th century is the Harbour Master's residence, specifically designed to take advantage of views to the east down the harbour.

Historical views within the island, which are now lost, are:

- Views between the Water Police Station (47) and the Artillery Sergeants Cottage (46a), now obscured by the Fire Brigade Barracks (46b)
- Uncluttered views within the Magazine complex obscured by later structures such as the Queen's Magazine southern addition (15a); the two amenities blocks (13 and 14), and the winch house (96).
- Views of the Queen's magazine north through the Fortified Wall (71) gateway, now obscured by the Queen's Magazine southern addition (15a)
- Views of the Fortified wall and sentry box (71) from the north. This view of the wall was somewhat obscured from 1885 by construction of a single storey 1885 magazine on north side of the wall, but completely obscured from 1964 by construction of the 1964 Amenities block.

CONCLUSION

Goat Island is an attractive island when viewed from many locations and is an important visual component of the western end of the harbour. Its proximity to the northern shore and Balls Head reserve allows the Island to be seen and viewed unlike any of the other harbour islands. The Island is visually a combination of historic features, some built to take advantage of the island setting; the aspect east down and around the harbour; and the more recent vegetation particularly in the north eastern corner.

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 - i While there are many 20th century photographs taken on the island, these are of buildings, structures such as wharves or wharf construction activity, or vessels either under construction or being launched. Exceptions are views taken from the Island looking over the Water Police area, of the Harbour Bridge (one view by Ted Hood, c. 1930 of a nearly complete Harbour Bridge arch, Mitchell Library image No. DG ON4/2170; and another view taken in 1943 from the same location looking to the Harbour Bridge, Mitchell Library image No. GPO 1-10043).
 - ii Paul Davies Pty Ltd *Conservation Management Strategy for the Wharves of Goat Island*, DECC, 2007

4.0 COMPARATIVE ANALYSIS

4.1 INTRODUCTION

Comparative analysis is undertaken to assist in determining the relative values of a place and its component elements in relation to other similar places. This is particularly important as types of places become increasingly rare, where uses have ceased and where a place, such as Goat Island, appears unique within its immediate context. It is also important to understand comparative value on a complex and very significant site such as Goat Island where conflicting values may require decisions about particular elements of the place to be made. Understanding the context of each element assists in making sound decisions. It is important to understand whether any similar places exist in the state, in Australia or, for elements of exceptional national significance, in the world.

There is little doubt that Goat Island, with its range of buildings, features and phases of use is unique and without comparison within Australia.

This analysis looks at specific elements of the place and compares them with other similar places across Australia and, in some cases internationally. Comparative analysis cannot be absolute and should only be used to assist in determining significance. This section of the report looks at a wide range of place types and examples but is not exhaustive, as other examples may exist that have not been discovered. As specific parts of the place are further studied over time additional information may be found that refines and adds to this assessment.

The place types for the historical phases present on Goat Island that are of most interest for a comparative basis are:

THE NATURAL ENVIRONMENT

- Native Flora

- Native Fauna

PRE-CONTACT PERIOD

- Association with Bennelong

- Shell Middens

COLONIAL PERIOD

- Sites of convict industry, labour and punishment. Includes: quarries, lime kilns, stone wharves, and places of punishment

- Military Powder Magazines and their associated structures and features

- Association with Imperial garrisons

- Water Police Stations

- Association with Colonial/Government Architects (Mortimer Lewis government architect 1835-1849; Edmund Blacket, government architect 1849-1854; Alexander Dawson, government architect 1856-1862)

MARITIME PERIOD

SYDNEY HARBOUR TRUST PERIOD

- Marine Boards and Harbour Trusts

- Harbour Master's Residences

- Water fire brigade barracks and cottages

MARITIME SERVICES BOARD PERIOD

- Shipyards

- Timber Wharves

THE CULTURAL LANDSCAPE

THE SYDNEY HARBOUR ISLANDS

Island Communities

Recreation values and public access

4.2 THE NATURAL ENVIRONMENT

NATIVE FLORA

There is some remnant local indigenous vegetation around the steep northern and western shores of Goat Island, in areas where the shore remains little altered. This includes local indigenous species such as Bangalay (*Eucalyptus botryoides*), Smooth-barked Apple (*Angophora costata*) and Coastal Honeysuckle (*Banksia integrifolia*). There are also woody weed species including: Hackberry, Mickey Mouse Plant, African Olive, Camphor laurel, Privet and Coral Tree as well as Canary Island Date Palm, Lantana and Cestrum; and Acacia species which are not local.

Sydney Harbour National Park's natural vegetation is dominated by scrub and heathland plants (40% of the Park's vegetation), which have adapted to the low nutrient levels in the sandy sandstone soils. However, urban runoff has carried nutrients into the park (not however on the island areas of the park), impacting on native plants and allowing weeds to easily invade. Where fire has limited the invasion of introduced species, such as on Dobroyd Head, banksias, she oaks, tea-trees and other shrubs which once dominated the Sydney Harbour shoreline can be seen.

Woodlands cover 25% of Sydney Harbour National Park's area and occur in sheltered areas with deeper soils. The woodlands feature species such as bangalays and red bloodwoods growing above a rich understorey of shrubs (examples: Middle Head and Bradley's Head).

Eucalypt forests make up 15% of Sydney Harbour National Park's area, and these are areas where *Angophora costata* (Sydney red gums) grow along with red bloodwoods, bangalays, broad-leaved paperbarks, and Sydney peppermints. Port Jackson figs are also found in some of these areas (examples: Bradley's Head, Nielsen Park and North Head).

All of the 8 remaining Sydney Harbour Islands, both those within the Sydney Harbour National Park and those under other management, have been heavily disturbed (like Goat Island). The only harbour islands which retain native vegetation are Goat Island, Clark Island and a small remnant on Spectacle Island. Of these, Clark Island (part of Sydney Harbour National Park) is 80% vegetated with indigenous vegetation. Clark Island, however, like the other islands, has been heavily disturbed since 1788 and now appears to bear little resemblance to its pre 1788 form. Lieutenant Ralph Clark's vegetable growing in 1789 would have necessitated some vegetation clearing and the formation of the Clark Island Trust in 1879 led to subsequent "improvement" of the island for recreational use, including resumption of land around the perimeter, clearing of the islands' summit and introduction of exotic plantings in the 1880s-1890s. Clark Island also had naval use during World War II. However, the record of historical images of Clark Island held by Mitchell Library appears to show that the island always retained a wooded appearance which included native vegetation. Clark Island's native vegetation has regenerated and been enhanced by late 20th century and current National Park management.

Spectacle Island retains one small outcrop of native vegetation (that is now protected) amidst the naval development. It is the other known remnant of natural vegetation located on a harbour island to compare to the natural vegetation on Goat Island.

A number of other islands existed in the harbour in 1788 which have since been joined to the main shoreline. The most interesting of these in relation to natural vegetation is Berry Island which has been a reserve and which has not been cleared or re-vegetated. The island has red gums, angophoras, black she-oaks, red bloodwoods, Sydney Peppermint, grey gums, banksias, Port Jackson Figs and pittosporums among other smaller native vegetation, all of which remain. It is likely that the vegetation cover still seen on Berry Island resembled that on

Goat Island and provides an indication of how much of the island and foreshores would have appeared.

Conclusion

Goat Island contains several areas of remnant native vegetation and some areas of natural regrowth. Due to disturbance, weed invasion, loss of diversity and supplementation of non-indigenous species, the remaining vegetation is not representative of the pre-contact vegetation of Sydney Harbour. The vegetation communities represented on the island are found elsewhere within Sydney Harbour National Park and other foreshore parklands and reserves (at locations such as Bradley's Head and Berry Island) and, at these locations, the vegetation communities contain both greater diversity and integrity. Native vegetation is also found on Spectacle Island (remnant) and Clark Island.

NATIVE FAUNA

Native Fauna in Sydney Harbour National Park

The NPWS *Atlas of NSW Wildlife* records the following native fauna species for the Sydney Harbour National Park from 1980:

- 6 species of frog (not including the one recorded on Goat Island)
- 117 native bird species (including those recorded on Goat Island)
- 4 introduced bird species
- 18 native mammal species
- 7 introduced mammal species
- 19 reptile species

Conclusion

Goat Island provides habitat for a number of common resident species and foraging habitat for several other common species. The species represented on Goat Island are found elsewhere in far greater numbers within both Sydney Harbour National Park and local bushland areas around Sydney.

4.3 PRE-CONTACT PERIOD

ASSOCIATION WITH BENNELONG

According to Bennelong's own testimony, as reported by David Collins, Goat Island belonged to his father. This statement was reinforced by Collins' further observation that Bennelong and Barangaroo were often seen on the island. There are a number of other places in inner Sydney with historical association with Bennelong.

Table 4.1 Comparative Analysis of places associated with Bennelong

Place & description	Association with Bennelong
Manly – the suburb generally, the harbour and ocean beaches	<p>Bennelong was found at Manly on two recorded occasions:</p> <ul style="list-style-type: none"> • when captured with Colebee by Lieutenant Bradley, acting on Governor Phillip's orders, on 25 November 1789; and • on the occasion of the "whale feast" in September 1790 when Governor Phillip was speared <p><i>Analysis:</i> The exact location of these events is unknown, but Bennelong would appear to have been near the shore (either harbour or ocean).</p>
Sydney Cove and First government house site, Sydney (now the site of the Museum of Sydney)	<p>Bennelong lived in First Government House with Governor Phillip from the time of his capture in November 1789 to his escape in May 1790; after Governor Phillip was speared at the "whale feast" at Manly in September 1790, Bennelong came into Sydney Cove and government house to enquire as to Phillip's health, and thus began a voluntary association with the European colonists.</p> <p><i>Analysis:</i> The site has been redeveloped in the late 20th century, following thorough archaeological investigation. The Museum of Sydney interprets the history of the site.</p>

Place & description	Association with Bennelong
Bennelong Point (now the site of the Sydney Opera House)	In 1791 a brick hut, 12 feet sq. (4x4m), was built for Bennelong on the orders of Governor Phillip on the eastern point of Sydney Cove, which then became known as Bennelong Point. <i>Analysis:</i> The site has been redeveloped for the Sydney Opera House. Apart from the historical records, the name of the place is the only remaining evidence of the association.
Ryde (Kissing Point): Bennelong Park, Putney, Kissing Point Bay; the federal electorate of Bennelong	Bennelong died in 1813 and was buried in the orchard of brewer James Squire at Kissing Point (Ryde) where he had lived for some time, and in August 1821 Nanbarree was buried at his request with Bennelong and his last wife (possibly Boorong). The burial place is reputed to overlook the river close to Bennelong Park. ¹ The federal electorate of Bennelong, which encompasses the Ryde area, was later named after Bennelong. <i>Analysis:</i> The exact location of the burial is unknown. Apart from the historical records, the name of the park and the electorate is the only remaining evidence of the association.

Conclusion

While Bennelong is associated with several places in the Sydney region, Goat Island is the only place recorded as belonging to Bennelong's family. Further, Goat Island is the only place in early Sydney recorded as specifically belonging to an individual indigenous person or family. The association is unique.

SHELL MIDDENS

Shell middens, the accumulation of debris from the eating of shellfish and other seafood over time by Aboriginal people, occur throughout Australia. They are important archaeological deposits which give clues as to the climate and way of life of the people at the time of their creation. Shell middens were accumulated close to sources of shellfish: on headlands; on sandy beaches and dunes; around estuaries, swamps and the tidal stretches of creeks and rivers; and along the banks of inland rivers, creeks, and lakes. Shell middens would have been common in the Sydney region prior to colonisation, along the coast and within Sydney Harbour.

Over the course of development of Sydney, shell middens were used heavily for lime burning and frequently disturbed or destroyed by industrial and residential development.

However, the Port Jackson Archaeological Projectⁱⁱ recorded 112 extant shell middens in Port Jackson (Sydney Harbour), including a number at Berry Island (Waverton), within sight of Goat Island. The only identified shell midden at Goat Island (62) is fragmented and has been previously assessed as not possessing any scientific valueⁱⁱⁱ.

Conclusion

Shell middens are relatively uncommon in the Sydney region, however there are more intact and therefore more scientifically valuable examples of shell middens in Port Jackson than the one on Goat Island. The Goat Island shell midden is considered to be of value to the Metropolitan Local Aboriginal Land Council and is the only confirmed tangible Aboriginal feature on Goat Island.

4.4 COLONIAL PERIOD

SITES OF CONVICT INDUSTRY, LABOUR, AND PUNISHMENT

In the late 18th century and early 19th century, transportation of convicts and the use of convicts for forced labour were synonymous with punishment for crimes committed.

The extent of the British government's system of convict transportation, both in terms of the numbers of convicts transported, and the number and extent of sites in Australia used as part of the convict system, are unparalleled in European colonial history.^{iv}

Examples of convict-related sites created by other European colonial powers are convict settlements on the Îles du Salut (Salvation Islands) in French Guiana, South America, established by Napoleon III in 1852, where walls, roads, prisons and hospitals (still extant) were built of stone with convict labour; and the Isle de Pines (Noumea, New Caledonia), the place of deportation of the Paris Commune dissidents in 1871.

Within Australia, there are numerous places built by convicts, some of them places where convicts laboured, some prisons and some where these activities overlapped. The most well known heritage places involved in convict punishment and/or constructed by convicts in Australia are those currently in the process of being nominated for the World Heritage list:

- Old Government House, Parramatta, NSW (1800)
- Hyde Park Barracks, Sydney, NSW (operated 1819-1848)
- Cockatoo Island Convict Site, Sydney Harbour, NSW (operated 1839-1869)
- The Great North Road near Wiseman's Ferry, NSW (1826-1836)
- Kingston and Arthur's Vale Historic Area, Norfolk Island (operated 1788-1814, 1824-1856, extant buildings from 1824)
- Port Arthur Historic Site, Tasman Peninsula, Tasmania (operated 1830-1853)
- Cascades Female Factory Site, Hobart, Tasmania (operated 1828-1856)
- Darlington Probation Station, Maria Island, Tasmania (operated 1825-1832)
- Coal Mines Historic Site, Tasmania (operated as a convict site 1833-1848)
- Brickendon Estate, near Longford, Tasmania (1820s)
- Woolmers Estate, near Longford, Tasmania (1819-1821)
- Fremantle Prison, Western Australia (1851-1859)

The Goat Island convict related sites and structures are comparable to the early 19th century “convict stations” for construction of roads and public works in both NSW and Tasmania: the Towrang Convict Stockade and Magazine archaeological site (1833-1843); the Great North Road, beginning near Wiseman's Ferry NSW (1826-1836); the Convict Lumber Yard and Stockade at Newcastle (and nearby Coal River site); the Granton Convict and Memorial Group, Granton, Tasmania (1830-1849). All of these were places of convict labour for the purpose of construction work. These sites had convict stockades (no stockades extant), and all have associated surviving convict built structures (roadworks, bridges, culverts, a breakwater). Apart from the Granton site, where buildings remain, Goat Island is the only one of these sites to retain a collection of convict-built buildings (as opposed to other types of structures such as roads or bridges).

According to the Returns of the Colony of NSW in 1830, the number of convicts working the Great North Road had reached 558, with a total of 1,755 labouring on the Colony's roads, directed to the north, south and west.^v Goat Island, at the peak of the convict construction period on the island in 1837, housed 276 convicts^{vi}.

On Goat Island, the Magazine quarry, Anderson's Couch, the Magazine complex and Barney's Cut were all constructed with convict labour in the period 1831-1838. The Water Police Station was constructed with convict cut stone .

Table 4.2 Comparative analysis of places of convict industry, labour and punishment

Comparable Place	Description & Analysis
Towrang Convict Stockade and Magazine archaeological site, near Goulburn (1833-1843),	Established for the extension of the Great South Road between Sydney and Goulburn. Towrang held 250 convicts for most of its period of operation. The Towrang convict stockade included a cottage and huts for British regimental officers and soldiers and “boxes” or timber cells about 4m square for the convicts. There was also a cemetery and a powder magazine excavated into a hillside for the gunpowder used for the road works. A short distance away from the Towrang Convict Stockade and Magazine archaeological site are seven convict-built culverts and

Comparable Place	Description & Analysis
	<p>a bridge (all separately heritage listed).^{vii}</p> <p><i>Analysis: Archaeological site only. Exceptional place listed on the Register of the National Estate.</i></p>
<p>Convict Lumber Yard or Stockade Site, 98 Scott Street, Newcastle (1801) and Coal River Precinct, Nobby's Head including Macquarie Pier (constructed 1818-1846 with convict labour)</p>	<p>Archaeology site only. Foundations of c. 1818 convict barracks found. Operated as a convict site till 1846. Associated with the construction by convicts of Macquarie pier (aka Nobby's breakwater). The Coal River Precinct also contains mainly archaeological evidence of the convict period.</p> <p><i>Analysis: the Stockade site and Coal River Precinct are listed on the NSW State Heritage Register. This is a major site of convict labour, the main convict construction remaining is the Macquarie Pier. Macquarie Pier is separately listed on a NSW Heritage Act Section 170 Register.</i></p>
<p>The Great North Road, beginning near Wiseman's Ferry NSW (1826-1836)</p>	<p>A 250km stretch of mostly extant convict-built road, with culverts, bridges, including associated quarries. Archaeological remains only of convict stockade.</p> <p><i>Analysis: Place of recognized national heritage significance (on the National Heritage List and NSW State Heritage Register), currently in process of nomination for World Heritage Listing.</i></p>
<p>Cox's River Convict Stockade, Lithgow</p>	<p>Consists of the remains of a Convict Stockade and associated buildings used during the construction of the Bathurst road in the 1830s. The Stockade consisted of very transitory structures such as bark huts and a wooden stockade fence. Other buildings, such as the soldiers' barracks, officers quarters, commissariat and hospital, were of more substantial stone rubble and mortar construction. Other components of the site include sections of the convict-built road on both sides of the Cox's River Valley.</p> <p><i>Analysis: Archaeological site listed on a State Agency Section 170 Register under the NSW Heritage Act.</i></p>
<p>Granton Convict and memorial Group, Granton, Tasmania (1828-1849)</p>	<p>Site includes the Bridgewater Quarry face c. 1830-1836, Bridgewater Causeway, c. 1838 Watch House, two houses "Stone End" and "Commandant's Cottage" remaining from former Bridgewater Convict Station (1828-1849). Quarried stone used by convicts to construct the causeway, Watch House, and former Convict Station stone buildings.</p> <p><i>Analysis: Exceptional site listed on the Register of the National Estate, with extant large convict-worked quarry and surviving buildings from the Convict Station as well as nearby convict constructions.</i></p>

Conclusion

The Magazine Quarry on Goat Island is rare. Other examples in Australia of convict-worked quarries associated with convict built structures are the Great North Road, NSW and the Granton site, Tasmania (both outlined in Table 4.2 above).

The convict built Barney's Cut on Goat Island is rare, comparable to a handful of convict built structures such as Macquarie Pier, Newcastle; the Great North Road; the Great South Road and its bridge and culverts; the Granton Causeway, Tasmania and excavation for the Fitzroy Dock on Cockatoo Island (1847-1854). Barney's Cut is also of importance for its role as the quarry sourcing the stone for construction of the 1838 Water Police Station.

Goat Island's convict-built buildings and sites:

- illustrate aspects of the British system of convict transportation and punishment, as carried out in the colonies of New South Wales and Tasmania in the early 19th century, where convict labour was used for construction of major public works (roads, bridges, government buildings);
- retain a rare association of convict built buildings and structures with the convict-worked quarries (Magazine quarry and Barney's Cut) from which the stone for the buildings or structures was extracted
- retain archaeological potential, including evidence of a convict stockade.

QUARRIES

Quarrying in Sydney commenced shortly after the settlement of Sydney and the consolidation of the city with stone and brick buildings. Evidence of quarrying can be seen extensively around the harbour edge, on the various islands (for example on Cockatoo Island, Fort Denison and Garden Island) and throughout the city and inner suburbs. Many quarries were worked progressively with evidence of earlier quarry faces removed. As a result many quarries are difficult to date from physical evidence alone.

The convict-worked quarries on Goat Island are relatively rare, the only other surviving comparable intact quarries being those associated with the Great North Road (NSW) and the Bridgewater Quarry, Granton, Tasmania.

Quarries were created for three main purposes: to gain stone blocks for construction, to bench a site to allow for construction or to gain fill generally to reclaim sections of foreshore or build breakwaters or causeways. In some quarries all of these activities took place.

The first quarry on Goat Island (south-east of the Cut) was to supply stone for construction in Sydney. This area of the Island was shortly after quarried again to form Barney's Cut, both to separate, and to provide construction stone for the Water Police Station (1838). The northern quarry also created a benched area near water level where a stone jetty was built that allowed the loading of quarried stone. It is not clear how much additional quarrying took place on this part of the island at this time as there are no records of the shoreline or form of the island. The same area was quarried much later to provide a platform for the construction of the Port Emergency Services Building, which largely removed evidence of the earlier quarry. This is an example of a quarry being extended and reworked. Part of this reworking removed a section of the wall of Barney's Cut.

The Magazine quarry represents the other end of the spectrum, where the quarry was created to bench the site, to fill the foreshore and to provide stone for the construction of the magazine complex. Cut around 1830-1835 it remains for most of its length unaltered, the exception being the western edge which was modified around 1925 for the site of the Sydney Harbour Trust slipways.

There are numerous other examples of smaller scale quarrying across the island for building construction, fill and benching for construction at various periods of development. Often easily accessible rock formations were quarried and evidence of this remains across the ridge line.

The quarries of greatest interest on Goat Island are the 1830-1835 Magazine quarry and the 1838 Barney's Cut (the remaining sections) from the same period, both of which are largely intact to the 1830s period. The other areas of observable quarrying are around the perimeter of the Water Police Precinct, behind the Port Emergency Services Building and around the former residences.

EXAMPLES OF 19TH CENTURY QUARRIES IN SYDNEY

Contemporary local quarries to those on Goat Island

- Glover Street cottages, 124-134 Kent Street, Millers Point, Sydney 1820-1838

Examples of contemporary convict worked quarries within Australia

- Granton Convict and Memorial Group, Lyell Highway, Granton, Tasmania – Bridgewater Quarry face c. 1830-1836, Bridgewater Causeway, c. 1838 Watch House, two houses "Stone End" and "Commandant's Cottage" remaining from former Bridgewater Convict Station (1828-1849) – quarried stone used by convicts to construct the causeway, Watch House, and former Convict Station stone buildings
- Quarries between Wiseman's Ferry and Mount Manning, NSW associated with the construction of the Old Great North Road (1826-1836).^{viii}
- Convict quarrying of Nobbys Island, Newcastle 1818-1846 to create Nobbys Breakwater (Macquarie pier) to join the island to the mainland

- Cemetery Bay, Kingston, Norfolk Island – stone quarried by convicts for construction of settlement buildings (1840s) and structures such as Kingston pier (1839).

Examples of 19th Century quarrying on other Sydney Harbour islands

- Cockatoo Island: convict quarrying from 1839 to 1869 for construction of the convict prison buildings, grain silos (1839-1840) and the Fitzroy Dock (1847-1854).
- Fort Denison (formerly Pinchgut Island): the island was benched during the early 19th century, the 1855-1857 Martello Tower built from stone quarried at Kurraba Point, Neutral Bay
- Spectacle Island: quarrying by contractors 1860s and 1870s for stone used in the construction of buildings on the island (including the powder magazine)

Conclusion

Numerous sites around Sydney Harbour were quarried to provide dimensioned stone and rubble for the development of the colony. Intact quarries from the early 19th century, particularly convict-worked quarries such as the Goat Island Magazine Quarry and Barney's Cut, are rare within the Sydney region and nationally. Large extant early 19th century convict-worked quarries retaining a direct physical relationship to the buildings and structures built from that stone, such as occurs at Goat Island at both the Magazine Quarry and Barney's Cut, are exceptionally rare within Australia.

LIME KILNS

Lime kilns such as those on Goat Island, otherwise known as 'field kilns', were generally simple temporary structures built near the site where lime was required. Kilns were used to produce quicklime by the calcination of shell or limestone at a temperature over 900° C, the technology of which has not changed since the mediaeval period. Common features include an egg cup, inverted cone or cylindrical shaped burning chamber with an air inlet in the base. Lime kilns were usually constructed of brick or limestone blocks and packed with alternate layers of fuel (timber or coal) and limestone, coral or shell and fired from the base. This layering limited the size of the kiln to 1-5 m diameter and up to 3 m in depth. Intermittent kilns were loaded, fired and emptied for each load of lime.

The extant lime kiln (63) and the remains of the kiln on the foreshore (95) on Goat Island are one of the most common forms of intermittent kiln known as a cylindrical shaft kiln. They generally took 2-3 days to fire and reduced approximately 40% in weight and 20% in volume when complete. Kilns are often built into a rock face or embankment with retaining walls extending from the opening of the firing chamber as the examples on Goat Island demonstrate.

Lime making diminished in the 20th century as the use of lime mortar was largely replaced by the use of cement mortar.

Table 4.3 outlines surviving comparable examples of 19th century lime kilns in Australia.

Table 4.3 Comparative Analysis of early 19th century Lime Kilns^x

Note: photographs of Norfolk Island lime kilns provided by DECC; other lime kiln photographs scanned from J.Birmingham et al^x

Location, date & Photographs	Analysis
Lime Kilns – convict related, early 19 th century	
Lime Kiln, Parramatta Park, Parramatta, NSW; 19 th Century	Lime kiln archaeological site. Not dated but could be early 19 th century. Possibly convict-related, but very little information available.
Rectangular stone kilns, Pipers Creek, Port Macquarie, NSW; 1830s	A number of convict-built rectangular stone kilns built to burn limestone ^d
Lime Kilns, Norfolk Island; 1792 and 1845	Built to burn limestone for convict building construction, the 1792 lime kiln is a remnant only. The 1845 lime kiln is extant.

Location, date & Photographs	Analysis
	<p>1845 Lime Kiln, Norfolk Island</p>
<p>Circular brick lined kiln, Port Arthur, Tasmania (1854)</p> 	<p>Circular brick lined kiln with domed roof constructed at Port Arthur in 1854 on the shoreline. Burnt shell and limestone. One of only two remaining lime kilns on the Tasman Peninsula (the other being at the Coal Mines Historic Site). Port Arthur is listed on the National Heritage List, and is one of the Australian convict related sites to be proposed for World Heritage Listing.</p>
<p>Lime Kiln, Coal Mines Historic Site, Saltwater River, Tasmania (1833)</p>	<p>The Coal Mines site was established in 1833 to mine coal and as a place of secondary punishment for convicts. The site operated until 1877 (until 1854 with convict labour). The lime kiln near the ruins of the main settlement is one of only two remaining on the Tasman Peninsula, the other being at Port Arthur. The lime kiln provided lime for mortar. The site is on the National Heritage List, one of the Australian convict related sites to be proposed for World Heritage Listing.</p>
<p>Middle Arm Lime Kiln, Auburn Rd, Beaconsfield, Tasmania (1820c)</p>	<p>Remnant of stone lime kiln associated with quarry, c. 1820, related to convict building construction in George Town.</p>

Location, date & Photographs	Analysis
Lime Kiln, Granton, Tasmania (1830-1849)	Lime kiln partially cut away by road construction related to Granton convict station located on small knoll on the rise above the Derwent River.
Lime Kiln, Sarah Island, Queenstown, Tasmania (1824)	Extant 1824 lime kiln associated with Sarah Island convict penal settlement (on Register of the National Estate)
Lime Kilns, Maria Island, Tasmania (1828-1832)	Convict related site.
	
Lime Kiln, Victoria Settlement Historical Reserve, Port Essington, Cobourg Peninsula, Northern Territory	Part of the site of the 3 rd failed attempt at European settlement in the Northern Territory, the Victoria Settlement operated from 1838 to 1849, as a British military outpost. During 1844 convicts, including trained masons and quarrymen were stationed briefly at Port Essington, and constructed a substantial stone hospital. The lime kiln is likely to date from this 1844 construction period.
Lime Kilns – not convict related, often mid to late 19 th century	
Lime Kiln, Cock Renoyo Point, Carrington, NSW (19 th century)	Associated with Carrington Boat Harbour. Not dated.
2 Lime Kilns, Gale Precinct, Queanbeyan, NSW (19 th century)	Two undated lime kilns associated with Tralee Homestead Complex.
Inverted cone stone lime kiln, Ipswich, Queensland (1860s).	The kiln burnt limestone, which was mined nearby. It is constructed into the hillside and is approximately 2m wide. ^{xii} Associated with the building industry (not convict related). Mid 19 th century. Extant
Sullivans Lime Kiln, 425 Browns Rd, Rye, Victoria (1840s)	Limestone kiln – noted as one of six lime kilns in this local government area.
“Stonehenge” & Lime Kiln, 4 McColls Way, Portsea, Victoria (1842c)	Brick lime kiln, now incorporated into the house “Stonehenge”, possibly the earliest in Victoria.

A number of place names in Australia refer to their connection with lime kilns in the past including Lime Kiln Creek, Broken Hill; Lime Kiln Hill, Hobart; and Lime Kiln Bay, Oatley; Lime Kiln wharf, Taree; however physical remains of the kilns appear not to survive in most places. Later lime kilns occur at a number of places.

Conclusion

The extant lime kiln (63) and remnant lime kiln (95) on Goat Island are the only known remaining examples of lime kilns within the Sydney region and rare examples of early 19th century and convict-constructed kilns within NSW.

STONE WHARVES OR JETTIES

Stone wharves or jetties (and slipways) in Sydney Harbour were “once common all around the Harbour”^{xiii}. The NSW State Heritage Inventory lists only six stone wharves or jetties (which don’t include those on Goat Island), however there are other, unlisted, stone wharves or jetties around Sydney Harbour. It is also possible that some wharves are listed under other headings as part of larger sites and are not separately identified. Stone wharves or jetties, which are located below high water mark, do not fall within the boundaries of local council areas and are consequently generally not included in local heritage studies. This said, a number of

structures are known to be located around the harbour. They are generally early and often remnant structures, and often without researched histories. The currently heritage listed stone wharves or jetties in the greater Sydney area are:

- Stone Wharf 11 Bortfield Drive Chiswick
- Stone Wharf 91 Llewellyn Street, Urhs Point Rhodes
- Stone Wharf Old Ferry Road Illawong
- Stone Wharf Bradley's Head (National Park) Mosman
- Stone Wharf Bradleys Head Road (National Park) Mosman
- Stone Wharf and path Bayside Drive and Lime Kiln Bay Lugarno
- Quarry Wharf, Former Centenary Drive, Mosman Bay (associated with Harnett's Quarry)
- Stone jetty Bignell Street, Illawong
- Bennett's Bay jetty Berowra Creek, Hornsby

The two wharves noted at Bradley's Head relate to two separate structures.

An example of an early surviving wharf that is not on the heritage inventory is at Wright's Point Drummoyne where the 1850's wharf for Drummoyne House remains, unused and now in private ownership. This is one of the larger earlier structures on the harbour. Another example is the stone wharf at the North Head Quarantine Station that dates to the mid 19th century.

The "Landbacked Wharf", a bluestone wharf in Cossack Road, Cossack, Western Australia (1863, altered 1884-1898), is the only interstate heritage-listed stone wharf that could be discovered. However, as in NSW, it is known that such structures are rarely heritage listed, even where they do exist. For example, there are well known stone wharves at Hobart and Port Arthur.

Conclusion

The stone jetties of Goat Island (64,65, 66) are historically associated with the well-researched 1830s Imperial magazine complex with one (98) associated with the 1838 Water Police Station. These stone jetties are the oldest documented surviving and rare examples of intact stone jetties or wharves in Sydney Harbour associated with historic sites. It is however likely that a range of other early stone wharves and jetties exist around the harbour.

POWDER MAGAZINES AND THEIR ASSOCIATED STRUCTURES + FEATURES

The Goat Island Magazine complex was built in adherence to a large extent to British Imperial Navy models for the construction of such complexes, evidenced by the fortified magazine wall with sentry box, provision for accommodation of military personnel outside the wall, inclusion of a cooperage, design of the Queen's Magazine with buttressing, barrel vaulting, massive masonry, baffled vents, gabled slate roof, copper sheathing to doors, double set of timber shutters to openings, distinctive copper sparkscreens (similar to those at Spectacle Island Magazine) to gable end vents, lack of roof guttering. However the magazine complex also shows adaptation to colonial conditions in its construction materials -sandstone from the Magazine quarry - and departures from the standard British design (a larger-scale accommodation barracks and related kitchen and outbuildings for military personnel in a (then) isolated location).

Gunpowder magazines fall into the following general types:

- Military magazines.
Examples: Queens Magazine, Goat Island (1833-1838)
HM Victoria Magazine, Hobart (1851-1858)
Spectacle Island Gunpowder Magazine, (1865)
Newington Armory Magazines (from 1897).

- Merchant's or public gunpowder/explosives magazines.
Examples: Colonial Magazine, Goat Island (1852-1853, extended 1859)
Bantry Bay Powder Magazines (1915)

This analysis concentrates on comparison of military and merchant's gunpowder magazines.

- Small magazines related to fortifications
Examples: Middle Head,
Dawes Point
- Industry magazines (often associated with mining or quarrying)
Examples: Numerous small structures across the state and country to house explosives away from construction sites or structures. Numerous examples on heritage lists in South Australia and Victoria in particular. One early convict-built example of such a magazine in NSW is the Towrang Convict Magazine (near Goulburn) built into a hillside (1833-1843) for storage of the gunpowder used in the roadworks for the Great South Road (note: remnant and part of an archaeological site).

The NSW Regulations under the *Gunpowder and Explosive Consolidation Act 1876* lists as "Public magazines" for the storage of explosives "those at Goat and Spectacle Islands in the Harbour of Port Jackson, the magazine at Gulgong, and the floating magazine in the Port of Newcastle." There are also references to floating magazines moored at Powder Hulk Bay, Middle Harbour from 1882. All powder hulks, both those in Newcastle and at Powder Hulk Bay were replaced by the powder magazines built in 1915 at Bantry Bay. The hulks, and subsequently Bantry Bay magazines, were for the purpose of storage of merchant's or public gunpowder and explosives, not military explosives (except for short-term use during WWII).

The magazine at Gulgong is not on any heritage list, even as an archaeological site. The later Newington Armory, Sydney (built from 1897) is also relevant, though much later, as it was the next in the progressive line of NSW military arms storage sites, after Goat and Spectacle Islands. It is noted that both Goat and Spectacle Island's magazines were used for storage of both military and merchant's explosives. The Goat Island magazine complex was designed and built for military use only but before completion of construction was ordered to also store merchant's stock (due to legislative changes).

The majority of gunpowder magazines on heritage lists in Australia were not only built much later than the Goat Island magazines (usually in response to new legislation concerning safe storage of explosives) but also were primarily for merchant's powder (usually for use in mining) and not for military use. Examples of other comparable 19th century magazines within Australia are:

NSW	Spectacle Island, Sydney Harbour (1865) and Newington Armory, Newington, Sydney (1897)
Victoria	The majority of the numerous gunpowder magazines in Victoria date from after the passing of the 1857 Victorian <i>Act to Regulate the Importation, Carriage and Custody of Gunpowder</i> , passed in response to increased use of explosives for mining. An example is the 1864 Heathcote Powder Magazine in Greater Bendigo LGA. Such magazines, in accordance with the Act, were built by the Government of Victoria and administered locally. The Heathcote Powder Magazine "features a brick vaulted space inside a buttressed rectangular building, with small entry and office space. The vault, buttressing and baffled air vents were a manifestation of the (erroneous) belief prevalent at the time that massive masonry would help to contain explosives. The gable roof over the vault was originally of slate." ^{xiv} It is described as a rare building type in Victoria. Note the description indicates a similarity with the Queen's Magazine on Goat Island, however the Heathcote Powder Magazine is of brick construction.

South Australia	The earliest of the numerous heritage-listed gunpowder magazines in South Australia is the 1847 magazine built for the Burra Mine.
Queensland	The earliest of the few heritage-listed powder magazines in Queensland is the 1875 Cooktown Powder magazine, constructed for the Department of Ports & Harbours, Queensland, primarily for storage of merchant's powder for mining use.
Tasmania	The earliest extant military magazine is HM Victoria Magazine, Hobart (1851-1858) built in the Queen's Domain.
Western Australia	The earliest heritage-listed powder magazine buildings in Western Australia are the 1898 Army Magazine Buildings, Irwin Barracks, Brallos Pass, Karrakatta (Nedlands City LGA).
Northern Territory	The earliest heritage-listed powder magazine in the Northern Territory is the 1885 Burrundie Explosives Magazines, Pine Creek (34 km north-northwest of Pine Creek). These are underground magazines of unusual design (to ensure adequate temperature control).
Norfolk Island	New Military Barracks Magazine, Norfolk Island (1837).

An international comparison to the Queen's Magazine is the British naval powder magazine at Priddy's Hard, UK (1771).

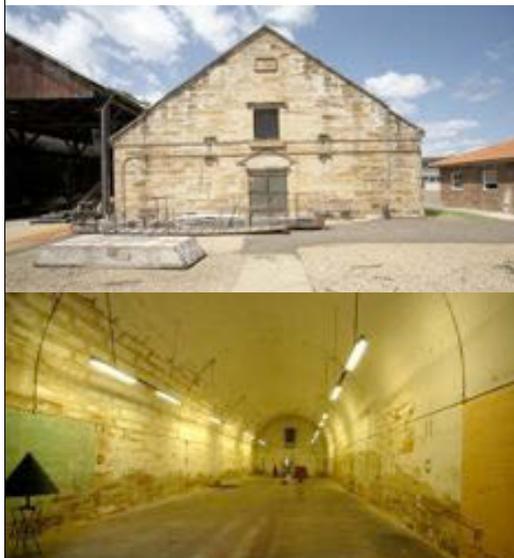
The most comparable magazine complexes to the Goat Island magazines are presented in Table 4.4.

Conclusion

The Goat Island Queen's Magazine is the oldest and most intact imperial powder magazine of its type in Australia. Within Australia, it is a unique example of a British naval ordnance depot adhering to standard design principles dating back to the 18th century and used throughout the British Empire. The later Colonial Magazine (1851-1859) is one of only four similar structures in Australia (Victoria magazine, Hobart (1851-1858); Spectacle Island, Magazine, NSW (1865); and the Grand Magazine, Newington, NSW (1897). It is noted that there are other colonial powder magazines such as Port Arthur and Towrang but they are of significantly different design and purpose than those outlined above.

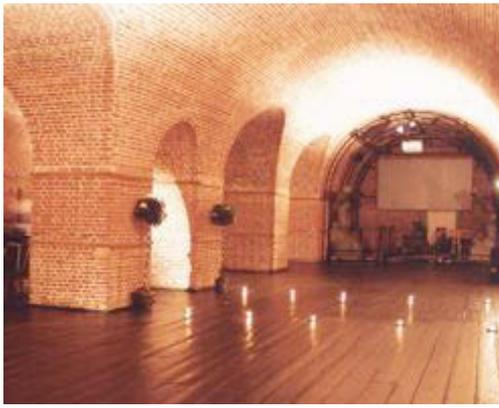
Table 4.4 Comparative Analysis of Gunpowder Magazines

Location	Analysis
Goat Island 1833-1839 Queens Magazine & the Magazine complex	<p><i>Feature Type:</i> Government/Military/Royal Navy</p> <p><i>Description:</i> Magazine complex: sandstone Queens magazine. Buttressed, massive masonry, baffled vents, copper-sheathed doors, double shutters, copper screens, a single barrel-vaulted chamber, gabled slate roof (intact); sandstone 1st Cooperage (later cartridge lab) skillion slate roof (relatively intact); sandstone 2nd cooperage, gabled slate roof (relatively intact); sandstone magazine wall and sentry box with related early graffiti (intact); sandstone military barracks (some alterations); sandstone kitchen block (radically altered); sandstone wharf remains</p> <p><i>Analysis:</i> The Queen's magazine (and the associated buildings from the 1836-40 building phase) is the most complete, the earliest and the most comprehensive magazine complex in Australia. The buildings are remarkably intact and are able to demonstrate much of their layout and operation.</p>



Location	Analysis
<p>Goat Island 1851-1859 Colonial Magazine</p> 	<p><i>Feature Type:</i> Merchant's powder storage <i>Description:</i> Edmund Blacket designed a single bay sandstone magazine with gabled slate roof (1851-1852); this was extended in 1859 with 2 additional sandstone bays, one on either side of the 1851-52 bay, each with gabled roofs with box gutters between each section of roof. This presented the building similarly to other magazines of the period where the three bay model set within a perimeter wall appears to have been the standard design approach. The building was radically altered with removal of much of the sandstone walls and reconstruction of the roof to facilitate shipyard use. It is the only colonial period building on the island to have undergone such extensive change (noting the kitchen was also much altered). <i>Analysis:</i> The building is now a remnant of its early form and detail and is more related to shipyard use than the provision of explosive storage. The structure is no longer a good example of a powder magazine.</p>
<p>Spectacle Island 1865 Magazine Complex</p> 	<p><i>Feature Type:</i> Government/Military/Naval also used for merchant's powder storage. <i>Description:</i> Magazine complex: sandstone Gunpowder magazine originally barrel vaulted (altered through raising of roof with additional brickwork), railway and rolling stock, cooperage, blacksmith's forge, sandstone wall (altered through insertion of new openings). One barrel made in the cooperage is held in the Australian Naval museum collection housed on the Island. <i>Analysis:</i> This complex is directly comparable to the Colonial Magazine on Goat Island. It has the same basic three chamber form and although altered retains more of its built fabric. It is a more intact example of a mid nineteenth century magazine than the Colonial Magazine on Goat Island. The early 19th century Queen's Magazine on Goat Island predates it and is an earlier type of magazine.</p>
<p>Newington Armory, Newington, Sydney 1897 onwards</p> 	<p><i>Feature Type:</i> Military <i>Description:</i> Grand Magazine and associated buildings built from 1897. Earliest (1897) explosives magazine is a 3 bay brick, buttressed building with gabled slate roof, copper sheathed doors, surrounded on all four sides by high earth mounding. The 1897 buildings in the complex are the powder magazine, a cartridge laboratory (building 140), gatehouse, and guard house, and rail-lines. The complex is much later than the Goat Island complex, but the 1897 buildings have some elements in common with the Goat Island magazine buildings: building form of 1897 Newington Grand magazine similar to the Colonial Magazine, and includes buttressing, copper sheathing to doors. <i>Analysis:</i> This is an important but later example of a magazine complex. It forms part of a small group of structures that collectively show the development of magazines in Australia. The Grand Magazine (1897) has design elements in common with both the Queen's Magazine and the Colonial Magazine on Goat Island.</p>

Location	Analysis
<p>Hobart 1851-1858 HM Victoria Gunpowder magazine complex</p> 	<p><i>Feature Type:</i> Military <i>Description:</i> HM Victoria Gunpowder Magazine Complex: Sandstone barrel-vaulted buttressed gunpowder magazine with gabled slate roof, sandstone magazine wall, sandstone guard house (all intact) and outside the wall sandstone cottage (later altered with brick addition to front). <i>Analysis:</i> This magazine is directly comparable to the colonial magazine at Goat island and the magazine on Spectacle Island. It is the most intact, most original and best preserved magazine structure in Australia. It is the major example of the three bay design that was used around the 1850-1860 period.</p>
<p>Norfolk Island 1837 New Military Barracks magazine</p>  	<p><i>Feature Type:</i> Military <i>Description:</i> New Military Barracks magazine <i>Complex:</i> Small simple painted masonry barrel-vaulted and buttressed magazine building, with a gabled roof, now clad with timber shingles, within a military barracks compound, surrounded by a security wall with a single gateway. <i>Analysis:</i> Built for storage of 16,000 to 30,000 rounds of ball cartridge (not gunpowder). Designed by George Barney, Royal Engineer, and completed by September 1837. Alterations had to be made within 2 years to the ventilation and storage system.</p> <p>The magazine vents are almost identical to those on the Queen's Magazine at Goat Island. Copper infills were added recently to prevent nesting birds.</p>
<p>Priddy's Hard 1771 Magazine complex</p> 	<p><i>Feature Type:</i> UK Military/Royal Navy <i>Description:</i> Magazine complex: Grand magazine (left) is a massive buttressed brick building with gabled slate roof. Complex includes a brick magazine wall and brick cooperage, brick officer's quarters outside the wall. <i>Analysis:</i> This magazine, while earlier illustrates the established plan and design (in terms of built structures and building uses) of Royal Navy magazine complexes in the late 18th century, a pattern which was still followed in 19th century Australia.</p>

Location	Analysis
	

ASSOCIATION WITH IMPERIAL GARRISONS AND ORDNANCE STOREKEEPER

From the establishment of the powder magazine complex in the 1830s until 1870, British military units (infantry and artillery) were posted to Goat Island to guard and operate the magazine complex, and the magazine complex came under the control of the Ordnance Storekeeper posted to the colony from 1836.

Sir Richard Bourke (1777-1855), Governor of NSW 1831-1837^{xv} divided the superintendence of public buildings between two offices created for the purpose: the Colonial Architect's Department for the custody of colonial works and buildings, and a Board of Works to have charge of military and convict buildings. The Board of Works administered the function of Ordnance from 1833 to 1835, although not being an Ordnance institution. "In a dispatch to the Secretary of State on 5 February 1833 Bourke set out the new arrangements and recommended that a branch of the Ordnance Department be established to care for Convict and Military Buildings. As a result it was decided that two divisions of Ordnance be established in New South Wales: a Buildings Branch headed by a Royal Engineer to have superintendence of all buildings occupied by the Military and convicts and a Storekeeper's Branch presided over by the Ordnance Storekeeper to have charge of military stores and of clothing and stores excluding food required for the convicts. On 1 January 1836 the Royal Engineer and Ordnance Storekeeper, who had arrived from Britain late in 1835, commenced duties."^{xvi} In 1870 the Ordnance Storekeeper's Department was abolished with the withdrawal of Imperial forces from the Colony.

British Infantry and later Artillery units who served at Goat Island from 1830 to 1870 are listed on pages 89-90 of Volume 2 of this Study, and these regiments have left physical evidence of their presence at Goat Island magazine complex seen in the graffiti on the fortified wall.

Other early sites in Australia associated with Imperial garrisons^{xvii} are:

Table 4.5 Comparative Analysis of places associated with imperial garrisons

Place	Description/Analysis
Victoria Barracks, Paddington, Sydney, earliest buildings 1841-1848	<p><i>Description:</i> Victoria Barracks were occupied by British troops up until 1870 and then taken over by the New South Wales colonial forces. ^{xviii} "It survives as the only substantial military barracks complex built in Australia in the early Victorian period and is one of the few surviving sites evidencing the British military presence in Australia in the colonial period. Victoria Barracks Paddington has the only surviving perimeter wall in NSW constructed as a defensive system around a barrack complex."^{xix}</p> <p><i>Analysis:</i> One of the best known early military barracks in Australia, listed on the Commonwealth Heritage List and of National significance.</p>

Place	Description/Analysis
Lancer Barracks, Parramatta 1819	<p><i>Description:</i> The two surviving original Lancer Barracks buildings, known as Bob's Hall and the Barracks, are historically highly significant. They are directly associated with the early military history of New South Wales, and with the early government administration of Parramatta. The buildings were used by British troops until the 1850s. ^{xx}</p> <p><i>Analysis:</i> 2nd oldest surviving military barracks in Australia. Listed on the Commonwealth Heritage List, of National significance.</p>
Cockatoo Island, Sydney, Barracks (1841) Mess Hall, Military Guard room and detached kitchen (1842) - part of convict prison complex – completed 1841-1856	<p><i>Description:</i> The Barracks is a U-shaped sandstone building, which was occupied by British Regiments until 1869, when the convict prison use of the island ceased.</p> <p><i>Analysis:</i> Part of a National Heritage Listed group of convict prison buildings on Cockatoo Island. The group is in the process of nomination for the World Heritage List.</p>
Kingston & Arthur's Vale Historic Area (KAVHA), Norfolk Island	<p><i>Description:</i> KAVHA's major buildings include: the 1829 Government House, one of the earliest and most intact remaining government house buildings in Australia, with its commanding views of the settlement; the Old Military Barracks and officers quarters constructed between 1829-1834 which are surrounded by high walls giving it an appearance of a military fortress; the New Military Barracks commenced in 1836 which follows a similar fortress-like design; the Commissariat Store dating from 1835 which is the finest remaining colonial (pre 1850) military commissariat store in Australia; and the elegant Quality Row houses that provided quarters for military and civil officers. To optimise surveillance, the military complexes are elevated in order to oversight the convict precinct located closer to the water and at a lower elevation. Also archaeological remains of the two convict gaols, and the perimeter walls and archaeological remains of the Prisoners' Barracks (1828-48) with the Protestant Chapel, the archaeological remains of the blacksmith's shop (1846); lumber yard; water mill; the crankmill (1827-38), the remains of the only known human powered crankmill built in Australia before 1850; the salt house (1847); the windmill base (1842-43); lime kilns; the landing pier (1839-47) and sea wall, two of the earliest remaining large scale engineering works in Australia. The role of religion in reform is evident in the Protestant and Catholic clergyman's quarters.</p> <p><i>Analysis:</i> The Barracks and buildings associated with regimental accommodation are part of the KAVHA convict settlement site, listed on the National Heritage List and in the process of nomination for World Heritage Listing. The extant buildings relate to the second period of settlement 1824-1855. Some of the archaeological sites relate to the first period of settlement 1788-1814. Regimental association with KAVHA therefore covered the periods of the two settlements, ceasing in 1855.</p>
Anglesea Barracks, Hobart, earliest buildings 1814	<p><i>Description:</i> Early buildings include officer's mess and various officers' quarters, soldier's barracks, infantry parade ground, hospital, kitchen, military gaol, guard house. Continuously occupied by British regiments till 1870.</p> <p><i>Analysis:</i> Oldest military barracks complex in Australia. Listed on Commonwealth Heritage List, of National significance.</p>
Victoria Barracks, Melbourne, earliest building 1856	<p><i>Description:</i> Continuously occupied by British regiments from 1855 (in temporary buildings) until 1870. The complex includes barracks buildings (basalt, 1850s-1860s), a parade ground, armory and ordnance building. Representative of the 1854 relocation of the British military headquarters in Australia from Sydney to Melbourne.</p> <p><i>Analysis:</i> Listed on Commonwealth Heritage List, of National significance.</p>
Military Officers Quarters, Arthur Highway, Eaglehawk Neck,	<p><i>Description:</i> A timber building built as officer's quarters, the only surviving building from the important Eaglehawk Neck</p>

Place	Description/Analysis
Tasmania (1832)	guardstation (1830-73) established to secure the Tasman Peninsula against escape. Apart from Port Arthur, the longest used convict station from this collection of sites. <i>Analysis:</i> On the Register of the National Estate. It has links to the Port Arthur Historic Site on the National Heritage List, which is in the process of nomination to the World Heritage List.
Two undated early 19 th century barracks at Pontville and Ross, Tasmania associated with convict stations	<i>Description:</i> Information on the Military Officers Quarters Eaglehawk Neck (above) indicates that regimental use of these sites was briefer than that at Eaglehawk Neck. <i>Analysis:</i> Both barracks are listed in the Tasmanian Heritage Register and the Register of the National Estate. They would be of state significance, and possible national significance, subject to further research.
Military Barracks (completed 1842) part of James Fletcher Hospital Group, 72 Watt Street, Newcastle	<i>Description:</i> Barracks occupied by British regiments only from 1842 to 1851. Building is extant. <i>Analysis:</i> Heritage listed on a NSW Heritage Act 170 Register. Probably State significance. Association with British regiments was only brief (9 years) before the building was put to other uses.

The barracks complexes included buildings associated with the Ordnance Storekeeper, the earliest and finest of these being the 1835 Commissariat Store at Kingston & Arthur's Vale Historic Area, Norfolk Island. The Victoria Barracks, Sydney, and the Anglesea Barracks, Hobart are the only other two sites of similar age in Australia with a similar length of occupation by British regiments (from the construction of the buildings to the withdrawal of imperial forces in 1870).

Conclusion

Goat Island has a strong association with the British military units sent to New South Wales as convict guards and garrison units between 1833 and 1870. This association is rare within NSW. The physical in-situ record of the military garrisons of Goat Island in the form of graffiti to the fortified wall and sentry box is unique in Australia.

WATER POLICE STATIONS

The Sydney Harbour Water Police evolved from a water patrol established by Governor Phillip in 1789. The size of the patrol increased over time and became known as the "Rowboat" or "Harbour" Guard. The guard continued until it officially became the Water Police c. 1833.

"Initially, the Water Police, under the control of a 'conductor' (sergeant) were stationed at two harbour locations – Longnose Point and Garden Island. In 1837 the Garden Island operation was moved to Watsons Bay, and that at Longnose Point to Goat Island. The principal activities of the force were to apprehend smugglers, prevent thieving on Sydney's busy waterfronts, supervise harbour activities and prevent the escape of convicts by sea. The section expanded in the late 1830s..."(p. 71, Tuck).

By 1841 the Water Police were reported as comprising 20 personnel, located at Watsons Bay, Goat Island and a third location (possibly at Circular Quay).

In 1841, the Superintendent of the Water Police, in a letter to the Colonial Secretary, described the locations and duties of the three stations attached to that department as being cramped and unaccommodating for the crew stationed there, suggesting that a third boats crew be accommodated at the Barracks at Mr Cadmans (Cadman's Cottage). The Water Police appear to have occupied Cadman's cottage and undertaken various additions between 1846 and 1849 (possibly in 1847) and to have stayed there till at least 1857. Tenders were let for the construction of a new Water Police Office nearby in 1855.^{xxi}

Other 19th century Water Police sites, which operated around Australia, were:

NSW In NSW, the first Water Police Constables residence at 32 Cliff Street, Watson's Bay, Sydney (a converted Pilot's Station) which was demolished

and replaced by a “Constables Cottage” built between 1895 and 1903 as quarters for two married sergeants. Later Water Police related sites in Sydney were Dawes Battery (demolished 1920s for construction of the Sydney Harbour Bridge) and Pyrmont (demolished). There was also a Water Police building in Newcastle that was demolished in 1997.

- Victoria The Water Police were established in Victoria by 1838 at Port Phillip. In 1855 a detachment was stationed at Geelong. The Geelong detachment suffered from desertions to the goldfields, but it was reported in 1855 that the Geelong Water Police “*had made a good recovery...they tallied 64 officers and men, with headquarters on the guardship.*”^{xxii} There are no heritage-listed sites relating to the Victorian Water Police suggests that none remain.
- Queensland The Queensland Water Police operated in the Brisbane River/Moreton Bay area from 1859 (when Queensland separated from NSW), and formally came into existence under the Queensland Police Act 1863. They were stationed on hulks at the mouth of the Brisbane River during the late 19th century, and in the 1829 Commissariat Stores at 115 William Street, Brisbane from 1889. The Commissariat Stores building is on the Queensland Heritage Register, but was not purpose-built for the Water Police. There are no other 19th century sites related to the Queensland Water Police on heritage registers.
- West Australia In Western Australia, the Fremantle Water Police operated from 1851. They operated from the 1903 Former Water Police Station and Quarters at 10-20 Marine Terrace, Fremantle. This is a two storey stuccoed brick terrace building (listed on the WA Register of Heritage Places) that replaced an earlier Water Police Station and quarters on the site.
- Tasmania In Tasmania, the Water Police operated from the Former Government Offices (including Water Police) at 11-13 Franklin Wharf, Hobart from 1852. The Hobart Water Police were operating early in the 19th century, and the construction of the Franklin Wharf premises arose from the recommendation of the Hobart Marine Department Enquiry of 1850 (to improve operations) for the Water Police and Port Officer’s boat crew to have new premises “*consisting of a barracks, yard and offices.*”(p. 33, *Capital Port: A history of the Marine Board of Hobart 1858-1997* Audrey Hudspeth & Lindy Scripps).

The most comparable extant Water Police related sites in Australia to the Goat Island Water Police Station are the Fremantle Water Police Station and Quarters (1903) and the Former Government Office (including Water Police) in Hobart (1852).

Table 4.6 Comparative analysis of Water Police related buildings

Item and Location	Analysis
<p>Goat Island 1838</p> 	<p><i>Feature Type:</i> Water Police Station</p> <p><i>Description:</i> Design by Government Architect Mortimer Lewis, based on Loudon’s Village and Cottage Architecture, the building is located on a prominent knoll with expansive views around the harbour. Apparently designed in isolation of other structures its modest scale and floor plan soon attracted a range of outbuildings.</p> <p><i>Analysis:</i> The earliest extant water police building in Australia and the only structure of its type from the eighteenth century that was used as barracks, office and holding cells. It is also the only such structure to be located on an island.</p>

Item and Location	Analysis
	
<p>11-13 Franklin Wharf Hobart Tasmania 1852</p>  	<p><i>Feature Type:</i> Water Police & Port Officers Boat Crew - Barracks, yard and offices</p> <p><i>Description:</i> A substantial building of rendered masonry reflecting the importance of the harbour in Hobart. Built following 1850 Marine Department Enquiry.</p> <p><i>Analysis:</i> This structure is the largest and most commanding water police building to be built and remaining. Even though only built 16 years after the Goat island building it represents a substantial change in construction. It was also a building shared with other offices in contrast to the sole use of the Goat island building.</p>
<p>10-20 Marine Terrace, Fremantle, WA 1903</p> 	<p><i>Feature Type:</i> Fremantle Water Police Station and Quarters</p> <p><i>Description:</i> A federation period building, which replaced an earlier Water Police building on the same site.</p> <p><i>Analysis:</i> This building represents the third phase of provision of Water Police buildings, Goat Island being the first and Hobart the second. It is not directly comparable to the Goat Island building.</p>

Conclusion

The 1838 Water Police Station on Goat Island is the earliest extant Water Police Station in Australia, and one of only three extant 19th century Water Police related buildings in NSW (the others being those in Phillip Street, Sydney, and Cadman's Cottage in The Rocks).

The Goat Island Water Police Station, from which the Water Police operated until 1865, has important historical associations with the (extant) Sydney Water Police Court (1853-1856) and the former Water Police Watch house (station) (1857-1858) at 4-8 Phillip St Sydney (now all part of the Police & Justice Museum, Sydney). Such association with other Water Police related buildings in the same city do not occur at either Fremantle or Hobart.

The Water Police Station on Goat Island is considered to be rare in Australia.

ASSOCIATION WITH GEORGE BARNEY AND COLONIAL ARCHITECTS

George Barney, Royal Engineer, and four Colonial Architects are associated with Goat Island:

- Mortimer Lewis, colonial architect 1835-1849, designer of the 1838 Water Police Station on Goat Island
- Edmund Blakett, colonial architect 1849-1854, designer of the single bay Colonial Magazine completed in 1854
- Alexander Dawson, colonial architect 1856-1862, designer of the two-bay extensions to the Colonial Magazine completed in December 1859.
- James Barnet, designer of the three additional magazines built on Goat Island in 1875, 1878, and 1885 (none of which are extant).

As none of James Barnet's buildings on Goat Island are extant, this comparative analysis excludes Barnet.

George Barney

George Barney arrived in Sydney in December 1835 with a detachment of Royal Engineers. Governor Sir Richard Bourke soon gave Barney charge of convict buildings and various civil works, however in August 1836 the Colonial office disapproved Bourke's proposal to award Barney an allowance of 500 pounds a year for performing the duties of civil engineer. In February 1837 Bourke issued the Colonial Office a list of works on which Barney was or should be employed: a circular quay at Sydney Cove, a breakwater at Newcastle, pier harbours at Wollongong and elsewhere and repairs of roads and bridges throughout the colony. In May 1836 Barney reported complaints to the master-general of ordnance regarding the construction methods of public works, including the lack of plans. In September 1837 the Colonial Office at last approved the appointment of Barney as superintendent of civil works, with 500 pound per annum pay. Barney recommended and took charge of the construction of fortifications at Pinchgut Island and Bradley's Head in Sydney Harbour and the construction of a new military barracks (Victoria barracks) at Paddington (1841-1848). The fortification at Pinchgut Island was later completed (1857) to Barney's original plan by Governor Sir William Denison. In January 1843 Barney was replaced as the commander of Royal Engineers Department in NSW, but Governor Gipps retained Barney in the position of Colonial Engineer. In May 1844 Barney returned to England, but returned to the colony in September 1846. In January 1849 Barney was appointed chief commissioner of crown lands, and in October 1855 surveyor-general in succession to Sir Thomas Mitchell. ^{xxiii}

George Barney designed the following buildings and structures, which appear on heritage lists:

- Fort Denison,
- Bradley's Head fortifications,
- Semi-circular Quay at Sydney Cove (with Mortimer Lewis)
- Parramatta Gaol (with Mortimer Lewis),

- Victoria Barracks Paddington, and
- The convict prison buildings at Cockatoo Island: the prisoner's barracks (converted to an air raid shelter during World War Two); the military guard room and kitchen (roofless); the mess hall (substantially intact); the officers quarters (added to substantially over time); the free overseers' quarters (in fair to good condition), and three dwellings (significantly altered via conversion to an air raid shelter with only its external and middle interior stone walls remaining); Biloela House (divided into two with a wall and in good condition); the clerk of petty sessions cottage (extended but the whole building is in fair to good condition).
- 1836 military barracks building, 32-34 Bridge St, Windsor (behind the police station, later used as a stables)

as well as being involved in the design of the Magazine complex at Goat Island, and numerous other public works of the time.

Mortimer Lewis

Mortimer Lewis, appointed Colonial Architect in 1835 by Sir Thomas Mitchell, designed a number of government buildings and other buildings, some of which are on the State Heritage Register or are heritage listed at a local level, including:

- Customs House, Alfred St, Sydney (attributed – not the current Customs House, an earlier version)
- Treasury Building, Macquarie St, Sydney
- Maitland Correctional Centre, Maitland
- Parramatta Correctional Centre, Parramatta (with George Barney)
- Semi-circular quay (with George Barney)
- Courthouses at Berrima, Gosford, Raymond Terrace, Paterson, Hartley, the central block of Darlinghurst Courthouse
- The 1837 police station (Watch house) at 808-810 Victoria Road, Ryde
- A number of original ward buildings at Gladesville Hospital
- A number of private houses

Lewis also designed a courthouse at Newcastle (demolished 1909), and is recorded as having designed numerous gaols, courthouses, police offices, watch-houses, police stations, lock-ups and treadmills.^{xxiv}

Of these, the most relevant comparative building is the Police Station at Ryde, a simple rectangular sandstone building contemporaneous with the Goat Island Water Police Station.

Edmund Blacket

Blacket is renowned as the designer of numerous prominent and beautiful churches and of the major early buildings of Sydney University, generally in the various Victorian Gothic styles. These were private commissions. The number of government buildings designed by Blacket was not numerous, due to his brief period as Colonial Architect. In this role Blacket designed bridges for Maitland and Yass, the Glebe Island Abattoirs and ballast wharf at Newcastle, however the only notable government buildings Blacket designed are the 1854 Water Police Office and the 1856 Water Police Courthouse (planned 1854) in Phillip St Sydney (now part of the Police and Justice Museum).

Alexander Dawson

Alexander Dawson's major buildings as colonial architect were:

- Sydney Observatory (1857-859)
- Port Stephens Lightstation (1861-1862)
- Mudgee Post Office (1862)

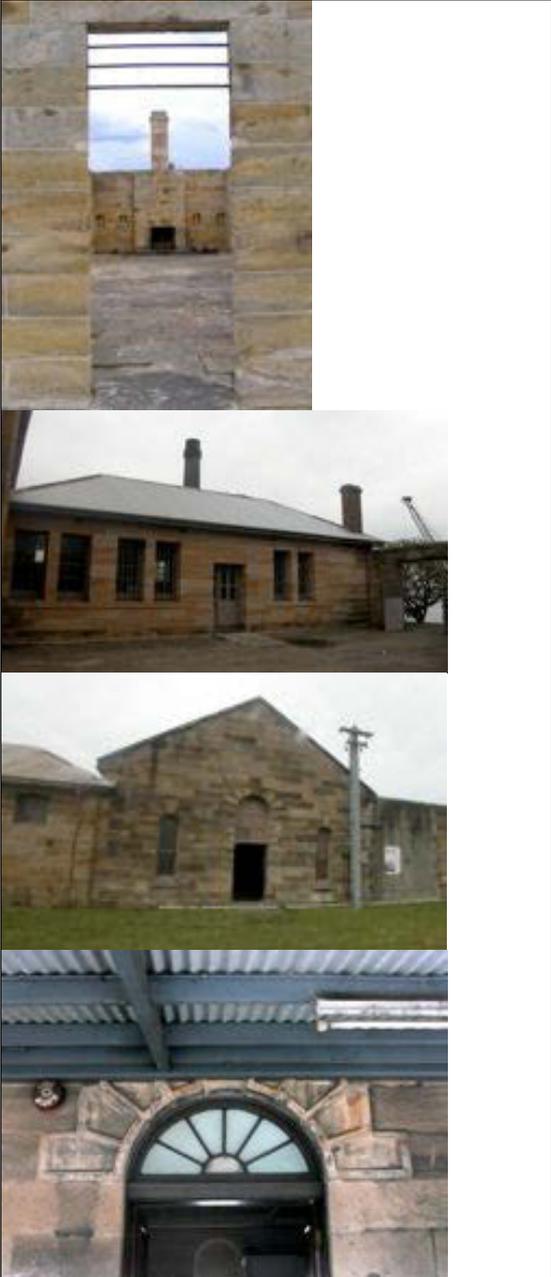
Image	Description & Analysis
	<p>Cockatoo Island convict prison complex, George Barney, 1st two building phases 1839-1841 and 1841-1844</p> <p>Roofless guardhouse, Cockatoo Island</p>
	<p>Police Watch House (former) 808-810 Victoria Road, Ryde/Mortimer Lewis/1837</p> <p>Simple single storey rectangular sandstone Police Station.</p> <p><i>Analysis: Listed on the NSW State Heritage Register. Similar in age and purpose (but not design) to the Goat Island Water Police Station.</i></p>

Image	Description & Analysis
	<p>Water Police Station, Goat Island, 1838, Mortimer Lewis (later verandah)</p>
	<p>Justice & Police Museum (formerly Water Police Station and Courts) 4-8 Phillip Street, Sydney/Edmund Blacket, Alexander Dawson Complex consists of: Edmund Blacket designed the 1854 Water Police Office and 1856 Courthouse, and Alexander Dawson designed 1857 Water Police Station. James Barnet designed 1886 Courthouse <i>Analysis: listed on the NSW State Heritage Register. Water Police association with Goat Island.</i></p>

Conclusion

George Barney, Royal Engineer (later Colonial Engineer), was an important figure in colonial NSW, and clearly collaborated with Mortimer Lewis on occasion (over the design of Parramatta Gaol and Semi-circular quay). The design of the c. 1835 Toll House at Windsor (designer unknown, possibly Mortimer Lewis) clearly has common features with the 1838 Barracks on Goat Island, specifically the blind arches around the windows to the front. The later 1849 Toll Bar House at Mount Victoria (designer unknown, possibly Mortimer Lewis) does not resemble the 1835 Windsor Toll House. The earlier cell block at the Hyde Park Barracks also features blind arches (Francis Greenway, 1811-1819). This design feature of the Goat Island Barracks may indicate some exchange of ideas between Barney and Lewis.

Colonial Architects Mortimer Lewis, Edmund Blacket and Alexander Dawson were all prominent architects of their time. The design of the 1838 Water Police Station at Goat Island by Mortimer Lewis is particularly significant, as the only other extant building of this scale and with a similar purpose designed by Lewis was the 1837 Police Watch House at Ryde. Lewis' use of a standard design from Loudon for the Water Police Station is also significant.

Edmund Blacket's and Alexander Dawson's involvement with the design and later extension of the Colonial Magazine is less significant, and seems simply a product of their holding the post of Colonial Architect at the relevant time. The complaints concerning their designs for the Colonial Magazine^{xv} reinforce this view.

Blacket's years as Colonial Architect were brief (5 years), his government work understandably not extensive due to this brevity^{xvii} and Blacket is therefore not renowned for his government work, but rather for his prolific church related work.

4.5 MARITIME PERIOD: SYDNEY HARBOUR TRUST

MARINE BOARDS AND HARBOUR TRUSTS

The information below concerning the history of a selection of Marine Boards and Harbour Trusts around Australia is confined to those with accessible written histories.

The Marine Board of NSW was formed in 1871 to “adjudicate in the case of shipping accidents and to assume control of pilotage”,^{xxvii} however for some decades prior to 1900 there had been agitation in Sydney for the formation of an overarching port authority with power to resume foreshore land and demolish and rebuild wharf facilities. The outbreak of the bubonic plague at The Rocks in 1900 provided the perfect excuse to form such an authority. Following the passing of the Sydney Harbour Trust Act in October 1900, Sydney finally had an over-arching port authority, the Sydney Harbour Trust. This was a relatively late development in the Australian context. Tull’s explanation for this is that Sydney Harbour/Port Jackson, unlike other ports around Australia, was a “superb natural harbour”, and therefore “Sydney’s early history was not dominated by early attempts to overcome the limitations of the site, as was the case at less fortunate ports such as Fremantle.”^{xxviii} The need for major capital works to improve access and wharf facilities for shipping led to earlier formation of overarching port authorities at Fremantle, the Port of Melbourne (where early stories told of cargo left unloaded onto mud flats and at risk of being washed away at high tide unless collected swiftly), at Hobart and regional centres such as Devonport (Tasmania).

The first NSW Harbour Trust was the Wollongong Harbour Trust formed in October 1889.^{xxix} A local Marine Board was established at Newcastle in 1871, but it was subservient to the Marine Board of NSW based in Sydney. The Newcastle Marine Board was abolished following an 1897 Royal Commission and replaced by the NSW Dept of Navigation, coming into affect in March 1900. At Newcastle, the administration of the port and port facilities remained fragmentary until the 1936 formation of the Maritime Services Board of NSW. “At Newcastle, the bed of the port remained as Crown land under the control of the Lands Department, the Department of Public Works was responsible for the construction and maintenance of all wharves and for the dredging of the harbour whilst the Navigation Department was the administrative authority for the Port and provided the pilotage service. In addition, however, the Department of Railways owned and operated the coal loading plant....”^{xxx} Problems arising from this fragmentary control had led to the formation of marine boards and harbour trusts with greater overarching authority at ports around Australia from 1858 on, but Newcastle had to persist with this inadequate system until 1936.

The Melbourne Harbor Trust was formed in 1877, following the passing of a bill in late 1876. The Melbourne Harbor Trust initiated major capital works including the deepening and widening of the Yarra River and the removal of a waterfall on the river to allow better shipping access, the “Coode Canal”, named after civil engineer/designer Sir John Coode (1816-1892)^{xxxi} who later undertook design of harbour public works in Fremantle) and the construction of the Victoria Dock.

The Marine Board of Hobart was established in 1858 following a Marine Department Enquiry in 1850. The Hobart Marine Board reclaimed and occupied land around Sullivan’s Cove, subsuming the former Hunter Island into the shore line (there were no islands in the Port of Hobart after that). The Marine Board of Hobart changed the shoreline and demolished and rebuilt wharves: it clearly had a degree of control over the Port’s facilities similar to that of the (much later) Sydney Harbour Trust. The Hobart Ports Corporation only succeeded the Marine Board of Hobart in 1997.

The Mersey Marine Board (Devonport, Tasmania) was formed in December 1867.^{xxxii}

In Queensland, following the split from NSW in 1859, the Queensland Marine Board Act of 1862 established a Department of Ports & Harbours.

The Fremantle Harbour Trust was formed in 1903, using The Sydney Harbour Trust Act 1900 and a New Zealand Act of 1878 as models.^{xxxiii}

There are a number of heritage-listed buildings relating to the administration of ports around Australia: (MSB building, now Museum of Contemporary Art, The Rocks, Sydney; Fremantle Harbour Trust Administration Building; Marine Board Building, Devonport, Tasmania; Marine &

Harbours Building, Adelaide; Bowen Harbour Board Building, Bowen, Qld; Dept. of Harbours & Marine Building, Brisbane; Former Harbour Board building, Rockhampton) however these buildings are not relevant for comparative analysis with the Goat Island sites, as Goat Island was the working (not administrative) headquarters of the SHT and later the MSB in Sydney Harbour.

Heritage-listed sites around Australia associated with the working operations of various Marine Boards and Harbour Trusts are:

- Pilot Station, Boat Harbour & Boat Sheds, 51-55 Wharf Road, Newcastle East, NSW. The Boat Harbour & Boat Sheds were built 1866 when the stone boat harbour was constructed to provide a protected berth for pilot boats. Originally the western side of the boat harbour was partly stone, partly a timber wharf. It is the only surviving example of the many boat harbours of Newcastle. Two existing boat sheds and slipway were built c. 1866, but the large boatshed's roof form has been altered. The pilot station was reconstructed in the mid 20th century (1940, 1959) and altered 1987-88. The Hunter Port Authority restored the boat harbour in the 1990s.^{xxxiv}
- Former Melbourne Harbor Trust Williamstown Workshops, Ann Street, Williamstown, Victoria "*Originally built as a single cargo shed 300 feet by 50 feet on North Wharf in 1887-88.*" They are the most extensive of three remaining 19th century cargo sheds in Melbourne.^{xxxv}
- Pilots Cottages, 60-62 and 66-68 Gellibrand Street, Queenscliff, Victoria. These cottages were built 1853-1854 under the instruction of Acting Colonial Architect for Victoria James Balmain, for accommodation of Port Phillip Bay pilots. The cottages are the remaining ones of nine timber duplex cottages on stone foundations, each with a central brick chimney. Only four of the cottages were occupied by pilots, the others by the port health officer and his boat crew. The houses were sold between 1867 and 1875 and then occupied as officer's quarters related to the nearby fort and Victorian Artillery at Queenscliff. Nos. 60-62 Gellibrand St have been radically altered over time, only 66-68 Gellibrand St remaining largely intact.
- Pilots cottages at Fremantle Harbour located on the headland. Four cottages from the early twentieth century are located overlooking the port.

There are no directly comparable Marine Board/Harbour Trust working/operational facilities, though the pilots' cottages in Queenscliff Victoria may have had some similarities to the (now demolished) weatherboard cottages built for water fire brigade accommodation on Goat Island. Other Marine Board/Harbour Trust facilities around Australia were generally on waterfronts and have been vulnerable over time to demolition and redevelopment by port authorities themselves, and in more recent years, subject to complete changes of use.

Conclusion

The Goat Island maritime facilities, as a collection, are rare within Australia as they reflect the use of an entire harbour island 1925-1993 as a concentrated operational headquarters for maritime authorities during this period. The long term maritime use has resulted in a collection which reflects development of facilities over time reflecting changing technologies and administrative arrangements. The size of the island allowed space for expansion without removing all of the earlier structures and also allowed for the adaptation of earlier buildings. The island location also resulted in lack of redevelopment pressure after the maritime use ceased.

HARBOUR MASTER'S RESIDENCES

Harbour Masters were one of the earliest manifestations of port administration, and the position of Harbour Master appears to have continued, being incorporated into the mid-19th century reorganization of port administrations into Marine Boards and then subsequently (late 19th century to early 20th century) into Harbour Trusts.

The following locations had Harbour Masters with residences:

Sydney	Port Jackson/Sydney Harbour had a Harbour Master from 1811. The position of Sydney Harbour Master therefore appears to be the earliest such position in Australia (see below). The Sydney Harbour Masters during the 19 th century lived in their own residences.
Newcastle	At Newcastle, the first Harbour Master was appointed in 1846. ^{xxxvi} In 1865 two harbour navigational towers (aka leading light towers) were built on “The Hill” ^{xxxvii} and the Newcastle Harbourmaster’s residence is associated and contemporary with these. Due to this relationship to the Leading Light Towers, it would appear that this house was purpose-built for the Newcastle Harbour Master. It appears to be the earliest heritage-listed Harbour Master’s residence in Australia, and one of the only two (with the Goat Island Harbour Master’s residence) which appear to have been purpose-built in the State.
Melbourne	The Port of Melbourne had a Harbour Master from 1850. There are no heritage-listed Harbour Master’s residences and it is assumed that none exist.
Fremantle	The port of Fremantle’s first Harbour Master was appointed in 1852. During part of the twentieth century one of the Harbour Masters occupied a pilot’s cottage on the headland (he was a former pilot) but no dedicated residence appears to have been provided.
Queensland	In Queensland, Harbour Masters pre-dated both the split from NSW and the establishment of Marine Boards. Queensland Harbour Masters originally sat under the control of Customs Departments. The appointment of a Harbour Master at Wide Bay is noted in 1848. ^{xxxviii} However, there are no heritage-listed sites associated with Harbour Masters in Queensland.
Hobart	In Hobart, port officers included a Harbour Master from 1831. After the formation of the Hobart Marine Board in 1858 the position of Harbour Master was maintained within the new administrative structure. In 1851 a Harbour Master’s residence was erected at Franklin Wharf, however this was later converted to the Marine Board Office and used as such till the 1880s. ^{xxxix} There is a heritage-listed Former Harbour Master’s House at 27 Castray Esplanade Hobart, described as Victorian Italianate (circa 1880). It appears that this later Harbour Master’s residence was purpose-built for the Harbour Master, given its location on the waterfront adjacent to the signal station and tide house and with commanding views over the harbour).

Smaller regional ports also often had Harbour Masters and residences which accommodated them. These were generally modest structures as seen at locations such as Devonport and Stanley in Tasmania, and it is uncertain whether these residences were purpose built for the Harbour Masters in these locations, or just acquired for that use. There are numerous examples around Australia but they are not comparable to the Goat Island Harbour Master’s residence in purposefulness, importance, scale, relationship to the waterfront and other maritime structures or location.

Known Harbour Master’s residences in Australia are:

- Goat Island, Sydney Harbour (1901-1903)
- Newcastle, NSW (1865)
- Hobart, Tasmania (circa 1880)
- Stanley, Tasmania (circa 1910)
- Devonport, Tasmania (n.d.)

Table 4.8 Comparative Analysis Harbour Master's Residences

Item and Location	Analysis
<p>Goat Island 1901-1903</p> 	<p>Feature Type: Purpose-built Harbour Master's Residence</p> <p>Description: Designed by the Government Architect and commenced in the first year of the SHT on a prominent location on Goat Island, the working HQ of the SHT. It was the first and only purpose-built Harbour Master's residence in Sydney. It is a very fine brick Federation residence with observation tower that is a major example of the style irrespective of its location and history.</p> <p>Analysis: This building is an outstanding and the most distinctive Australian example of a Harbour Master's residence. Its form, design, setting and intactness set it apart from the other extant buildings built for this purpose.</p>
<p>54A Perkins Street The Hill, Newcastle, 1865</p>  	<p>Feature Type: Two storey Harbour Master's residence</p> <p>Description: Built contemporaneous with beacon light towers (one beacon light-tower originally in front yard) on prominent location "The Hill" affording views over Newcastle harbour. Clearly purpose-built for the Harbour Master. Not intact: balcony at side enclosed; interior altered as divided into flats at one stage. This is the earliest heritage-listed Harbour Master's residence in Australia, additionally significant as purpose-built.</p> <p>Analysis: While the oldest extant Harbour Master's residence in Australia, the Newcastle Harbour Master's residence has lost context due to later adjacent development, and later demolition of the light beacon tower, and is also not intact (balcony enclosure and later alteration to accommodate residential units). This is however a significant Harbour Master's residence which predates that on Goat Island and illustrates the development pattern of such residences.</p>
<p>42 Alexander Terrace, Stanley, Tasmania c. 1900</p> <p>No photo available. This is a modest weatherboard building.</p>	<p>Feature Type: Modest Harbour Master's cottage</p> <p>Description: Described as a modest single storey weatherboard cottage with a hipped corrugated iron roof, of townscape value in a prominent location (Tasmanian Heritage Register). Likely that this building was simply lived in by the Harbour Master (not purpose built).</p> <p>Analysis: A modest example typical of regional residences that were non-distinctive in form and achieved their significance from location and use. It does not compare to the major residences noted above.</p>

27 Castray Esplanade, Battery Point, Hobart, c.1880



Feature Type: Two storey Victorian Italianate Harbour Master's residence with tide house and separate cottage.

Description: Appears to be purpose-built (documentary and historic photographic evidence for earlier purpose-built Harbour Master's residence in Hobart 1851). A rendered brick typical Victorian Italianate style villa with the addition of an observation tower. The building is set on the former edge of the harbour with expansive views and a close relationship to the shore buildings. The building retains its overall form and much detail but has had numerous changes to accommodate later residential use.

Analysis: The building is a fine example of a Harbour Master's residence, which predates that on Goat Island and illustrates the development pattern of such residences. Apart from the tower, the building is however non-distinctive. It is also now removed from its harbour front location by later reclamation and development.

Conclusion

The 1901-1903 Goat Island Harbour Master's Residence is the first purpose-built Harbour Master's residence in Sydney and one of only four heritage-listed Harbour Master's residences in Australia (Goat Island, Sydney; Newcastle, NSW; Hobart, Tasmania; Stanley, Tasmania). Further research may uncover other harbour master's residences but this was outside the scope of this cmp.

Its location, prominence and substantial size all indicate the importance of both the Harbour Master's position and the status of the newly formed Sydney Harbour Trust. The SHT undertook a short, fruitless search for a suitable house for the Harbour Master at Millers Point, before the decision to build the Harbour Master's residence at Goat Island was made and construction commenced in 1901, the first full year of the SHT's operation. The Harbour Master's residence at Goat Island can be seen as an advertisement for the newly formed SHT, and a statement of the SHT's importance in the operation of Sydney Harbour, and the SHT's intention to use Goat Island as its working headquarters.

The Goat Island Harbour Master's residence is rare. While not the earliest Harbour Master's residence in Australia (those in both Newcastle and Hobart pre-dating it) is the only purpose-

built Harbour Master's residence in Sydney Harbour and one of only 3 known purpose-built Harbour Master's residences in Australia (along with those at Newcastle and Hobart).

WATER FIRE BRIGADE BARRACKS AND COTTAGES

The maritime Fire Brigade was first established at Goat Island by the Sydney Harbour Trust in 1902 and continued by the MSB after 1936. A 1954 article in the MSB Journal *Port of Sydney* describes the operations of the MSB Fire Brigade, and states that although the term "Fire Brigade" describes the organisation's main function, it was also responsible for almost all emergency work required in the Port beyond normal working hours, including salvage work after fires, dispersal of benzine or other oils on the Port's waters, pumping out of craft in danger of foundering, recovery of dangers to navigation such as timber, wreckage or vessels adrift. At that time (1954) the MSB Fire Brigade ran the large firefloats *Boray* and *Burrowaree*, supplemented by the wooden tug *Bennelong* (also equipped for fire fighting) and the control launch *Endeavour* (fitted out as an auxiliary to the fire fleet).

"The headquarters of the Board's [Fire] Brigade is established on Goat Island...The island occupies a most important role in construction and dredging activities and is the main depot for the Board's floating plant, but although it is invaluable for these functions, its primary use is as a base for fire-fighting operations. All plant, equipment and personnel are based on the island and accommodation is provided for thirty Brigade members. Sixteen married men, including a cook, have separate home units, whilst a barracks consisting of sleeping quarters, dining, recreation rooms etc. provide comfortable accommodation for 14 single men.... The Brigade is divided into Port and Starboard Watches and all members...attend instruction classes conducted on the Island every six weeks by a N.S.W. Fire Brigades Officer. All fire-fighting units are dual-purpose craft. The "Endeavour" during normal working hours is used as an inspection launch by the Superintendent of Dredging and Floating Plant (who is also the Officer-in-Charge, Fire Brigade, and who holds the qualifications of master mariner, foreign-going, with a square-rigged certificate), and the "Boray" "Burrowaree" and "Bennelong" operate as tugs in the Board's dredging, construction and salvage work. Members of the Brigade are volunteers from the Board's staff who are normally employed on floating plant or construction works and may be diverted to supplement the normal firefloat crews should the need arise... As a rule, the Brigade operates in liaison with, but under the control of the N.S.W. Fire Brigades' Officer-in-Charge at the scene of a fire."^{x1}

The article outlines a picture of excellent co-operation between the MSB Fire Brigade and the N.S.W. Fire Brigade personnel.



Figure 4.1 The firefloats Boray and Burrowaree moored on north side of Goat Island, 1969 (photo from MSB archives)

No references have been found in either port histories searched or heritage lists to fire brigades operated by marine boards or harbour trusts in the early 20th century elsewhere in Australia. Between 1857 and 1862 there was a spate of ship fires in Sydney Harbour (six in

total), which may account for special attention being given to the issue in Sydney^{xii}. Unlike water police, which typically did operate in other ports around Australia at this time, due to this dearth of references, it appears that the water fire brigade operated by the SHT and later the MSB were unique to Sydney in the Australian context, and therefore there are no other buildings in Australia which relate to such an activity.

There is evidence, however, that *fire brigades* operating in port cities around Australia (rather than maritime authorities) operated firefloats. For example, the Fire Brigade at Port Adelaide operated a firefloat *Ada*, purchased in Sydney in 1906 and converted to a firefloat. *Ada* was the first fireboat in South Australia, and operated in Port Adelaide until damaged in a major fire on the ship *City of Singapore* in 1924.^{xiii}

Conclusion

There appear to be no comparable sites relating to fire brigades operated by maritime authorities in other Australian ports. The Goat Island maritime Fire Brigade buildings including barracks and cottages appear to be unique in terms of their original use as housing for island-based maritime authority Fire Brigade personnel and their families.

4.6 MARITIME PERIOD: MARITIME SERVICES BOARD

SHIPYARDS

Shipyards in Sydney Harbour and in the Sydney region fall into the following general categories:

- Commonwealth Government Naval dockyards
Examples: Garden Island
Cockatoo Island 1913-1992
- State Government shipyards
Examples: Colonial government shipyard (archaeology only), Sydney Cove 1796
Cockatoo Island NSW government dockyard closed in 1913 with transfer of the property to the Commonwealth. Operated as a naval dockyard till 1992. Now closed and under control of Sydney Harbour Federation Trust.
State Dockyard, Newcastle, NSW opened in 1942 on site of former Government Dockyard (1914-1933), and it closed in 1987 (land still under control of Newcastle Port Corporation, being converted to a superyacht facility during 2007).
Williamstown Naval Dockyard, Victoria - operated as a State shipyard from 1865 till Federation, then transferred to Commonwealth Government and became a naval dockyard. Shipbuilding commenced 1913, 1st warship built there 1920. Sold to a private company in 1987.
Osborne, South Australia private shipyard purchased by the State Government in 1937. Since closed and demolished (site occupied by a power station).
- Commercial (private) slipways. Historically “Many boatbuilding yards sprang up around the foreshores at Careening Cove, Neutral Bay, Lavender Bay and Berry's Bay. Some of these firms included W.M. Ford, Holmes Bros., Dunn Bros., Groom Bros., Neptune Slip and Engine Co., Woodley's, and Lars Halvorsen's”.^{xiii}

Large examples of commercial boatbuilding facilities that operated in the Sydney region are:

- Halvorsen's, Bobbin Head & Neutral Bay “From 1925 to 1980 the family designed and built nearly 1,300 craft, including 237 vessels for the Australian, US and Dutch forces during WWII”.^{xiv}
- Woodley's and others, Berrys Bay;
- Rozelle Bay (various): From 1920 “Approximately 1,000 m of broadside wharfage was constructed by the Sydney Harbour Trust with rail connections with

- The size/scale of the shipyard – currently the largest commercially operated slipway repair facility in Sydney Harbour;
- It is an historic NSW government shipyard developed by the SHT then the MSB from 1925 to 1992, and currently remaining in use for ship repair (the only other historical equivalent in NSW being the Newcastle State Dockyard).
- It is a shipyard with a distinguished history of boatbuilding, having built and launched numerous SHT and MSB vessels 1925-1992, and therefore of special significance to historic boat enthusiasts in Sydney;
- It is one of a diminishing number of active large boat building and repair facilities in Sydney Harbour.
- It is the location of the largest non-naval shipyard hammerhead crane in Sydney Harbour (noting that the crane was relocated to Goat Island relatively late in the development of the shipyard use).

The Goat Island shipyard is rare as a former state government run shipyard with a long history which is still operating (albeit now under a private lease).

SHIPYARD HAMMERHEAD CRANES

The landmark 1924 Hammerhead crane on Goat Island has a long history in Sydney Harbour, having been transferred from Mort’s Dock, Balmain to Goat Island in 1963. The Goat Island Hammerhead crane is the only major item from Mort’s Dock that is not in a museum.

The largest Shipyard hammerhead crane in Australia is the 1940s Hammerhead crane at Garden Island naval dockyard, still extant. The BHP shipyard at Whyalla, South Australia, which dates from the 1930s included a 150 ton hammerhead crane (not dated, Australian made) however this was sold in the 1990s and its current location is unknown.

Table 4.9 includes comparative data on known shipyard hammerhead cranes, including the Goat Island hammerhead crane.

Table 4.9 Comparative Analysis: Shipyard cranes

Images	Details & Analysis
	<p><i>Description:</i> 10-ton Hammerhead Crane Goat Island, 1924. Moved to Goat Island in 1963 from Mort’s Dock, Balmain.</p> <p><i>Analysis:</i> An early and prominent crane within Sydney Harbour, still associated with a working shipyard. Historically linked to shipyard.</p>
 <p>Image from NSW National Trust website</p>	<p><i>Description:</i> 250-ton Hammerhead crane, Garden Island naval dockyard, late 1940s. Retains association with shipyard.</p> <p><i>Analysis:</i> Largest crane in the Southern Hemisphere when built and remains unique in Australia. Landmark in Sydney Harbour. The most prominent crane in Sydney Harbour, and of social significance (active public campaign for preservation). Of national and international significance. Similar cranes on the Clyde River in the UK are heritage-listed.</p>



Description: 150-ton Hammerhead crane, Whyalla shipyard, South Australia

Analysis: Australian designed and built crane (Clyde Engineering Co., Granville) date unknown, used at BHP's Whyalla shipyard which operated from the 1930s. The crane was sold in the 1990s. Location unknown.

Conclusion

The Hammerhead Crane at Goat Island is an early hammerhead crane (1924), and the only major item from Mort's Dock that is not located in a museum. The only comparable shipyard hammerhead crane located in Australia which is known to be still extant (but understood to be non operational) is the much larger, but also more recent (late 1940s) Garden Island crane. The Goat Island crane is a landmark structure, largely due to its size and height, that has a degree of public esteem and also retains its historical and physical association with the Goat Island shipyard. The Goat Island Hammerhead crane is rare and an important component of the industrial history of Sydney Harbour.

TIMBER WHARVES

The wharves on Goat Island are part of a larger group of wharves across the Harbour. Most timber commercial wharves are located at the western end of the Harbour as it was traditionally the working port focused around Darling Harbour, Walsh Bay, Pyrmont Bay, Black Wattle Bay, Berry's Bay, White Bay, Glebe Island and parts of the Balmain foreshore. Several large timber wharves are also located east of the Harbour Bridge such as the Woolloomooloo finger Wharf. Over time a number of wharves that would have been of timber construction have been replaced with concrete piles and superstructure or by reclaiming the Harbour edge.

Since the cessation of major shipping into much of the Harbour and the redevelopment of former wharf areas for other uses there has been a reduction in the amount of working wharfage as well as wharfage generally. However, the major change in the Harbour took place during the 1960's when shipping methods changed from the use of finger and their associated shore wharves with extensive labour needed for loading and unloading to broadside, usually filled, wharves with containers and large apron areas with mobile cranes to move containers.

Most of the timber wharfage around Sydney disappeared during this phase with only several areas remaining, most notably the wharf at Woolloomooloo, the Walsh Bay wharves and the Pyrmont finger wharves. These three wharf groups are iconic structures that have been retained, redeveloped and adapted for a wide range of new uses. No commercial wharfage for freight or bulk goods however remain at any of these locations. These are also wharves that had sheds built on the wharf deck which distinguishes them from other commercial wharves including those on Goat Island. Even though wharves 4a and part of 4b directly front a workshop/stores building, it is built on fill with the wharf on piles.

It is the smaller wharves that remain around the Harbour that provide the closest comparison with the island wharves although it is noted that the construction techniques, materials and methods are quite consistent across all of the surviving timber wharfage. This analysis was prepared in 2007 and it is likely that the extent and condition of wharves around the harbour has changed since that time.

Table 4.10 Comparative Analysis: Timber Wharves

Wharf and location	Analysis
<p>Walsh Bay wharves</p> 	<p><i>Feature Type: Finger and shore wharves</i></p> <p>The Walsh Bay wharves (with Woolloomooloo) are the iconic wharves of Sydney. Visually intact and dominating the Millers Point foreshore they are the key defining element of the southern edge of the Harbour. Their significance is well recognised and the extensive re-development has retained much of the original fabric, wharfage and provided for sensitive infill construction.</p> <p>They are visible from Goat Island.</p> <p>The wharf construction is similar to the Goat Island wharves with the use of piles, raking piles, headstocks and girders, the wharf decks, the wharf are higher above the water and the wharves are substantially larger. The wharves all have buildings located on them in contrast to the Goat Island wharves.</p> <p>These wharves demonstrate the same wharf construction and technology as the wharves on the island and will be retained into the future.</p> <p>These wharves were constructed by the Harbour Trust so it is understandable that they are similar other wharves built under their control.</p>
<p>Jones Bay Wharves</p> 	<p><i>Feature Type: Finger and shore wharves</i></p> <p>These are the second group of wharves of similar design and construction to Walsh Bay. The same comments apply to this group of wharves in terms of their comparative value to the Goat island wharves.</p>

Wharf and location	Analysis
<p>Johnston's Bay Wharves</p> 	<p><i>Feature Type: broadside wharf</i></p> <p>This section of wharfing is now detached from its industrial use and the buildings that once fronted the waterfront. The wharves comprise rebuilt and older sections of wharfage that now form a public access area along the former industrial waterfront. They are broadside wharves with the same basic construction as the Goat island wharves and provide a good publicly accessible example of this form of wharf construction. They have lost some of their context, as they are divorced from their setting. They most closely relate to wharves 4a and 4b, which continue to retain their relationship to shore buildings.</p>
<p>Glebe Island Bridge Johnston's Bay</p> 	<p><i>Feature Type: Skeleton Fenders and Piles</i></p> <p>The bridge is supported on a massive masonry structure but the guide rails and fenders are of traditional timber wharf construction with piles, baulks, rails and skeleton upper structure. There is no direct correlation with this structure with the elements on Goat island but it is a good example of skeleton style wharf construction.</p>

Wharf and location	Analysis
<p>Blackwattle Coal Loader Wharf</p> 	<p><i>Feature Type: Coal Loader and Broadside Wharf.</i></p> <p>This structure is the last coal loader to remain in the Harbour and demonstrates the construction and technology of these massive structures. Although a heritage item of potentially State level significance, this structure is being demolished due to its poor condition. The structure is not dissimilar to the structures that would have been located on Goat Island with the final coal loader located on Wharf 5.</p> <p>Condition is a major factor in the survival of these structures. After demolition there will be no coal loader structures remaining in the Harbour except in remnant form.</p> <p>Detail of the superstructure and the timber wharf under. At the time of this photo the whole of the structure was being demolished as the water edge piles and structure above had collapsed.</p>
<p>Blackwattle Bay Cement Loader Wharf</p> 	<p><i>Feature Type: Broadside and finger wharves.</i></p> <p>A timber pile wharf of standard construction with a recent concrete superstructure. It has square timber fenders, raking piers and extensive repairs. The construction date of the wharf is not known. This wharf is of interest as it is one of the very few surviving operating maritime wharves in the Harbour that is not a broadside container wharf.</p> <p>It has some comparison with wharves 4a and b at Goat Island, which is an operating maritime wharf, however it is more heavily adapted with a concrete top. It is an important and distinctive element in Blackwattle Bay.</p>
<p>Blackwattle Bay Commercial Wharf</p> 	<p><i>Feature Type: Pier.</i></p> <p>This is a minor access wharf for small boat moorage using commercial wharf construction techniques but not of the same scale as any of the wharves at Goat island with the exception of the boat pens. It is one of a small number of more traditional timber wharves that remain in the Harbour for commercial (in contrast to pleasure) mooring. The wharf does not relate to the wharves on Goat island although it is part of the dwindling number of commercial wharves in the Harbour.</p>
<p>Luna Park (Lavender Bay) Wharf</p> 	<p><i>Feature Type: Broadside Wharf</i></p> <p>This is a long-standing wharf with an important history in a highly visible location attached to an icon structure. It is an excellent example of broadside wharfing but is not and was not designed as a maritime working wharf. It is one of the last broadside wharves to accommodate a substantial building that is maritime based.</p> <p>While a comparable broadside wharf in terms of construction it is dissimilar in terms of use.</p> <p>The detailed photo shows piles and later pairs of headstocks. Steel diagonal bracing is also used. The wharf shows many types of repairs.</p>

Wharf and location	Analysis
	
	<p>This photo shows the two wharf sections supporting buildings and structures at Luna Park.</p>
<p>Berry's Bay (Waverton Park) Public Wharf</p>	<p><i>Feature Type: Public Wharf and Boardwalk</i></p>
	<p>This is a relatively new wharf structure in two parts, one accommodating the ferry set on slightly raked piers with cross bracing, the shore wharf uses traditional timber wharf technology for a public accessway. It is a well-designed wharf but does not relate to the wharves at Goat Island, which have a history of maritime use.</p>
	
<p>Berry's Bay Commercial Wharf</p>	<p><i>Feature Type: Commercial Finger type wharf.</i></p>
	<p>This wharf is more closely related to wharves 4a and 5 with their freestanding character, the use of raking piles and the general structure. It is also in relatively poor condition but still operational.</p>

Conclusion

The Goat Island wharves have been one of the largest collection of timber wharfage in Sydney Harbour that have represented a range of wharf types used for a wide range of purposes. The wharves vary in rarity in relation to other wharves in the harbour but it is apparent that many timber wharves are being removed as the need for shipping reduces and that the remaining wharves will become rare.

An analysis of the relative value of the wharves is:

Table 4.11 Comparative Analysis of Wharves

Wharf Name	Rarity	Representativeness	Comment
Broadside Wharf 4a + 4b (partially collapsed)	Rare	Representative	This wharf is rare due to the relationship to the shore building that appears to be the only such example remaining in the Harbour. The section fronting the shore buildings is the most important section of the wharf as it relates to the shipyard buildings. Sections of the wharf have collapsed and will be removed.
Coal Bunker Platform 5 (demolished)	Rare	Not representative	Coal wharves are increasingly rare in the harbour and this is one of the last few remaining. All infrastructure relating to the coal bunker has long been, however removed. The remaining elements are not representative as they do not demonstrate the function of coal loading but now only provide a wharf base, that has largely collapsed and is not longer able to demonstrate its function or form.
Dolphins 5a	Not rare	Representative	These are found at a number of locations around the harbour and are not rare or distinctive.
Finger Wharf 51 (partially demolished)	Rare	Representative	Most finger wharves are substantial, extend at right angles to the shore and were used for cargo handling. This narrow structure was specifically designed as a wharf for the mooring of floating plant which is rare. There are no other observed examples of this form of wharf structure in the harbour, however numerous other types of mooring structures (such as dolphins) provide for the same function.
Eastern Wharf 52a + 52b (52b demolished)	Not rare	Representative	This was a typical and standard broadside or shore wharf similar to others in the harbour and around Australia.
Ferry Wharf 54a	Not rare	Representative	This is a typical wharf form found across the Harbour in many variations. Slightly unusual as it does not simply extend out from the shore it is not however rare. It is a good representative example of this type of structure.
Boat Pens 54b	Rare	Representative	These are the only examples in the Harbour of this form of commercial boat pen
Pilot Vessel Wharf 54c (demolished)	Not rare	-	The remnant elements of this wharf no longer convey useful information about the wharf.
Northern Wharf 55a + 55b (largely demolished)	Not rare	Representative	This was a typical and standard broadside or shore wharf similar to others in the harbour and around Australia.

4.7 THE CULTURAL LANDSCAPE

The cultural landscape of Goat Island is difficult to compare to other similar places, the most useful comparison is with the other harbour islands, although there is some comparison with the other lands within the Sydney Harbour National Park as they front the harbour and create vegetated headlands and rocky foreshores.

The landscape of Goat Island is a highly modified one as illustrated in the early photographs, which show the extent of quarrying, reclamation, benching, clearing and development. This is similar to other islands such as Fort Denison where most of the island top was removed to

build the fort, Cockatoo where extensive excavation and change to the form of the island took place, Snapper which was filled and excavated to create an almost leveled platform with only one remaining outcrop of native vegetation and Spectacle which had two smaller islands combined. Shark Island retains a largely natural form with its rock-shelved edge but has had extensive changes to the actual landscape and Clark Island retains native vegetation but again has been subject to extensive landscape modifications over its use since settlement. Rodd Point, now connected to the shore with a narrow causeway is a modified island with extensive reclamation and introduced landscape and buildings. Garden Island is a heavily modified island, now a naval base that has been connected to the foreshore with extensive infrastructure. Only Berry Island, also connected to the shore with a narrow causeway, retains elements of its pre-settlement vegetation and form as it has not undergone substantial modification or clearing.

Areas of the national park around the foreshore of Sydney Harbour have had similar histories to the islands as many of the sites were former defence sites, quarantine stations, etc. and have seen major modifications to create the present cultural landscape which usually involves construction works, introduced landscape elements and remnant and regrowth native vegetation. A difference between the islands and areas such as North and South Heads and Middle Head is the largely intact foreshore of the headlands due to their difficult topography.

A number of islands and areas of the foreshore parklands have had extensive regrowth of vegetation with more recent changes of use including Goat Island.

Conclusion

Each island has a modified cultural landscape reflecting its history, uses and management. They are all distinctive and all significant but for a wide range of reasons.

The cultural landscape at Goat Island despite its layering of uses from 1830 retains elements from each phase of use that remain as key features of the cultural landscape setting.



Figure 4.2 An 1863 map of the harbour that includes Cockatoo Island and which shows Berry Island still as an island and the foreshore of what is now Barangaroo with its prominent headland. Prior to the construction of the Sydney Harbour Bridge Goat Island terminated the vista from the east down the harbour and had a commanding position in relation to movement within the harbour area. Ward, E. W. (Edward Wolstenholme), 1823-1890. Plan of portion of Port Jackson to illustrate Report on the Defences [of the City of Sydney] dated 3rd January, 1863 [cartographic material] / by Capt. Ward, R.E.



Figure 4.3 Map of Sydney Harbour dated 1855 showing the eastern end of the Harbour with Goat island marked below the main shipping channel and Clark, Shark, Fort Denison, Garden Glebe Island and Berry Islands visible. Darling, Glebe and Berry Islands are connected to the shore by this time. The map shows the pivotal location of Goat Island within the early harbour. Degotardi, Johann Nepomuk, 1823-1882. Plan of Port Jackson showing the position of the Waterview Dry Docks, Sydney, N.S.W. [cartographic material] / J. Degotardi, Lith.

4.8 THE SYDNEY HARBOUR ISLANDS

Goat Island is one of the 8 remaining Sydney Harbour islands of the original 14 islands that were seen in 1788.^{xvi} The remaining islands are: Goat Island, Cockatoo Island, Fort Denison (previously Pinchgut Island), Spectacle Island, Snapper Island, Rodd Island, Clark Island and Shark Island. The islands that are now connected to the main shore line are: Rodd Point,

Berry Island, Garden Island, Bennelong Island, Darling Island and Glebe Island. Of these Rodd Point and Berry Island, despite their land connection can be understood as islands.

Since 1788 Sydney's harbour islands have been used for various purposes as follows:

- Recreation (Rodd, Clark, Berry, Shark except for brief periods; and also Snapper prior to 1913)
- Place of convict labour or punishment (Goat, Cockatoo, Fort Denison)
- Defence (Fort Denison, Cockatoo, Spectacle, Snapper after 1913 specifically, but Rodd, Clark and Shark were also used for defence purposes during World War II)
- Military powder storage (Spectacle, Goat)
- Convict prison (Cockatoo)
- Water Police (Goat, Garden)
- Reformatory school or training facility (Cockatoo, Snapper)
- Operational headquarters of Harbour administration authority (Goat)
- Farming (Clark – very briefly)
- Quarantine (Rodd, Shark till 1898)
- Biological laboratory for experiments with rabbit viruses (Rodd Island, 1888-1894)
- National Park - Fort Denison, Clark, Goat, Rodd and Shark Islands. Cockatoo Island is now managed by the Sydney Harbour Trust making it an accessible public location similar to National Park use.

The use of a number of the islands has changed over time

Table 4.12 Comparative analysis of use of the harbour islands

Island/Use	Goat	Spectacle	Cockatoo	Fort Denison	Snapper	Clark	Shark	Rodd	Berry	Garden
Aboriginal										
Convict labour										
Convict Prison										
Military Powder Storage										
Water Police										
Defence										
Harbour Administration										
Reformatory school/training										
Quarantine										
Biological laboratory										
Farming										
Recreation										
National Park										
Ship Repair and Construction										

Table 4.13 Analysis of historical links with other harbour islands

Island	Historical Link with Goat Island
Spectacle	Spectacle Island was the location of the second military powder magazine complex to be constructed in NSW, built from 1864
Cockatoo	Cockatoo Island was where the convicts and the temporary convict stockade located on Goat Island from 1831-1838 were relocated to, in order to construct the convict prison and related buildings there from

Conclusion

Goat Island has specific historical links with Spectacle and Cockatoo Islands, however construction activity on Goat Island predates such activity on both Spectacle and Cockatoo Islands.

Goat Island is also notable as the only harbour island used as the operational headquarters of the harbour administration authorities. The island has the widest range of uses over its history of any harbour island and retains the ability to demonstrate each of these.

ISLAND COMMUNITIES

After European settlement most of the harbour islands have not been used for residential use. Even prior to European use the islands were not regularly used as places to live due to the lack of water.

Initially Royal Garrisons and convicts lived on some of the islands in the 19th century (Goat, Cockatoo, Spectacle and Fort Denison) during construction works but also to man the fortifications and to protect the goods stored.

Many thousands of people worked on Cockatoo Island during its operation as a naval shipyard, but few lived there. The naval use of Cockatoo Island necessitated some accommodation being constructed on the island (most famously the house occupied by Gother Kerr Mann and his family during the construction of the Fitzroy Dock) and some naval personnel lived with their families at Cockatoo up until the late 20th century. There were also reformatory facilities at Cockatoo from 1870-1880, which involved staff accommodation (for example female warder's quarters).

Similarly, there was a small amount of housing built at Spectacle for naval personnel who manned the island and the main residence remains occupied today.

There was a caretaker living with their family on Rodd Island from 1894 to 1945 and the current hall was the former residence of the director of the research station and more recently a NPWS ranger lives on the site as part of the Sydney Harbour National Park management.

However, none of the islands have housed a community in the manner that Goat Island did, at one stage having 15 occupied homes. People lived on, worked from, went to school from, and were married from Goat Island.

An interesting newspaper article in the Mirror from 1st Jan 1961, entitled "Come to glorious Goat Island – if you can" noted the occupancy of the island and called for the National Trust to intervene:

"Goat Island should be marked urgent on the National Trust agenda, and the next step from there should be the removal of the MSB and its doings to some place already ruined by bureaucrats."

The article indicated that:

- there were 70 residents, daily commutes, 10 sheep, cats and dogs,
- there was no public access,
- the Water Police building was being used as the cook's accommodation,
- the Cook still used the original kitchen of the "officer's mess".



Figure 4.4 1946 Wedding photo of Jessie Hickey (ne Comtesse) about to leave Goat Island on the Hydra with bridesmaid and flower girl (reproduced from page 26, Clark, Mary Shelley & Clark, Jack *The Islands of Sydney Harbour* Kangaroo Press, 2000)

This island community living on Goat Island gave rise to the construction of recreation facilities in the mid-20th century such as the harbour pool, the recreation hall, the tennis court and pavilion (none of these extant) for the use of the Goat Island community as well as the workforce.

Conclusion

Goat Island is unique among the harbour islands in having housed a community of Sydney Harbour Trust and later Maritime Services Board staff and their families.

RECREATION VALUES AND PUBLIC ACCESS

In the early 20th century the only islands available for public access and recreation were Rodd, Clark and Shark. Goat Island was being used as the operational HQ for harbour administration authorities and the other islands had military uses.

As can be seen from Table 4.13 below, all except Spectacle Island are now either open to public access and for public recreation or are shortly planned to be, which is a reversal of the historic pattern of use of many of the islands.

Table 4.14 Current uses and administration of the islands

Use	Island/Administering Authority
Recreation and Conservation	Goat, Clark, Shark, Rodd and Fort Denison/DECC & NPWS as part of Sydney Harbour National Park Cockatoo and Snapper/Sydney Harbour Federation Trust Berry Island North Sydney Council
Naval	Spectacle and Garden Islands/Royal Australian Navy

Footnotes

- i Information from www.ryde.nsw.gov.au/ryde/history/aboriginals.htm
- ii Val Attenbrow, Australian Museum Research Centre see <http://www.amonline.net.au/anthropology/research/jackson.htm>
- iii Rich 1985: 17
- iv This is the basis of the World Heritage Listing nomination for convict-related sites which is currently being formulated by the Federal Department of Environment, Water, Heritage and the Arts
- v Information from www.convicttrail.org/history.php?id=a3b5c2%f%6
- vi General Muster of Male and Female Convicts in the Colony of NSW and Norfolk Island on the 31st December 1837. Edited by NG Buttin, CW Cromwell, KL Suthern ABGR 1987.
- vii Information from Australian Heritage Places Inventory www.heritage.gov.au/cgi-bin/ahpi/record.pl?RNE1121
- viii Information on Old Great North Road quarries from www.convicttrail.org/history.php?id=a5b8
- ix The assistance of Dr Siobhan Lavelle, Senior Heritage Officer (Archaeologist) Heritage Branch, NSW Dept of Planning in formulating this table is acknowledged. Some sites contained in the table are not listed on heritage registers, but gleaned from other references, referred to by Dr Lavelle.
- x Birmingham Judy; Jack, Ian; Jeans, Dennis *Industrial Archaeology in Australia: Rural Industry* Heinemann, 1983, pp74-77

- xi Austral Archaeology 1996 Pipers Creek Lime Kilns Plan of Management, report for State Forests of NSW
- xii Information from <http://www.epa.qld.gov.au/>
- xiii Information from www.engheritage-sydney.org.au/PDFs/Maritime.pdf
- xiv From Australian Heritage Place Inventory listing sheet for Heathcote Powder Magazine available on www.environment.gov.au
- xv Governor Sir Richard Bourke, whose name is inscribed on the 1830s powder magazine buildings at Goat Island, arrived in the colony on 3 December 1831 (after appointment as Governor in November 1830) and resigned his office on 30 January 1837
- xvi Information quoted from *Concise guide to State Archives: Ordnance Storekeeper* on <http://www.records.nsw.gov.au/cguide/lo/ordnance.htm>
- xvii Information researched from www.environment.gov.au
- xviii Information from Australian War memorial website www.awm.gov.au/units/place_1101.asp
- xix Information from Commonwealth Heritage List inventory sheet, statement of significance available on website www.environment.gov.au
- xx Information from Commonwealth Heritage List inventory sheet, available on website www.environment.gov.au
- xxi Pages 23-25, Cadmans Cottage Historic Site Conservation & Landscape Plan, DECC, 2007
- xxii p.51, Ruhen, Olaf *Port of Melbourne 1835-1976*
- xxiii Information from Australian Dictionary of Biography online, biography of George Barney
- xxiv Page 199, Herman, Morton *The Early Colonial Architects and Their Work*, Angus & Robertson, Sydney, 1954
- xxv Complaints regarding designs for the Colonial Magazine outlined in Tuck, D. pages 79- 81
- xxvi Morton Herman writes of Blacket "On the whole he designed few major buildings for the government...." *The Blackets: An Era of Australian Architecture*, Page 27, Angus & Robertson, Sydney, 1963
- xxvii p. 92, Tull, Malcolm *The Development of Port Administration at Sydney 1901-1936*, article in Vol 4, No. 2, The Great Circle: Journal of the Aust. Assoc. for Maritime History
- xxviii p 92, Tull, Malcolm *The Development of Port Administration at Sydney 1901-1936*, article in Vol 4, No. 2, The Great Circle: Journal of the Aust. Assoc. for Maritime History).
- xxix p. 74 article "The State's First Harbour Trust: The Historic Port of Wollongong" in Jan-March 1965, Vol 5, No. 3 The Port of Sydney – The Journal of the Maritime Services Board of NSW.
- xxx p. 157, "A Brief History of Port Administration at Newcastle, A. J. Enever, in Vol 7, No. 7 June 1961 Port of Sydney – Official journal of the Maritime Services Board of NSW.
- xxxi see biography of John Coode on www.adb.online.anu.edu.au
- xxxii Bennett, Maureen, *The Quiet Achievers: The History of the Port of Devonport*
- xxxiii p. 27, Research in Maritime History No. 12: A Community Enterprise: The History of the Port of Fremantle 1897-1997, M. Tull
- xxxiv Information from www.heritage.nsw.gov.au State Heritage Inventory
- xxxv Information from Victorian Heritage Register online listing sheet
- xxxvi p. 155, *A Brief History of Port Administration at Newcastle*, A. J. Enever, in Vol 7, No. 7 June 1961 Port of Sydney – Official journal of the Maritime Services Board of NSW.
- xxxvii from www.newportcorp.com.au, history
- xxxviii Dept of Harbours & Marine Qld. *Harbours and Marine: Port and Harbour Development in Queensland from 1824 to 1985*
- xxxix Audrey Hudspeth & Lindy Scripps p. 33 *Capital Port: A History of the Marine Board of Hobart 1858-1997*– plan of the 1851 building on p. 35.
- xl P. 203-204, *Port of Sydney Quarterly Journal of the MSB of NSW*, January-March 1954
- xli Information from p. 34, paper by Prof. G. Blainey *How Fire Shaped a Continent: Australian Experiences of Fire Since 1788*, part of the Proceedings of the 1999 Seminar: FIRE! The Australian Experience, National Academies Forum, held at University of Adelaide.
- xlii Information from www.samemory.sa.gov.au on the Firefloat *Ada*
- xliiii Information from Stanton Library Heritage Leaflet Series: Boatbuilding in North Sydney www.northsydney.nsw.gov.au/resources/documents/09_boats.pdf.
- xliiv from www.halvorsenboatsales.com.au history
- xliv from www.shfa.nsw.gov.au/uploads/documents/Chapter%202.pdf
- xlvi Spectacle Island was originally two islands which were joined together; Berry Island, Garden Island, Glebe Island, Darling and Bennelong Island were all joined to the mainland. Information from Clark, Mary Shelley & Clark, Jack *The Islands of Sydney Harbour* Kangaroo Press, 200

5.0 SIGNIFICANCE

5.1 INTRODUCTION

Goat Island is a place of national, state and local significance. The purpose of setting out a statement of significance is to explore the reasons why a place is significant, to establish the significance of the place as a whole and of its elements, and to determine, against the criteria established under the NSW Heritage Act in particular, levels of significance for each element.

The statement of significance consists of three sections:

- 1 Detailed assessments of significance in accordance with the NSW heritage assessment criteria assessed by the key historical periods of the Island:

Pre-contact period	pre 1830
Colonial period	1830 - 1900
Maritime period	1901 - 1993
National Park period	1993 - the present

Each period is attributed with a level of significance using the established categories of national, state or local significance.

- 2 A summary statement of significance.
- 3 Graded levels of significance for each identified item.

5.2 CRITERIA FOR ASSESSING CULTURAL HERITAGE SIGNIFICANCE

The N.S.W Heritage Manual (1996, amended 2001) sets out the basis for assessment of the heritage significance of an item by evaluating its significance by reference to specific criteria. The criteria can apply at national, state or local levels of significance, however the criteria are principally intended to consider places within the state or local context.

The criteria used are:

Criterion (a)	Historical Significance	<i>The item is important in the course of, or pattern of New South Wales' cultural or natural history</i>
Criterion (b)	Historical Significance (people)	<i>An item has strong or special association with the life or works of a person, or group of persons, of importance in New South Wales' cultural or natural history</i>
Criterion (c)	Aesthetic significance	<i>An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in New South Wales</i>
Criterion (d)	Social significance	<i>An item has strong or special association with a particular community or cultural group in New South Wales for social, cultural or spiritual reasons</i>
Criterion (e)	Research potential	<i>An item has potential to yield information that will contribute to an understanding of New South Wales' cultural or natural history</i>
Criterion (f)	Rarity	<i>An item possesses uncommon, rare or endangered aspects of New South Wales' cultural or natural history.</i>
Criterion (g)	Representative	<i>An item is important in demonstrating the principal characteristics of a class of New South Wales' cultural or natural places; or cultural or natural environment</i>

The Australian Heritage Council have a similar but slightly different set of criteria for assessing heritage significance at a national level, they are:

- Criterion (A)** *Importance to the course, or pattern, of our cultural or natural history.*
- Criterion (B)** *Possession of uncommon, rare or endangered aspects of our cultural or natural history.*
- Criterion (C)** *Potential to yield information that will contribute to an understanding of our cultural or natural history.*
- Criterion (D)** *Importance in demonstrating the principal characteristics of a class of cultural or natural places and environments.*
- Criterion (E)** *Importance in exhibiting particular aesthetic characteristics*
- Criterion (F)** *Importance in demonstrating a high degree of creative or technical achievement at a particular period*
- Criterion (G)** *Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions.*
- Criterion (H)** *Special association with the life or works of a person, or group of persons, of importance in our history.*

The brief has not required this CMP to specifically address the National criteria, however aspects of the significance of Goat Island are of National value. While a separate detailed assessment of significance is required under the national criteria, they are referred to in the following significance assessment.

5.3 ASSESSMENT OF SIGNIFICANCE AGAINST STATE CRITERIA

CRITERION (A)

The item is important in the course of, or pattern of New South Wales' cultural or natural history

AHC Criterion (A) *Importance to the course, or pattern, of our cultural or natural history.*

Pre-Contact Period

Goat Island is a rare identifiable place with a documented association with a prominent Aboriginal person in the early years of Sydney. Bennelong's claim, recorded by Collins, that the island belonged to his father (in the sense that it could be given on to others) and Collins' recorded observations of Bennelong and his wife Barangaroo frequenting the Island, are particularly important. They were important in their own right and in their own community not because of their association with governors. Recognition that a particular place was claimed by an Aboriginal person contrasted with early European concepts of Aboriginal land ownership and occupation, and Goat Island is one of few specific sites that were documented as belonging to an Aboriginal person. This is of *state* significance.

Goat Island is also of historical significance as the documented site of incarceration and attempted re-education of four Aboriginal convicts during the 1830s. The history of the Aboriginal convicts on the Island is of *state* significance as it encapsulates issues of conflict over land, early 19th century European prejudices and judicial treatment of Aboriginal people.

The remnant continuous indigenous vegetation community on the western and northern edges of the island is considered to be of *local* historical significance as a relatively rare (due to extensive European disturbance of the harbour islands) remnant of indigenous vegetation on a Sydney Harbour island. The vegetation community is also significant as part of a broader vegetation community that exists around the harbour which has been mostly cleared in the past but which in recent years has undergone substantial re-vegetation.

Colonial Period 1831-1900

The building, site and landscape changes to the Island through quarrying and filling from the colonial period are of significance as a landscape group of elements but also as individual items. This significance is seen in:

- The quarrying and excavation that allowed development made a dramatic change to the landform and appearance of the Island. This modification was also seen at Cockatoo and Garden Islands in contrast to the relatively untouched topographical forms of several of the recreational harbour Islands. Quarrying was an important aspect of the development of Sydney and the harbour edge as it both provided stone for construction and the levelled platforms on which to construct buildings. The Magazine Quarry (72) and Barney's Cut (86) are nationally rare as convict-worked quarries associated with extant convict-built structures. Barney's Cut has additional significance due to its function in separating the Water Police Precinct. All quarrying on the island, but particularly these two features, demonstrate the approach to landforms of colonial governments. This is of *state* significance.
- The construction of the Magazine complex to a standard late 18th century British imperial naval design. This the earliest magazine complex design in the country. It is also significant for its location on an Island facing away from early Sydney, for its convict construction from stone quarried on the site and for the importance of gunpowder storage and explosives storage in early years of the colony. This is of *national* and *state* significance.
- The barracks buildings (Barracks (25) and Kitchen Cottage (26)) are a rare surviving group of early colonial military buildings that demonstrate the transfer of British designs and military practices to the colony. This is of *state* significance.
- The Water Police Station and precinct, which marked the beginning of a long association of the Island with the management of Sydney Harbour, demonstrates the importance of the harbour to the early development of Sydney, NSW and the country. The Water Police Station is rare, as the earliest of the few extant 19th century Water Police related buildings in Sydney and in Australia and has important associations with the 1850s Sydney Water Police Court buildings (now the Police & Justice Museum) in Phillip Street, Sydney. The Water Police station also demonstrates the early reliance on police control related to shipping and port activity and the need to locate such facilities in a prominent location with commanding views (for surveillance and communication) of much of the harbour. These commanding views of Sydney Harbour to the north, east and south of the Water Police Station are still available, and since 1932 include the Sydney Harbour Bridge. Views of the Water Police Station are also of historical significance, as the Water Police Station is a prominent yet isolated element in 19th century images of the Island. These aspects of the place are of *state* significance.
- The location, the alignment and the remains of the early stone jetties and wharves around the Island, are rare around the harbour. This is of *local* significance.
- Archaeological sites related to the Colonial phase of development on Goat Island are of *state* significance for their ability to demonstrate the earliest phases of development and modification of the Island within the context of the early colony. Individually, the archaeological sites related to the Colonial phase are all of *state* significance. Features such as the lime kilns, the blacksmith's shop site, the site of the early, temporary barrack, the artefact scatter on the ridge and the sandstone footings beneath the tennis court, have the potential to clarify the phasing of the place from earliest European use onwards, in particular those uses that were not recorded adequately or not recorded at all. The lime kilns and the blacksmith's shop are particularly significant sites as they have the potential to demonstrate the essential features of the establishment phase of the Island's Colonial and convict use.

- Specific ficus trees (132,133) and the Ombu tree (134) are of *local* significance as important remnant elements of Colonial period landscaping on the island.

Maritime Period 1901- 1993

The 90-year maritime history of the Island is integrally linked with the development of Sydney's port facilities. Development of the port commenced with European colonisation and continued throughout the nineteenth century. The amalgamation of the NSW Marine Board and the Navigation Department under the *Sydney Harbour Trust Act* of 1900 brought the management of port facilities and shipping in Sydney Harbour under one authority, and enabled the Sydney Harbour Trust's dramatic redevelopment of Sydney's port facilities in the early 20th century. With total reliance on shipping for connection with the rest of the world, the development of Sydney Harbour is a significant activity of the first half of the twentieth century in which Goat Island played a major role. It was the operational headquarters of the maritime authorities from 1901 to 1993, the base for the Sydney Harbour Master and the maritime fire brigade, it accommodated the various dredges used around the harbour and the fleet of vessels used in wharf construction and repair, and from 1925 it was the location of the major shipyard used by the maritime authorities. The structures, including wharves, constructed on and around the island in this period reflect the development of maritime facilities over time, changing technology and changing administrative arrangements.

Of particular significance are:

- The establishment of the Goat Island shipyard with its various component elements that constructed and maintained many of the vessels used by the Sydney Harbour Trust and MSB in undertaking their work. This is of *state* significance.
- The construction of the Harbour Master's residence, immediately following Federation and at the commencement of the Sydney Harbour Trust's existence, the first purpose-built Harbour Master's residence in Sydney, and one of the few extant Harbour Master's residences in Australia. The construction of the Harbour Master's residence marked the establishment of the Sydney Harbour Trust and advertised the status of both the Trust and the Harbour Master in the premier harbour in Australia. This is of *state* significance.
- The dispute over control of the Island between Balmain Council, the NSW State government and the newly formed Federal Government in the early 20th century, all recognizing the high value of the Island and its location that resulted in the Island being used by the Sydney Harbour Trust. This is of *local* significance.
- Specific plantings of date palms (136, 137, 138), a Monterey Pine (140) and Coral trees (141) are of *local* significance as important remnants of early 20th century landscaping on the island.
- Specific plantings of Bougainvillea (139), Prickly Pear (142) and Frangipani (143) are of *local* significance as important remnants of mid 20th century landscaping on the island.
- The development of the extensive timber wharfage around the Island. This reflects the 1940s MSB period of construction with only small remnants possibly predating this time. Timber wharves are an integral part of the maritime use of the island and together as well as separately (to a lesser extent) demonstrate the maritime use from 1900 to the cessation of MSB use in 1993. The timber wharves are rare as the largest and most diverse collection of timber wharfage in Sydney Harbour. This is overall of *local* significance with several individual wharves having *state* heritage significance.

Of particular historical significance in relation to the wharves is:

- Wharves 4a and 4b - their use or function in relation to the shipyard activity in forming part of the operational infrastructure, defining the Shipyard precinct and creating the edge and apron to the shipwrights building (building 1). This is of *state* significance as part of the state significant shipyard.

- the use of the wharves for movement to and from the Island where they can be contrasted with the remnants of the earlier stone jetties that served that purpose in the nineteenth century - wharves 54a, 56 and 4a. These are of *local* significance.
- the accommodation of a wide range of small vessels – 54a, 54b and 56. This is of *local* significance.
- the incorporation of the early stone jetties (1830-40 period) into later sea walls where they have formed part of the access and wharf system. This is of *local* significance.
- The ongoing modifications to the edge of the Island through quarrying and reclamation to create working platforms related to the shipyard and the north and eastern wharves, noting that the waterfront at the northern end of the Island remained relatively unchanged until 1901. This is of *local* significance.

National Park 1993 - Present

The National Park period, with the Island's inclusion into the Sydney Harbour National Park from 1993 and the resultant administrative change from a maritime authority operational headquarters to public recreational use, is not considered to be of historical significance in itself. This period has involved conservation works to buildings, some wharves and paths, and changed vegetation management of the Island. The major physical changes during this period have been removal of some of the wharves and revegetation of parts of the Island which, while superficially resembling an early 19th century appearance (though the components of the vegetation include all phases of the Island's history) are quite different structurally and floristically. The revegetation of the hill of the Island in this period - historically a largely cleared area north of the Magazine complex - has been detrimental to heritage significance. The National Park status of the Island ensures ongoing protection, conservation, public recreation and access, and interpretation of the Island.

CRITERION (B) HISTORICAL SIGNIFICANCE (PEOPLE)

An item has strong or special association with the life or works of a person, or group of persons, of importance in New South Wales' cultural or natural history

AHC Criterion (G) *Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions.*

AHC Criterion (H) *Special association with the life or works of a person, or group of persons, of importance in our history.*

Pre-contact Period

The Island's association with Bennelong, one of the the most recognised Aboriginal person in the immediate post-contact period between Europeans and Aboriginal people in Sydney is of *national* and *state* significance due to the rarity of such a documented association.

Colonial Period 1831-1900

The Island's association with four Aboriginal convicts in the 1830s and the Reverend George Langhorne (appointed to teach literacy and the Christian religion to Aboriginal convicts from Brisbane Water) is of *national* significance.

The colonial period of the Island is associated with a range of people, some prominent in the NSW colony and Sydney, who were instrumental in planning and designing facilities on the Island. Of particular note are Governor Richard Bourke, the convict Charles Anderson, Royal Engineer (later Colonial Engineer) George Barney and Colonial Architects Mortimer Lewis, Edmund Blackett and Alexander Dawson. These associations are of *state* significance as a group, particularly as most of the associations are with the early development and use of the Island.

The association of the Island and “Anderson’s Couch” with Charles Anderson is significant as the documented harsh treatment of Anderson on Goat Island, and his later treatment at Norfolk Island under the penal reformer Alexander Maconochie, illustrates changing 19th century attitudes to mental illness and penal reform. This is of *national* and *state* significance.

The Island is also associated with Imperial Infantry and Royal Artillery Garrisons stationed at the Island from the 1830s till 1870, who left unique military graffiti on the Fortified wall and sentry box. This association is of *national* and *state* significance.

Goat Island has strong association with the numerous convicts who laboured on the island (over 200 at the 1830s peak of convict construction period), who collectively were fundamental to the development of the island’s colonial period structures, the Colony and the character of the nation. Contemporary reporting indicates that Goat Island was well-known in both NSW and England as an iron-gang site due to the numerous escape attempts, the depredations committed by escaped convicts turned bushranger and the island’s association with the high profile London Custom House Robbers. This association is of *national* and *state* significance.

Maritime Period 1901- 1993

The years from 1901 until 1993 saw the Island managed by first the Sydney Harbour Trust and then the Maritime Services Board. These government agencies were significant in the physical development of the port of Sydney as they constructed and managed the major wharf and shipping development around the harbour using Goat Island as the operational base. This association is of *state* significance.

The most important figures related to Goat Island in this period were the Sydney Harbour Masters appointed by the Sydney Harbour Trust: Captains Charles Bird, Alfred Pritchard., C.P. Hildebrand and John F. Carter. Following the demise of the SHT, the holders of a position referred to as “Officer in Charge” from 1936-1967 occupied the Harbour Master’s residence. Under the MSB the Officers in Charge were Captains Cartwright, D. Luckett and Henry Blackwood.

There are few other individuals who are noted as having a major role on the Island. The association of the island’s maritime operations and the Harbour Master’s residence with the positions of Harbour Master and Officer in Charge and the individuals holding these positions are of *local* significance.

The Island also has associational value to the various groups who worked and lived on it in particular the fire brigade crews and their families who lived on the Island. This association is of *local* significance as it is typical of all maritime industries and waterfront activities, which involved a local workforce who had a specific relationship with each site. However, in this period, the resident island community of maritime authority workers and their families was the largest island community in Sydney Harbour. This is of *local* significance.

National Park 1993 - Present

N/A

CRITERION (C) AESTHETIC SIGNIFICANCE

An item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in New South Wales

AHC Criterion (E) *Importance in exhibiting particular aesthetic characteristics*

AHC Criterion (F) *Importance in demonstrating a high degree of creative or technical achievement at a particular period*

Pre-contact Period

Little remains of the pre-colonial period landscape except remnant indigenous vegetation around the western and northern escarpment edge, and some sections of the original landform below the central ridge and sections of the rock escarpment around the edge of the Island, although much of this has been affected by quarrying and fixing of wharf structures. The band of remnant/regenerating indigenous vegetation along the NW and northern cliff areas (and partly into the central areas) represents a continuum of local Sydney Harbour woodland and some rainforest vegetation which is of *local* aesthetic significance.

The original shore line is an important natural element that survives in places and is likely to enhance interpretation of the pre-contact period. It is considered to be of *local* significance.

Surviving indigenous plantings are of considerable aesthetic significance to the island. This is of *local* aesthetic significance.

Colonial Period 1831-1900

The remaining built elements from this phase of use are of *national* and *state* aesthetic significance and demonstrate a high degree of technical and creative achievement. This is seen in each structure and work as well as the two groupings of structures at either end of the Island even though the settings of each area have been altered over time by later maritime development. Items of particular aesthetic or creative value are:

- The Fortified wall and sentry box (71) which remain intact.
- The Queen's magazine (15) which is of outstanding design, detail and construction and is largely intact.
- The barracks building (25)
- The cooperage and stores buildings (19 & 20)
- The Water Police Station and 1865 Artillery Sergeant's cottage (47 & 46a)
- Anderson's Couch, which is associated with a particularly harsh form of convict punishment.

Aspects of significance are:

- The quality and technical achievement of the design and construction of the elements.
- The adaptation of a pattern book English design by the Colonial architect Mortimer Lewis for the design of the Water Police Station
- The quality of the convict workmanship seen in details such as the ventilation system of the Queen's magazine, the vaulted ceilings and the stone detailing to the fortified wall and Sentry box and the barracks building.
- The use of stone quarried on the site to construct the various buildings and features.
- The overall composition and siting of the buildings (in their original settings) that displays a high level of skill and competence.

Aspects of the landscape setting deriving from the colonial period that are of particular aesthetic significance are:

- The views to and from the Water Police building as this is one of the few early visual connections from a colonial building on the Island that retains a direct relationship to the harbour, and the view determined the siting of the building to enable surveillance of the harbour. These views are of *local* significance.
- The view from the Magazine complex south to Balmain and west up the harbour; the narrow vista from the fortified wall and sentry box, including through the wall gateway, to the harbour and south; and the view of the Magazine complex (barracks and kitchen from the south and south-west); as these views are all that remain of the original visual connexion between the Magazine complex and the harbour. These views are of *local* significance.

- The spaces defined by the early (1830s-1850s) structures in the magazine and barracks areas, and the view from the Queen's Magazine to the Fortified Wall and sentry box. This is of *state* significance.
- The views from the Magazine Walk (69) are of significance. The Magazine Walk affords magnificent views of the along its length of Sydney Harbour to the south, east and north, including views of Balmain, Darling Harbour, the city skyline, Millers Point the Harbour Bridge and Luna Park. This is of *local* significance.
- The retention of the north and western edge natural landscape, even though in remnant form, through the nineteenth century use of the island for government purposes. This is of *local* significance.

Specific *ficus* trees and the Ombu tree on the Island from the colonial period (items 132,133 & 134) are significant in understanding the early landscape character of the place. These landscape elements are of *local* significance.

Maritime Period 1901- 1993

The works undertaken during this period redefined the appearance of the Island with the addition of wharves, shipyard, workshops, residences and a range of large and small support buildings. The initial ordered aesthetic values of the Island seen in the formal layouts of colonial buildings were quickly dissipated with a range of developments that overlaid earlier developments, occupied the most accessible areas and redefined the harbour edge for about a third of the Island's perimeter. Most of the structures from this period were utilitarian in character and designed to facilitate industrial activity. The exception, through its prominent location, substantial size and fashionable architectural style is the Harbour Master's Residence which makes a statement about the importance of the Sydney Harbour Trust, the status of the Harbour Master, and the future development of Sydney Harbour. This is of very high aesthetic and creative achievement at *state* level.

Collectively the buildings from this period contribute to the overall aesthetic values of the Island as an industrial site and several elements demonstrate particular creative or technical value.

The aesthetic values of the Island are both internal, as experienced from within the Island, and as views to the Island as set out in section 3. Significant views to and from the Island are of *local* significance, with the exception of those views outlined in Table 5.1 and shown on Figure 5.6 Views of exceptional and high significance. Of note are the views from the Water Police Station and later from the Harbour Master's Residence to the harbour to the east, north and south, which as a result of the views and their ability to assist harbour surveillance, determined the siting of the buildings. This is of *state* significance.

A number of the works from this period are of particular creative and technical achievement as seen in:

- the construction of the various slipways, in particular the 500 ton slipway and the excavation required to achieve this which is of *state* significance.
- the relocated hammerhead crane of *state* significance, principally for its earlier history and its role within the harbour as a whole.
- the construction of some of the wharves which is of *state* significance.

The wharves do not have landmark value, although the Broadside Wharf has particular aesthetic value with its important function of separating the slipways and workshop buildings from the Harbour – wharves 4a and 4b. These wharves are of *state* heritage significance.

Generally the northern and western edges of the Island are strongly defined by wharves but the eastern and southern edges of the Island are less visually defined by the wharves that are located there.

The wharves have some aesthetic significance as a visual element that characterizes the present form of the Island in relation to its former uses. This is a relatively new aesthetic presentation of the Island as when used for port purposes the wharves were largely not visible through the shipping moored against them. The largely empty wharf structures have overall moderate heritage significance only. In contrast to their significance in relation to the maritime use and appearance of the island, the wharves impact on the natural aesthetic values of the island in its now partially re-vegetated form as the island forms a focal point in views from Darling Harbour and the city towards the north shore and from the north shore headlands looking south. The aesthetic significance of the wharves overall is of *local* heritage significance.

The appearance of the wharves on the island is not unique or distinctive as the form of construction and appearance are typical of most timber wharves around the Harbour. Wharves are however an integral part of the Island's life and history and wharves make some aesthetic contribution to these attributes. This is of *local* heritage significance.

The landscape of the island during this phase of use has low aesthetic significance as the main landscape works undertaken involved clearing and maintaining the existing open landscape form. Only after the winding down of maritime use has the natural landscape started to re-establish.

Of particular interest in terms of cultural or introduced plantings and landscape from the period (of *local* significance) are:

- The frangipani in the shipyard (item 43)
- The various date palms on the Island (items 99, 136, 138)
- The Boungainvillea (item 139)

These are of *local* aesthetic significance.

National Park 1993 - Present

The change in use of the Island from industrial and port management to national park has seen a major change in the appearance of the Island. This is seen in the cessation of use of many parts of the Island, a large reduction in the number of people working and living on the Island and overall increased revegetation of the island. The recent increase in vegetation (since the 1980s) contrasts to the earlier cleared form of much of the Island. This is of *local* aesthetic significance. This current natural aesthetic significance contrasts with the also historically significant cleared character of the island.

The current appearance of the island has aesthetic significance in relation to the broader harbour setting, particularly when viewed in relation to other vegetated headlands and foreshore areas such as Balls Head, Berry Island and Ballast Point in the western end of the harbour and North, South and Middle Heads, Bradleys Head, Nielsen Park, Clark and Shark Islands in the eastern end of the harbour. The current appearance is of *local* aesthetic significance.

CRITERION (D) SOCIAL SIGNIFICANCE

An item has strong or special association with a particular community or cultural group in New South Wales for social, cultural or spiritual reasons

AHC Criterion (G) *Strong or special association with a particular community or cultural group for social, cultural or spiritual reasons. This includes the significance of a place to Indigenous peoples as part of their continuing and developing cultural traditions.*

AHC Criterion (H) *Special association with the life or works of a person, or group of persons, of importance in our history.*

The Island has *local* social significance to residents of Sydney generally as a place that is known and acknowledged as a place of historic and natural interest. Incorporating the Island

into the Sydney Harbour National Park recognised the esteem in which the Island is held by the Sydney community as well as the heritage significance of the various components of the place. The Island also falls within the broader group of places around the foreshore, now in public ownership, that are part of the Sydney Harbour National Park or lands managed by the Sydney Harbour Trust. There has been considerable public interest and lobbying by public action groups to ensure that these places are conserved for public benefit with public access and sound management, which is another indication of the esteem in which the community holds Sydney Harbour generally, of which Goat Island is a major component.

This interest in the Island extends back to its first development when various proposals were put forward to take advantage of its location and setting (including use as a Water Police Station) and again around 1900 when Balmain Council made a concerted attempt to have the Island set aside as a recreation reserve rather than as a base for maritime activity.

While the Island has some level of social value to the people who have lived there or worked there (former MSB staff and their families) this is now largely historical value as considerable time has elapsed since the Island was a working facility and fewer people remain who had direct associations with the place. The continued social significance of connections of past residents and employees is of *local* significance.

The Island also has contemporary social significance to the Aboriginal people of Sydney, largely due to its association with Bennelong. This is of *local* significance.

National Park 1993 - Present

The social significance of the change in management and use of the Island reflects changing community expectations and approaches and the impact of activism in setting apart places such as Goat Island for public benefit. This is of *local* significance.

CRITERION (E) - RESEARCH POTENTIAL

An item has potential to yield information that will contribute to an understanding of New South Wales' cultural or natural history

AHC Criterion (C) *Potential to yield information that will contribute to an understanding of our cultural or natural history.*

Pre-contact Period

The Island has very limited identified physical material relating to Aboriginal occupation. There is some potential for documentary research in relation to Bennelong but limited potential for research in the one shell midden site. This is of *local* significance.

Colonial Period 1831-1900

The Island has a high level of archaeological sensitivity with exceptional research potential that could answer questions related to the Colonial period and Colonial military and government use of the place. Within this one category, archaeology can reveal answers related to each of the criteria separately. Questions related to the historical development of the Island, and the people who were associated with it, significant individuals or groups and the representative nature of assemblages can provide answers that contribute to our understanding of the place, how it functioned and where it fitted within the framework of the growing colony.

The complex of archaeological sites has the potential to answer questions that would contribute to the earliest period of colonial use, of which little documentary evidence survives or ever existed. Whilst government records show the locations of some structures and provide insights into the official purpose of the place, little record survives of the day to day lives of the people who inhabited the Island. It is clear that during its use in the Colonial Period, the Island

has been a place predominantly of men however it is possible that women and families lived on the island. The archaeological resource has potential to reveal information about the role of women on the island as mothers, wives and possibly as part of the workforce and of the lives of children who lived on the island.

The archaeological resource may also provide information on the quality of official and personal material that has been discarded. The quantity and quality of crockery, meat cuts and the availability of alcohol can shed light on how the inhabitants lived. Gaming pieces, personal mementos and items for personal hygiene such as combs and razors could provide a clearer understanding of the quality of life the men on the Island experienced. Other areas that may be informed by the archaeology are: How did they respond to the isolation? Did they fish or play games? Is there any evidence of free time for the enlisted men? How did they relate to each other? Is there a distinct spatial, qualitative and quantitative difference in the material that could be attributed to the differences in the type of individual on the Island: Military or convict? Is there a difference evidenced by the material that shows distinctions between military ranks or within the convict population?

Ancillary functions that would have been integral to the Island's establishment, such as a blacksmith's shop and the operation of the lime kilns, exist now in remnant or archaeological form, as does evidence of the early Colonial modification of the place. Early ancillary features associated with the Colonial Barracks (located in proximity to the modified southern cliff face) include a number of newly identified archaeological structures. In other areas of the Island, the archaeological resource has the potential to elucidate the location of structures known from historical surveys and photographs, identify early paths across the Island, and clarify the nature of other features such as "Anderson's Couch", which may lead to better understanding of the place's use. The location of the documented buildings, namely the school-house and the hospital are unknown. The location of the stockade site is also unknown.

The colonial period buildings and features provide excellent scope for research into construction techniques, use of materials, quarrying, use of the buildings, design, graffiti and stone carving, etc. The extant physical fabric in the structures and features, their relationships and their setting provides potential for further information to be gained from close study and inspection.

There is considerable research potential related to below ground elements such as drainage systems that require interpretation and potentially repair.

Archaeological sites related to the Colonial phase are likely to be of *state* significance for their ability to demonstrate the development of the Island and the lives of the individuals for which Goat Island was home.

It is likely that other privy sites, rubbish dumps, water storage and ephemeral structures such as sheds will have existed. The Island's archaeological resource will contribute to an understanding of the activities that took place there.

This overall is of *state* significance.

Maritime Period 1901- 1993

The maritime buildings and elements provide some potential for research into this phase of use of the Island. Of greatest interest are the working elements that remain seen in cranes, winches, slipways and the miscellaneous equipment and elements around the site. These elements as they become increasingly rare in an operational shipyard are overall of *state* significance.

The buildings from this phase generally provide little potential for research, as apart from their setting and use they are otherwise non-distinctive and typical of maritime industrial and residential development of their time. The staff residences also do not provide potential for research as they are representative examples of a widely used design and construction

approach, the harbour master's residence is distinctive in design and appearance but is not exceptional in construction or use of materials (with the possible exception of the use of shell remnants in the render). This is of *local* significance.

There is some research potential in the remaining fitout of some of the industrial buildings that demonstrates the last phase of maritime use. The buildings have generally *local* significance for their research potential.

The wharves have some but limited ability to provide new information on the design and construction of timber wharves. The wharves have *local* significance for their research potential.

The wharves do provide a significant grouping of maritime structures that demonstrate a range of wharf arrangements that are not commonly found in one location. This rarity largely derives from the loss of other wharves across the harbour. The wharves have *local* significance for their demonstration of wharf arrangement and design.

The landscape changes from this phase provide some research potential into the plantings used around 1900 and into the transformation of landforms that characterised the earlier stages of development in particular. This is of *local* significance.

Individually the archaeological sites related to the Sydney Harbour Trust phase are of *local* significance on the Island as they are representative of common features, with little potential to contribute information related to outstanding technical achievements or prominent individuals. The house sites are represented by standing structures, two of which are still in use on the Island. Similarly, the reservoir is of standard construction for its time and its significance lies within its representative values as a water management system on the Island. Whilst the archaeological sites of the Sydney Harbour Trust phase are of *local* significance as individual elements and for their association with the Sydney Harbour Trust phase and the changing use of the Island.

The archaeology of the Maritime Services Board phase is of *local* significance as the sites were well documented prior to their demolition. The archaeological sites are not remarkable as individual features and the Maritime Services Board phase is well represented by existing structures, which have been assessed as possessing various levels of significance.

National Park 1993 - Present

N/A

CRITERION (F) RARITY

An item possesses uncommon, rare or endangered aspects of New South Wales' cultural or natural history.

AHC Criterion (B) *Possession of uncommon, rare or endangered aspects of our cultural or natural history.*

Pre-contact Period pre 1831

The identified shell midden site is not rare. This is of *local* significance.

The associational values of the Island with Bennelong as a site identified as his Island are very rare. This is of *national and state* significance.

Colonial Period 1831-1900

The colonial buildings, features, excavations and groupings of elements are very rare within Sydney, NSW and Australia.

The magazine precinct contains the most intact and earliest set of purpose built magazine buildings and features in Australia that also retain a high level of integrity. Apart from the built

elements the fortified wall and sentry box also has engravings related to the military garrisons stationed at the magazine complex between 1831 and 1870. These engravings appear to be unique within Australia. This is of *national* and *state* significance.

The Water Police Station and Barney's Cut are rare. The Water Police Station is the earliest water police related building in Australia. While there are other convict sites built from and located near quarries, e.g. Fort Denison, Old Great North Road and Macquarie Watchtower, it is rare that the quarry has become a major functional feature of the site as seen on Goat Island. The Water Police Station largely retains its prominent setting and relationship to the harbour (though later maritime buildings and structures do interfere with the view of the Water Police Station). This is of *national* and *state* significance.

The Water Police Station's later (1865) adaptation for use as a cartridge laboratory and the addition to the precinct of an Artillery Sergeant's cottage at this time, demonstrates continued colonial use and expansion of the magazine facilities in the later 19th century. This is of *local* significance.

The Island is also associated with the instruction of Aboriginal convicts and the punishment of a specific convict (Anderson) both of which are rare within Australia, particularly in terms of historical significance to the history of the convict system and penal reform in Australia. This is of *national* and *state* significance.

The colonial archaeological sites are of *state* significance. The two lime kilns that survive on the Island are particularly rare within the state.

The archaeological resource belonging to the earliest Colonial phase is, by virtue of its age, rare and of *state* significance particularly as the place is remote and has survived relatively intact where other colonial sites in Sydney have not.

The remaining landscape elements and modifications from this phase are not rare and of very low significance.

Maritime Period 1901- 1993

The Harbour Master's Residence is a rare example of a purpose-built Harbour Master's residence in an Australian port although other examples remain (most now detached from their waterfront setting). It is the finest example of a Harbour Masters residence in Australia and a rare example from the Federation period. It is of *state* significance.

The Shipyard with its various elements is a now rare feature within Sydney Harbour. The Harbour was once well served by shipyards but now has only several remaining and Goat Island is the most complete extant operating facility. This is of *state* significance.

The maritime Fire brigade married men's residences (38a-38d) and single men's barracks (46b, 45) are also rare as a group and are the only known examples to remain within a harbour setting (if any others exist). Although not distinctive structures in themselves their integral relationship to the operation of port services from the Island is of significance to understanding the functioning and role of the Island during the twentieth century. They are of *local* significance.

Most of the wharves are not rare, the exceptions are the broadside wharf 4a and to some extent 4b, which with their shore shed, provide a now rare example of this arrangement of wharf and building within the Harbour. The boat pens at wharf 54b and 56 are also rare and possibly the only remaining examples of this form of wharfage in the Harbour. It is the relationship and arrangement of wharf to shore and building that is rare rather than the detail of the wharf. This is of *local* significance.

The various forms of the wharves are commonly found around the Harbour, albeit with greater or lesser scale, but are becoming increasingly rare. They use standard construction and detailing and served standard purposes. This is of *local* significance.

The collection of wharves forms an unusual grouping of wharf structures not often found together that adds to their interest and significance. This is of *local* significance.

The archaeology related to the SHT phase of the Island's history is, in general, of *local* significance as the resource represents items and features that are not rare. The former residences that date from the SHT phase are represented by existing residences of similar style on the Island as well the mainland. The one exception dating to the SHT phase would be the water reservoir, the fabric of which may not be rare, but which may contain deposits associated with the earliest historical phases on the Island. Later structures such as the recreation hall constructed in the 1940s are well understood through more recent historical documents and are not considered rare on a local or state scale.

The hammerhead crane is a rare example of this form and scale of crane within Sydney Harbour and its long history pre-dating Goat Island adds to its rarity as a surviving (if non longer working) example of large-scale shipbuilding and repair and construction. This is of *state* heritage significance.

The landscape elements and plantings introduced during this phase are not rare or distinctive and reflect typical approaches to landscape during the twentieth century. The landscape is not significant during this phase.

National Park 1993 - Present

The Island is part of a complex and large land holding that now comprises part of the Sydney Harbour National Park. The Island is not rare within the context of the Park, as the Park comprises a very broad range of sites and places, each of which could be considered rare. The change of use has not affected the rarity of the place for other values and potentially will enhance those values. This is not of significance.

CRITERION (G) REPRESENTATIVE

An item is important in demonstrating the principal characteristics of a class of New South Wales' cultural or natural places; or cultural or natural environment

AHC Criterion (D) *Importance in demonstrating the principal characteristics of a class of cultural or natural places and environments.*

Pre-contact Period pre 1831

The single identified Aboriginal site on the Island is representative of other similar sites located around the harbour. This is of *local* significance.

The remaining indigenous landscape is representative of the pre 1788 landscape around Sydney Harbour and is not intact. This is of *local* significance.

Colonial Period 1831-1900

The colonial buildings are excellent representative examples of their types, their groupings, and their construction techniques. They are among the best representative examples extant in Australia and are all able to demonstrate colonial construction and design techniques. They represent:

- colonial administration and design
- colonial construction using convict labour
- colonial attitudes to the location of facilities
- the importance of gunpowder to the colony and to the control of the colony by the government
- the skill of both administrators, officers and convicts in executing complex and extensive works on an Island

This is in addition to the rarity of many of the buildings and elements of the period. This is of *state* significance.

The colonial archaeological resource of Goat Island has representative value. In some cases that value is now rare but was once representative of early technology. Items such as the lime kilns would have been common in the early history of the Colony, but their temporary nature has also resulted in their destruction through time and urban development. The archaeological resource from the later Colonial phase, particularly the sites of the 1870s explosives magazines (81a and 131) are considered representative of such archaeological sites, having potential to reveal information concerning late 19th century explosives technology and storage techniques.

The combination of archaeological site types on the Island in the Colonial period is representative of the uses of the place. This is of *state* significance.

The remnant colonial landscape is of modest representative value as little remains from the period. The features that remain are of *local* representative significance.

Maritime Period 1901- 1993

The maritime buildings are representative of early to mid twentieth century industrial and commercial harbour side development that contrasts with the larger finger wharves that are still found at Walsh, Woolloomooloo and Jones Bays.

The Goat Island shipyard, along with the Berry's Bay shipyards, are the last representative examples of mid twentieth century shipyards in Sydney Harbour and are able to demonstrate work methods and a range of technologies that are not found on newer shipyard sites. This is of *state* significance.

The form and variety of the wharves, which follows a long tradition of timber wharf construction, is significant and the continued presence and maintenance of some timber wharves at Goat Island is an important element of the significance and understanding of the place. This is of *local* significance.

All of the buildings from the twentieth century are representative examples of their type from the various amenities buildings, to sheds to residences. They have varying individual values but all represent the endeavour required to operate Sydney Harbour. The shipyard incorporates a number of elements from other shipyards that are of *local* significance.

The landscape from the maritime period, being specific cultural plantings (136, 137, 138, 139, 140, 141, 142, 143) is representative of landscaping practices through the twentieth century. This is of *local* significance.

NATIONAL PARK 1993 - PRESENT

The Island is representative of the range of place types that are incorporated in the Sydney Harbour National Park. This is of *local* significance.

5.4 SUMMARY STATEMENT OF SIGNIFICANCE

Goat Island is of national and state heritage significance for its overall exceptional ensemble of built, natural and archaeological features that evocatively and legibly present three important historical periods within one well defined place - Aboriginal (pre 1830), Colonial (1830-1900), and Maritime (1901-1993). The island retains its isolation from the city and surrounding foreshore development.

The Island is of outstanding significance for its numerous historical associations. It is closely associated with Bennelong (one of the most well known Aboriginal people in early Sydney) and his family. The island is a documented place of incarceration and education of Aboriginal convicts in the 1830s. It was a site of convict labour and punishment for up to 200 convicts at its peak during the 1830s. The Island is the site of the earliest, largest and most intact

Magazine complex in Australia which was built in the 1830s to a standard 18th century British naval design, using convict labour and local materials (sandstone quarried on the Island), which operated until 1907. The Island is the location of the Water Police Station, operational from 1838 to 1865, which is the earliest surviving building associated with Water Police in Australia. Together, the Magazine complex and the Water Police Station form one of the most intact and complete sets of Colonial buildings in Sydney, and one of the most intact and complete sets of convict built structures in Australia. The Island also served as the maritime authority operational headquarters in Sydney Harbour from 1901 to 1993. The first and only purpose-built Harbour Master's residence in Sydney was constructed on Goat Island. The Island was the place of residence for a community of maritime authority fire brigade staff and their families.

The island is of outstanding significance for its architectural and physical qualities. The convict-built Colonial sandstone buildings and structures (particularly the Magazine complex and Water Police Station) express a very high degree of creative and technical achievement. The Water Police Station and the Harbour Master's residence are significant for their accomplished design, enhanced by their deliberately prominent siting at the bow and top of the Island. The scenic qualities of the Island as a whole are striking. The varied buildings, structures, landscape and topography on the island including the Colonial Barracks and Kitchen, fortified wall and Sentry box, the Hammerhead Crane, Barney's Cut and the Water Police Station combine with the backdrop of Sydney Harbour, the bridge and the City skyline to make the Island a unique focal point within Sydney Harbour.

The Island is of rare national significance as a result of its unique siting in the heart of Sydney Harbour, as Memel, "the place from which you can see far". The Island and its features clearly demonstrate the interaction of its uses over time as an Aboriginal site with natural vegetation, a site of convict labour, an imperial military and Colonial government explosives store, and a maritime authority complex. The interrelationship of the Island's structures, landscape and topographic features and archaeology clearly tell the history of the Island. The Island is closely associated with a long list of prominent historical persons important in Sydney's Colonial and Maritime history, including Bennelong, convicts including Aboriginal convicts and Charles Anderson, Wesleyan missionary George Langhorne, Royal engineer George Barney, Colonial Architects, particularly Mortimer Lewis, and Sydney's harbour masters of the early 20th century.

In greater detail, the island is of *national* significance for:

- Its documented association with Bennelong and his family
- Its Colonial period structures, sites and landscape elements. This includes the Magazine Quarry & Barney's Cut, the 1830s Magazine complex - the earliest and most intact Imperial military magazine complex in Australia - the 1838 Water Police Station as well as later Colonial sites. These sites evoke a history of British imperial military and Colonial government use of the Island for a gunpowder magazine complex and Water Police Station, which illustrates distinctive early aspects of military history, Colonial and convict history and explosives technology.
- The 1830s Magazine complex, which is unique in Australia as a complete magazine complex of British imperial late 18th century standard military design. The complex includes a fortified wall and sentry box, military barracks outside the wall, gunpowder magazine (the Queens Magazine) and Cooperage. The buildings and structures were constructed in sandstone which was quarried on the Island using convict labour.
- The evocative and distinctive regimental graffiti left on the Fortified Wall and Sentry Box by the British Imperial infantry and artillery units stationed at the Magazine complex from the 1830s to 1870. The graffiti appears to be unique in Australia.
- *State*: Evidence of convict quarrying, including the Magazine Quarry and in particular Barney's Cut, as well as substantial archaeological remains including lime kilns, a

blacksmith's shop and evidence of early buildings on the hill. This grouping forms a significant assemblage of colonial period sites related to military history, convict history, explosives technology and early Sydney Harbour policing. The Magazine complex, Water Police Station and associated quarries and archaeological sites are a significant collection of 1830s convict related sites with a rare juxtaposition of largely intact convict-worked quarries with the buildings constructed from the quarried stone.

- The historical association of the Magazine complex with the Island's convicts including Aboriginal convicts and their tutor George Langhorne as well as Charles Anderson. The Colonial period buildings and works are also closely associated with Captain George Barney (Royal/Colonial Engineer), Andrew Petrie (1834 Superintendent of Stockade & Foreman of Works), Walter Scott (1837 Foreman of Works), Governor Sir Richard Bourke and with Colonial Architects, particularly Mortimer Lewis (architect of the Water Police Station).
- The Water Police Station on Goat Island is the only remaining water police building from the early 19th century in Australia. The station has exceptional aesthetic significance for its prominent siting in Sydney Harbour and skilful design by the Colonial Architect Mortimer Lewis as an adaptation from a John Claudius Loudon pattern book.

Goat Island has State significance for:

- Archaeological research potential for the ability of the Island's archaeological sites to reveal information on uses and technologies from the Colonial period as well as the lives of the Colonial inhabitants that are not or never were documented.
- The status of the Island as the Sydney Harbour operational headquarters of the Harbour's maritime authorities, the Sydney Harbour Trust (1901-1936) and the Maritime Services Board (1936-1993), demonstrated by an assemblage of important residences, a shipyard including the hammerhead crane, maritime buildings and wharves.
- The 1901 Harbour Master's Residence which was the first and only purpose-built Harbour Master's residence in Sydney. The substantial size of the residence, its fashionable design and prominent location illustrates the importance of the redevelopment work undertaken by the Sydney Harbour Trust who were considered at the time of world class renown in terms of their work in modernising the port of Sydney.
- The range of maritime fire brigade buildings, wharves, barracks and residences, which illustrate the operation of a unique Island-based maritime fire brigade and dredging operation on the Island.
- The Goat Island Shipyard established by the Sydney Harbour Trust in 1925 was one of the largest government-run shipyards in NSW in the 20th century. The Shipyard includes the 1924 Hammerhead Crane (moved to Goat Island Shipyard in 1963) shipyard buildings and wharves constructed from 1925 through to the 1960s. The Shipyard was the site of construction and maintenance of numerous launches, pilot boats and other maritime authority vessels, and its current use as a commercial ship repair operation continues this historical use.
- The shipyard being rare, as one of only four commercial shipyards remaining in operation in Sydney Harbour, and as one of the few remaining former state government-run shipyards in Australia still operating.
- Historically significant views of Barney's Cut, to and from the Water Police Station, within the Magazine Complex, of the Harbour Master's residence which commands extensive views of Sydney Harbour (these views are historically significant due to their role in determining the site of these buildings, and their role in surveillance of the Harbour), of the ferry wharf and small boat enclosure, from the Magazine walk and of the landmark Hammerhead crane.

Goat Island has *local* significance for:

- The archaeological evidence of Aboriginal use (shell midden).
- The surviving and re-generated indigenous landscape that has in recent years recovered some of the early vegetated form of the island.
- The archaeological resource from the Maritime period, significant for its ability to demonstrate the changing uses of the Island in response to changes in governance and state responsibilities.
- The collection of wharves and related buildings on Goat Island are representative of timber wharf design and construction within Sydney Harbour, where working wharves from this period have almost disappeared.
- Its historical significance for the resident Island community of maritime authority staff and their families in the period 1901-1993. This community was the largest resident community on any Sydney Harbour island in Sydney's history.
- Its social significance for former Maritime Services Board workers and their families.

5.5 GRADED LEVELS OF SIGNIFICANCE

Graded significance is a management tool to assist in making decisions in the future about specific management issues related to the elements of the place. Not all elements of the Island will be treated in the same way and largely this will be determined by the relative significance of each element and how it relates to other significant elements on the island.

For example, of the two remaining magazine buildings, both of which are clearly significant and important to show the development of the magazine precinct, the Queen's magazine, which is largely intact, is of higher significance than the colonial magazine, which is substantially altered, but both are within a precinct of exceptional heritage value. If allocation of funds needed to be determined in the future, on the basis of significance the Queen's Magazine should be given priority as the more significant building. Alternatively if options were being considered for adaptive re-use, the extent of previous adaptation to the colonial magazine, resulting in its lesser significance, would suggest more flexibility in approach where the exceptional significance of the Queen's Magazine would suggest a very cautious approach to any new use.

Grading of significance is not a simple way of establishing a 'cut-off' point below which elements can be removed or adapted. Nearly every part and feature of the island is significant in some way and often it is the completeness of parts of the site that give the area its overall significance. Management of a complex site like Goat Island involves the consideration of many factors, but all are guided by the significance of the place, primarily as a whole, but also by the individual significance of its elements.

The following assessment of elemental significance is set out on the basis of the statement of significance for the place and the relative values of the various component parts of the place. The elements of highest significance are those that are essential to conserve and understand the significance of the place.

The concept of graded significance provides for management of the various elements of the place with a level of finesse that acknowledges the potential for an ongoing active use of the site and the need to implement changes and new uses while retaining those parts of the place that are unique and provide evidence of the development of the site.

The graded levels of significance used in this study are:

- | | | |
|---|-------------|--|
| 1 | Exceptional | Rare or outstanding items demonstrating historical, aesthetic or social heritage values and/or research potential of national or state importance. |
| 2 | High | Rare or outstanding items demonstrating historical, aesthetic or social heritage values and/or research potential of state importance. |

3	Moderate	Items of some heritage value which contribute to but are not essential to the overall significance, understanding or interpretation of the place.
4	Little	Items of little or neutral heritage value that do not meaningfully contribute to the overall significance of the place and do not impact on other items of higher significance.
5	Intrusive	Items of neutral or no heritage value, that, in their present form, adversely impact on other items of higher significance or the overall significance of the place. Intrusive items may be damaging or visually intrusive to other items, or obscure the interpretation of significant uses or periods of development.

The following figures - Figures 5.1, 5.2, 5.3 and 5.4 - set out the graded levels of significance of buildings and features across the Island. Figure 5.5, the Archaeological Zoning Plan, sets out the levels of significance of the Island's archaeological sites. Figure 5.6 sets out views, both to and from the Island, of significance.

Table 5.1 sets out the graded significance of each of the features on the Island.

It is noted that during the preparation of this study, which covered a period of two years, that a number of wharves around the island have collapsed, were removed or partially removed due to their failing condition and their risk to navigation. A separate and earlier Conservation Management Strategy addressed the retention and removal of wharves, their significance and their condition and the work set out in this CMP reflects that study, subsequent changes and the advanced deterioration of timber piles on a number of wharves in particular over the last year.

All of the wharves, including those that have collapsed or been removed since the study commenced are included in this study for completeness however they are noted on drawings and in the text as removed.

- Figure 5.1 Features of exceptional significance - elements coloured green (archaeological and landscape items light green)
- Figure 5.2 Features of high significance - elements coloured pink (archaeological and landscape items light pink)
- Figure 5.3 Features of moderate significance - elements coloured yellow (archaeological and landscape items light yellow)
- Figure 5.4 Features of little significance - elements coloured blue - and features that are intrusive - elements coloured purple (archaeological and landscape items light blue)
- Figure 5.5 Goat Island Archaeological zoning plan
- Figure 5.6 Views of exceptional and high significance

LEGEND

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|---|---|
| 1. Ship Repair Workshop | 80. Path and Railing to Harbour Master's Steps |
| 1a. Addition to Ship Repair Workshop | 81a. Site of c1875 magazine and later residence |
| 2. Repair Workshop | 81b. Site of Residential Cottage No 5 |
| 2a. Repair Workshop Extension | 81c. Site of Residential Cottage No 6 |
| 3. Slipway Workshop Buildings | 81d. Site of Residential Cottage No 7 |
| 4a. Western Section of Broadside Wharf | 81e. Site of Residential Cottage No 8 |
| 4b. Central Section of Broadside Wharf | 81f. Site of Residential Cottage No 9 |
| 5. Coal Loader at Northern End of Broadside Wharf | 82. Northern Wharf Stone Sea Wall |
| 5a. Dolphins and guide rails | 83. Northern Wharf Precinct Quarry Face |
| 7. Winch House | 84. Eastern Wharf Jib Crane |
| 8. Winch House 500 Ton | 85. Eastern Wharf Quarry Face |
| 9. Hammerhead Crane | 86. Barney's Cut |
| 13. Amenities Block | 87. Stone steps to Water Police Precinct |
| 14. Office and Amenities Building | 88. Water Police Precinct Paths |
| 15. Queen's Magazine | 89. Bridge over Barney's Cut |
| 15a. Southern Addition to Queen's Magazine | 90. Incinerator |
| 15b. Tennis Court (Former) | 91. Sandstone Footings |
| 15c. Tennis shed site | 92. Stone Structure on shore |
| 16. Scow Shed | 93. Artefact Scatter |
| 19. Coopersage | 94. Privy & Outbuildings Site |
| 20. Stores Building (2nd Coopersage) | 95. Remnant kiln |
| 21. Colonial Magazine | 96. Winch House |
| 22. Timber Store / Amenities | 97. Wharf archaeological site South Depot |
| 23a. Boat Shed | 98. Wharf archaeological site - Water Police |
| 24. Substation | 99. Gardens & garden features |
| 25. Barracks | 100. Site of Timber steps |
| 25a. Privy and Laundry attached to Barracks | 101. Stone steps |
| 26. Kitchen Cottage | 102. Benching of residential precinct |
| 26a. Kitchen Cottage Alcove | 103. Stone Seat |
| 29. 150 Ton Slipway | 104. Plaque for Bennett Memorial Grove |
| 30. 500 Ton Slipway | 105. Memorial Guardsman Burgessson |
| 38a. Residential Cottage No. 1 | 106. Memorial RHS |
| 38b. Residential Cottage No. 2 | 107. Remains of former mess room floor slab |
| 38c. Residential Cottage No. 3 | 108. Path - stone flagged |
| 38d. Residential Cottage No. 4 | 109. Site of former building |
| 39. Harbour Master's Residence | 110a. Rock cut steps |
| 45. Port Emergency Services Building | 110b. Rock cut steps |
| 46a. Cottage | 110c. Rock Cut |
| 46b. Barracks | 111. Possible drainage cuts |
| 47. Water Police Station | 112. Quarried face above slipways |
| 48. Dredge Office | 113. 1925 Slipway |
| 49. Gear Shed | 114. Shed |
| 50. Fire Fighting Building | 115. Stone retaining wall & steps |
| 51. Wharf Mooring Floating Plant | 116. Path |
| 52. Eastern Wharf | 117. Rock Cuts |
| 52a. SW Section of Eastern Wharf | 118. Eroding Shoreline |
| 52b. NE Section of Eastern Wharf | 119. Foreshore Fill Site |
| 54a. Ferry Wharf | 120. Jib Crane |
| 54b. Small Boat Enclosure | 121. Jib Crane |
| 54c. Berthing Wharf | 122. Remains of Rail Tracks |
| 55a. NE Section of the Northern Wharf | 123. Remains of Signal Mast & Guys |
| 55b. NW Section of the Northern Wharf | 124. Jib Crane Base |
| 56. Building Removed (not shown) | 125. Fire Brigade Gallows |
| 57. Corrugated Iron Shed | 126. Building Slab |
| 58. Amenities Block | 127. Waiting Shed |
| 59. Metal Demountable | 128. Light Bracket |
| 60. Path from Shipyard to Residential Precinct | 129. Navigation Markers |
| 61. Anderson's Couch | 130. Shed |
| 62. Midden | 131. 1878 Magazine site |
| 63. Lime Kiln | 132. 2 Moreton Bay Fig Trees (<i>Ficus macrophylla</i>) c. mid-1880s |
| 64. Stone Jetty 1833 | 133. 2 Moreton Bay Fig Trees (<i>Ficus macrophylla</i>) & 1 Small-leaved Fig Tree (<i>Ficus obliqua</i>) c. mid-1880s |
| 65. Stone Jetty 1925 | 134. Ombu (<i>Phytolacca dioica</i>) Date unknown |
| 66. Stone Jetty Remains 1835 | 135. Indigenous Sydney Harbour vegetation community |
| 67. Blacksmith's Shop Site | |
| 68. Shell Deposit | |
| 69. Magazine Walk | |
| 70. Magazine Precinct Stone Retaining Wall | |
| 71. Fortified Wall | |
| 72. Magazine Precinct Quarry Face | |
| 73. Recreation Hall Site | |
| 74. Central Precinct Stone Retaining Walls | |
| 75. Timber Access Steps to Barney's Cut | |
| 76. Residence Paths | |
| 77. Quarrying Sites on Ridge | |
| 78. Residential Precinct Yard Fences | |
| 79. Reservoir | |

Figure 5.1 Goat Island Plan identifying features of Exceptional Significance

Built Items - Dark Green
 Archaeological Sites and Landscape Features - Light Green

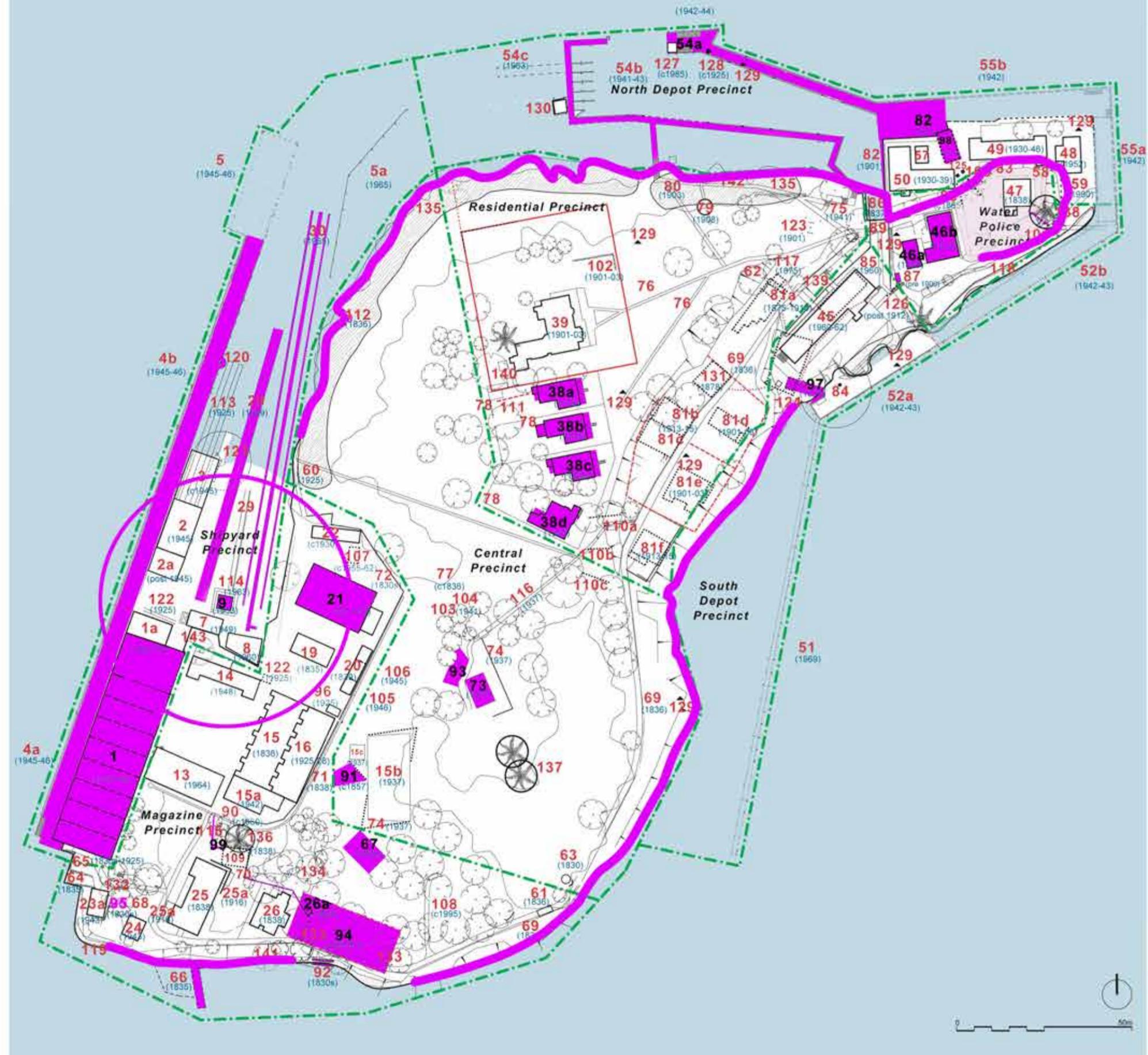


LEGEND

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| 1a. Addition to Ship Repair Workshop | 81a. Site of c1875 magazine and later residence |
| 2. Repair Workshop | 81b. Site of Residential Cottage No 5 |
| 2a. Repair Workshop Extension | 81c. Site of Residential Cottage No 6 |
| 3. Slipway Workshop Buildings | 81d. Site of Residential Cottage No 7 |
| 4a. Western Section of Broadside Wharf | 81e. Site of Residential Cottage No 8 |
| 4b. Central Section of Broadside Wharf | 81f. Site of Residential Cottage No 9 |
| 5. Coal Loader at Northern End of Broadside Wharf | 82. Northern Wharf Stone Sea Wall |
| 5a. Dolphins and guide rails | 83. Northern Wharf Precinct Quarry Face |
| 7. Winch House | 84. Eastern Wharf Jib Crane |
| 8. Winch House 500 Ton | 85. Eastern Wharf Quarry Face |
| 9. Hammerhead Crane | 86. Barney's Cut |
| 13. Amenities Block | 87. Stone steps to Water Police Precinct |
| 14. Office and Amenities Building | 88. Water Police Precinct Paths |
| 15. Queen's Magazine | 89. Bridge over Barney's Cut |
| 15a. Southern Addition to Queen's Magazine | 90. Incinerator |
| 15b. Tennis Court (Former) | 91. Sandstone Footings |
| 15c. Tennis shed site | 92. Stone Structure on shore |
| 16. Scow Shed | 93. Artefact Scatter |
| 19. Coopersage | 94. Privy & Outbuildings Site |
| 20. Stores Building (2nd Coopersage) | 95. Remnant kiln |
| 21. Colonial Magazine | 96. Winch House |
| 22. Timber Store / Amenities | 97. Wharf archaeological site South Depot |
| 23a. Boat Shed | 98. Wharf archaeological site - Water Police |
| 24. Substation | 99. Gardens & garden features |
| 25. Barracks | 100. Site of Timber steps |
| 25a. Privy and Laundry attached to Barracks | 101. Stone steps |
| 26. Kitchen Cottage | 102. Benching of residential precinct |
| 26a. Kitchen Cottage Alcove | 103. Stone Seat |
| 29. 150 Ton Slipway | 104. Plaque for Bennett Memorial Grove |
| 30. 500 Ton Slipway | 105. Memorial Guardsman Burgessson |
| 38a. Residential Cottage No. 1 | 106. Memorial RHS |
| 38b. Residential Cottage No. 2 | 107. Remains of former mess room floor slab |
| 38c. Residential Cottage No. 3 | 108. Path - stone flagged |
| 38d. Residential Cottage No. 4 | 109. Site of former building |
| 39. Harbour Master's Residence | 110a. Rock cut steps |
| 45. Port Emergency Services Building | 110b. Rock cut steps |
| 46a. Cottage | 110c. Rock Cut |
| 46b. Barracks | 111. Possible drainage cuts |
| 47. Water Police Station | 112. Quarried face above slipways |
| 48. Dredge Office | 113. 1925 Slipway |
| 49. Gear Shed | 114. Shed |
| 50. Fire Fighting Building | 115. Stone retaining wall & steps |
| 51. Wharf Mooring Floating Plant | 116. Path |
| 52. Eastern Wharf | 117. Rock Cuts |
| 52a. SW Section of Eastern Wharf | 118. Eroding Shoreline |
| 52b. NE Section of Eastern Wharf | 119. Foreshore Fill Site |
| 54a. Ferry Wharf | 120. Jib Crane |
| 54b. Small Boat Enclosure | 121. Jib Crane |
| 54c. Berthing Wharf | 122. Remains of Rail Tracks |
| 55a. NE Section of the Northern Wharf | 123. Remains of Signal Mast & Guys |
| 55b. NW Section of the Northern Wharf | 124. Jib Crane Base |
| 56. Building Removed (not shown) | 125. Fire Brigade Gallows |
| 57. Corrugated Iron Shed | 126. Building Slab |
| 58. Amenities Block | 127. Waiting Shed |
| 59. Metal Demountable | 128. Light Bracket |
| 60. Path from Shipyard to Residential Precinct | 129. Navigation Markers |
| 61. Anderson's Couch | 130. Shed |
| 62. Midden | 131. 1878 Magazine site |
| 63. Lime Kiln | 132. 2 Moreton Bay Fig Trees (<i>Ficus macrophylla</i>) c. mid-1880s |
| 64. Stone Jetty 1833 | 133. 2 Moreton Bay Fig Trees (<i>Ficus macrophylla</i>) & 1 Small-leaved Fig Tree (<i>Ficus obliqua</i>) c. mid-1880s |
| 65. Stone Jetty 1925 | 134. Ombu (<i>Phytolacca dioica</i>) Date unknown |
| 66. Stone Jetty Remains 1835 | 135. Indigenous Sydney Harbour vegetation community |
| 67. Blacksmith's Shop Site | |
| 68. Shell Deposit | |
| 69. Magazine Walk | |
| Magazine Precinct Stone Retaining Wall | |
| 71. Fortified Wall | |
| 72. Magazine Precinct Quarry Face | |
| 73. Recreation Hall Site | |
| 74. Central Precinct Stone Retaining Walls | |
| 75. Timber Access Steps to Barney's Cut | |
| 76. Residence Paths | |
| 77. Quarrying Sites on Ridge | |
| 78. Residential Precinct Yard Fences | |
| 79. Reservoir | |
| | Including 2 Port Jackson Figs (<i>Ficus Rubiginosa</i>) |
| | 136. Canary Island Date Palm (<i>Phoenix canariensis</i>) c. 1930s |
| | 137. Canary Island Date Palm (<i>Phoenix canariensis</i>) (west) & Date Palm (<i>Phoenix dactylifera</i>) (east) early SHT period |
| | 138. Canary Island Date Palm (<i>Phoenix canariensis</i>), likely SHT period |
| | 139. Bougainvillea spectabilis, c. 1940's |
| | 140. Monterey Pine (<i>Pinus radiata</i>) c. 1930s |
| | 141. Coral Tree (<i>Erythrina x sykesii</i>) Interwar period |
| | 142. Prickly Pear (<i>Opuntia</i> species) |
| | 143. Frangipani (<i>Plumeria rubra</i>) c. 1948 |

Figure 5.2 Goat Island Plan identifying features of High Significance

Built Items - Dark Fuschia



LEGEND

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|---|---|
| 1. Ship Repair Workshop | 80. Path and Railing to Harbour Master's Steps |
| 1a. Addition to Ship Repair Workshop | 81a. Site of c1875 magazine and later residence |
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| 15c. Tennis shed site | 92. Stone Structure on shore |
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| 21. Colonial Magazine | 96. Winch House |
| 22. Timber Store / Amenities | 97. Wharf archaeological site South Depot |
| 23a. Boat Shed | 98. Wharf archaeological site - Water Police |
| 24. Substation | 99. Gardens & garden features |
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| 25a. Privy and Laundry attached to Barracks | 101. Stone steps |
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| 26a. Kitchen Cottage Alcove | 103. Stone Seat |
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| 38b. Residential Cottage No. 2 | 107. Remains of former mess room floor slab |
| 38c. Residential Cottage No. 3 | 108. Path - stone flagged |
| 38d. Residential Cottage No. 4 | 109. Site of former building |
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| 49. Gear Shed | 114. Shed |
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| 52a. SW Section of Eastern Wharf | 118. Eroding Shoreline |
| 52b. NE Section of Eastern Wharf | 119. Foreshore Fill Site |
| 54a. Ferry Wharf | 120. Jib Crane |
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| 73. Recreation Hall Site | |
| 74. Central Precinct Stone Retaining Walls | |
| 75. Timber Access Steps to Barney's Cut | |
| 76. Residence Paths | |
| 77. Quarrying Sites on Ridge | |
| 78. Residential Precinct Yard Fences | |
| 79. Reservoir | |

Figure 5.3 Goat Island Plan identifying features of Moderate Significance

Built Items - Dark Yellow
 Archaeological Sites and Landscape Features - Light Yellow

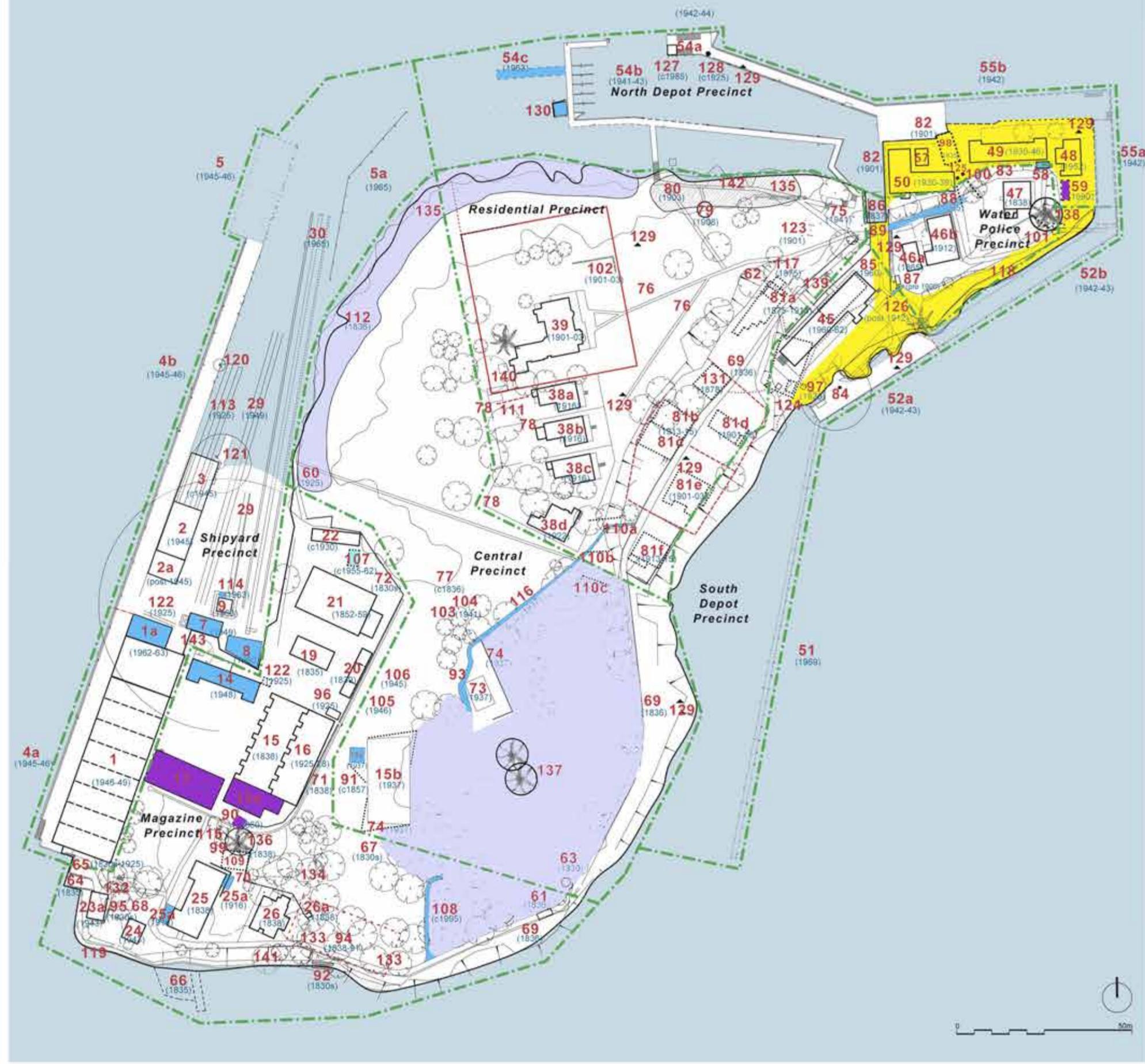


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| 15c. Tennis shed site | 92. Stone Structure on shore |
| 16. Scow Shed | 93. Artefact Scatter |
| 19. Cooperage | 94. Privy & Outbuildings Site |
| 20. Stores Building (2nd Cooperage) | 95. Remnant kiln |
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| 22. Timber Store / Amenities | 97. Wharf archaeological site South Depot |
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| 54c. Berthing Wharf | 122. Remains of Rail Tracks |
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| 55b. NW Section of the Northern Wharf | 124. Jib Crane Base |
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| 69. Magazine Walk | |
| 70. Magazine Precinct Stone Retaining Wall | Including 2 Port Jackson Figs (<i>Ficus Rubiginosa</i>) |
| 71. Fortified Wall | 136. Canary Island Date Palm (<i>Phoenix canariensis</i>) c. 1930s |
| 72. Magazine Precinct Quarry Face | 137. Canary Island Date Palm (<i>Phoenix canariensis</i>) (west) & Date Palm (<i>Phoenix dactylifera</i>) (east) early SHT period |
| 73. Recreation Hall Site | 138. Canary Island Date Palm (<i>Phoenix canariensis</i>), likely SHT period |
| 74. Central Precinct Stone Retaining Walls | 139. Bougainvillea <i>spectabilis</i> , c. 1940's |
| 75. Timber Access Steps to Barney's Cut | 140. Monterey Pine (<i>Pinus radiata</i>) c. 1930s |
| 76. Residence Paths | 141. Coral Tree (<i>Erythrina x sykesii</i>) Interwar period |
| 77. Quarrying Sites on Ridge | 142. Prickly Pear (<i>Opuntia</i> species) |
| 78. Residential Precinct Yard Fences | 143. Frangipani (<i>Plumeria rubra</i>) c. 1948 |
| 79. Reservoir | |

Figure 5.4 Goat Island Plan identifying features of Little and Intrusive Significance

Built Items - Dark Blue
 Archaeological Sites and Landscape Features - Lilac
 Intrusive Item - Purple
 Reclaimed Land - Yellow

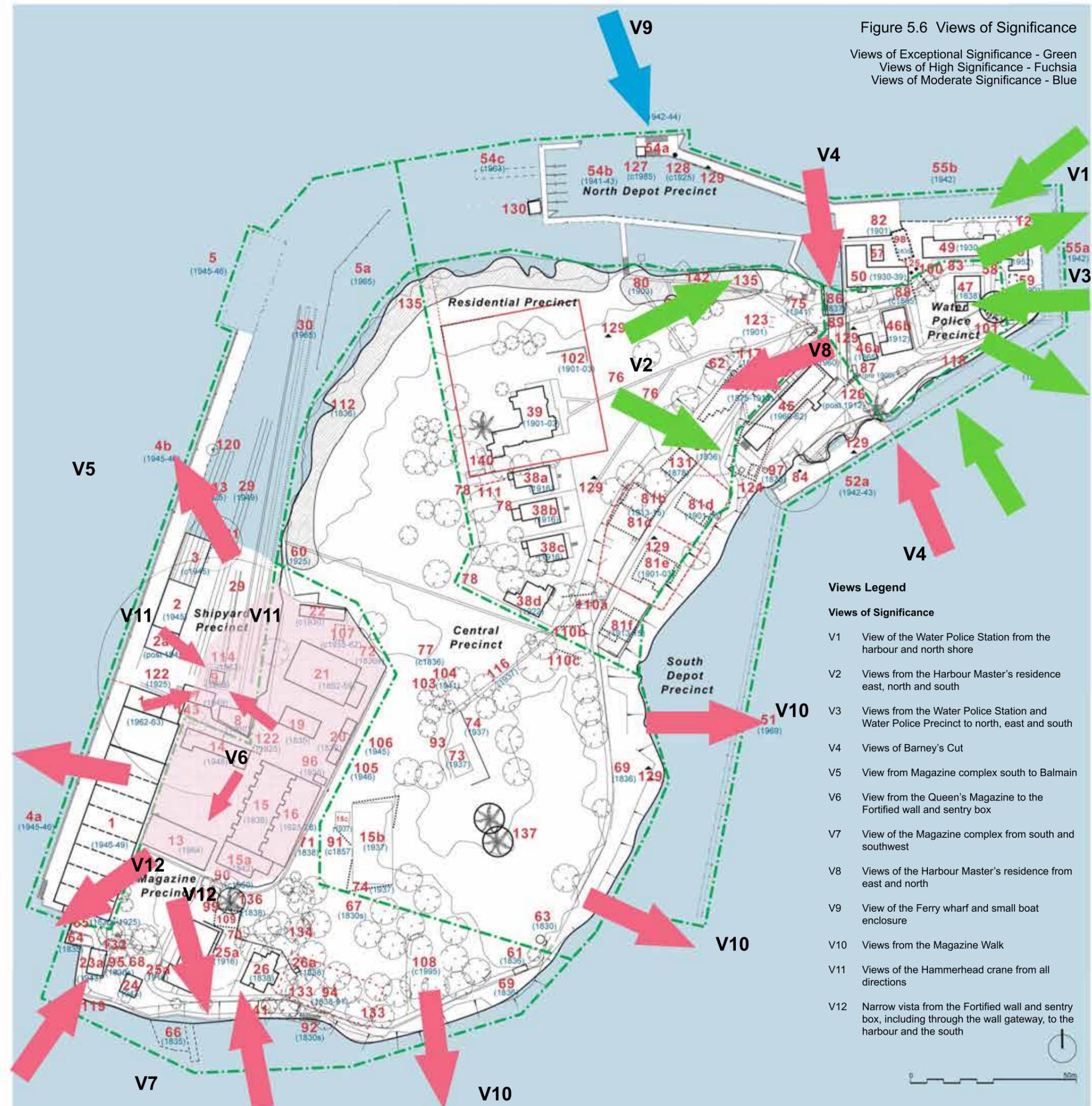


LEGEND

- | | |
|---|---|
| 1. Ship Repair Workshop | 80. Path and Railing to Harbour Master's Steps |
| 1a. Addition to Ship Repair Workshop | 81a. Site of c1875 magazine and later residence |
| 2. Repair Workshop | 81b. Site of Residential Cottage No 5 |
| 2a. Repair Workshop Extension | 81c. Site of Residential Cottage No 6 |
| 3. Slipway Workshop Buildings | 81d. Site of Residential Cottage No 7 |
| 4a. Western Section of Broadside Wharf | 81e. Site of Residential Cottage No 8 |
| 4b. Central Section of Broadside Wharf | 81f. Site of Residential Cottage No 9 |
| 5. Coal Loader at Northern End of Broadside Wharf | 82. Northern Wharf Stone Sea Wall |
| 5a. Dolphins and guide rails | 83. Northern Wharf Precinct Quarry Face |
| 7. Winch House | 84. Eastern Wharf Jib Crane |
| 8. Winch House 500 Ton | 85. Eastern Wharf Quarry Face |
| 9. Hammerhead Crane | 86. Barney's Cut |
| 13. Amenities Block | 87. Stone steps to Water Police Precinct |
| 14. Office and Amenities Building | 88. Water Police Precinct Paths |
| 15. Queen's Magazine | 89. Bridge over Barney's Cut |
| 15a. Southern Addition to Queen's Magazine | 90. Incinerator |
| 15b. Tennis Court (Former) | 91. Sandstone Footings |
| 15c. Tennis shed site | 92. Stone Structure on shore |
| 16. Scow Shed | 93. Artefact Scatter |
| 19. Coopersage | 94. Privy & Outbuildings Site |
| 20. Stores Building (2nd Coopersage) | 95. Remnant kiln |
| 21. Colonial Magazine | 96. Winch House |
| 22. Timber Store / Amenities | 97. Wharf archaeological site South Depot |
| 23a. Boat Shed | 98. Wharf archaeological site - Water Police |
| 24. Substation | 99. Gardens & garden features |
| 25. Barracks | 100. Site of Timber steps |
| 25a. Privy and Laundry attached to Barracks | 101. Stone steps |
| 26. Kitchen Cottage | 102. Benching of residential precinct |
| 26a. Kitchen Cottage Alcove | 103. Stone Seat |
| 29. 150 Ton Slipway | 104. Plaque for Bennett Memorial Grove |
| 30. 500 Ton Slipway | 105. Memorial Guardsman Burgessson |
| 38a. Residential Cottage No. 1 | 106. Memorial RHS |
| 38b. Residential Cottage No. 2 | 107. Remains of former mess room floor slab |
| 38c. Residential Cottage No. 3 | 108. Path - stone flagged |
| 38d. Residential Cottage No. 4 | 109. Site of former building |
| 39. Harbour Master's Residence | 110a. Rock cut steps |
| 45. Port Emergency Services Building | 110b. Rock cut steps |
| 46a. Cottage | 110c. Rock Cut |
| 46b. Barracks | 111. Possible drainage cuts |
| 47. Water Police Station | 112. Quarried face above slipways |
| 48. Dredge Office | 113. 1925 Slipway |
| 49. Gear Shed | 114. Shed |
| 50. Fire Fighting Building | 115. Stone retaining wall & steps |
| 51. Wharf Mooring Floating Plant | 116. Path |
| 52. Eastern Wharf | 117. Rock Cuts |
| 52a. SW Section of Eastern Wharf | 118. Eroding Shoreline |
| 52b. NE Section of Eastern Wharf | 119. Foreshore Fill Site |
| 54a. Ferry Wharf | 120. Jib Crane |
| 54b. Small Boat Enclosure | 121. Jib Crane |
| 54c. Berthing Wharf | 122. Remains of Rail Tracks |
| 55a. NE Section of the Northern Wharf | 123. Remains of Signal Mast & Guys |
| 55b. NW Section of the Northern Wharf | 124. Jib Crane Base |
| 56. Building Removed (not shown) | 125. Fire Brigade Gallows |
| 57. Corrugated Iron Shed | 126. Building Slab |
| 58. Amenities Block | 127. Waiting Shed |
| 59. Metal Demountable | 128. Light Bracket |
| 60. Path from Shipyard to Residential Precinct | 129. Navigation Markers |
| 61. Anderson's Couch | 130. Shed |
| 62. Midden | 131. 1878 Magazine site |
| 63. Lime Kiln | 132. 2 Moreton Bay Fig Trees (<i>Ficus macrophylla</i>) c. mid-1880s |
| 64. Stone Jetty 1833 | 133. 2 Moreton Bay Fig Trees (<i>Ficus macrophylla</i>) & 1 Small-leaved Fig Tree (<i>Ficus obliqua</i>) c. mid-1880s |
| 65. Stone Jetty 1925 | 134. Ombu (<i>Phytolacca dioica</i>) Date unknown |
| 66. Stone Jetty Remains 1835 | 135. Indigenous Sydney Harbour vegetation community |
| 67. Blacksmith's Shop Site | |
| 68. Shell Deposit | |
| 69. Magazine Walk | |
| 70. Magazine Precinct Stone Retaining Wall | |
| 71. Fortified Wall | |
| 72. Magazine Precinct Quarry Face | |
| 73. Recreation Hall Site | |
| 74. Central Precinct Stone Retaining Walls | |
| 75. Timber Access Steps to Barney's Cut | |
| 76. Residence Paths | |
| 77. Quarrying Sites on Ridge | |
| 78. Residential Precinct Yard Fences | |
| 79. Reservoir | |
| | Including 2 Port Jackson Figs (<i>Ficus Rubiginosa</i>) |
| | 136. Canary Island Date Palm (<i>Phoenix canariensis</i>) c. 1930s |
| | 137. Canary Island Date Palm (<i>Phoenix canariensis</i>) (west) & Date Palm (<i>Phoenix dactylifera</i>) (east) early SHT period |
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| | 139. Bougainvillea <i>spectabilis</i> , c. 1940's |
| | 140. Monterey Pine (<i>Pinus radiata</i>) c. 1930s |
| | 141. Coral Tree (<i>Erythrina x sykesii</i>) Interwar period |
| | 142. Prickly Pear (<i>Opuntia</i> species) |
| | 143. Frangipani (<i>Plumeria rubra</i>) c. 1948 |

Figure 5.6 Views of Significance

Views of Exceptional Significance - Green
 Views of High Significance - Fuchsia
 Views of Moderate Significance - Blue



- Views Legend**
- Views of Significance**
- V1 View of the Water Police Station from the harbour and north shore
 - V2 Views from the Harbour Master's residence east, north and south
 - V3 Views from the Water Police Station and Water Police Precinct to north, east and south
 - V4 Views of Barney's Cut
 - V5 View from Magazine complex south to Balmain
 - V6 View from the Queen's Magazine to the Fortified wall and sentry box
 - V7 View of the Magazine complex from south and southwest
 - V8 Views of the Harbour Master's residence from east and north
 - V9 View of the Ferry wharf and small boat enclosure
 - V10 Views from the Magazine Walk
 - V11 Views of the Hammerhead crane from all directions
 - V12 Narrow vista from the Fortified wall and sentry box, including through the wall gateway, to the harbour and the south

Table 5.1 Goat Island Graded levels of significance

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
Magazine Precinct				
13	1964	Amenities Block	Little	The 1964 amenities building is one of the last buildings to be added to the precinct. It indicates a pattern of use of the precinct that ignored the historic value of the magazine period buildings and elements by placing structures and elements randomly and in close proximity to elements that are now considered to be of high heritage significance. It is not a building that has heritage value but does form part of the Maritime phase of use of the area.
14	1948	Office and Amenities Building	Little	This was the major amenities building and shipyard office built shortly after the major reconstruction of the precinct. It is poorly located in relation to the magazine buildings however it is an important element in the shipyard and is a good example of immediate post war construction and design.
15	1836	Queen's Magazine	Exceptional	An exceptional building for design, construction and the quality of work. It is one of the earliest and most significant examples of a powder magazine complex in Australia. It forms part of an outstanding collection of buildings all built at the same time within their original setting.
15a	1942	Southern Addition to Queen's Magazine	Intrusive	A modest and practical addition to create additional stores space wedged between the magazine and the perimeter wall, its basic form and construction are not of significance, it has little value as part of the overall upgrade of the shipyard in the 1940s by the MSB. It is an intrusive element that detracts from the significance of the magazine building but provides important physical protection for the southern elevation of the Queens Magazine.
V5	1836 on	View from the Magazine complex south to Balmain and west	High	This is a well documented historic view, now largely obscured by the Ship Repair Workshop and other shipyard buildings, including the Office and Amenities Building (14).
V6	1836 on	View from the Queen's Magazine (15) to the Fortified Wall and Sentry Box (71)	High	This historic view, shown in a 1870s c. photograph, was unobstructed until 1880, when a single storey timber explosives magazine was built against the north side of the wall. By 1964 the two storey Amenities Building (13) had been constructed, completely obscuring this historic view. The view is capable of restoration through removal or partial removal of the Amenities building (13).
16	1925-28	Scow Shed	Moderate	An industrial shed of some significance for its robust construction, form and technology. Built as an infill between building and quarry face it is the major building element remaining from the 1925-26 shipyard construction

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
19	1835	Cooperage	Exceptional	An exceptional building for design, construction and the quality of work. It is one of the Magazine complex buildings constructed by 1836 and one of the earliest and most significant examples of a cooperage in Australia. It forms part of the outstanding Magazine complex.
20	1839	Stores Building (2 nd cooperage)	Exceptional	Built slightly after the magazine and also used as a cooperage it is an unusual and well built structure that forms part of the exceptionally significant and rare magazine group.
21	1852-59	Colonial Magazine	High	The second magazine, built in stages originally to the design of Edmund Blacket, followed the design of other magazines from the period. Its extensive alterations for shipyard use have reduced its colonial significance, however the form of the building and its massing on the site provide excellent evidence of the earlier form.
22	1930c	Amenities Bldg	Moderate	A building from the first phase of shipyard development built by the Harbour Trust, used as amenities and store area it represents this phase of work and with the scow shed is the only surviving element in this precinct from that phase.
23a	1943	Boat Shed	Moderate	A small-scale boat shed of modest significance that has more recently had its rails removed due to erosion. Cut into the embankment and sited across earlier sites it has moderate significance as a representative example of its period and type.
24	1943	Substation	Moderate	This is an unusual building in that it has been intentionally designed to complement the immediately adjacent barracks building with its referential use of recessed panels and its near Georgian proportions and form. It is unusual to see a response such as this from this period of development where utilitarian forms predominate. Irrespective of this the building has a considerable impact on the setting of the barracks. It forms part of the shipyard layer from the mid 1940 period that now characterises the southwest end of the Island.
25	1838	Barracks	Exceptional	An exceptional example of a barracks building from the 1830s related to the military presence on the Island to guard the magazine. While altered it retains most of its form and much of its detail. It forms part of an exceptional collection of colonial buildings.
25a	1924	Sites of privy and laundry additions to barracks	Little	Archaeological sites related to the SHT conversion of the Colonial Barracks into two residences (SHT residences 15 and 16).

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
26	1838	Kitchen Cottage	Exceptional	Although altered for later residential use associated with maritime activity the building is an essential and identifiable part of the magazine complex. The later additions are of moderate significance.
26a	1838	Kitchen Cottage alcove	High	Likely to be associated with the Colonial period of the Kitchen Cottage and very possibly functioned as a cool room or a storeroom.
V7	1838	View of the Magazine Complex (magazine, barracks and kitchen) from the south and southwest	High	The magazine complex as viewed from Balmain was the subject of early-mid 19th century paintings, etchings and engravings. The view from the southwest is largely obscured by the Ship Repair Workshop (1). The views from the south are largely unobscured but now include a substation (24).
V10	1837 on	Views from the Magazine Walk (69)	High	The views from the Magazine Walk are of High historical significance as this main linking pathway on the Island affords magnificent views along its length of Sydney Harbour to the south, east and north, including views of Balmain, Darling Harbour, the City skyline, Millers Point, the Harbour Bridge and Luna Park.
61	1836	Anderson's Couch	Exceptional	A unique structure anecdotally associated with the punishment of convict Charles Anderson.
64	1835c	Stone Jetty	Exceptional	The stone jetty on the southwest side of the Island is the earliest surviving jetty associated with the early Colonial use of the place. It has the appearance of having suffered some damage in the past as the top courses of massive sandstone blocks have been displaced and re-placed. It has been partially built over by the 1925 jetty.
65	1830s - 1925	Stone Jetty	Moderate	This structure is overlaid on the colonial slipway (of exceptional significance) possibly using recovered stonework. It is of moderate significance as part of the general reclamation and alteration of the foreshore for the shipyard.
66	1835	Stone Jetty Remains	High	Now submerged and in poor structural condition, this feature still retains a high degree of interpretability and has high aesthetic value. The stone jetty remains are also an essential component to early accessibility of the place.
67	1830s	Blacksmith's Shop Site	High	The blacksmith's workshop demonstrates the self-sufficiency of the place in constructing the Colonial and Government Magazine. Further physical investigation is required to ascertain the precise function of the site. Previous investigations noted that evidence of a forge exists and the site retains a high degree of integrity, however this was not noted during the current investigation as the site is heavily overgrown with vegetation.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
68	Pre 1830	Shell deposit	Moderate	A remnant shell deposit now within the root system of a large <i>ficus</i> tree and associated with the adjacent remnant lime kiln (95)
69	1836	Magazine Walk	High	The original alignment of the path that connected the two ends of the Island dating from the 1830 period. Although reworked and altered it connects the lime kiln, Anderson's couch and the later magazine buildings. The finish of the walk is not significant but rather the alignment around the shoreline.
70	1838	Stone Retaining Walls	High	These elements are part of the first magazine construction and retained the embankment behind the barracks and kitchen buildings. They provide example examples of early wall construction and form part of the exceptional magazine grouping.
71	1836-1838	Fortified Wall	Exceptional	An early, rare (within NSW) and intact fortified wall constructed to enable a garrison to guard and protect the Queen's Magazine. The wall contains a physical in-situ record of the military garrisons of Goat Island in the form of graffiti, unique within Australia.
V12	1836 on	Narrow vista from the Fortified wall + sentry box (71), including view through the wall gateway, to the harbour	High	This narrow vista is one of the few remaining views from the original (well documented) visual connection between the Magazine complex and the harbour, now largely cut off by the Ship Repair Workshop (1). While now a modest view, this is of high historical significance.
72	1830s	Quarry Face	Exceptional	The quarry face and platform are indicative of the massive works programs undertaken by the government for the storage of gunpowder that was only possible at such a scale due to convict labour.
90	1960c	Incinerator	Intrusive	The incinerator is an incidental element in the precinct that does not demonstrate significant values.
92	1830s	Archaeological Site - Stone structure on store	High	The remains of a stone structure on the shoreline near the kitchen is interesting for the complete lack of plan or documentary evidence. It is possibly associated with the privies and outbuildings at the rear of the kitchen.
94	1838c	Privy and Laundry site	High	The extensively quarried rock face to the south of the kitchen is the likely location of several phases of privies and other out buildings servicing the barracks and the kitchen
95	1830c	Archaeological Site - Remnant kiln remains	High	The partial remains of a stone cylinder structure close to the magazine suggest the construction of lime kilns in several locations around the site. This and the other complete kiln are rare surviving examples of what was once a common technology.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
96	1925	Winch House	Moderate	A modest structure housing the winch that operated the former rail carts that moved goods around the shipyard.
107	1955-62	Remains of former mess room floor slab	Little	This is a minor element within a very significant precinct that principally demonstrates the location of a former building. It has little significance in relation to the setting and adjacent elements.
109	1838c	Site of former building	High	An archaeological site with potential for further research.
115	1838c	Stone wall and steps	High	A remnant element from the first magazine period of use indicating location of paths and landscape treatment around the barracks.
132	mid 1880s c.	2 Moreton Bay Fig trees	High	These fig trees have been a major feature of the southern side of the Island for over 100 years and represent one of the few remaining landscape elements from the late Colonial period.
133	mid 1880s	2 Moreton Bay Fig trees & 1 Ficus Obliqua	High	This line of 3 fig trees to the east of the Barracks Kitchen have been a major feature of the southern part of the island for over 100 years and represent one of the few remaining landscape elements from the late Colonial period.
134	1890s c.	Ombu tree	High	Mature tree to the northeast of the Barracks Kitchen. Ombu trees of this age are rare in Sydney, evocative of late Colonial period planting fashions.
136	1930s c.	Canary Island date palm (<i>Phoenix Canariensis</i>)	Moderate	A remnant early 20 th century landscape element from the Maritime period, evocative of planting fashions of the period
141	c. 1910s	Coral trees	Moderate	A remnant early 20 th century landscape element from the early Maritime period.
Shipyard Precinct				
1	1946-49	Ship Repair Workshop	High	This is a rare workshop building and a rare example of a building fronting a broadside wharf. There are no examples of this form of workshop in the harbour, although several small workshop buildings remain
1a	1962-63	Addition to Ship Repair Workshop	Little	A modest example of an addition to the shipyard building. The main attribute of the structure is its contribution to the significance of the precinct and adjacent structures.
2	1945	Repair Workshop	Moderate	A good contributory building within the shipyard precinct related to the major 1945-46 phase of construction. It forms part of the core group of buildings fronting the wharves, defining the precinct.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
2a	Post 1945	Repair workshop addition	Moderate	This is a separate building added to the end of the workshop accommodating stores and possibly relocated from elsewhere on the site. It is now the office and centre of the shipyard activity.
3	1945c	Slipway Workshop Buildings	Moderate	A modest example of an addition to the workshop building. The main attribute of the structure is its contribution to the significance of the precinct and adjacent structures.
4a	1945-46	Western Section of Broadside Wharf	High	This wharf is of highest significance to both the maritime history of the Island and as a rare example of a broadside wharf with a directly related shore building; the two elements are linked operationally and historically. It spans the history of the Harbour Trust and the MSB. It is the principal point of arrival to the Island, relates to the earliest area of development and is visually of high value.
4b	1945-46	Central Section of Broadside Wharf (partially collapsed)	High/ moderate	This wharf is also of high significance for similar reasons to wharf 4a except that for nearly all of its length it does not front a shore building. It is also a rare example of a broadside wharf related to shipyard use within the harbour. It defines the edge of the slips. It contributes to the visual value of wharf 4a and the shipyard precinct. It is assessed at both state and local significance as its principal value is now the continuity it provides with wharf 4a, this continuity can be achieved with a section of the wharf being linked to wharf 4a.
5	1945-46	Coal Loader at Northern End of Broadside Wharf (collapsed)	Moderate	This wharf is very modified with most evidence of the coal staging now removed. It is in extremely poor condition and is now principally a representative example of mid twentieth century wharf technology in the harbour.
5a	1965	Dolphins and Guide Rails	Moderate	This structure is of modest heritage value as it forms a practical and necessary element of the operation of the slips as vessels are guided away from the shore onto the slipways. It is a relatively recent structure built as part of the slipway reconstruction in the 1960's. It demonstrates the practical needs of operating large-scale maritime activity.
7	1949	Winch House 150 Ton	Little	This is a minor construction that houses equipment that is of moderate significance. The winch is integral to the operation of the slipway and has some value but is a working element that is not rare or distinctive.
8	1965	Winch House 500 Ton	Little	This is a minor construction that houses equipment that is of moderate significance. The winch is integral to the operation of the slipway and has some value but is a working element that is not rare or distinctive.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
9	1924/ 1963	Hammerhead Crane	High	A relatively rare example (one of three known in Australia) of a hammerhead crane that remains in use in a working shipyard. Of historical significance due to association with Mort's Dock and with the MSB Goat Island shipyard, and as the only item remaining from Mort's Dock which is not in a museum.
V11	1963 on	Views of the Hammerhead Crane	High	The Hammerhead Crane is a landmark structure and views of the Crane are available from the harbour foreshores in every direction (including from the north, across the island) due to the height of the crane. The crane is evocative of the Island's industrial heritage.
29	1949	150 Ton Slipway	High	A relatively rare commercial slipway in the harbour that forms part of a large commercial shipyard. It has individual significance and is an central part of the significant shipyard group.
30	1960	500 Ton Slipway	High	A rare large commercial and the largest remaining slipway in the harbour that forms part of a large commercial shipyard, it is the last slip to be constructed in the group involving extensive quarrying of the rock escarpment adjacent. It has individual significance and is a central part of the significant shipyard group.
113	1925-26	Slipway	Moderate	A rare small commercial slipway in the harbour that forms part of a large commercial shipyard, it is the earliest slip in the group and relates to SHT development, it is also covered for part of its length. It has individual significance and is an essential part of the significant shipyard group.
114	1963 c.	Shed beneath hammerhead crane	Little	This is a simple utilitarian shed associated with the relocation of the hammerhead crane to Goat Island in 1963.
120	19thC.	Jib crane (collapsed)	Moderate	An early hand-operated wharf jib crane with an unknown history, associated with the MSB operation of the shipyard.
121	1945 c.	Jib crane	Moderate	A wharf jib crane with braces associated with the Ship Repair Workshop.
122	1925-26	Remains of railway	Moderate	Track and possibly a turntable from the railway used to provide access around the first shipyard use of the magazine precinct. Significant in demonstrating the change of use and how the working shipyard uses fitted around the earlier magazine buildings. Another example is located at the nearby Cockatoo Island.
143	1948 c	Frangipani tree	Moderate	Frangipani tree associated with the 1948 Office & Amenities building is the only significant planting within the Shipyard Precinct. Evocative of mid-20 th century planting fashions.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
Central Precinct				
15b	1937	Tennis Court (Former)	Moderate	Located directly behind the wall of the magazine, the tennis court is part of a number of features on the Island that are representative of social activities that were provided for the permanent residents.
15c	1937	Tennis shed site	Little	Does not retain evidence of a structure on the site.
60	1925	Path from Shipyard to Residential Precinct	Moderate	The remains of a major access path for workers from the shipyard into the core of the Island, now overgrown and dangerous it represents movement patterns across the Island that superseded the magazine walk as a direct way for workers to move about the Island.
63	1830s	Lime Kiln	Exceptional	The identified lime kiln is an early feature of the Island and was essential to the early construction phase of the place. It displays representative values as it is an intermittent cylindrical shaft kiln and is in very good condition, showing obvious signs of heat stress and thus its original function. The kiln is an integral feature of the Island and has the ability to demonstrate the convict and colonial use of the place.
69	1836	Magazine Walk	High	The original alignment of the path that connected the two ends of the Island dating to the 1830 period. Although reworked and altered it connects the lime kiln, Anderson's couch and the later magazine buildings.
73	1937	Recreation Hall Site	Moderate	The recreation hall is representative of the mixture of work and social activities that took place on the Island and its importance to the residents and those visitors from the mainland.
74	1937	Stone Retaining Walls	Moderate	A series of walls and embankments to retain platforms for buildings and the tennis court that are evidence of later benching on the Island.
77	1830c	Quarrying	Moderate	Evidence across the ridgeline of quarrying, probably related to the first quarrying where the land was cleared for the main magazine quarry. Significant as part of the broad quarrying across the Island.
91	1857c	Archaeological Site – sandstone footings	High	Photographic and documentary evidence indicate that this is not the site of Gunner Davis' cottage (though it was identified as such in previous reports). However these sandstone footings are from the Colonial period and the general area has been documented as the site of other Colonial period structures, such as the "house on the hill".

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
93	1838c	Artefact Scatter	High	Artefacts eroding from the area adjacent to a possible location of Gunner Davis cottage have the potential to reveal information about products and materials available to those employed in defence of the Island prior to the 1900. The artefacts in the scatter appear to date between 1845 and 1900 and include a pipe stem, flint and ceramic sherds.
103	1941	Seat	Moderate	A recent memorial erected towards the end of MSB use of the Island.
104	1941	Plaque for Bennett Memorial Grove	Moderate	A recent memorial erected towards the end of MSB use of the Island.
105	1946	Memorial Gunner Burgesson	Moderate	A recent memorial erected towards the end of MSB use of the Island.
106	1945	Memorial RAHS	Little	A recent memorial erected towards the end of MSB use of the Island.
108	1995c	Paths	Little	Access paths that were created during the 1940s and relaid recently.
110 c	nd	Archaeological site – rock cut	Moderate	Function and date unknown. Moderate significance is attributed, as it is likely to be evidence of early quarrying or related to a structure, now removed. Very overgrown with vegetation, visual inspection was limited.
112	1836+	Quarry face	High	Shows evidence of early quarrying including holes for vertical posts. The lower section of the rock face has been removed using modern quarrying techniques thus quarry marks, if they existed lower down, have been removed.
116	1937 c	Path through central precinct	Little	This c1937 path has recently been resurfaced.
135	Pre 1830	Remnant early vegetation	Moderate	Important remnant indigenous vegetation community on the Island.
xx	From 1830s	Major space over central Island summit	High	An analysis of archival photography and pictorial evidence indicates that for much of the 19 th and 20 th centuries the main summit area of the Island has been open or with only sparse vegetation. With a more relaxed maintenance approach from the 1990s this area has become much more vegetated with a consequence loss of spatial character.
Water Police Precinct				
46a	1865	Cottage	High	The 1865 cottage, built after the water police left the Island, for an Artillery Sergeant, is a significant structure in form, detail and location. Of modest pretension it was carefully sited back from the former water police building and the two buildings sat comfortably on the small ridgeline. The building demonstrates the second phase of use of the Island with the water police station being absorbed into the magazine use and is the only building from this period to be found on the Island.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
46b	1912	Barracks	High	The barracks is a significant building in relation to the accommodation of the early fire crews, replacing a timber barracks on the opposite side of the cut. Its siting to take advantage of the cottage as kitchen and amenities area was convenient but intrusive adversely affecting the setting of both the cottage and the former water police building. It is a typical early twentieth century austere government building similar to many found in government agencies and is of modest significance as a building. Its use and the importance of the fire crews however gives the building added significance.
47	1838	Water Police Station	Exceptional	The water police building is one of several outstanding early structures on the Island. Built in splendid isolation on the tip of the knoll, separated from the convict areas and magazine by the cut and with commanding views down the harbour it is one of the very few maritime buildings from the colonial or in fact later eighteenth century that retain a direct and observable connection to the water. Designed by Mortimer Lewis, the prominent colonial architect with skill and finesse it is a rare and important colonial building. It retains a high level of intactness despite changes made over many years.
V1	1838 on	View of the Water Police Station (47) from the harbour and north shore	Exceptional	The Water Police Station is a prominent element in 19th century paintings, etchings and photographs of the Island. Early images of the Island emphasise the architectural qualities and the isolated nature of the Station. This view is partially affected by the Dredge Office (48) and a Telstra 'submarine cable' sign.
V3	1838 on	Views from the Water Police Station (47) and Water Police Precinct to the north east and south	Exceptional	The current historically significant views from the Water Police Station and Precinct are of exceptional significance as the Water Police Station was sited on a rocky rise to command extensive views of Sydney Harbour to the east, north and south, which relate to the use of the building. A pre-1865 photo of the Island from the North Shore shows the Water Police Station with its flag telegraph mast (no longer extant), which originally provided visual communication with Garden Island.
86	1837	Barney's Cut	Exceptional	Barney's cut is a convict built channel of exceptional significance. It is a major defining element of the Island and although now partially infilled provides very clear physical evidence of the separation between water police and magazine and the two controls of the Island in its early years.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
V4	1837 on	Views of Barney's Cut	High	Views of Barney's Cut appear in 19th century paintings, etchings and photographs. Early images of the Island emphasise the prominence of the Water Police 'island' created by the Cut. The view provides evidence of the interactions between the Imperial and Colonial governments in relation to use of Goat Island. This view is currently obscured by wharfage and land reclamation.
87	Pre 1900	Stone steps to Water Police Precinct	High/ moderate	Although the date is undetermined, the steps appear to be associated with the Water Police phase
88	1865c	Water Police Precinct Paths	Moderate	The paths, which most likely follow the routes of earlier paths, are of relatively recent finish. The finishes are of modest value only, there is potential for other layers of paths to exist beneath the current finish and the locations of the paths are of moderate significance
89	1865+	Bridge over Barney's Cut	Little	The current bridge over Barney's Cut appears to be built in the last 30 years. It is likely that there have been a number of bridges over time with clear evidence of an earlier bridge being located at a much lower level. The wall has been infilled and raised reflecting this. The bridge itself is not significant but bridging the cut is very significant and marked a change in use following the decamping of the water police from the Island.
100	nd	Site of timber steps	Moderate	Although the date is undetermined, the steps appear to be associated with the Water Police phase as this location directly links the Water Police with the wharf below (98). Only rock cuts survive, which retain high interpretive value.
101	nd	Stone steps	High/ moderate	Also associated with the Water Police phase of the site as the steps provide pedestrian access from the front of the building to the eastern side of the Island and down to the pathway, which also exhibits evidence of rock face modifications. The steps are in good to fair condition with high interpretive value.
126	1912 c	Amenities slab	Little	Archaeological site of former outbuilding described as an amenities building from the Sydney Harbour Trust phase.
129	nd	Navigation markers	Moderate	Recent navigational markers that are changed from time to time to suit current operations but which continue a tradition of markers used from around 1900 on the Island. Significant as indicating maritime uses.
138	1901-1936	Canary Island date palm	Moderate	A mature palm associated with the SHT use of the Water Police Station, evocative of early 20 th century planting fashions.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
Residential Precinct				
38a	1916	Residential Cottage No. 1	High	The cottages represent the major occupation of the northern end of the Island by the fire brigade crews who were required to be on call. Built in several phases and in association with barracks for single men, they provided the core of the Island in terms of community and social life with later additions of recreation facilities to support the 60 or so people who lived on the Island at peak use. This cottage forms part of a group of buildings including the barracks built at this time.
38b	1916	Residential Cottage No. 2	High	See 38a
38c	1916	Residential Cottage No. 3	High	See 38a
38d	1922	Residential Cottage No. 4	High	See 38a
39	1901-03	Harbour Master's Residence	Exceptional	The building is of exceptional significance as the most substantial, the most intact and the most impressive such residence built in Australia. It retains its setting, its relationship to other related buildings and was the first major construction related to the occupation of the Island for maritime use.
V2	1901 on	Views from the Harbour Master's Residence east, north and south	Exceptional	The siting of the Harbour Masters Residence provided the occupants with commanding and uninterrupted views of Sydney Harbour. Views of Millers Point, the city and north shore are also available from the front (east) elevation of the residence – the verandah, front rooms, first floor rooms and viewing tower. From 1932 this vista has included the Sydney Harbour Bridge.
V8	1901 on	Views of the Harbour Master's residence from the east and north	High	Historically, the Harbour Master's Residence was a prominent element on the Island, and its substantial proportions and fashionable design advertised the presence and status of the Sydney Harbour Trust on the Island from 1901. While still visible (particularly the viewing tower), the historical views of the Harbour Master's residence from the east and north have been dramatically obscured since the 1980s due to increased vegetation on the Island. The removal of obscuring vegetation would enable the restoration of this significant view.
62	Pre 1830	Shell Midden	Moderate	Identified in previous studies as an Aboriginal shell midden, however the site is now overgrown. Significance not high due to the shell midden not being intact, however this is the only physical reminder of Aboriginal use of the island.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
69	1836	Magazine Walk	High	The original alignment of the path that connected the two ends of the Island dating to the 1830 period. Although reworked and altered, it connects the colonial Barracks and Kitchen area with the lime kiln, Anderson's couch and the Water Police precinct.
75	1941	Timber Access Steps to Barney's Cut	Moderate	These more correctly form part of the wharf installation but are of separate construction and located within this precinct. Their location and function is significant as the major access point for staff to the northern wharves.
76	1901/ 1960+	Residential Paths	Moderate	Of minor significance as part of the general site infrastructure.
78	1916+	Residential Precinct Yard Fences	Moderate	Of minor significance as part of the general site infrastructure.
79	1908	20,000 gal reservoir	Moderate	While all the houses on the Island have metal water tanks, the construction of a large capacity reservoir was considered necessary for the various activities being undertaken on the Island and is representative of water management on the Island at the turn of the last century.
80	1903	Path + Railing to Harbour Master's Steps	Moderate	Part of the general landscaping and infrastructure of the precinct.
81a 117	1875c	Site of c1875 magazine and later residence	Moderate	The site of the 1875 magazine and a later Sydney Harbour Trust residence; archaeologically, the site may retain the ability to demonstrate this, however the 1875 archaeological resource is likely to have been disturbed by the construction of the residence in the early 20 th century. It is located in an archaeologically interesting section of the Island as there are a number of modifications to the landscape around it including evidence of quarrying, or stone steps and retaining walls. Although constructed during a period when tongue and groove flooring was common, the building site may contain yard deposits and a privy related to its residential phase. Other significant elements that may survive archaeologically would relate to the magazine phase.
81b	1913-15	Site of Residential Cottage No 5	Moderate	Retains a moderate degree of significance archaeologically. Part of a duplex with 81c and represents the Maritime period, well understood archaeologically. The site, including 81c, demonstrates a degree of aesthetic value as some elements such as stairs, a possible laundry floor and evidence of a lean-to against rear rock face survive. In addition, the benches that the cottages were built upon can be interpreted and demonstrate the location of the former buildings.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
81c	1913-15	Site of Residential Cottage No 6	Moderate	See 81b
81d	1901-03	Site of Residential Cottage No 7	Moderate	See 81b
81e	1901-03	Site of Residential Cottage No 8	Moderate	A possible laundry floor and evidence of a lean-to against rear rock face survive. In addition, the benches that the cottages were built on have a high level of interpretability and demonstrate the location of the former buildings.
81f	1913-15	Site of Residential Cottage No 9	Moderate	See 81b
99	1916+	Residential Gardens and features	Moderate	Of minor significance as part of the general site infrastructure.
102	1903c	Residential Precinct Benched Lawns	Moderate	Of minor significance as part of the general site infrastructure.
110a	nd	Archaeological site – rock cut steps	Moderate	Function and date unknown. The rock cut steps are small and rudely cut, probably providing pedestrian access from the lower level of the Island up the steep bedrock towards the ridgeline.
110b	nd	Archaeological site – rock cut steps	Moderate	Function and date unknown. The rock cut steps are small and rudely cut, probably providing pedestrian access from the lower level of the Island up the steep bedrock towards the ridgeline.
111	1901	Archaeological site – possible drainage cuts	Moderate	May be associated with the Harbour Master's Residence. Evidence of early residential development.
123	1901-03	Signal Mast remains	High	Remnant elements from what appears to be the first signal mast used for signalling to boats on the harbour and probably constructed around 1901. Significant in demonstrating patterns of use and communication during the early maritime uses of the Island.
129	1970s-1980s	Navigation markers	Moderate	Functional late 20 th century navigation markers
131	1878	Site of 1878 explosives magazine	High	An archaeological site of high significance, with potential to reveal information on late 19 th century explosives technology
135	Pre 1830 and continuous	Remnant indigenous vegetation community	Moderate	Important remnant indigenous vegetation community on the Island, a rare remnant for the heavily altered Sydney Harbour islands (only Spectacle and Clark Islands also retaining some indigenous vegetation).

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
139	1940 c	Bougainvillea	Moderate	A remnant planting from the 1940s or earlier, evocative of planting fashions during the Maritime period
140	1930s c	Monterey Pine	Moderate	A significant planting associated with the Harbour Masters Residence
142	1920s c	Prickly Pear	Little	This is an identified weed species, it is a remnant cultural planting that should be removed even though it has some significance.
xx	Post 1940s	Fences to public areas	Little	Steel and tube fencing from the mid 20 th century in varying stages of deterioration, much of it overgrown with vegetation.
North Depot Precinct				
48	1952	Dredge Office	Moderate	This is a modest building related to one of the major activities of the MSB that operated from the Island. The building is a typical and non-distinctive public works building using utilitarian materials in the post war period. It is located in a visually important location at the tip of the Island.
49	1930-46	Gear Shed	Moderate	Built as a workshop building and later used as a gear shed, this is a simple unpretentious shed used in conjunction with the broadside wharves. Maritime Services Board historical photographs reveal that the central section of the shed is c. 1930, extended to east and west ends, reclad and re-roofed in 1946. Its principal values derive from its role as part of the northern wharf group and as part of the small-scale infrastructure from which much of the MSB and Trust operated. to east and west ends, reclad and re-roofed in 1946. Its principal values derive from its role as part of the northern wharf group and as part of the small-scale infrastructure from which much of the MSB and Trust operated.
50	1943	Fire Fighting Building	Moderate	Built as a workshop building for the MSB fire brigade, this is an industrial shed, of moderate significance due to its strong historical links to the MSB fire fighting operations on the island in the mid to late 20th century.
54a	1942-44	Ferry Wharf	High	This is the second alignment of this wharf, placing the end of the wharf in deep water presumably to allow for larger vessels to berth. It serves two functions: as part of the small boat pens and as a point of arrival and departure, although not the principal arrival point. It is significant as part of the boat pens, for its visual form along the northern edge of the Island but is not otherwise distinctive in detail or form.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
54b	1941-43	Small Boat Enclosure	High	This group of wharves have high significance as a rare example of a small boat enclosure in the Harbour that demonstrates past practices for controlling harbour shipping. The range of elements contributes to the understanding of the needs of access and mooring. The structures have visual value, particularly when viewed from Balls Head and the main harbour channel.
V9	1941 on	View of the Ferry Wharf and Small Boat Enclosure	Moderate	This view from the west and north is considered to be of high historical significance as these wharves and the small boat enclosure are a distinctive element of the northern side of the Island, evocative of mid 20 th century maritime activities at the Island.
54c	1963	Berthing Wharf (removed)	Little	This was a remnant element that has now collapsed and which had only very modest value for its evidence of former wharf layout.
55a	1942	NE Section of the Northern Wharf (removed)	Moderate	This was the alignment (but not construction) of one of the early wharves on the north side of the Island relating to the Harbour Trust development and provides a frontage to the miscellaneous stores and workshop buildings in this area. It linked with the ferry wharf and provided a visual setting for this part of the Island. The western end of the wharf that adjoined the ferry wharf was the most operationally, visually and historically important part of the structure noting that the eastern end was an addition to the earlier wharf.
55b	1942	Northern Broadside Wharf (partially removed)	Moderate	This was the last section of wharf to be built at this northern side of the island. Later concrete decking was removed, and recently the structure dismantled due to its very poor condition.
56	nd	MSB B456 Building (removed during study)	Moderate	A small portable building that appears in various photographs in a number of locations. It demonstrates changes that have taken place over time as the operation of the Island has changed.
57	1950c	Corrugated Iron Shed	Moderate	A small shed added to the fire brigade area for additional storage and workshop facility. It forms an integral part of the small complex used by the fire brigade on the Island.
58	1970c	Amenities Block	Little	This is a very minor structure not visible from the water that was rebuilt in the 1970's on the site of an earlier facility. The building itself has no intrinsic heritage value but makes a modest contribution to the precinct.
59	1990+	Metal Demountable (removed during study)	Intrusive	This was a relatively recent addition to the area and detracted from the setting and prominence of the northern point. It had no heritage value.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
82	1901	Northern Wharf Stone Sea Wall	High	This section of stone sea wall represents the first works undertaken by the Harbour Trust to establish an operating base on the Island and extended the earlier stone wharf as the edge for the first timber wharves. It remains relatively unchanged and its irregular form demonstrates the early configuration of buildings and elements along the waterfront.
83	1901+	Northern Wharf Precinct Quarry Face	Moderate	This area was most likely quarried in the 1830s and was reworked around 1901 to provide for the levelled platform for buildings related to the Trust's workshop and facilities. This was the major wharf until 1911 when the eastern wharfs were added and remained the workshop wharf until 1926 with the shipyard development.
98	1835	Wharf archaeological site	High	This site has potential to reveal the first wharf in the area related to the water police use. It appears that the current sea wall is the outer face of this wharf which gives it very high significance,
125	1920s	Fire hose gallows	Moderate	This is a remnant element in poor condition that demonstrates the usage of the area for the fire brigade and their need of equipment storage.
127	1945c	Waiting Shed	Moderate	This is a modest building related to the use of the wharf as the first and principle access point of the Island. The building demonstrates a pattern of use and is a fine small Federation style structure.
128	1920c	Light bracket	Moderate	This is a remnant element from the harbour trust period that has been re-used on the 1945 wharf, and which although no longer in use remains in situ. It demonstrates earlier forms of technology used on the Island.
129	1970s-1980s	Navigation Markers	Moderate	Recent navigational markers that are changed from time to time to suit current operations but which continue a tradition of markers used from around 1900 on the Island. Significant as indicating maritime uses.
South Depot Precinct				
45	1960-62	Port Emergency Services Building	Moderate	This is one of the last buildings to be constructed on the Island and was the third barracks and facilities building for fire crews as well as the earlier provision of residences for the crews and their families. It is one of the largest buildings on the Island and could be considered in some ways to be visually intrusive on the generally smaller scale of the northern end of the Island. It however is significant as part of a long tradition of buildings to accommodate the fire services that operated from the Island and which occupied much of the northern end of the Island.

Item No.	Date of Construction	Name	Graded level of Significance	Assessment of Significance
51	1969	Wharf Mooring Floating Plant (removed)	Moderate	This was the last wharf to be added to the Island replacing an earlier skeleton wharf structure. It had some historic value for its demonstration of the mooring requirements for the large fleet of vessels operated from the Island over the later part of the twentieth century and had some visual value although this conflicted with the views of the natural escarpment face behind the structure.
52a	1942-43	SW Section of Eastern Wharf	Moderate	This is the second major wharf in this location, built as a freestanding broadside wharf. It is of typical mid-twentieth century construction, forms part of the continuous wharfage at the northern end of the Island and has some visual value as part of the northern wharf group. It also continues to have some operational value as part of the NPWS operation of the Island.
52b	1942-43	NE Section of Eastern Wharf (removed)	Moderate	See 52a
84	1943	Eastern Wharf Jib Crane	Moderate	The remains of a jib crane that replaced an earlier crane in this location, on this occasion built on the wharf. Probably made on site, it utilised standard sections. The remains demonstrate its use .
85	1960	Eastern Wharf Quarry Face	Moderate	This is the site of the first quarry on the Island, which was extended around 1960 to allow for the construction of the Fire brigade barrack (now known as the Port Emergency Services building). It is possible that some elements of the early quarry face remain. It is also likely that much of the fill was used to recover the cut and fill the foreshore area on which the building and wharf are located. The quarry is of significance as a component of the extensive quarrying on the Island.
97	1831c	Stone jetty	High	The remains of the stone jetty associated with the first quarry on the island, under later fill. High archaeological potential.
118	Post 1914	Eroding shoreline	Little	This eastern shoreline has been progressively filled over 90+ years and this fill is now eroding severely and will in time return to the original rock shoreline.
124	1914c	Jib Crane base	Moderate	The concrete block supports for the early jib crane and one of its stiff leg supports, built over the 1830s wharf. It demonstrates layering of use of the area.
129	1970s-1980s	Navigation Markers	Moderate	Recent navigational markers that are changed from time to time to suit current operations but which continue a tradition of markers used from around 1900 on the Island. Significant as indicating maritime uses.

Landscape			
Item No.	Description & Date	Graded level of Significance	Assessment of Significance
	Topography	High	The overall topography of the island is significant, particularly when viewed from the city or the northern shore is enhanced by its location at the connection of the harbour to Darling Harbour and the Parramatta River which gives the form of the island prominence within the harbour setting.
	Natural edge of the island	High	The remaining natural edge around the island with its rocky escarpments and steep foreshore retains the character of the island as an outcrop within the harbour defined by the weathered sandstone walls. This is the most intact aspect of the natural form of the island and one of the major visual features of the island from some vantage points
135	Remnant indigenous Sydney Harbour vegetation maintains a continuum from before European contact	Moderate	<p>Persistent representatives of the earlier vegetation community appears to have remained around the north-western edges of the site and include <i>Ficus rubiginosa</i>, <i>Eucalyptus botryoides</i>, <i>Angophora costata</i>, <i>Elaeocarpus reticulatus</i>, <i>Ceratopetalum gummiferum</i>, <i>Pandorea pandorana</i> (very large vine suggesting some age), <i>Banksia integrifolia</i> and <i>Pittosporum undulatum</i>.</p> <p>Both the surviving communities and their present form on the island as re-growth have changed the visual appearance of the island over the last 20-30 years from a largely bare island with limited natural vegetation and large areas of cleared grassed areas with rocky outcrops to a reasonably heavily vegetated landscape. Much of the landscape cover is re-generation of early indigenous species with a considerable layer of introduced plantings including invasive and unwanted species. The most intact and unaffected area of natural vegetation is along the north and wester escarpment where little activity took place.</p> <p>Goat Island has potential for enhanced re-growth of indigenous species and re-establishment of some of the visual form of the island reminiscent of its pre 1830s period of occupation.</p>
Landscape - Colonial Period			
	Colonial Landscape changes to the island.	Little	<p>Apart from a number of specimen plantings identified above, the major change to the landscape that took place during the nineteenth century was the gradual removal of trees and undergrowth changing the island from a vegetated outcrop in the harbour to a largely cleared rock outcrop with extensive excavation and building works.</p> <p>In relation to the natural vegetation these changes had a negative and adverse impact and established a pattern of management of the island that persisted until the late 20thC.</p>
	Magazine Precinct landscape setting	Exceptional	The stark landscape setting around the Magazine buildings, despite intrusions from later structures, set within the quarried platform and surrounded by the fortified wall is an evocative and striking setting for the colonial structures.

Item No.	Description & Date	Graded level of Significance	Assessment of Significance
132	Fig Trees mid-1880s c.	High	The fig trees are located either side of the ascending pathway near the south-western slipway and appear to have been planted about the mid-1880s. The surface roots of the southern-most tree have enveloped a loose sandstone retaining wall such that, together, they form an interesting sculptural feature. The other tree has large areas of decay around its base and its southern buttresses have formed a wall along an old path alignment with the eastern-most root almost pointing the way to the Barracks front door. The trees have been a major feature of the southern side of the Island for about 100 years and represent one of the few tangible elements remaining on Goat Island of the late imperial period.
133	Fig Trees mid-1880s c.	High	Line of three mature fig trees (2 x <i>Ficus macrophylla</i> and 1 x <i>F. obliqua</i>) to the east of the 1838 barracks mess. The form of these trees is different to the western fig trees as a result of numerous Coral Trees (now removed) in the vicinity forcing the fig trees to grow more vertically. As with the other fig trees these have been a major feature of the character of the southern shoreline for about 100 years and may have been part of a longer line of fig trees as there is photographic evidence of another fig tree to the west of the mess.
134	Ombu Date unknown (late 19 th century to 1910s)	High	Mature <i>Phytolacca dioica</i> above and to the northeast of the 1838 barracks mess. Although common in its native South America, Ombu of this age are rare in Sydney – others of a similar size include an example at the Centennial Park eastern entry and one at Babworth House, Darling Point. This tree has oleanders growing around its base as well as much <i>Cestrum</i> .

Landscape – Maritime Period - Sydney Harbour Trust: 1901 to 1936

141	Coral Trees 1910s c.	Moderate	Once common around the southern part of the Island and around the Harbour Master's residence only a few mature trees remain. The species is susceptible to major limb failure and can be a risk to public safety. It is also prodigious at self-propagation. The remaining mature trees are along the southern shoreline and it is likely that these were planted by the 1910s by the SHT. Other large trees are north of the Harbour Master's residence with younger plants spreading into other areas of the Island (eg. east of upper central area). As a cultural planting they have moderate heritage significance, self-sown specimens are intrusive and should be removed.
139	Bougainvillea Pre-1930s?	Moderate	One mature <i>Bougainvillea spectabilis</i> remains to the immediate northwest of the 1960s Port Emergency Services building. It is most likely to have been associated with the former residence that had subsumed the position of the c.1875 magazine structure. The plant appears to have been trained onto an earlier [timber?] structure that has long since collapsed and disintegrated leaving the plant in its present curious bent form. The plant is evident in the 1943 aerial photography but is probably at least two decades older.

Item No.	Description & Date	Graded level of Significance	Assessment of Significance
137 & 138	Date Palms 1930s	Moderate	In various locations on the Island there are mature plantings of date palms most of which are the common Canary Island Date Palm (<i>Phoenix canariensis</i>) though there is one <i>Phoenix dactylifera</i> to the south of the former Recreation Hall site. Other mature palms are located south of curved 1838 defensive wall north of the barracks and another south of the 1838 Water Police building. Another date palm south of the 1864 cottage may be of a similar age and has obviously struggled to thrive. As can be expected the progeny of these palms are evident in various parts of the Island. Progeny are of low significance and should be removed.
140	Monterey Pine 1930s	Moderate	One mature <i>Pinus radiata</i> remains within the former rear grounds of the Harbour Master's residence. For a tree of about 70 years age it testifies to the difficult growing conditions on the shallow hilltop soil.
142	Prickly Pear Interwar period	Little	One plant of <i>Opuntia</i> sp. is dangling precariously above the water from the northern cliff. Once lost to the water the plant should not be replaced.
	Landscape Changes to the island	Little	A range of minor plantings would have occurred around the early residences and locations where people lived. Remnant small scale plantings in former garden areas remain but generally are of low significance. As development of the island took place, clearing increased, further benching took place and by 1930 the island was largely devoid of natural vegetation with the exception of some remnant plantings along the north and western escarpment where access was difficult. This period reflected the most cleared and aesthetically stark appearance of the island.
Landscape - Maritime Services Board: 1936 to 1994			
143	Frangipani Late 1940s/Early 1950s?	Moderate	This maturing <i>Plumeria rubra</i> is likely to be a contemporary of the fine office/amenities building behind it though it was obviously planted too close to the building as it is bowing out to the north.
	Landscape Changes to the island	Little	With intensification of use under the MSB the island accommodated a large workforce and community and the grounds were further developed, areas cleared and some plantings such as brush-box introduced. Recreational uses across the island also increased changing the character of formerly wooded areas to open grassed areas. Towards the end of the MSB occupation, as grounds maintenance reduced, the vegetation cover increased with re-generation of native species and a range of introduced unwanted species. The current state of the island vegetation is mixed with substantial re-growth in some areas but also large areas of weed and invasive planting.

Landscape - National Park Phase: 1993 to present			
	Distinct change to the landscape character of the Island where the present luxuriant state contrasts with the earlier largely cleared traditional character	Little to Intrusive	<p>The NPWS phase of site management has been characterised by the following;</p> <ul style="list-style-type: none"> * A less intensive landscape maintenance in the vegetated areas allowing the dramatic increase of exotic plants and weeds that has resulted in the illusion of a largely naturally vegetated Island, * The planting of non-indigenous Australian plants in several areas across the Island, * The arrival of the Silver Gull colony (an intrusive item) which has resulted in the loss of one small pocket of remnant bushland, lead to the installation of visually intrusive mechanisms to attempt to minimise their damage (wire exclusion netting and green plastic nesting 'boxes') and continues to degrade and erode the shoreline. * More recently, the active management of potentially dangerous species (removal of unsafe Coral Trees) while ensuring the desirable horticultural management and monitoring of other mature species. * The reappraisal of landscape management of the Island in the context of a recent review of cultural significance.
	Silver Gull colony	Intrusive	The silver gull colony is a recent addition which has caused changes to vegetation over and erosion of the southern and eastern foreshore of the Island. The continued presence of the colony will continue to impact on the Island's landscape values and reduce public access.

6.0 ISSUES OPPORTUNITIES AND CONSTRAINTS

6.1 INTRODUCTION

This section considers the implications of the cultural significance assessments and analysis contained in sections 1-5 of the CMP for the future use and management of the place. The section addresses the technical, legal, legislative and statutory matters that are associated with planning for works, either conservation or new, and uses and management of the island. This section does not set out policy but provides a framework for the policy in Section 7 to be developed from.

As the significance of the island is the key element that will influence decision-making, this is considered first and then other factors including the necessary statutory responsibilities are addressed. It is noted that the statutory obligations arising from this section such as requirements to submit applications and comply with the various control plans that affect the island are not addressed as policy matters in Section 7 as they are mandatory requirements.

The policies do not attempt to set out a masterplan for the place or to make specific recommendations on use, financial viability of various options but rather to provide a sound framework against which to test such concepts and proposals.

Goat Island can also not be considered in isolation of the harbour and headlands and other areas that surround it and which are visually part of its setting and it of their settings. There is considerable development activity taking place around the harbour, in particular directly opposite the island on the former wharf areas around Millers Point where one of Sydney's largest developments is proposed. While the final form of this development and other smaller developments is not known, it is likely that at least part of the Barangaroo site will be established as parkland and that this will be in close proximity to Goat Island.

Goat Island is also very close to the end of the Balmain peninsula and to Balls Head to the north. While very different in character they both have a mature vegetated character.

A characteristic of Goat Island, particularly when viewed from the city or Darling Harbour is that it blends into the foreshore of the North Shore and is not easily discernable as an island. Other views of the island from the north, east and west distinguish its island character more readily.

In developing policy and looking at constraints and opportunities it is necessary to take into account the location of Goat Island and its relationship to the headlands, bays and development that are within the setting of the place.

6.2 CULTURAL SIGNIFICANCE

RETENTION OF THE SIGNIFICANT CULTURAL AND NATURAL HERITAGE VALUES OF THE SETTING AND FEATURES OF GOAT ISLAND

A key outcome of the study that is reflected in the policy in section 7 is the overarching requirement to retain the cultural values of the island irrespective of future uses or management. This underpins all policy and is the fundamental test for any activity or action to take place on the island.

Establishing a balance between cultural values based on their relative significance, the ability to interpret the place and the functional requirements that will allow the place to have a viable future is a key intent of the policy section. This is not a straightforward matter as each use and concept for the place will need to be tested against the policy and the significance of elements to determine if it is appropriate. Significance is a major constraint but also an opportunity to bring together many of the values of the place.

A major opportunity arises in being able to demonstrate and interpret a history from Aboriginal use through the very significant 1830 period to the present day in one defined location. There

is an opportunity to achieve simultaneously the conservation of items of exceptional and high cultural significance whilst at the same time improving the quality and appreciation of the natural landforms and vegetation.

IDENTIFICATION OF OPPORTUNITIES

The opportunity factors that influence the future of the island include:

- the superb location of the island with its views in all directions but particularly to the city and harbour bridge
- the location of the site in relation to major Sydney events such as new year fireworks and harbour based events and activities
- the relative ease of access for staff and visitors with close ferry wharves and transport routes and good wharfage
- the range of buildings that are capable of adaptation for other uses in addition to the buildings that should only be used for interpretation
- the areas of open landscape that are attractive and easy to utilise for public benefit
- the separation of the island into discrete areas that allow a number of uses or activities to take place simultaneously
- the rare and functioning shipyard facilities that can provide ongoing use
- the extensive wharfage (even allowing for removal of deteriorated and redundant wharves in some areas) that could accommodate a range of maritime activities
- the good provision of amenities and facilities across the island and the capacity of the island's services to accommodate considerable levels of use
- the robust nature and character of much of the island that is suitable for public access
- the well-defined and maintained paths and access across the island
- the potential to enhance the natural vegetation re-growth across the island to recover its earlier vegetated more natural appearance in the harbour, particularly as seen in views from the city and Darling Harbour.

CONSTRAINTS ON FUTURE USE

The constraints that will affect future uses of the island include:

- significance
- carrying capacity
- regular access including night access
- the ability of each structure that is capable of alternative uses to be adapted for a particular use particularly related to BCA and OH+S compliance issues
- the level of public access that will be available overall if specific buildings or areas are used for non-publicly accessible uses
- the compatibility of any use with the Plan of Management but also with other uses on the island and the ability to interpret the island with each particular use
- the extent to which any use either requires financial support or can contribute financially to the conservation and management of the island
- the ability of the use to be serviced given that access is by water and the implications of access and handling and storing of materials and goods

Future constraints on any use or activity on the island include:

- the anticipated high cost of conservation and maintenance works that would be required to retain the significance of the island's fabric
- the cost and difficulty of providing safe and equitable public access

- the well-documented difficulty of sites such as Goat Island becoming self-supporting and self-sustaining financially without significant changes of use, management and access
- the difficulty of providing viable commercial uses that can generate income to support the future of the island, should this approach to future management be considered.

6.3 HERITAGE CURTILAGE

The curtilage of the island is the whole of the island itself above the high water mark and the wharves and specific elements that extend into the harbour below high water mark that are identified on the site plan. This does not directly correlate to the SHR listing boundary and an outcome of this study is the recommended adjustment of that listing boundary to include all of the elements of the island above and below high water mark.

As an island the setting needs to be the whole of the place as it operates as a discrete and defined area, this is often not the situation with heritage sites which adjoin other sites and which may overlap adjacent sites in terms of curtilage.

The curtilage also extends beyond the immediate site and the location of the island at the confluence of the main harbour and Darling harbour is a key aspect of its setting. It is however not considered necessary to define this as the harbour links many sites and provides a context for many aspects of heritage significance. An expanded curtilage or setting is not recommended.

6.4 CONDITION AND INTEGRITY OF BUILT FABRIC + LANDSCAPE

The building fabric across the island varies considerably in condition, integrity and in maintenance needs. All built elements require conservation and maintenance and a number of structures and features require extensive work. This is addressed in more detail in the building data sheets. Some features are in an advanced state of deterioration and some will not be recoverable. This has and will apply to sections of the wharves in particular.

Without considering future uses or the level of funding available a strategy needs to be developed to approach conservation and maintenance across the site with the priorities of preventing further loss of significant fabric, anticipating deterioration and undertaking preventative work and conserving the most significant elements of the place. This will assist in guiding budgeting and funds allocation in the future to ensure that essential and critical works are carried out.

The following is a brief outline of factors or areas of work that will guide the process of conservation and maintenance planning.

- 1 Repair and secure all roofs to all structures to be retained on the island to prevent water penetration.
- 2 Repair all roofwater systems to ensure they are working, correctly graded and clear, continue to maintain these elements on a regular basis.
- 3 If underground drainage systems are not working temporarily divert water away from buildings and sensitive areas.
- 4 Resolve the drainage around the magazine complex as a priority.
- 5 Secure failing or failed external timber elements of buildings, if necessary temporarily remove and store elements to prevent loss of material.
- 6 Establish a priority external painting and repair program based on urgency of work to maintain fabric rather than on significance and implement.
- 7 Undertake detailed assessments of each building as part of establishing a building and works audit system for the island that can be routinely monitored.

CONSERVATION ISSUES

The island has a wide range of conservation needs and issues that will require specialised input in most situations to determine the best and most appropriate work. This is beyond the scope of a CMP to consider except in the broadest terms.

Key conservation issues (apart from routine maintenance) relate to:

- The colonial sandstone buildings and sandstone site elements, related to causes of deterioration of stone and appropriate solutions to repair and replace stone
- Colonial drainage systems
- Timber wharves
- Industrial features that are in use and which may require upgrade to allow ongoing use
- Conservation of industrial elements of the site that are not in use
- The impact of additions to very significant buildings. In some locations damage is being caused to early buildings of National and State significance from the addition of later buildings or elements which are also significant. This will need to be resolved after consideration of a wide range of factors.
- The impact of vegetation and landscape on sites and archaeological remains
- The impact of paint over stone and brick buildings
- Conservation of the movable heritage

PUBLIC LIABILITY ISSUES AND RISK MANAGEMENT

Goat island has natural edges, escarpments, tidal rises and falls, quarries, high walls and a range of paths and stair types. In a number of locations these do not comply with current BCA or OH+S standards. In addition irregular wave action around the foreshore created by ferries and other large boats, presents a range of risks to visitors and users of the island that need to be recognised, considered and managed.

Risks fall into several categories and should be managed accordingly.

First, there are risks related to parts of the place that are unsafe due to deteriorated fabric, etc. These will be addressed as part of the conservation works.

Second, there are risks from elements that are part of the place and are used, and which have heritage value but are not compliant with current standards and which cannot be made compliant. Each one of these items will need to be assessed for risk related to location and the nature of future use and specific solutions proposed.

Third, there are risks from features that are dangerous, such as drop-offs in accessible locations, that need to be rectified or managed with a protective measure. These are elements that are easily defined and can be rectified as part of future works.

Fourth, there are risks that a visitor would expect to find in a natural landscape such as rock ledges, the foreshore escarpment, etc., that would not usually be protected. Many of these areas are presently protected by restricting access, others occur in remote locations. Fencing or similar may be required to prevent access to specific areas.

There are also the expected OH+S issues related to undertaking work and allowing visitors into and onto parts of the site such as the shipyard where work is taking place and where risks can be identified and managed.

There may also be risks related to contamination from lead paint or activities that have taken place on parts of the island that are beyond the scope of this CMP to assess.

Addressing risk and developing appropriate and consistent approaches to areas that may contain risk is a key part of policy development.

LANDSCAPE ISSUES

The overall condition and integrity of the landscape of the island is mixed. It comprises indigenous species, re-growth, introduced cultural plantings, invasive plantings including self-seeded introduced plantings and extensive areas affected by weeds.

A constraint or requirement for any future management of the island will be the continuing eradication of weeds and management of the vegetation to retain significant plantings and improve the quality of the vegetation and maintain significant open spaces.

Considerable work towards this has been undertaken by NPWS since 1993, however landscape management will continue to be a key issue in the future of the island.

6.5 STAKEHOLDERS

Consultation during the preparation of this plan has been limited to meeting with the project steering committee and the community reference group. However extensive consultation with stakeholders and the public has been undertaken previously including:

- government stakeholder and community meetings
- public exhibition of earlier documents and proposals
- site tours of Goat Island
- a community possibilities workshop held at the State Library

NPWS has received both quantitative and qualitative feedback which has helped the Service understand the communities' needs, expectations and concerns for Goat Island.

This plan has been placed on public exhibition and comments have been received and where appropriate incorporated.

6.6 VISITOR USE AND INTERPRETATION

There are a great number of opportunities for visitor use and interpretation. In particular the following:

- major events and private functions
- tours and promotions
- quiet enjoyment
- visitor accommodation

A core activity as part of the Sydney Harbour National Park and arising from the exceptional heritage significance of the place is public access related to interpretation. These are essential elements of the future of the island.

Constraints on visitor use arise from:

- The extent of risks on the island for visitors
- The number of visitors that can be accommodated without adverse impact on the environment of the island
- The activities for visitors to participate in while on the island
- The facilities and amenities available for visitors while on the island
- Transport limitations in getting on and off the island
- Limitations that arise related to disabled access around the island
- Restrictions on parts of the site that are in active use in particular the ship yard precinct.

Currently the nature of the island does not support unrestricted visitor access due to risks and potential conflict with other uses such as the operating shipyard. As part of the Sydney Harbour National Park the CMP promotes wider public access to the island noting that there

will need to be some restrictions and limitations to free access to facilitate ongoing uses such as ship building and repair and to address ongoing OH+S and safety issues.

Determining visitor numbers is an important aspect of visitor management but is difficult to determine without specific uses for the place. Determining duration of visits is also difficult until the range of potential activities on the island is known. It is anticipated however that visitation will be planned by most visitors as the site is not easy to access and that visit lengths would vary between half and a full day. Even a cursory visit to the island takes several hours and if a guided tour or similar plus refreshment break takes place, a half-day would be a minimum stay.

Visitation needs to be integrally linked to interpretation.

6.7 STATUTORY OBLIGATIONS

Goat Island is managed by the NSW National Parks and Wildlife Service (NPWS), now part of the Department of Environment and Climate Change (DECC).

The majority of the land mass of Goat Island was gazetted as part of Sydney Harbour National Park in 1995. The wharves around the island, slipways and ship repair buildings were excluded from gazettal but vested in the Minister administering the *National Parks and Wildlife Act 1974*.

PERMISSIBILITY OF ACTIVITIES IN A NATIONAL PARK

The *National Parks and Wildlife Act 1974* and *Regulation 2002* prohibit some activities and allow others in certain circumstances. Policies and plans of management (PoMs) are used to define the circumstances in which DECC may permit these “permissible” activities to occur. Policies regulate activities on a state-wide or park category basis, while PoMs regulate by park or by areas within a park.

THE NSW NATIONAL PARKS AND WILDLIFE ACT 1974

This act provides statutory protection for all aspects of the natural and cultural heritage of Goat Island gazetted as part of Sydney Harbour National Park.

The Act provides the following objectives and principles for managing a national park:

Objectives: The purpose of reserving land as a national park is to identify, protect and conserve areas containing outstanding or representative ecosystems, natural or cultural features or landscapes or phenomena that provide opportunities for public appreciation and inspiration and sustainable visitor use and enjoyment.

Principles:

- (a) the conservation of biodiversity, the maintenance of ecosystem function, the protection of geological and geomorphological features and natural phenomena and the maintenance of natural landscapes,
- (b) the conservation of places, objects, features and landscapes of cultural value,
- (c) the protection of the ecological integrity of one or more ecosystems for present and future generations,
- (d) the promotion of public appreciation and understanding of the national park’s natural and cultural values,
- (e) provision for sustainable visitor use and enjoyment that is compatible with the conservation of the national park’s natural and cultural values,
- (f) provision for the sustainable use (including adaptive reuse) of any buildings or structures or modified natural areas having regard to the conservation of the national park’s natural and cultural values,

- (g) provision for appropriate research and monitoring.

The Act requires that a plan of management be prepared for each park and reserve. A plan of management (PoM) is a legal document outlining how an area will be managed. Although not part of the national park, the wharves are managed in accordance with the NPW Act and the PoM.

An amendment to the Act came into effect in October 2010 regarding leasing of National Park Land. This affects potential leases at Goat Island. The amendment, in part, notes:

PURPOSES FOR WHICH LEASES AND LICENCE MAY BE GRANTED

First, the Minister may only grant a lease or licence for certain specified purposes.

Nature reserves

For nature reserves, the Minister may only grant a lease or licence for a purpose that is consistent with the management principles for nature reserves (which do not include provision for sustainable visitor or tourist use and enjoyment).

Other reserve categories

For the other reserve categories, the Minister may only grant a lease or licence for specific purposes that will be set out in new section 151A. These purposes are grouped into three general categories, being:

- a *General purposes, for example:*
 - i *the provision of research facilities or activities for natural heritage (including natural phenomena) and cultural heritage; and*
 - ii *to enable activities for natural heritage management, cultural heritage management, park management or fire management to be carried out and the provision of facilities for that purpose,*
- b *Purposes related to sustainable visitor or tourist use and enjoyment of reserved land, for example:*
 - i *the provision of accommodation for visitors and tourists, and*
 - ii *booking outlets, and restaurants, cafes, kiosks and other food outlets.*
- c *Adaptive reuse and use of modified natural areas*

Leases of land for sustainable visitor or tourist use and enjoyment that authorise the erection of a new building or structure may only be granted if the purpose of the lease and the general location of the building or structure are identified in the plan of management.

Licences for the purpose of a conference, function or event may only be granted if the use of the land authorised by the licence is not for a total period exceeding 3 months in every 12-month period.

Finally, the Minister may grant a lease or licence of land (other than a nature reserve) to enable any activity or development in a ski resort area that is permitted by an environmental planning instrument applying specifically to ski resort areas. 'Ski resort area' is currently defined under Part 8A of Schedule 6 to the Environmental Planning and Assessment Act 1979 to include each of the areas making up the alpine resorts in Kosciuszko National Park.

MATTERS FOR CONSIDERATION BEFORE GRANT OF LEASE OR LICENCE

Second, subject to certain exceptions, the Minister must be satisfied of the following matters before granting a lease or licence:

- a *the purpose of the lease or licence is compatible with the natural and cultural values of the relevant land and surrounding area of the relevant reserve,*
- b *the lease or licence provides for the sustainable and efficient use of natural resources, energy and water, and*
- c *any new building or structure or modification of building or structure authorised by the lease or licence is appropriate having regard to the built form and scale of the new or modified building or structure.*

In assessing the above matters, the Minister must have regard to sustainability assessment criteria the Director-General must adopt relating to these matters.

The Director-General may only vary the criteria if the Director-General has consulted with the Advisory Council, and the Council has advised that the proposed variation, on balance, improves or maintains the environmental outcomes provided for under the existing criteria.

The sustainability criteria are being prepared by Parks and Wildlife Group and will be published on DECCW's public website once adopted by the Director-General.

PUBLIC CONSULTATION AND REFERRALS FOR ADVICE

Third, subject to specific exceptions, the Minister must carry out public consultation on, and refer to the Advisory Council, proposals to grant leases and licences that are likely to have some environmental impact.

The Minister must take into account any submissions or advice received from such consultation or referral before granting the proposed leases or licences.

Lease or licence with minor impact

For a lease or licence that:

- a is for a purpose for which the land has previously not been used or occupied, or*
- b authorises the erection of a temporary building or structure,*

the Minister must publicly notify the proposed lease or licence and invite submissions on the proposal for a period of at least 14 days.

Lease or licence with significant impact

For a lease or licence that authorises:

- a the erection of a permanent building or structure, or*
- b a significant modification of an existing building or structure or any other significant permanent change to the land,*

the Minister must publicly notify the proposed lease or licence and invite submissions on the proposal for a period of at least 28 days.

Referrals to Advisory Council for advice

In addition, the Minister must refer the following to the Council for advice:

- a a proposal to grant a lease or licence under the new general power that:

 - i authorises the erection of a permanent building or structure,*
 - ii authorises a significant modification of an existing building or structure or any other significant permanent change to the land, or*
 - iii is for a term that exceeds 10 years (including any option to renew),**
- b a proposal to grant a head lease under section 151H.*

Any potential leases of Goat island will need to satisfy the requirements of the Act amendment.

THE SYDNEY HARBOUR NATIONAL PARK PLAN OF MANAGEMENT 1998 (AMENDED 2003)

The SHNP Plan of Management is currently being updated. The draft plan was publicly exhibited from November 2010 until April 2011.

THE NATIONAL PARKS AND WILDLIFE REGULATION 2002

Clause 15(4) requires consent from the park authority for the interference or removal of non-Aboriginal cultural heritage more than 25 years old situated on National Park estate. If an activity requires consent under this clause, then Part 5 of the Environmental Planning and assessment Act is triggered (see below).

NSW ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979

Part 5 of this Act requires the National Parks and Wildlife Service (NPWS) to assess the environmental impacts of activities proposed to be undertaken on all NPWS land. A Review of Environmental Factors (REF) is the established methodology used by the NPWS for undertaking such an assessment. A REF is a document which identifies and evaluates the impacts of an activity to determine whether the impacts are likely to significantly affect the environment. A statement of heritage impact must accompany an REF for works affecting items of heritage significance.

NSW HERITAGE ACT, 1977

Goat Island above mean high water (Lot 3 of DP837195) was listed on the State Heritage Register on 02 April 1999, no.00989 and thus the provisions of the NSW Heritage Act 1977 apply. All works and activities to items listed on the Register require approval under section 60 of the Heritage Act except where works are identified as exempt development by a Conservation Management Plan that has been endorsed by the NSW Heritage Council (or delegate). There are no site-specific exemptions currently in place for Goat Island. The Executive Director Culture and Heritage DECC has delegations from the Heritage Council to approve certain activities as well as approve Conservation Management Plans in certain circumstances.

Section 119 requires owners of items listed on the Register to achieve minimum standards of maintenance and repair in relation to weatherproofing, fire protection, security and essential maintenance.

Goat Island below mean high water (Lot 4 of DP 837195), which includes all of the Island's wharves, is not listed on the State Heritage Register and thus these provisions do not apply.

Under Section 170 of the NSW Heritage Act 1977, government agencies have a responsibility to identify, conserve and manage heritage assets, owned, occupied or managed by that agency. Agencies are also required to keep a register of those heritage items (referred to as a Section 170 Register). The majority of buildings and structures on Goat Island, including the wharfage, are listed on the DECC S170 Register.

Any works or activities that may disturb non-Aboriginal archaeological relics must have approval in the form of a Section 140 (of the NSW Heritage Act) Excavation permit.

THREATENED SPECIES CONSERVATION ACT 1995

This act provides for the protection of vulnerable and endangered flora and fauna, endangered ecological communities and populations across NSW. The Act also lists key threatening processes such as human induced climate change and removal of bush-rock.

SYDNEY REGIONAL ENVIRONMENTAL PLAN (SYDNEY HARBOUR CATCHMENT) 2005

The island above mean high water mark is zoned 8(a) National Park under this SREP. Only purposes authorised by the NP&W Act, or navigational aids, are permissible within the zone (clause 19). This zoning does not take into account that some of the island is not gazetted as national park. The waters surrounding Goat Island, however, are zoned W1 Maritime Waters. There are a number of uses allowable with consent including boating industry facilities, tourism facilities, community facilities, public water recreational facilities, public water transport facilities, and recreational facilities. The SREP, however, makes special provision for waters adjoining national parks. Clause 38 of the SREP states;

Development for any purpose for which development is authorised to be carried out under the National Parks and Wildlife Act 1974 may be carried out without development consent in the waterway adjoining land that is reserved under that Act, where the development spans the mean high water mark and is part of any other development or activity carried out on that land.

Goat Island is listed on the SREP as a heritage item within Schedule 4, Item No. 70, however this has no implications due to the clause above.

NSW MARITIME SERVICES ACT 1935

The NSW Maritime Authority is the owner of the bed of Sydney Harbour and the sea-bed on which the wharves occur is leased by NPWS. Alteration to, and use of, wharfage and

associated structures, as well as earth works within 10 meters of high water mark, may require approval under this act.

DISABILITY DISCRIMINATION ACT 1992

The Transport Standards formulated under the *Disability Discrimination Act* places a compliance timetable on the upgrading of ramps and boarding services in relation to public transport services. Twenty-five percent of ramps and boarding services are to be compliant with the standards by 2008, 55% by 2013, 90% by 2018 and 100% by 2023. Within Sydney Harbour National Park, Goat Island has been identified as having priority for compliance.

The *Disability Standards for Accessible Public Transport 2002* and the Australian Standard for access and mobility (1428.2-1992) detail the necessary standards for the provision of wheelchair access on new works. Such access is required to cater for a maximum of 1:14 grade for 85% of the high and low tidal range.

RESIDENTIAL TENANCIES ACT 1987

In relation to the renting out of residential properties to staff, DECC is responsible for the following:

- the landlord shall provide the residential premises in a reasonable state of cleanliness and fit for habitation by the tenant, and
- the landlord shall provide and maintain the residential premises in a reasonable state of repair, having regard to the age of, rent payable for and prospective life of the premises.
- the landlord shall provide and maintain such locks or other security devices as are necessary to ensure that the residential premises are reasonably secure,
- the landlord is to ensure that smoke alarms are installed in accordance with section 146A of the *Environmental Planning and Assessment Act 1979* if that section requires them to be installed in the residential premises.

6.9 NON-STATUTORY OBLIGATIONS

BURRA CHARTER

The Australia ICOMOS Charter for Places of Cultural Significance (the Burra Charter) sets a standard of practice for those who provide advice, make decisions about or undertake works on places of cultural significance. NPWS is a signatory to the Burra Charter.

BUILDING CODE OF AUSTRALIA (BCA)

The BCA is a uniform set of technical provisions for the design and construction of buildings throughout Australia produced by the Australia Building Codes Board. In NSW it is the EP&A Act and Regulation that gives legal effect to the BCA.

6.10 DECCW POLICY AND MANAGEMENT

DECCW CORPORATE PLAN

DECCW's corporate goals are:

- A healthier and cleaner environment protecting both ecological and human health
- Conservation of natural and cultural values across the landscape
- Sustainable consumption and production, and waste reduction
- A credible, efficient and effective organisation.

PARK MANAGEMENT POLICIES

The Park Management Policies provide clear, consistent management objectives and operational procedures for the management of on-park natural heritage, cultural heritage, visitors and other operational issues.

DECCW CULTURAL HERITAGE CONSERVATION POLICY, JULY 2002

The document provides the following policies of relevance to Goat Island:

1. NPWS ascribes to the processes articulated in the Australia ICOMOS Burra Charter 1999 and supports the use of the Burra Charter when undertaking cultural heritage conservation.
2. NPWS will seek the input of the relevant community(s) and/or individual(s) in the documentation, assessment of significance and management of their cultural heritage.
3. NPWS will identify cultural heritage items on lands managed by NPWS. Items should be recorded in a manner which captures the meanings and memories attributed to the items.
4. The collection and use of cultural heritage information from individuals or communities must be undertaken in accordance with the NPWS Cultural heritage Information Policy.
8. The conservation of cultural heritage undertaken by NPWS should be conducted with the least amount of impact on the item that is possible while still achieving the proposed conservation outcome.
9. All cultural items listed on the State Heritage Register and managed by NPWS will have an endorsed conservation management document and will be maintained at least to the minimum standards of maintenance and repair, as required by the Heritage Act 1977.
10. The impact, either directly or indirectly, of any activity, including cultural heritage conservation or maintenance works, on an item of cultural heritage must be assessed, a statement of heritage impact prepared and the appropriate approval obtained before the work or activity may commence.
11. Proposals to destroy cultural heritage items, including...Aboriginal objects, fences,...tracks, bridges...etc, through disturbance, removal, demolition or neglect will be required to follow the steps outlined in Point 10.

DECC MOVABLE HERITAGE POLICY, OCTOBER 2002

The document provides the following policies of relevance to Goat Island:

1. NPWS endorses the use of the *Moveable Heritage Principles* produced by the NSW Heritage Office for the management of moveable heritage items.
5. NPWS will document moveable heritage in its possession. This includes cataloguing and researching the history, associations and context of the item.
7. NPWS will assess the significance of moveable heritage items and collections in its possession before making decisions about managing the items.
8. Movable heritage will be retained in its context unless:
 - the item is part of a display or exhibit; or
 - due to security or safety concerns or concerns regarding the item's condition, the
 - item needs to be removed.
9. Management of movable cultural items and collections in NPWS possession will be undertaken in accordance with an endorsed Moveable Heritage Management Plan.
10. NPWS will seek the input of the relevant community(s) and/or individual(s) in the documentation, assessment of significance and management planning for moveable heritage items in its possession.

14. Access to items of moveable heritage items in the possession of NPWS may be made available, subject to conditions, to researchers. The researchers will need to state the purpose of the research and why access to the item is necessary for the research. Items of Aboriginal origins may be accessed if permission for access is obtained from the relevant Aboriginal community(s).
16. Items of moveable heritage may be disposed of, if specific approval has been obtained from the Director-General and the item has been identified in an endorsed Moveable Heritage Management Plan or Interpretation Plan as being:
 - out of context;
 - so degraded or irreparably damaged that it is no longer recognisable or restorable;
 - so degraded that the cost of restoration is disproportionate to the significance of the item; and
 - without documentation regarding the item's acquisition or provenance.

MANAGEMENT FRAMEWORK

Goat Island currently falls within the Harbour North Area of the Metropolitan North East Region. MNE Region is part of the Metropolitan Directorate of the Parks and Wildlife Group of the Department of Environment, Climate Change and Water. The Region is comprised of five separate areas extending from West Head to the north and La Perouse headland to the south.

The Harbour North Area comprises all areas of Sydney Harbour National Park on the northern shore of the harbour, including Bradleys Head, Middle Head, Dobroyd Head and North Head and the harbour islands Fort Denison, Goat, Rodd, Clark and Shark Islands.

STAFFING

Harbour North Area assets are managed by a staffing structure which consists of an Area Manager, four Rangers, a Senior Field Supervisor and nine field staff.

FUNDING

Funding for maintenance works is provided through two main sources. Recurrent funding is an annual allocation provided to the Region for the basic running of the national park and includes salaries, vehicle costs, utilities, plant and equipment maintenance, field consumables etc. There is little discretionary funding for major maintenance and repair works. The government's Historic Asset Maintenance Program (HAMP) provides approx \$2 million per year for the maintenance of historic heritage across the NSW national park system and over the past 10 years provided the majority of funds for major maintenance works in Sydney Region. This program has been replaced by the Heritage Asset Revitalisation Program (HARP).

The High Exposure Maintenance Liability (HEML) program, announced in 2005 is providing \$9 million over four years to 2009 to address deferred maintenance issues, including wharf rationalisation, repair and upgrade, building maintenance and the production of a conservation management plan and master plan to guide future use of the island.

LEASES AND ALIEN TENURES

The shipyard is currently leased to Sydney Ship Repair and Engineering (SSRE) for a 17 year period which expires in 2016 with an option to renew for an additional 20 years.

Telstra manage a telecommunications line which runs across the harbour and through Goat Island.

Sydney Ports manage a number of navigation devices (including a tanker lead light) on the island.

There are currently no agreements in place with either Telstra or Sydney Ports for the operation of these assets.

7.0 POLICY

7.1 INTRODUCTION AND DISCUSSION

The policy that will guide the future use, conservation, adaptation and changes that may occur at Goat Island is complex. The policy considers new uses that will not adversely affect key heritage values and that will ensure future conservation and public appreciation of the place.

The change from working maritime use to national park, and the legislative requirements of the National Parks & Wildlife Act 1974 (NPW Act) and the Sydney Harbour National Park Plan of Management (PoM), has resulted in an emphasis on the conservation and use of the place that is consistent with its status as part of Sydney Harbour National Park. The provision of sustainable public use and access is a key objective of this new focus.

The combination of expectations for the island will, if a viable future is to be developed, require a pragmatic approach to the future of the place that:

- conserves key heritage values
- recognises as a priority the exceptional heritage values of its Aboriginal and colonial history
- provides for public access and increased visitation of the Island
- allows for public recreational opportunities
- allows for educational opportunities
- includes high quality and innovative interpretation
- sets considered and well justified conservation priorities
- realistically looks at priorities for expenditure so that the conservation of the most significant features and aspects of the place are prioritised
- ensures that if commercial activity takes place that it makes a financial contribution to the conservation, public accessibility and interpretation of the place.

The policy looks to balance the various needs of the island in a way that gives the island a vibrant future.

Policy must derive from significance and an understanding of what is important to retain and interpret for the future. It is clear from the analysis in this plan and other documents that have been previously prepared that the island has a set of core themes that extend across the whole island although they do not all affect every part of the island. These themes relate to the key periods of occupation and use and to a large extent they are exemplified in definable parts of the island.

7.2 VISION FOR GOAT ISLAND

Goat Island is a place of national, state and local significance within Australia, NSW, Sydney, and Sydney Harbour. It contains some of the most intact colonial structures in Australia, overlaid with a maritime history that is unique in Australia. The island has important Aboriginal associations and is visually a key and focal element of the inner harbour.

DISCUSSION

Goat Island requires substantial conservation works, adaptation works to some buildings to provide for new uses, ongoing maintenance to all elements, repair, reconstruction and in some cases removal of wharves and structures, works to make parts of the island safe for access and works to provide for equitable access. For Goat Island to have a future as part of the Sydney Harbour National Park with expectations of public access and use commensurate with other harbour national park areas, not every element of the place can be retained.

The areas of greatest cost in conserving the island, that will not be possible to support through revenue raised on the island, are work to the extensive complex of wharfage (both removal and reconstruction which through necessity is underway) and the extensive conservation works needed to the colonial period buildings. Work on the wharves is critical as large sections of the wharf structures have been and are collapsing and are a threat to visitors and shipping. Work on the colonial period buildings is essential due to their national significance. Innovative programs and partnerships will have to be developed to achieve conservation outcomes.

The following policy sections explore these aspects of the future of the island within the framework of significance and the potential to undertake the works required.

7.3 THE USE OF GOAT ISLAND

GENERAL USES OF THE ISLAND

The principal use of Goat Island will be to accommodate public access as part of the Sydney Harbour National Park. This is specifically addressed in the section 'Public Access' that follows. A wide range of activities, functions, events and opportunities can be available to visitors.

Goat Island requires, in addition to public access, a range of other uses to:

- utilise the building stock, particularly the most significant buildings
- utilise the shipyard and possibly the northern waterfront workshop and service areas while that use is viable and providing that it does not impact on visitor appreciation of the place
- provide services and support activities for visitors to the island at whatever level visitation takes place
- offer a range of visitor experiences
- provide high quality interpretation
- potentially generate income to provide funds for the maintenance and operation of the site

This CMP does not promote any particular use as an ideal use but does seek to promote uses that balance the many areas of significance from natural heritage retention to undertaking conservation works to the significant buildings and features.

Currently a commercial lease is in place over the shipyard which generates income and provides for the ongoing use of the shipyard facilities. Provided that use of this area does not affect the key heritage values of the adjacent magazine precinct, does not adversely affect access for the public and is safe in terms of activities and processes that may take place, an ongoing maritime use is appropriate.

Apart from occupation by NPWS by providing on-site caretakers and routine maintenance there are no other regular external uses of the island currently operating.

In accordance with the NP&W Act, the provision of sustainable uses must be compatible with the conservation of the national park's natural and cultural values. It is not acceptable to simply find uses to occupy parts of the island. The criteria set out in Uses Policy 3 should be used to guide decisions about specific uses.

There are likely to be numerous requests for use of the island or parts of it by a range of proponents. There may also arise from certain proposed uses the need to construct temporary buildings, new buildings or additions to existing buildings to accommodate that use. Such new construction may take place within tight guidelines to conserve the heritage values of the island. This is addressed in the following policy sections.

While there may be a range of ancillary and supporting uses developed for the island, its' status as a national park requires that the fundamental use of the place is as a vibrant public precinct that adds to public space in and around the harbour.

Table 7.1 Uses Policy

Policy	Actions
<i>Uses Policy 1</i>	
<p><i>The core aim of the uses policy is to improve and extend public access to as wide an area of the island as safely possible.</i></p> <p><i>Develop uses that achieve this core objective.</i></p>	<ol style="list-style-type: none"> 1 Implement uses that, as a priority, provide for public access to the Island. 2 Undertake a program of works to allow for safe public access to take place as soon as practicable. 3 Establish partial public access as soon as possible to facilitate returned public access to the island. If required, restrict access to unsafe or unfinished parts of the island to facilitate general access. 4 Increase and improve the guided tours program and provide for unguided visitor experiences.
<i>Uses Policy 2</i>	
<p><i>All uses are to be considered in relation to their impact on the significance of the place and its component elements and in particular on the significance of places of exceptional and high heritage value.</i></p> <p><i>Where a proposed (or existing) use is predicted to have an adverse impact on the core significance of the place, it should not be undertaken or continue.</i></p>	<ol style="list-style-type: none"> 1 When considering particular uses on the island undertake an impact assessment (through a heritage impact statement) to determine whether the use has an acceptable heritage impact. 2 Do not undertake works that have an ongoing or permanent adverse impact on elements of exceptional or high significance.
<i>Uses Policy 3</i>	
<p><i>Determine uses that are compatible and support the conservation , interpretation and access to Goat Island and that meet the following criteria:</i></p> <ol style="list-style-type: none"> 1 <i>Where possible and desirable, derive new uses from historic uses (such as accommodation, recreation uses or the shipyard use).</i> 2 <i>New uses should be consistent or compatible with the significance of the building or area to be occupied (e.g. residences are ideally suited for residential use).</i> 3 <i>Require minimal adaptation of significant buildings or adaptation that does not affect their significance.</i> 4 <i>If a use is of a commercial nature it should be self-supporting and should generate funds towards the broader conservation and interpretation of the island. Any commercial use of any building or element should generate sufficient funds from the lease or rental arrangement to conserve and maintain that structure as a minimum requirement..</i> 	<ol style="list-style-type: none"> 1 Use established assessment processes to determine whether or not a proposed activity is appropriate. 2 Advise proponents of use of the island of the assessment criteria that will be applied to their proposals. 3 Establish a maintenance program for buildings and equipment subject to a particular use based on Appendix 5: Schedule of Cyclical Maintenance Works. 4 Include an annual audit of structures and equipment in future leases with responsibility for maintenance and upgrade clearly established.

Policy	Actions
<i>Uses Policy 4</i>	
<p><i>Future uses that require new buildings or infrastructure, except for minor new elementsⁱ, will need to be tested against the following criteria:</i></p> <ol style="list-style-type: none"> <i>1 The impact that new construction may have on the significance of the island as a whole and the specific area or building(s) where it is to be located.</i> <i>2 The significance of the building to which an addition is proposed and the ability to accommodate the new work without loss of significance. For example small rear additions to the residences could be provided with little impact on significance but an addition to the Queen's Magazine is likely to have a major impact.</i> <i>3 Whether the use can be accommodated in an existing building, avoiding the need for a new structure.</i> <i>4 Whether the new building will allow a preferred use to take place without adverse impact on significant structures (for example it may be preferable to add an addition to a building to accommodate new kitchen facilities rather than to insert new kitchen facilities into an existing building).</i> <i>5 Whether the proposed structure adversely affects an identified significant view to, from or within the island.</i> <i>6 The ability to accommodate the new use of the building in terms of site servicing and infrastructure.</i> <i>7 If a reconstruction of a demolished building is proposed, whether there is sufficient information and detail available to reconstruct the building without the need for conjecture, and whether the work would affect other heritage values.</i> <i>8 The impact on archaeological resources.</i> <i>9 The design of the proposed structure or addition so that it does not dominate the setting or building to which it is attached.</i> <i>10 The quality of the design of the new work so that it makes an outstanding and positive contribution to the island.</i> <i>11 The values of openness and aspect on parts of the island, historic form, archaeology and retention and enhancement of significant landscape must take precedence in considering any future uses for the place that may impact on those values.</i> 	<ol style="list-style-type: none"> 1 Clearly set out that new buildings or additions will only be considered where there is an overall significant gain in terms of conservation or interpretation.
<i>Uses Policy 5</i>	
<p><i>Removal of structures, elements and buildings of lower significance than the colonial buildings (which have exceptional significance) may take place to recover aspects of that exceptional or high significance including the setting of the precincts.</i></p> <p><i>Consideration of removal of site features or buildings should only be made within the context of an approved masterplan and the ability to recover or reinstate precincts of exceptional value.</i></p>	<ol style="list-style-type: none"> 1 Consideration of removal of structures or elements must be guided by an approved interpretation plan for the island 2 Elements may only be considered for removal after an assessment of impact is undertaken <p>Note: some elements may be removed without having to demonstrate that</p>

Policy	Actions
	<p>aspects of exceptional significance can be recovered: eg intrusive pathways.</p> <p>4 Any element, feature of building to be removed must be recorded as required under the NSW Heritage Branch guidelines.</p>

USE OF THE BUILDINGS ON THE ISLAND

This section briefly sets out a range of preferred uses for each building on the Island. Other uses may be considered but need to be tested against the ability of the structure to accommodate them without affecting their level of significance.

Some buildings may accommodate temporary uses which have no impact on the fabric and these uses may be acceptable without the need for formal assessment processes. Where there is no impact on the place, and the use is within the framework of the PoM, short-term or temporary uses should be accommodated.

This section also acknowledges that some buildings of little or low significance may be demolished, subject to further assessment, however while this may be an acceptable action it is not considered a use and is not specifically identified in the table below.

It is also recognised that some buildings of little or low significance may accommodate a high level of change to facilitate a new use. Uses that do require intervention or change to fabric are identified generally for buildings or areas of lowest significance. There may be situations where change is proposed to buildings or elements of higher significance, careful assessment against the various policies in this CMP will guide such actions..

Table 7.2 Use of Buildings Policy

Policy	Actions
<i>Use of Buildings Policy 1</i>	
<p><i>The following table sets out potential and compatible uses of the major buildings on the island (including their interpretation use).</i></p> <p><i>Select uses from this list of uses or, if alternative uses are proposed, test them against the policy covering the use and potential adaptation of buildings before proceeding with other uses.</i></p>	<ol style="list-style-type: none"> 1 Develop as part of any masterplan an approach to each building on the island and how it is to be used. 2 Do not introduce uses that adversely impact on the significance of a place. 3 Buildings or areas may have a range of uses at the one time or changing uses over time. The concept of use or re-use is a fluid concept that will change and adapt over time as the island itself adapts to increased visitation and use. Proper assessment of uses and potential impacts should guide all decisions about use across the island.

Table 7.3 Potential Uses of Buildings

Building	Potential Uses/Comments
Magazine and Shipyard Precincts	
Shipyard buildings 1 1a, 2, 2a, 3, 7, 8, 9	Shipyard related uses (ongoing operational use a shipyard and slipway)
	<p>NPWS centre, arrival point to island for visitation. (The building is ideally located for the control point for visitor access to the island as it fronts the access wharf and provides opportunity to access the Magazine Precinct)</p> <p>Visitor orientation (the building can accommodate the control point for visitors, booking of tours, etc)</p> <p>Initial interpretation (overall interpretation of the island and its context can take place within the building prior to visitors moving into the Magazine Precinct and/or tours)</p> <p>Public Access</p> <p>Retail (NPWS related retail can be accommodated)</p> <p>Food outlet</p> <p>Amenities (amenities would be required if they are not available elsewhere within the Magazine Precinct)</p> <p>Provision of disabled access to main part of island (through future construction of ramp or lift)</p> <p>NPWS administration</p> <p>NPWS workshop</p> <p>Storage (related to either the visitor functions or management of the island generally)</p>
Magazine buildings from the colonial period within the Fortified wall 15, 19, 20	<p>Public Access and focus of interpretation and education</p> <p>Temporary activities/events which do not have a negative impact on fabric.</p> <p>Traditional trades training.</p>
Colonial Magazine 21	<p>Public Access and shelter</p> <p>Adaptation</p> <p>Events and functions.</p> <p>This building is ideally located to interpret the shipyard and slipways as they are adjacent and the building was adapted for that function.</p>
Barracks building 25	<p>Administration</p> <p>Public access and use and potential interpretation point</p> <p>Storage related to use and interpretation</p>
Cottage/kitchen 26	<p>Administration</p> <p>Residential accommodation, preferably for a caretaker due to its location in the core public access area of the Island</p> <p>Food services</p> <p>Potential interpretation point</p>
Amenities building 13	<p>A wide range of uses may be suitable including:</p> <p>Provision of public amenities for south-western section of island (ground floor);</p> <p>Interpretation;</p> <p>Administration (upper floor could accommodate staff use);</p> <p>Education (upper floor capable of accommodating a considerable number of people for lectures, teaching, activities, etc.).</p> <p>Support building for colonial precinct capable of adaptation</p>

Building	Potential Uses/Comments
	<p>to accommodate a range of uses related to interpretation and public visitation of the precinct</p> <p>Partial lease for uses related to interpretation and public visitation of the precinct.</p> <p>This building may also be removed providing that any protection it is affording the sentry wall or magazine is appropriately taken into account prior to demolition.</p>
Amenities building 14	<p>Amenities (public or related to shipyard)</p> <p>Administration (related to shipyard or NPWS)</p> <p>This building may also be removed.</p>
Timber store building 22	<p>Storage</p> <p>Staff area (one space could be used for a staff room for potentially casual staff or guides)</p> <p>NPWS use related to interpretation of the Magazine precinct</p> <p>Amenities</p>
Scow Shed 16	<p>Interpretation (the building is effectively a shelter under which activities or robust displays could take place).</p> <p>Functions and events.</p> <p>This building may be removed providing that any protection it is affording the magazine is appropriately taken into account prior to demolition. It may be appropriately replaced with a more sympathetic protective structure if required.</p>
Queen's Magazine annexe 15a	<p>Interpretation (displays or other interpretive activities)</p> <p>Education (space suitable for a range of active uses related to interpretation or education)</p> <p>Storage</p> <p>This building may be removed providing that any protection it is affording the magazine is appropriately taken into account prior to demolition.</p>
Boatshed 23a	<p>Storage (of water related materials)</p> <p>The building has limited use as it is subject to tidal inundation.</p>
Substation 24	<p>Substation (the building is not available for other use)</p>
Service structures such as winch houses and small sheds	<p>Continue as functional structures while required.</p> <p>Support buildings for colonial precinct capable of some adaptation</p> <p>May be used in maritime interpretation program</p>
Residential Precinct	
Harbour Master's Residence 39	<p>Visitor accommodation: such as guest house</p> <p>Dining/restaurant/cafe :</p> <p>The building is capable of some adaptation or possibly a small addition to the rear (southwest) to accommodate facilities such as a commercial quality kitchen.</p> <p>Administration: the building could be used for site administration.</p> <p>The building will require some level of public access and interpretation</p>
Cottages 38a - 38d	<p>Residential use: one or more of the buildings could be used to accommodate operational staff on the island.</p>

Building	Potential Uses/Comments
	<p>Visitor accommodation: some or all of the cottages could be used to provide guest accommodation; the cottages are capable of adaptation and minor additions to facilitate this use.</p> <p>Administrative use: the buildings could be used for a range of administrative functions.</p>
Water Police Precinct	
Barracks/cottage 46a, 46b	<p>Administration</p> <p>Visitor Accommodation</p> <p>Interpretive displays</p> <p>The Barracks has some potential for adaptation however the cottage should be retained largely in its current form.</p>
Water Police Station 47	<p>This building is a potential interpretation node for the northern end of the island.</p> <p>Other uses include: temporary exhibitions or performances.</p> <p>Accommodation (subject to further investigation).</p> <p>The building has some but limited opportunities for adaptation.</p>
North and South Depot Precincts	
Port Emergency Building 45	<p>The building is capable of considerable modification for a range of uses including:</p> <ul style="list-style-type: none"> - function or event centre - catering/restaurant/cafe - administration - water related activity centre - storage (NPWS and lessee) - public amenities (if not available elsewhere on the northern end of the island) <p>This building may be removed if a suitable use is not found.</p>
Dredge Office 48	<p>Office/administration</p> <p>Water activity related use</p>
Gear Shed 49	<p>Water activity related use</p> <p>Storage (NPWS or related to commercial use).</p>
Fire brigade buildings 50, 57	<p>Interpretation</p> <p>Water activity related use</p> <p>Public access and shelter</p> <p>Storage</p> <p>NPWS workshop</p>

USE OF THE LANDSCAPE AREAS

A considerable area of the island is grassed, either open or with light tree cover or is increasingly densely vegetated with re-growth. The exceptions are the magazine forecourt and the shipyard area which contain almost no plantings or vegetation. Some areas around the residences and buildings used for residential purposes are fenced and have defined private areas with remnant garden elements and features, however most private gardens have now disappeared through long periods of disuse of the buildings. Over time and as a result of declining use of the island prior to its transfer to NPWS, the formerly extensive cleared and maintained areas have diminished and there is substantial re-growth and weed growth around

the edges of the cleared areas. Sections of the cleared areas are also now habitat to Silver Gulls during breeding season making access problematic.

Significant cleared areas should continue to be maintained as grassed areas providing for public access and reflecting their historic form for much of the last 200 years. A number of these areas are either cut platforms for former buildings (with archaeological value) or are areas of shallow soils and rocky outcrops making re-vegetation difficult. As staffing and resources allow, the edge between regrowth areas and open areas that are not maintained should be redefined, removing weed infestations, cutting overgrown grassed areas, removing debris from the edges of lawns and recovering the early more open treed landscape form of parts of the island. This will continue to provide extensive grassed open areas for visitor activities.

The former Island community used much of the centre of the island for passive and active recreation over the last 100 years. A continuation of recreational use of this open space should be considered

Table 7.4 Landscape Uses

Policy	Actions
<i>Landscape Uses Policy 1</i>	
<i>Retain passive and some active recreational uses on the island.</i>	1 Prepare and implement a Landscape Management Plan 2 Manage the retained open areas of the Island to provide for passive recreation as part of general access to the Island and as part of tours etc

7.4 PUBLIC ACCESS

It is an aim of the PoM and this CMP to provide broad public access to Goat Island for a range of activities, events and functions.

Public access is presently available at pre-arranged times, but not generally available due to the condition of the wharves, access limitations and various risks around the Island. There is a requirement within the PoM and an expectation that public use will be available to the grounds of the island generally, and to specific buildings, Factors which may limit open public access to all areas and buildings include staffing requirements/levels, resources and public safety.

Parts of the island - in particular operating industrial areas such as the shipyard - may continue as exclusion zones as public access is incompatible with the operation of those areas.

Public access will need to be managed and it is anticipated that access to the island should be through a controlled access point or points (possibly north and south ends of the island). Given the nature of the island and the range of potential risks, uncontrolled general access is not appropriate at the time of writing this CMP. It is not appropriate for visitors to access the island by private boats as safe mooring is limited and many of the wharf areas are not safe or suitable for small boat mooring and access. Improvements to wharfage will be required before private boats will be able to safely moor.

Visitors may have access to orientation information at the arrival point as well as information on options for exploring the island through tours etc.. Visitors can also be informed of areas of the island that are not available for access at that time.

The preferred access point (identified by NPWS and the Wharf CMS) for the major site access point is the south end of wharf 4a, which is the closest point to both Darling St and Thames St wharves at Balmain. A key part of access will be the provision, in time, of equitable access at

this location. It is noted that the wharf has been upgraded for equitable access but this does not presently extend onto the main area of the site.

A possible second access point may be established at the northern end of the island subject to funding and more detailed consideration of the wharf arrangements.

Table 7.5 Public Access Policies

Policy	Actions
<i>Public Access Policy 1</i>	
<i>Public access will be provided to the island. Wharf 4a has been upgraded to provide for a high level of access including equitable access. This will also be the preferred egress point for visitors to the island.</i>	<ol style="list-style-type: none"> 1 Plan for works to wharf 4a to facilitate managed public access onto the island. 2 Provide specifically for equitable access to the core areas of the island. 3 Prepare an access management strategy for the island, and for all areas selected for general public access on the island, consider the impacts on heritage values.
<i>Public Access Policy 2</i>	
<i>Public access will not be available to all parts of the island.</i>	<ol style="list-style-type: none"> 1 Public access to areas that are potentially dangerous will be restricted. 2 Develop a consistent approach to controlling access with fence types, signage etc.
<i>Public Access Policy 3</i>	
<i>General public access will not be available for private vessels which require mooring.</i>	<ol style="list-style-type: none"> 1 Provide appropriate signs on wharfs around the island advising of restricted access.
<i>Public Access Policy 4</i>	
<i>Public access will not be generally available until the island is safe and basic remedial works are undertaken within publicly accessible areas. In the interim, as access is made available to sections of the island, areas that are not safe will be secured and not be available for access.</i>	<ol style="list-style-type: none"> 1 Develop as part of the access management strategy a zoning of the island into areas that are safe to access and those which will have restricted access. Develop the proposal as a staged plan so that access to parts of the island can be made available as soon as practicable.
<i>Public Access Policy 5</i>	
<i>Public access to Goat Island will be appropriately managed.</i>	<ol style="list-style-type: none"> 1 Manage access to the island by pre-booking access and tours, events, etc. 2 Develop as part of future uses and leases arrangements for access for staff, visitors and guests. 3 Determine an appropriate carrying capacity for the island. 4 Develop self-guided tours of the island as well as guided tours 5 Develop core material, including a map of the island, for visitors that shows areas that are accessible and not accessible

7.5 INTERPRETATION

Interpretation is a core activity that will be the focus of some areas and buildings but which will be undertaken across all aspects of the place. There are many ways to undertake interpretation and an Interpretation Plan is required set out in detail the overall and specific and detailed approaches to different parts of the Island. The interpretation plan will be based on this CMP and the Visitor Experience Plan and there will be a close relationship between the two documents. This plan does not however attempt to limit the interpretation approach but rather to set out a framework from which it can be developed.

Key themes to be interpreted are:

- The main phases of use of the island:
 - Aboriginal use (pre 1830s) and the vegetation of the island pre 1830
 - Early quarrying
 - The establishment and operation of the Magazine complex 1833 to 1900
 - The Water Police 1838 to 1865
 - The creation of the Sydney Harbour Trust and its role on the island and within the harbour (Maritime Period: 1901-1936);
 - The establishment of the Maritime Services Board and its extensive work on the island and around the harbour (Maritime Period: 1936-1993);
 - The change in use from maritime operations to National Park
- Specific themes that arise from these phases of use:
 - Aboriginal life prior to and after settlement, and association of the Island with Bennelong and his family
 - Indigenous vegetation of the island
 - Convict labour and the Hulk Phoenix
 - Quarrying and construction
 - Convict life on Goat Island: convicts generally and the specific stories of the Aboriginal convicts and their tutor George Langhorne, and Charles Anderson
 - Gunpowder and 19TH century explosives
 - British military accommodation and management of the island
 - The water police
 - The role of the harbour master
 - The function and life of the water fire brigade
 - Living on Goat Island: the resident Island community throughout the Maritime period (1901-1993).
 - Recreation on Goat Island
 - Ship building and repair on Goat Island
 - Management of the operational harbour
 - The changing shape, form and landscape of the island

Interpretation should also be developed in a strategic way so that key themes and messages are available to all visitors while other themes are available from specific tours or activities that are developed over time. Presently, although not generally accessible due to restricted access to the island, the Barracks building (25) contains a museum that covers a range of areas of the history of the island. A museum approach by using a single building is not a preferred option for interpretation, although buildings may accommodate specific interpretation.

Basic approaches to providing interpretation may include (but are not limited to):

- Static interpretation at key locations such as displays and multi-media presentations that relate to the history and use of that place or element. These may be at the orientation point of the island for visitors and located across the island.
- Interactive activities held within historic buildings or as part of a broader education program that explore themes of the island. These may be activities that operate at key visitation periods such as school holidays.
- Performances developed as part of the historic themes.
- Self-guided tours of accessible areas which may be in printed form or available through audio medium.
- Guided tours of the island generally providing an overview of its history.
- Guided tours related to a specific theme or area of interest.
- Guided tours and activities targeted at specific groups.
- Guided tours and activities targeted at school groups, related to the NSW curriculum K-12 subject areas
- Providing information through websites.
- Providing opportunities for different experiences of aspects of the place - such as staying on the island - which include interpretation.
- Providing high quality publications and material available for sale.

The following table sets out policies and actions to guide interpretation.

Table 7.6 Interpretation Policies

Policy	Actions
<i>Interpretation Policy 1</i>	
<p><i>Interpretation will be guided by a detailed interpretation plan for the island.</i></p> <p><i>The plan will seek to engage, entertain and encourage interest in the history and activities on Goat Island using a range of traditional and innovative media.</i></p>	<p>1 Develop a detailed Interpretation Plan with a strategy based on the outline of themes in this CMP that looks at a range of media and messages and how they can be implemented creatively on the island.</p> <p>2 The Interpretation Plan should consider potential audiences, viability of the options considered, the ability of the Island and specific places on the Island to accommodate a range of interpretation approaches including signs, activities, staging, etc.</p>
<i>Interpretation Policy 2</i>	
<p><i>Consider the Island as a whole when developing interpretation so that interpretation in different locations on the Island is complementary and not repetitive, and provides visitors, where they seek it, with an understanding of the Island's history, natural and cultural heritage, Aboriginal and non-Aboriginal heritage.</i></p>	<p>1 Link the interpretation to specific site locations, such as the Magazine precinct, the Water Police Station, the Harbour Masters Residence etc.</p>

Policy	Actions
<i>Interpretation Policy 3</i>	
<i>Interpretation is to be informative, accessible and appropriate, particularly regarding the interpretation of Aboriginal material.</i>	<ol style="list-style-type: none"> 1 Change the interpretation and public programs on a regular basis to encourage repeat visitation. 2 Consult the Aboriginal community in relation to interpretation involving Aboriginal associations with the place and encourage those communities to be actively involved. 3 The Tribal Warrior Association in particular should be approached with regard to the possibility of including Goat Island access into their existing tours, and providing information to enhance their tour notes.
<i>Interpretation Policy 4</i>	
<i>Develop opportunities for visitors to access information about the Sydney Harbour National Park at Goat Island.</i>	1 Link Goat island to other harbour national park and historic sites with information etc. available on site, at other harbour locations and through a linked website
<i>Interpretation Policy 5</i>	
<i>On-site signs and information panels (if used around the island outside the core access areas) are to be discreet in location and appearance.</i>	1 Locate panels or other interpretive material appropriately and sensitively to the item being interpreted.
<i>Interpretation Policy 6</i>	
<i>Provide a range of experiences for the various groups of visitors to the Island, including visitors with disabilities.</i>	<ol style="list-style-type: none"> 1 Ensure that there is a sufficient range of interpretation activities for all identified user groups of the island. 2 Specifically consider access to areas of the Island and buildings for people with disabilities when developing programs. 3 Consider interpretation for visitors of different cultural backgrounds, languages and age groups.
<i>Interpretation Policy 7</i>	
<i>Interpretation planning and development is to be carried out by experienced and qualified personnel to high standards of design and production.</i>	<ol style="list-style-type: none"> 1 After preparation of an Interpretation Plan develop a staged implementation program with suitably qualified consultants/personnel for each stage of the work. 2 Regularly check interpretation programs and activities against the policy in the CMP to ensure that it focuses on key areas.
<i>Interpretation Policy 8</i>	
<i>Monitor, evaluate and update interpretation and public programs on a regular basis.</i>	1 Use visitor surveys, focus groups, community consultation and other forms of evaluation to understand visitor behaviour and to ensure that public programs meet the requirements of all target audiences.

Policy	Actions
<i>Interpretation Policy 9</i>	
<i>Retain an open informal landscape around identified areas of the island (as set out in this plan), reminiscent of its operational form.</i>	1 Manage the landscape to avoid formality and carefully control development around the island that could affect its visual presentation.
<i>Interpretation Policy 10</i>	
<i>Provide enhanced day visitation facilities at key points of the island with access to toilets and amenities etc.</i>	1 Provide suitable and well-designed areas to accommodate visitor use at the locations on the island where it is desired such as the benched former building areas where views and aspect are available to prevent visitors moving into other parts of the Island. 2 Consider and design for visitor use suitable seating, rubbish collection points, etc when developing an area for public use or interpretation.
<i>Interpretation Policy 11</i>	
<i>NPWS should retain oversight and management of site interpretation.</i>	1 The overall responsibility should remain with NPWS as a key aspect of managing the park. Delivery of the various interpretation elements however could be undertaken separately. An approach to the delivery of the site interpretation should be developed.
<i>Interpretation Policy 12</i>	
<i>Maximise publicity for the interpretive opportunities and events on the Island</i>	1 Liaise with other organisations managing or providing access to historic sites around Sydney Harbour, such as Sydney Ferries, the Sydney Harbour Federation Trust, Sydney Harbour Foreshores Authority to form partnerships to ensure regular public access and maximum publicity for events.

7.6 BUILT HERITAGE

CONSERVATION AND MAINTENANCE

There is an extensive collection of built heritage on Goat Island, mostly of considerable significance. It requires conservation and ongoing maintenance to ensure that its' significance is retained and that significant aspects of the various buildings and features are not lost. The actions required will vary from building to building noting that there is a wide range of building types, uses of materials and varying condition of the structures. There has been considerable detailed work in previous reports and studies examining the condition and needs of a number of the key buildings but not all buildings have the same level of assessment. This CMP does not set out all of the needs of each structure but rather looks at an overall approach to conservation and maintenance of the built heritage.

There are four principal factors in undertaking conservation work:

- 1 Determining an outcome for the building or place that is to be conserved before planning or undertaking any works. This is important as there is potential to remove some buildings under this plan and conservation works should only take place on structures to be retained.
- 2 Establishing the correct and most appropriate works through research and analysis.

- 3 Developing a program of works that addresses works that are urgent as a priority and then schedules works over a time frame of years based on condition and the need to occupy and use places.
- 4 Establishing realistic budgets and securing funding to undertake the works.

In addition to a conservation works program a maintenance program to address routine matters such as cleaning of gutters, painting, etc. needs to be established and funded as a priority. Conservation works and maintenance are separate activities.

Every built element on Goat Island requires conservation work. Most buildings that are currently not occupied require work prior to being occupied, as they are no longer in a suitable condition for use.

The overall approach to conservation work should establish a priority of works based on the following criteria:

Priority	Action
1	Undertake works to elements that are at risk of loss or damage through their present condition. Secure elements or buildings and undertake emergency stabilisation works as required. Give priority to high significance buildings that have an identified future use.
2	Secure all roofs, repair roof damage and leaks and prevent water entry to buildings across the Island. Repair or replace rainwater systems and ensure that water is diverted away from buildings and features.
3	Secure all buildings from unwanted access.
4	Identify structures and elements that are adversely impacting on highly significant structures and undertake their removal or modification.
5	Undertake a first program of works to elements of exceptional significance. Works should be aimed at addressing major conservation problems as well as undertaking works to prevent ongoing conservation problems such as painting of painted surfaces.
6	Develop an overall program of works across all built elements.
7	Implement a maintenance program across the Island.

Conservation works will generally require documentation and a consent process through NPWS. This process provides a checking process for the appropriateness of the works. Maintenance works are generally exempt from approval, however depending on the nature of the works some approvals may be required.

Table 7.7 Conservation and Maintenance Policy

Policy	Actions
<i>Conservation and Maintenance Policy 1</i>	
<i>Undertake immediate urgent works across the Island to built elements that are at risk of damage or loss of significant fabric. Priority should be given to those elements of exceptional significance</i>	1 Based on the recommendations within Appendix 5 of this CMP, determine budgets and seek funding to undertake urgent conservation works in the immediate future.
<i>Conservation and Maintenance Policy 2</i>	
<i>Consolidate all reports and studies on each structure and element on the Island. Record all future actions and works to each place.</i>	1 Develop a management program to monitor each structure, to record works undertaken and to set out required works with budgets as the basis of a comprehensive works program

Policy	Actions
	2 Establish a property management system or use an existing management system, for every identified element on the island.
<i>Conservation and Maintenance Policy 3</i>	
<i>Develop a conservation budget and funding program based on a ten-year time frame.</i>	1 Set out budget costs on an annual basis for conservation and maintenance works, identify annual works, one off works, estimate when longer-term works will be undertaken and make budget allocations for that time frame. 2 Attempt to allocate works to avoid large variations in annual cost, noting that initial catch-up works may require greater funding.
<i>Conservation and Maintenance Policy 4</i>	
<i>Identify required works and costs for buildings with potential for leasing to allow accurate and realistic proposals to be developed and submitted for each of these buildings. Do not proceed to leasing of any building without costs of conservation and maintenance works clearly established and provided for within each lease.</i>	1 Prepare indicative costs as a guide to submissions for leasing. 2 Require as part of lease submissions a detailed break down of works proposed and budgets for conservation and maintenance works. 3 Do not limit expenditure in lease agreements on conservation and maintenance but rather require lessees to undertake all required works subject to an external heritage works audit.
<i>Conservation and Maintenance Policy 5</i>	
<i>Attend to areas of non-compliance with the BCA in public access areas as a priority. These areas include protection of changes, repair of damaged or non-complying stairs and steps, provision of handrails, provision of disabled access, provision of adequate egress, emergency lighting and where necessary fire systems.</i>	1 Undertake a detailed risk and BCA assessment for all areas to be accessible and as part of programs for future work to each structure and element. 2 Many aspects of the place will not comply with BCA requirements. Seek designed solutions to ensure that heritage values are not compromised.
<i>Conservation and Maintenance Policy 6</i>	
<i>Ensure that experienced contractors with adequate supervision undertake all conservation works and that all works are drawn, specified and overseen by an experienced heritage architect.</i>	1 Ideally appoint a responsible person with appropriate experience to oversee all works to the place. Ensure that if that person is replaced that handover of material and works takes place. 2 Ensure that all tenderers and consultants are experienced in the required conservation skills. 3 If possible develop a team of contractors to undertake routine works so that knowledge about the place is built up and can be passed on.
<i>Conservation and Maintenance Policy 7</i>	
<i>Seek approvals under the Heritage Act for conservation works and submit the maintenance schedule for approval prior to proceeding with significant works.</i>	1 Applications for work should be checked against the CMP policy and data sheets and a statement of compliance and Statement of Heritage Impact submitted with each application.

Policy	Actions
<i>Conservation and Maintenance Policy 8</i>	
<i>Undertake maintenance works to the buildings on a routine and scheduled basis, as specified in the Maintenance Schedule in Appendix 5 to ensure the long-term conservation of significant fabric.</i>	<ol style="list-style-type: none"> 1 Adopt the Maintenance Schedule outlined in Appendix 5 2 Undertake an annual or bi-annual audit of works to ensure that works are being undertaken to the required standards.
<i>Conservation and Maintenance Policy 9</i>	
<i>Opportunities for interpretation should be sought throughout the Island and related to the conservation of significant site elements.</i>	<ol style="list-style-type: none"> 1 Refer to interpretation policies
<i>Conservation and Maintenance Policy 10</i>	
<i>Establish conservation partnerships with other organisations including training organisations</i>	<ol style="list-style-type: none"> 1 Consider establishing partnerships with relevant trades training organisations to use Goat Island as a training site for NPWS staff and external trades students in heritage trades such as painting, rendering etc

NEW WORKS AND ADAPTATION

For the island to function into the future a number of buildings will require some adaptation to accommodate new uses or as part of the interpretation of the place. There may also be a need to add to existing buildings or possibly to construct or reconstruct buildings. New buildings have been considered in the discussion and policy under Uses.

The degree and nature of proposed adaptation works will be guided by the level of significance of the particular structure. It is expected that elements of exceptional significance will generally have less or no adaptation and those of lower significance may have greater adaptation, however adaptation may take place in any building where it can be demonstrated that the work has minimal impact.

For example some adaptation could take place to the Harbour Master's residence where bathrooms and kitchen areas have failed and require refitting and there is opportunity to provide upgraded facilities to support a new use for the place.

There is also more flexibility to adapt previously adapted buildings or parts of buildings, particularly where that work has reduced significance. Adaptation should be planned to take place in the least significant parts of a building as a general principal.

An example of potential adaptation is the cottage kitchen building (26) which at its core is a very significant part of the barracks complex but which has had numerous additions and changes over its life to convert it to a residence. This structure could be adapted in a number of ways from returning the building to its early configuration as a kitchen block - by removing the later additions and changes and reinstating the original form - to adapting the additions to accommodate a new use. In its current form the building is unusable and will require substantial work to provide for any use as all fitout has failed, consequently there is considerable scope to adapt the building for new uses or interpretation of the magazine area.

Another aspect of adaptation is sampling so that parts of a place are retained intact while other similar parts have some change to facilitate use. This could apply to building 1, the main workshop building, where it is ideally located to provide the focus of arrival for visitors, to accommodate NPWS offices and potentially some retail and display. It is also an area where equitable access could be provided from the water to the main forecourt area of the barracks, as this cannot be achieved with current paths and gradients. Here a bay of the building could

be adapted retaining other bays in their workshop form as a way of sampling the use and fitout of the building.

Another aspect of adaptation is the ongoing use of parts of the Island such as the shipyard, and elements such as winches, cranes and operational infrastructure and the need over time to maintain, upgrade or in some cases replace such elements to allow the use to continue. This study has not undertaken assessments of operational plant to determine its significance or life, but generally the principal of ongoing use requiring sufficient change to allow the use to take place is recommended.

Other elements of lesser significance may have adaptation works but each will need to be considered in terms of the significance of the item and the merit of the proposal.

There is an expectation that adaptation works will take place to facilitate new uses, there is also an expectation that adaptation will not compromise significance.

New buildings may also be constructed on parts of the island subject to the development of detailed planning controls. Areas which may be able to sustain new buildings and structures include:

- the accommodation precinct, provided there is no negative impact on the Harbour Master's Residence and its setting,
- the shipyard and ship repair workshop areas,
- the Port Services Building area and
- the northern depot precinct.

Table 7.8 Adaptation of Buildings Policy

Policy	Actions
<i>Adaptation of Buildings Policy 1</i>	
<i>Allow for new uses, including interpretation and visitor access, to be developed and for appropriate adaptation works to be undertaken to facilitate approved new uses. Ensure that adaptation work is only undertaken where it does not adversely affect core significance and understanding of the place. Where significant change is proposed it should be guided by significance and the interpretation plan for the Island.</i>	1 Based on the recommendations within Appendix 5 of this CMP prepare a schedule of immediate works with budgets and seek funding to undertake the works in the immediate future.
<i>Adaptation of Buildings Policy 2</i>	
<i>Where new works are introduced for new uses, design changes are to be clearly seen as a new layer within the building.</i>	1 New/adaptation works are to be designed by an architect skilled in working with significant fabric. 2 A consistent approach is to be developed to adaptation or new works on the island so that the works are seen as a layer in the ongoing history of the place.
<i>Adaptation of Buildings Policy 3</i>	
<i>Allow for upgrading equipment, repairs, change, and in some cases replacement equipment and infrastructure, where it is necessary to allow uses such as the shipyard use to continue.</i>	1 Undertake a maintenance and repair program for all significant equipment and infrastructure that has an ongoing use to ensure the maximum life, to avoid deterioration due to lack of maintenance and to provide for planned upgrade.

Policy	Actions
	2 Equipment is not to be replaced or significantly altered without approval from NPWS who will consider the heritage significance of the item prior to approving change to the element.

7.7 ENHANCING SIGNIFICANCE

Goat Island is a complex site with layers of different use. As a consequence of this complex layering, there are examples of buildings, structures, sites and landscape features which have an adverse impact on other elements of greater significance. Where such conflicts occur, direction is required as to the acceptability of removing or modifying the item so as to create a net improvement in the overall significance of the Island.

The following table identifies those elements which have an adverse impact on places of greater significance, and with consideration of the significance of that element, provides acceptable solutions for treating that element to remove or lessen its impact.

Table 7.9 Assessment of impacts of buildings and features on places of greater significance.

Item No.	Name and date of construction	Graded level of Significance	Impact on places of greater significance and acceptable solutions to removing or reducing that impact.
Magazine Precinct			
13	Amenities Block 1964	Little	This building obscures a visual appreciation of the magazine precinct, particularly the spatial relationship between the Magazine and the Sentry Wall. The building is out of scale and character with the precinct, dominating the forecourt and the Sentry Box. Acceptable solutions to minimise this impact include partial removal and modification (eg reducing the length of the building to reveal the archway and sentry box, and creating a visual look-through on the ground floor) and removal.
14	Office and Amenities Building 1948	Little	This structure has some impact on the spatial appreciation of the magazine precinct and the relationship of the magazine to the water's edge, while the brick and tile appearance in a predominantly sandstone and slate environment provides a confronting separation between the magazine forecourt and the shipyard. The external appearance of the building (northern, eastern and western elevations only) may be modified to lessen its aesthetic impact. The building may also be removed is not required for Island management or shipyard operations.
15	Queen's Magazine 1936	Exceptional	Refer to shipyard precinct items 1, 2 and 3 and magazine precinct items 13, 14, 15a and 16.
15a	Southern Addition to Queen's Magazine 1942	Intrusive	This structure has adverse impacts on the Queen's Magazine building through its physical connection and visual disruption of the setting of the Queen's Magazine and surrounding features of exceptional significance. The structure is however providing protection to the exterior wall of the magazine as evidenced by the excellent condition of the sandstone. This impact can be lessened by removal of the exterior walls (timber stud and iron cladding) and internal kitchen to provide an open area free of visual obstruction.

Item No.	Name and date of construction	Graded level of Significance	Impact on places of greater significance and acceptable solutions to removing or reducing that impact.
			The whole structure may be removed subject to appropriate sandstone conservation advice and resources required to implement short and long term sandstone conservation works.
V5	View from the Magazine complex south to Balmain and west up the harbour From 1836	High	The visual connection between the Magazine and the water's edge is obscured by the Ship Repair Workshop (1) and Office and Amenities Building (14). See items 1 and 14.
V6	View from the Queen's Magazine (15) to the Fortified Wall and Sentry Box (71) From 1836	High	This historic view, shown in a 1870s c. photograph, was unobstructed until 1880, when a single storey timber explosives magazine was built against the north side of the wall. By 1964 the two-storey Amenities Building (13) had been constructed, completely obscuring this historic view. The view is capable of restoration (see Amenities building 13 above).
16	Scow Shed 1925-28	Moderate	<p>This structure has an adverse physical impact on the Queen's Magazine building due to poor drainage and raising of the ground level, contributing to damp problems. The structure has an adverse visual impact on the setting and understanding of the operation of the Magazine.</p> <p>The physical impact may be remedied through additional excavation of the built-up ground surface to the original ground level of the Powder Magazine.</p> <p>Removal of the storage cage at the rear of the shed and the rear wall of the shed is acceptable to assist in providing a visual appreciation of the Powder Magazine and proximity to the quarry face and perimeter wall.</p> <p>The collection of random movable heritage items within the structure does little to interpret its former use in any capacity and rationalisation of items within the structure will enable greater visual appreciation of the place.</p> <p>The whole structure may be removed if the significance of the magazine and the precinct generally is not enhanced by the remedies detailed above.</p>
19	Cooperage 1835	Exceptional	Refer to shipyard precinct items 1,2 and 3 and magazine precinct items 13, 14, and 16.
20	Stores Building (2 nd cooperage) 1839	Exceptional	N/A
21	Colonial Magazine 1852	High	The collection of random movable heritage items within the building does little to interpret its former use in any capacity.
24	Substation 1943	Moderate	This building's intentional design, complementing the adjacent barracks building with its referential use of recessed panels and near Georgian proportions and form improves what would otherwise have been an intrusive addition to the magazine precinct. Should the building cease operation as a substation, then its removal would be acceptable to enhance the significance of the magazine precinct.

Item No.	Name and date of construction	Graded level of Significance	Impact on places of greater significance and acceptable solutions to removing or reducing that impact.
25	Barracks, 1838	Exceptional	Refer to magazine precinct item 24.
V7	View of the Magazine Complex (magazine, barracks and kitchen) from the south and south-west From 1838	High	The magazine complex as viewed from Balmain was the subject of early-mid 19th century paintings, etchings and engravings. The view from the southwest is largely obscured by the Ship Repair Workshop (1) which has an adverse impact on the values of the Precinct. The views from the south are largely unobscured but now include a substation (24), while the ancillary buildings adjacent the kitchen were at some stage removed and are only pictorially known from an 1857 Rebecca Martens watercolour.
71	Fortified Wall 1836-38	Exceptional	Refer to shipyard precinct item 1 and magazine precinct items 13, 15a and 16.
V12	Narrow vista from the Fortified wall and sentry box (71), including through the wall gateway, to the harbour to the south From 1836	High	This narrow vista is one of the few remaining views from the original (well documented) visual connection between the Magazine complex and the harbour, now largely obscured by the Ship Repair Workshop (1) and Substation (24). While now a modest view, this is of high historical significance. Recovery of a broader view is desirable.
90	Incinerator 1960c	Intrusive	The incinerator provides little insight into the more recent operation of the magazine precinct and its presence serves only to confuse understanding of the operational requirements of the Powder Magazine. Removal of the incinerator is acceptable.
96	Winch House 1925	Moderate	This structure, of poor integrity, has little interpretive value and obscures the quarry face. Removal or partial removal would be acceptable.
107	Remains of former mess room floor slab, 1955-62	Little	These remains have little interpretive value, but little impact on other buildings. Removal of the slab would be acceptable.
136	Canary Island date palm, 1930s	Moderate	Replacement of the tree once it reaches senescence would not be considered necessary.
Shipyard Precinct			
1	Ship Repair Workshop 1946-49	High	The building has adverse visual and spatial impacts on the setting of the Magazine Precinct. Removal of the buildings parapet to enhance views through the building to the Magazine and from the Magazine to the water, whilst also revealing the saw-tooth construction would be acceptable. The colour of the building may be altered so as to reduce its visual impact. The northern bays immediately adjacent to the magazine and site of the original wharf and receiving dock may be altered or removed to restore the connection between the magazine and the water's edge. Removal of the entire building is not considered acceptable whilst it retains its association with the broadside wharf.
1a	Addition to Ship Repair Workshop 1962-63	Little	The building has considerable adverse visual impacts on the setting of the Magazine Precinct and its historical connection to the water's edge. The building may be removed or altered.

Item No.	Name and date of construction	Graded level of Significance	Impact on places of greater significance and acceptable solutions to removing or reducing that impact.
2	Repair Workshop 1945	Moderate	The building has some adverse visual impacts on the setting of the Magazine Precinct and its historical connection to the water's edge. The building may be removed or altered.
4b	Central Section of Broadside Wharf 1945-46	High/ moderate	The wharf obscures the remnants of the original stone wharf/receiving dock.
5	Coal Loader platform at Northern End of Broadside Wharf (collapsed) 1945-46	Moderate	This structure has partially collapsed and the remainder is in imminent danger of collapse. Removal is acceptable.
7	Winch House 1949	Little	This building obscures the visual connection between the Magazine and the water's edge and has little interpretive value. Removal would be acceptable if the slipways cease permanent operation.
8	Winch House 500 Ton, 1965	Little	Removal would be acceptable if the slipways cease permanent operation.
9	Hammerhead Crane 1924/1963	High	This structure can be considered as both a landmark feature and as having impact on an appreciation of the natural landscape of the Island and the magazine precinct. Removal would be considered acceptable if: a) the slip-ways cease permanent operation and/or the crane becomes a hazard to public safety or to other buildings, or, b) it can be re-located to an active facility which will facilitate its on-going use, or, c) it is no longer required for shipyard use and can be relocated to it's original setting within the former Mort's Dock site at Balmain.
29	150 Ton Slipway 1949	High	The slipway rails have no impact on the setting of the Magazine Precinct. The slipway carriage may be removed if no longer required.
30	500 Ton Slipway 1960	High	The slipway rails have no impact on the setting of the Magazine Precinct. The slipway carriage may be removed if no longer required.
113	Slipway 1925-26	Moderate	The slipway rails have no impact on the setting of the Magazine Precinct.
114	Shed beneath hammerhead crane 1963 c.	Little	This has an adverse visual impact on the setting of the Magazine Precinct, see item 9 above.
Central Precinct			
108	Paths 1995c	Little	The crazy paving pathway surface with synthetic jointing is visually intrusive and out of character with other pathways. Replacement with traditional sandstone paving, or asphalt paving would be acceptable.

Item No.	Name and date of construction	Graded level of Significance	Impact on places of greater significance and acceptable solutions to removing or reducing that impact.
Water Police Precinct			
46b	Fire Brigade Barracks 1912	High	Although significant, the form and bulk of this structure has an adverse visual impact on the setting of the Water Police Station and the 1865 Cottage, consideration could be given to removal of the structure to recover the significance of the cottage. The concrete pathway between the building and the 1865 cottage is having a detrimental impact on the fabric of the 1865 cottage. Removal of the timber door partition between the two buildings and partial removal of the concrete pathway will assist in visually separating the two buildings and reducing long term impacts on the stonework. The buildings visual impact will be reduced with removal of the recent external paint surface on the brickwork.
V1	View of the Water Police Station (47) from the harbour and north shore From 1838	Exceptional	19 th and 20 th century images of the Island emphasize the architectural qualities, the isolated nature of the Station and the prominent knoll. The original setting has been greatly obscured by land reclamation around the knoll, construction of the Dredge Office and Gear Sheds and a large Telstra sign. Removal of the Telstra sign is encouraged. Removal of the Dredge Office as a means of enhancing appreciation of the knoll would also be acceptable.
V3	Views from the Water Police Station (47) and Water Police Precinct to the north east and south From 1838	Exceptional	Views from the Water Police Station should be maintained. Vegetation (natural and introduced) should be managed to maintain this view.
86	Barney's Cut	Exceptional	Removal of the concrete footpath and the reclaimed land would be acceptable as a means of restoring and interpreting the Cut.
V4	Views of Barney's Cut From 1837	High	19 th century images of the Island emphasize the prominence of the Water Police 'island' created by the Cut. This view is currently obscured by wharfage, buildings and land reclamation. Removal of the reclaimed land would be acceptable as a means of restoring and interpreting the Cut.
88	Water Police Precinct Paths 1865c	Moderate	Minor visual impacts only
126	Amenities slab 1912 c	Little	Minor visual impacts only.
129	Navigation markers	Moderate	Minor visual impacts. Removal is acceptable if no longer required for harbour navigation.
138	Canary Island date palm 1901-1936	Moderate	Replacement of the tree once it reaches senescence would not be considered necessary.

Item No.	Name and date of construction	Graded level of Significance	Impact on places of greater significance and acceptable solutions to removing or reducing that impact.
Residential Precinct			
V8	Views of the Harbour Master's residence from the east and north From 1901	High	The historical views of the Harbour Master's residence from the east and north have been obscured since the 1980s due to increased vegetation. The removal of obscuring vegetation to the north to create filtered views would be acceptable. Views to the east should be maintained as open views.
129	Navigation markers 1970s-80s	Moderate	Minor visual impacts. Removal is acceptable if no longer required for harbour navigation.
140	Monterey Pine 1930s c	Moderate	Replacement of the tree once it reaches senescence would not be considered necessary.
142	Prickly Pear 1920s c	Little	Removal of this class 4 noxious weed is acceptable.
North Depot Precinct			
48	Dredge Office 1952	Moderate	The building obscures the face of the rocky knoll and thus makes difficult visual interpretation of the Water Police Station's setting. Removal of the building would be acceptable as a means of restoring a visual appreciation of the knoll.
49	Gear Shed 1930-46	Moderate	This building also obscures the rocky knoll but to a lesser degree than the Dredge Office.
50	Fire Fighting Building 1943	Moderate	This building partially obscures visual appreciation of the northern side of Barney's Cut. Removal or modification of the building to enhance the view of the Cut would be acceptable.
54a	Ferry Wharf 1942-44	High	The wharves obscures a visual appreciation of Barneys' cut from the north and the natural shoreline.
54b	Small Boat Enclosure 1941-43	High	At sea-level, the wharves and decks obscures the natural shoreline, but this impact is relatively minor.
55b	Northern Broadside Wharf 1942 (partially removed in 2009)	Moderate	The remaining section obscures but protects the original seawall associated with the Water Police Station.
57	Corrugated Iron Shed 1950c	Moderate	This has no visual impact on the Water Police Precinct but has some impact on the natural foreshore and appearance of the island.
58	Amenities Block 1970c	Little	Intrusive. Removal is recommended.
125	Fire hose gallows 1920s	Moderate	This has minor visual impact on the Water Police Precinct. Much of the structure has been damaged by termites.
129	Navigation Markers 1970s-80s	Moderate	Minor visual impacts. Removal is acceptable if not longer required for harbour navigation.

Item No.	Name and date of construction	Graded level of Significance	Impact on places of greater significance and acceptable solutions to removing or reducing that impact.
South Depot Precinct			
45	Port Emergency Services Building 1960-62	Moderate	The building has an adverse visual impact on the north end of the island and the water police precinct through its scale, size and colour. The building and the associated reclaimed land partially obscure the southern side of Barney's Cut. Acceptable solutions to lessen its impact include removal, partial removal or modification, or alteration of the recent blue colour (ca 1995).
52a	SW Section of Eastern Wharf 1942-43	Moderate	This wharf obscures only reclaimed land.
118	Eroding shoreline Post 1914	Little	The fill obscures visual appreciation of the natural shoreline.
129	Navigation Markers 1970s-80s	Moderate	Minor visual impacts. Removal is acceptable if not longer required for harbour navigation.

Table 7.10 Enhancing Significance Policy

Policy	Actions
<i>Enhancing Significance Policy 1</i>	
<i>Items considered to be intrusive should be removed.</i>	1. Liaise with Telstra Corporation regarding removal of the large intrusive 'Submarine Cable' sign.
<i>Enhancing Significance Policy 2</i>	
<i>Where an existing building or structure has an unacceptable impact on an item or precinct of greater significance, steps should be taken to minimise its impact.</i>	1. A precinct plan will be prepared which identifies those buildings which will be modified, partially removed or removed for the purpose of enhancing significance. Any proposals will be consistent with the acceptable solutions detailed above and in accordance with appropriate environment and heritage assessment.
<i>Enhancing Significance Policy 3</i>	
<i>Removal of a building or structure should only be considered if other methods of enhancing significance are not suitable or feasible.</i>	

7.8 OH+S ISSUES

Risk management is a process that is constantly subject to assessment and review. As with any visitor destination and workplace the Island contains hazards that need to be managed in order to minimise risk to visitors and staff and maintain that risk at an acceptable level. Such hazards include cliff edges, wharves and sea-walls adjacent deep water, changes in levels, trip hazards, stairs and exposure to the weather. Island infrastructure (such as stairs) and safety controls (such as fencing) vary according to the period in which it was originally

installed. New safety controls such as the trackside fence adjoining the Magazine Walk comply with the current appropriate standard.

The Occupational Health & Safety Act 2000 requires that all practicable measures be taken by an employer to ensure the health, safety and welfare of its employees and others who may be affected by its activities. The OHS Regulation 2001 requires that risk management principles be implemented in the workplace to eliminate or control hazards.

Hazard identification, risk assessment and control is a systematic way of reducing the likelihood of a workplace injury or illness occurring whilst demonstrating a duty of care in relation to the above legislation.

The DECCW OHS Risk Management System provides the necessary guidance and tools to identify and manage risk. The process for managing risk is as follows;



Re-use of any building which effects a change of building class and any new buildings must comply with the fire, access and safety provisions contained within the Building Code of Australia (BCA). Compliance with the BCA may require site specific and innovative design solutions to ensure that the significance of building fabric, setting or visual appearance is not compromised.

Table 7.11 Risk Assessment

Risk	Comment
Changes in level that are not protected	Protect: - all significant level changes that adjoin public areas such as the Fortified Wall

Risk	Comment
	<ul style="list-style-type: none"> - edges of access paths alongside drop off areas - grassed picnic/public areas opening directly onto drop-off areas
Changes in level with fencing	Retain generally current fence locations, maintain and upgrade fencing to minimise risk, particularly to children who may pass under or through some current fencing.
Non-complying stairs	Many of the older significant stairs around the island do not comply with the BCA. Where stairs are to continue in use a risk assessment is required. Some stairs have railings, others have non-complying railings. Assess risks and only upgrade railings where a significant risk is likely.
Wharf edges	Do not provide protection to wharves. Consider signs at any wharf entry identifying the risk of deep water.
Quarry edges and steep drops generally.	Protect steep drops and cuts where they have potential to be accessed. This may take the form of fencing of areas some distance from the level change to prevent general access. While landscape management works are underway, if public access is provided, fencing of areas requiring works should be undertaken to prevent movement through these areas. Fencing may be temporary and may be relocated over time as works progress.

Table 7.12 OH+S Policy

Policy	Actions
OH+S Policy 1	
<i>Risk will be managed in accordance with the DECCW Risk Management System.</i>	<ol style="list-style-type: none"> 1 Prepare a risk assessment based on the proposed use and access of the island and it's various parts. 2 Review the assessment as new uses are developed and on a regular basis to determine the effectiveness of the policy.
OH+S Policy 2	
<i>Place signs at arrival locations and within brochures setting out the nature of the topography and the risks of uncontrolled access, particularly for children.</i>	<ol style="list-style-type: none"> 1 Develop signs and advice. 2 Train staff in risk management.
OH+S Policy 3	
<p><i>Develop a strategy for managing risk that:</i></p> <ul style="list-style-type: none"> - ensures the Island is safe for general access - monitor safety and visitor behaviour over time and respond to specific behaviour patterns - ensure that overcrowding or excessive visitor numbers does not result in reduced visitor safety - ensure security of non-accessible areas is maintained 	<ol style="list-style-type: none"> 1 While this CMP addresses risks in a strategic sense, it does not identify each risk and may not identify all risks on the island. The strategy will be a working strategy that responds to risks as they are identified, records risks and how they are addressed and sets standards for addressing future risks on the island. 2 Ensure that staff are familiar with the risks on the island and are able to inform visitors and manage their behaviour.

Policy	Actions
<ul style="list-style-type: none"> - ensure that staff observe safe working practices - establish consistent approaches to safety and OH+S management <p><i>Part of the strategy will be determining acceptable risks.</i></p>	
<i>OH+S Policy 4</i>	
<p><i>Establish limits around the edge of the island for public access to remove areas of specific risk. Provide fencing to define accessible areas where general public access is available.</i></p>	<ol style="list-style-type: none"> 1 Develop a fence design to be used to restrict public access where there is potential for access into areas where risks may occur. 2 Use temporary fencing for larger events to limit public movement and access.
<i>OH+S Policy 5</i>	
<p><i>All new elements related to public safety on the island should be low key</i></p>	<ol style="list-style-type: none"> 1 New elements are not to dominate the setting, physically or visually 2 Design of new elements is to be as visually recessive and minimal as possible

7.9 NATURAL AND CULTURAL LANDSCAPE

DISCUSSION

From a review of the archival photography it is clear that the current extent of vegetative cover over Goat Island is considerably greater now than it has been since the 1830s. In some instances this is a desirable improvement (where indigenous vegetation is recovering) though in other ways it is less desirable (where important spaces are being compromised and weed species are spreading).

The review of significance identified vegetation groups and elements as well as important views and spaces that directly relate to built elements of exceptional significance such as the enduring evidence of the 1830s construction programs. It is desirable that these significant elements, views and spaces are maintained in an appropriate and manageable manner. For example, policies should ensure that the Shipyard precinct and the Magazine complex within the fortified wall of the Magazine Precinct remain largely unvegetated, reflecting the historic uses of these areas, and that the lawn areas should be maintained, for example in front of the Harbour Master's Residence, in order to maintain historic views to and from these locations. Cultural plantings within the fence lines of the Harbour Master's residence and the residential cottages in the Residential Precinct should be maintained, and may be enhanced.

There is also the potential to enhance some of the natural re-growth across the island as areas that are currently weed infested or open but not identified as key areas to be retained as open space become available for establishment of natural plantings.

A key to managing the places where potentially conflicting aspects of significance coincide is to set boundaries where the context for the various landscape components is most meaningful. For example the northern and western shoreline areas should be a focus for the management of the local indigenous flora as this is where it has persisted throughout the European use of the Island; the most valuable cultural plantings should be conserved in those areas where they were originally planted and progeny that has spread beyond these areas should be removed; and historically important spaces that still relate to, and can demonstrate associations with, important extant fabric, should be managed by removing the most recent introductions as well as weed incursions.

Table 7.13 General Landscape Policy

Policy	Actions
<i>General Landscape Policy 1</i>	
<i>A Landscape Management plan for the island should be prepared encompassing the policies as set out in this CMP, and reflecting the Landscape Management Zones as identified in Figure 7.1</i>	1 The landscape management plan should: <ul style="list-style-type: none"> - establish a program for exotic weed eradication and removal of non-local indigenous species except for identified cultural plantings
Policy	Actions
	<ul style="list-style-type: none"> - establish a program for re-generation of indigenous vegetation areas along the north-western shore - set out an annual maintenance and works program for all landscape, including maintenance of identified cultural plantings - develop a staged approach to all works linked to the use of parts of the island - set budgets for conservation, maintenance and new works
<i>General Landscape Policy 2</i>	
<i>Review the Landscape Management Plan to address issues such as ongoing weed removal and maintenance and respond to approved future uses and interpretation approach to the island.</i>	1 Develop a review process for the landscape management plan 2 Monitor landscape works over time

NATURAL VEGETATION

The remnant local indigenous or natural vegetation around the northern and western shorelines of Goat Island is important in representing part of the vegetation communities that existed before European intervention. It is of significance for the local area and should be conserved.

Table 7.14 Pre-Contact Landscape Policy

Policy	Actions
<i>Indigenous Vegetation Policy 1</i>	
<i>Encourage the regeneration of the local indigenous flora around the northern and western foreshores of Goat Island.</i> <i>Apart from specific areas of cultural planting related to buildings, their gardens and specimen plantings, re-establish planting on the island using indigenous species.</i>	1 Undertake a program of regeneration of indigenous flora in areas identified in the landscape management plan.
<i>Indigenous Vegetation Policy 2</i>	
<i>Encourage the regeneration of upper canopy local indigenous species such as Bangalay (<i>Eucalyptus botryoides</i>), Smooth-barked Apple (<i>Angophora costata</i>) and Coastal Honeysuckle (<i>Banksia integrifolia</i>) as part of the reconstruction of an open woodland character over the northern central part of</i>	1 Undertake remedial works to provide a suitable habitat for regeneration to take place. 2 Prepare a staged plan to recover the open woodland character of the island.

Policy	Actions
<i>the Island. Excellent records of this character exist – with a grassy groundcover – in the archival record of the Island during the 1870s.</i>	
<i>Indigenous Vegetation Policy 3</i>	
<i>Allow the regeneration of lower growing local indigenous species around other vegetated foreshores</i>	<ol style="list-style-type: none"> 1 Undertake remedial works to provide a suitable habitat for regeneration to take place. 2 Undertake revegetation works in association with any foreshore recovery works.
<i>Indigenous Vegetation 4</i>	
<i>When funds allow, organise weed removal programs along the northern and western shorelines and then across the island generally.</i>	<ol style="list-style-type: none"> 1 Initially, target key woody species such as Hackberry, Mickey Mouse Plant, African Olive, Camphor laurel, Privet and Coral Tree as well as Canary Island Date Palm, Lantana and Cestrum; around the central summit area – including the removal of Acacia species that are not locally indigenous; then around the former cottage areas on the eastern side of the Island 2 Maintain weed eradication programs on an annual basis or as needed to prevent the re-establishment of weed growth.

COLONIAL/IMPERIAL PERIOD 1831-1900 - LANDSCAPE

Apart from highly significant structures and archaeological resources there are few tangible landscape elements surviving on Goat Island that record practices and management from this formative period. Some of the few that date from this period are the five 1880s fig trees and, possibly, the South American Ombu – all near the southern part of the Island. In addition to these plantings there are key views and spaces that are directly associated with the Colonial structures and layout that should be conserved.

Table 7.15 Colonial Landscape Policy

Policy	Actions
<i>Colonial Landscape Policy 1</i>	
<i>Retain vegetation and individual trees assessed as having high and moderate significance.</i>	1 Protect identified significant cultural plantings (items 132,133,134)
<i>Colonial Landscape Policy 2</i>	
<i>Undertake works around colonial landscape items to ensure their long-term conservation and care.</i>	<ol style="list-style-type: none"> 1 Continue to undertake arboricultural monitoring for the large trees , the fig trees (132,133) and Ombu (134) 2 Leave stone blocks intact and fig tree roots around stone retaining wall near southwestern slipway 3 Ensure care when mowing grass near fig tree buttress roots to prevent scalping and abrasions that may lead to infections 4 Use appropriate methods and equipment to

Policy	Actions
	<p>ensure that for any grass maintenance in proximity to sandstone structures of exceptional and high significance no damage occurs to the stonework.</p> <p>5 Remove <i>Cestrum</i> from around and under the Ombu</p>
<i>Colonial Landscape Policy 3</i>	
<i>Restore the open woodland character on the upper area of the island</i>	1 Maintain the upper area of the Island generally as a modified woodland type with a grassed groundcover and open tree cover – remove shrub component and retain
Policy	Actions
	larger exotic trees and palms of high and moderate significance. Vegetation of low significance may be removed
<i>Colonial Landscape Policy 4</i>	
<i>Maintain views between the harbour and the Water Police Building and the Fortified Wall.</i>	1 Ensure unimpeded views are maintained to the harbour from the Water Police building and the Fortified Wall.
<i>Colonial Landscape Policy 5</i>	
<i>Reinstate the colonial setting of the 1830's Barracks and Kitchen based on archival and physical evidence</i>	1 Reinstatement of layout, fencing, Colonial period plantings, pavement surfaces and reducing the current levels around the barracks building while ensuring that drainage does not affect the building
<i>Colonial Landscape Policy 6</i>	
<i>Restore the Colonial 'Rocky Knoll' setting of the Water Police Building</i>	<p>1 Replace existing fence with fencing that meets Australian Standards design for lookout fencing whilst utilising materials and scale sympathetic to the colonial buildings</p> <p>2 Remove the Canary Island palms near the Water Police building</p> <p>3 Remove the Telstra 'Submarine Cable' sign</p>

MARITIME PERIOD 1901-1994 - LANDSCAPE

Many more plant species survive from this early 20th century phase however they also include species that are renowned for their propensity for aggressive self-propagation. Where species introduced at this time survive in their original locations relative to structures of this period, they should be conserved. However where the same species are spreading beyond these locations they should be removed.

The intent of the policy is to retain and enhance landscape areas that relate to significant aspects of the maritime phase of use of the island, this may relate to specific buildings or areas of use during that phase of use.

Table 7.16 Maritime Landscape Policy

Policy	Actions
<i>Maritime Landscape Policy 1</i>	
<p><i>Recover selected elements of the maritime landscape as works take place to specific areas or buildings and if appropriate in the interpretation plan. This policy specifically addresses reinstating lost elements that could add to the understanding of the place, removing some intrusive elements but overall making minor changes only to the current landscape setting.</i></p>	<ol style="list-style-type: none"> 1 Reconstruct a limited garden setting for the Harbour Master's residence using appropriate species, based on archival and physical evidence (avoiding known potential weed species) and taking into account the need for minimal maintenance. Restrict such a reconstruction to within the referenced area defined in the previous policy. 2 Limited garden settings for cottages 38a to 38d may be constructed based on archival and physical evidence, avoiding known potential weed species and taking into account the need for minimal maintenance. This is a lower priority. 3 When the existing 1960s plantings of cypresses and lillipillis along the ridge between the Harbour Master's residence and the Water Police building eventually fail, do not replace them. 4 Where redundant and where not significant, remove power lines, poles and light standards as well as structures that impede significant views from important structures. An example is the power line to the east of the Harbour Master's residence. Where possible/ feasible replace overhead pathway lighting with bollard lighting. 5 Retain the last remaining timber fence post towards the north-western corner of the former fence enclosure of the Harbour Master's residence 6 For new paths use bitumen or some other visually recessive material rather than random stone flagging unless it is closely associated with a building of a period where such pavement patterning is appropriate. Bitumen has been successfully used around the southern and eastern perimeter pathway and this precedent should be followed for all future work to distinguish it from earlier surfaces (such as the concrete 'Victory Parade') 7 Based on the 1909 site survey and later aerial photographs consider re-fencing, with appropriate fence types, the Harbour Master's residence, though with a reduced northern side (as far as the existing low stone wall) to avoid the steeper slopes.

NATIONAL PARKS AND WILDLIFE 1995 - PRESENT - LANDSCAPE

The major change to the landscape since 1995 has been the ongoing recovery of the natural vegetation and the commencement of weed eradication programs. This has had a visual impact on the island as it appears increasingly vegetated. There has also been an impact from the colonisation of the eastern shore by silver gulls.

Other actions involving landscape have been:

- regular mowing of cleared areas
- fencing of areas undergoing rehabilitation
- maintenance of tiered building platform areas
- replacement of some fences
- allowing foreshore areas to erode where they are not defined by walls and ongoing erosion has taken place over time.
- programs of weed eradication across areas of the island

Table 7.17 National Parks Period Landscape Policy

Policy	Actions
<i>National Parks Period Policy 1</i>	
<i>Continue weed eradication programs across the island</i>	1 Undertake an ongoing program of weed removal and rehabilitation.
<i>Continue mowing areas that are to be retained as open space,</i>	1 Establish a regular mowing maintenance program for grassed areas.
<i>Remove the intrusive silver gull colony from the island.</i>	1 Continue the egg destruction program to reduce population size. 2 Consider culling of birds where the population impacts on visitor use and native vegetation.
<i>Stabilise foreshore areas subject to erosion</i>	1 Prepare a strategy for each foreshore area subject to erosion to address how to recover natural shorelines and/or stabilise fill areas.

7.10 ARCHAEOLOGY

DISCUSSION

These policies have been formulated within the framework of the ICOMOS *Burra Charter*, the Heritage Office guidelines and the significance of the archaeological resource, and respond to the identified level of significance and archaeological potential of that resource. General policies are presented in this section within three sub-sections: Archaeology, Aboriginal Sites and Historical Archaeology. Site-specific policies are included on the relevant Inventory Sheet. In order to understand the process as it relates to the archaeological resource, it is advisable to refer to this section prior to consulting the Inventory Sheets.

Goat Island's inclusion on the State Heritage Register (SHR) has implications for the processes to be undertaken to manage change that may affect historical archaeological sites on the Island.

The current philosophy regarding archaeological sites is to retain them in situ, protected from human and environmental impacts. Whilst it is recommended that this philosophy apply to the archaeological resource in general, a small number of sites require conservation as erosion and vegetation are obscuring features and/or potentially destroying sites. Additionally,

confirmation of the existence or function of a site would also be a useful tool for understanding the earliest phases of the place and for its future interpretation.

Table 7.18 Archaeology Policy

Policy	Actions
<i>Archaeology Policy 1</i>	
<i>Conserve and protect the archaeological resource on Goat Island</i>	1 Minimise below-ground disturbance to zones of known or high archaeological potential as identified in Figure 5.5 of this report - especially the identified archaeological sites of exceptional or high significance (items 63,66, 67, 68, 91, 92, 93, 94, 95, 97, 98,110a, 110b, 131)
<i>Archaeology Policy 2</i>	
<i>Retain archaeological sites, in situ, undisturbed and protected from human and environmental impact.</i>	1 In planning for future works, including minor site works, ensure that identified archaeological sites or significance are avoided to minimise risk of disturbance. 2 Check the archaeological zoning plan (Figure 5.5) prior to undertaking any excavation works on the island.
<i>Archaeology Policy 3</i>	
<i>Protect and conserve sites of varying levels of significance</i>	1 Ensure that archaeological sites or objects of "Exceptional and High Significance" are protected from impacts. 2 Archaeological sites or objects of "Moderate Significance" may be impacted after they have been recorded at an appropriate level. In general, these sites would require a research design to accompany an application to excavate (s60 Heritage Act 1977 [136]). 3 Archaeological sites or objects of "Little Significance" may be impacted after the appropriate approvals have been sought. In general, these sites would be managed as exemptions under section 57 (2) of the Heritage Act 1977 [136]. 4 Archaeological sites or items of "Intrusive Significance" can be removed with the appropriate documentation and/or consultation with a qualified archaeologist and the owner/manager. 5 All archaeological sites in NSW are protected by the NPW Act and the Heritage Act regardless of their significance. Ensure that before any site is disturbed the appropriate approvals have been sought and consultation with the consent authority and/or stakeholders has been undertaken.
<i>Archaeology Policy 4</i>	
<i>Where sites have an identified value to the understanding and interpretation of the island a research strategy and excavation program could be developed as part of the future interpretation of the island.</i>	1 Consider undertaking controlled archaeological excavation of key sites as part of future interpretation and understanding of the island. Do not undertake archaeological programs unless an approved research strategy, including a policy for treatment and storage of excavated artefacts, and appropriate funding, are in place.
<i>Archaeology Policy 5</i>	
<i>Undertake conservation works to sites where erosion and vegetation are obscuring features and/or potentially</i>	1 Prepare a schedule of works based on the level of urgency to ensure that known archaeological sites are protected. This would include controlled weeding of some

Policy	Actions
<p><i>destroying sites.</i></p> <p><i>This work is urgent with regard to the following sites: 67 – blacksmith’s shop (presumed); 93 – artefact scatter; 95 – remnant kiln.</i></p> <p><i>This work is ongoing with regard to the following sites: 63 – limekiln; 68 – shell deposit; 91 – sandstone footings; 92 – stone structure on shore; 94 – privy and outbuildings site; 110a – rock cut steps; 131 – 1878 magazine site.</i></p>	<p>sites and interim measures such as protecting some sites with geotech fabric until more permanent mitigation measures are taken.</p>
<i>Archaeology Policy 6</i>	
<p><i>Prior to removing or destroying archaeological sites, regardless of significance, record to archival standard.</i></p>	Note
<i>Archaeology Policy 7</i>	
<p><i>In general, all archaeological sites dated to the Colonial phase are to be considered exceptional unless otherwise assessed</i></p>	Note

ABORIGINAL SITES

Aboriginal cultural material is protected by the *National Parks and Wildlife Act 1974 (amended 2001)* and the Department of Environment and Climate Change (DECC) has guidelines on the process required before Aboriginal sites or potential Aboriginal sites can be destroyed. Any works on Goat Island that have the potential to disturb Aboriginal objects or sites will require that all statutory obligations under the Act, including stakeholder consultation, are fulfilled.

Three registered Aboriginal sites exist on Goat Island. Two shell middens, one which cannot be re-located and one (62) located at the base of a small rock overhang at the north east end of the island. The third listing is the entire island, as a place of significance to Aboriginal people. The known midden may be the last surviving evidence of Aboriginal use of the place, although it was probably not the only midden on the Island prior to European modification.

Burning of readily available sources of shell to convert into quicklime for building purposes along with extensive quarrying and landfilling are likely to have removed other middens. The only other feature akin to a shell midden noted during the site survey is located on the bank above the remnant kiln (95) consisting of shell fragments eroding from between the roots of a large Ficus.

Other sites may exist on the island but have not yet been discovered because they are now overgrown with grass or in scrub. The possible existence of other sites such as axe grinding grooves or carvings should be considered when undertaking works on the island.

Table 7.19 Aboriginal Sites Policy

Policy	Actions
<i>Aboriginal Sites Policy 1</i>	
<p><i>Aboriginal sites on Goat Island are to be conserved.</i></p>	<p>1 Management actions that may affect the sites are to be assessed using DECC guidelines and in accordance with statutory provisions.</p>

Policy	Actions
	<p>All management decisions about the sites should be undertaken in consultation with, and reflecting the views of, the Aboriginal community.</p> <p>2 The only known Aboriginal site on the island, a midden (62) is to be retained and conserved. Prepare a specific conservation assessment of this item and plan to undertake any required works.</p>
<i>Aboriginal Sites Policy 2</i>	
<p><i>Consider in undertaking works on the island the potential for the existence of other sites potentially significant to Aboriginal people and respond accordingly. For instance, axe grinding grooves or rock carvings may exist beneath grass cover and other middens that have not been noted may also exist.</i></p>	<p>1 Specific proposals for works should include an assessment of potential Aboriginal sites, particularly where areas that are presently not accessible due to vegetation or landform do not allow detailed assessment.</p>

HISTORICAL ARCHAEOLOGICAL SITES

In general, whilst it is preferable that archaeological sites are protected by avoiding impacts and retaining them in situ, in the case of Goat Island, some sites may warrant further physical investigation in particular the Blacksmiths shop and Gunner Davis' cottage. At least one other feature, the artifact scatter (93) requires conservation work to stabilize it in situ.

Table 7.20 Historical Archaeology Policy

Policy	Actions
<i>Historical Archaeology Policy 1</i>	
<p><i>The known and potential historical archaeological sites on Goat Island are to be conserved.</i></p>	<p>1 Management actions that may affect the sites are to be assessed using the Heritage Office guidelines and in accordance with statutory provisions.</p>
<i>Historical Archaeology Policy 2</i>	
<p><i>Prior to any archaeological works being undertaken on historical archaeological sites, consult with NPWS and the Heritage Office.</i></p>	<p>1 Note that DECC has delegated authority under the Heritage Act to approve certain works including excavations.</p>
<i>Historical Archaeology Policy 3</i>	
<p><i>Identify the significant sections of the Magazine quarry face, that is, those belonging to the Colonial period and ensure that they are not impacted and that they are monitored for deterioration.</i></p>	<p>1 Establish a monitoring program for these areas.</p>
<i>Historical Archaeology Policy 4</i>	
<p><i>When funds permit, archaeological excavation of certain sites would be of benefit to for the understanding of the site and therefore the interpretation of the place. Sites that would benefit from controlled archaeological excavation are listed below. Consult individual Inventory Sheets for further guidance.</i></p> <ul style="list-style-type: none"> • Lime Kiln (63) 	<p>1 Plan for possible archaeological excavation programs, seek funding and prepare research strategies. Link programs to interpretation and key themes of the island.</p>

Policy	Actions
<ul style="list-style-type: none"> • <i>Presumed blacksmiths shop (67)</i> • <i>Sandstone footings beneath tennis court (91)</i> • <i>Artefact scatter (93)</i> • <i>Privy area (94)</i> 	
<i>Historical Archaeology Policy 5</i>	
<p><i>The appropriate approvals for historical archaeological sites are:</i></p> <ul style="list-style-type: none"> • <i>Section 60 Application (Heritage Act 1977 [136]) for archaeological excavation</i> • <i>Section 57(2) (Heritage Act 1977 [136]) Exemption Notification for works of a minor nature.</i> 	<p>1 Lodge applications for any works that may disturb archaeological sites.</p>
<i>Historical Archaeology Policy 6</i>	
<p><i>Undertake urgent works to items that require either work or monitoring to ensure their conservation.</i></p>	<p>1 Commence discussion and action on their conservation as a matter of urgency. The items are:</p> <p style="padding-left: 20px;"><i>Artefact scatter (93) – halt erosion in the short-term; excavate in the long-term if conservation is not possible</i></p> <p style="padding-left: 20px;"><i>Remnant lime kiln (95) – condition report and mitigation of dilapidation if required</i></p> <p style="padding-left: 20px;"><i>Presumed blacksmith’s shop (67) – weed control, particular in relation to the masonry wall(s)</i></p>
<i>Historical Archaeology Policy 7</i>	
<p><i>In the short term ensure that the items listed below are assessed for condition and that any works in their vicinity are undertaken with care.</i></p> <ul style="list-style-type: none"> • <i>Remnant lime kiln (95)</i> • <i>Water Police stone jetty (98)</i> • <i>Stone stairs to Water Police building (101)</i> • <i>Stone jetty, now submerged, (66)</i> 	<p>1 The works required are:</p> <p>2 Remnant lime kiln (95) – as per Policy 5 above. When funds permit, include on item inventory</p> <p>3 Water Police stone jetty (98) – ensure that this item is fully protected when the surrounding timber wharf is dismantled; engage structural engineers if necessary. Protect and interpret.</p> <p>4 Stone stairs to Water Police building (101) – Undertake weed control and review stability. Do not use these stairs for access to the building.</p> <p>5 Stone jetty, now submerged (66).</p>
<i>Historical Archaeology Policy 8</i>	
<p><i>Ensure that all rock carvings and evidence of quarrying or carved steps are protected form negative impact.</i></p>	<p>Note</p>

7.11 VIEWS AND VISTAS

Views and vistas to and from the island are an important part of its history and its presentation today. Maintaining and managing views on the island is an important aspect of interpretation and presentation. The following policies are set out to ensure that key views and vistas of high or exceptional significance, V1 to V12 as identified on Figure 5.6, are retained.

Table 7.21 Views Policy

Policy	Action
<i>Views Policy 1</i>	
<i>Retain, manage and enhance views and vistas of exceptional and high significance as identified on Figure 5.6, by managing the landscape of the island.</i>	<ol style="list-style-type: none"> 1 Remove or thin out limited areas of vegetation, such as regrowth and tree canopies, where significant views and vistas are adversely affected. Manage these areas on an ongoing and regular basis to ensure that regrowth does not remove key interpretive aspects of the significance of the place. 2 To establish the form of the Harbour Masters residence as a prominent landmark on the island, remove regrowth from the major viewing lines to the building. 3 To maintain views within and from the island, retain the setting of the island as a predominantly open grassed area with interspersed areas of planting and trees. 4 Ensure that preferred viewing sites, such as from the former residence platform areas, are managed to ensure that natural heritage values are conserved within context of visitor use. 5 Refer to Figure 5.6 for the extent and detail of significant views within and from the island to be retained and managed.
<i>Views Policy 2</i>	
<i>Consider impacts on views and vistas if redeveloping parts of the site.</i>	<ol style="list-style-type: none"> 1 Undertake view analysis related to any future building or other works and determine the impact of the work on established and significant views and vistas.
<i>Views Policy 3</i>	
<i>Incorporate plantings within significant precincts on the site in ways that enhance the visual and historical aspects of the site and which retain views across the site.</i>	<ol style="list-style-type: none"> 1 Incorporate planning for vistas and views into future Landscape Plans.

7.12 MOVABLE HERITAGE

Goat Island contains a range of movable heritage that has not been assessed in detail in this plan. The nature of the material is varied ranging from records and perishable items to industrial elements located around the site. The material will vary in significance in relation to the island but most of the items relate to the history of the place.

Some of the items are catalogued and stored but overall the collection is not currently managed as a collection.

A number of tasks are required to properly manage the collection, they include:

- 1 Development of a Collections Management Plan to address other management issues such as storage, environmental requirements, conservation needs and priorities, access, acquisition and de-accessioning, preventative conservation, and the future of the collection based on the future needs of Goat Island.
- 2 Ensuring that any actions related to the collection comply with the NPWS Movable Cultural Heritage Policy 2002.
- 3 Cataloguing the collection.
- 4 Determining the provenance of items.
- 5 Determining the significance of items.
- 6 Establishing appropriate storage for the various items types to ensure their proper conservation and to secure them from loss.
- 7 Providing information for the interpretation plan so that items can be used as part of the fitout and interpretation of the place.
- 9 Potentially having discussions with NSW Maritime to determine if they hold significant objects from the history of the island and if any are appropriate for location at Goat Island.

The movable heritage collection is an important aspect of the heritage of the island and a Collections Management Plan would provide for its management and care.

Table 7.22 Movable Heritage Policy

Policy	Actions
<i>Movable Heritage Policy 1</i>	
<i>Understand the Movable Heritage Collection</i>	1 Prepare a comprehensive catalogue of the movable heritage related to Goat island held by NPWS.
<i>Movable Heritage Policy 2</i>	
<i>Manage the Movable Heritage Collection</i>	1 Prepare a Collections Management Plan that addresses management issues including storage, environmental requirements, conservation needs and priorities, access, acquisition and de-accessioning, preventative conservation, and interpretive potential of the moveable heritage of Goat Island 2. Establish a secure moveable heritage repository on Goat Island.
<i>Movable Heritage Policy 3</i>	
<i>Rationalise the Movable Heritage Collection.</i>	1 Identify those items not associated with Goat Island and identify appropriate custodians.
<i>Movable Heritage Policy 4</i>	
<i>Interpret the Movable Heritage Collection</i>	1 Undertake cataloguing in sufficient time to inform the interpretation plan. 2 Identify those items useful for the interpretation of individual buildings and precincts
<i>Movable Heritage Policy 5</i>	
<i>Research the Movable Heritage Collection</i>	1 Make the catalogue and the items available when access, security and research is in place to allow this to safely occur.

Policy	Actions
<i>Movable Heritage Policy 6</i>	
<i>Enhance the Movable Heritage Collection</i>	1 Either as an outcome of the interpretation plan or as opportunity arises, consider acquiring through purchase, gift or loan items significant to the history of the island that are capable of adding to current information or have a particular significance to the place.

7.13 MANAGING ALIEN USES

There are several alien uses on Goat Island. Alien uses are uses separate to the management of Goat Island as a National Park.

The Goat Island shipyard is currently leased to Sydney Ship Repair and Engineering (SSRE) for a 17 year period which expires in 2016 with an option to renew for an additional 20 years. Telstra manage a telecommunications line which runs across the harbour and through Goat Island. Sydney Ports manage a number of navigation devices (including a tanker lead light) on the island. There are currently no agreements in place with either Telstra or Sydney Ports for the operation of these assets.

The Telstra telecommunications line provides an important link across the harbour. It is however not desirable to have additional infrastructure crossing the island that is not essential for the functioning of the place. Further such uses are not supported.

The use of the island for ongoing harbour management through port markers and beacons is a consistent activity with the history of the island. There have been various forms of beacons used since at least 1901 and possibly earlier. A number of the current markers are large and located for their sight lines for shipping and not for their relationship to other features on the island. The ongoing use of the island for shipping beacons is supported, however where opportunity arises, markers should be designed to have minimal visual impact on adjacent structures and the overall setting.

Table 7.23 Managing Alien Uses Policy

Policy	Actions
<i>Managing Alien Uses Policy 1</i>	
<i>The current alien uses on the island are acceptable and can continue.</i>	1 Seek a formal agreement to accommodate the navigation devices on the island so that future installations and changes are managed. 2 Seek a formal agreement with Telstra to manage any future changes regarding the telecommunications line
<i>Managing Alien Uses Policy 2</i>	
<i>No further alien uses (as distinct from lease of parts of the island) should be permitted on or across the island. The present uses should be managed to ensure that no damage or loss of heritage values occurs through upgrades etc.</i>	1 Do not consider additional alien uses on the island. 2 Place restrictions on upgrade of service lines to prevent damage to significant elements.

7.14 MANAGING CLIMATE CHANGE

Recent climate change induced sea level rise projections will have a significant bearing on the management of Goat Island.

A synthesis of the best available scientific information suggests that sea level rise in Sydney Harbour due to climate change could range from around 4-38cm by 2050 and 16-89cm by 2100. Satellite altimetry data dating back to 1992 supports a rate of sea level rise equating to the upper limit trajectory (ie 38cm by 2050 and 89cm by 2100).

By 2050, a sea level rise of 38cm (flat sea level without consideration of waves) will affect the Island as follows:

Table 7.24 Climate Change Impacts 2050

Item	Impact	Frequency
Ferry Wharf, Northern wharf and Small Boat Enclosure	Submerged	At least annually
Lowest points on shoreline between North and South Depots	Inundation by 47cm	100 year average recurring interval (ARI)
Boat Shed	Inundation by 122cm	100 year ARI

By 2100, a sea level rise of 89cm (flat sea level without consideration of waves) will affect the Island as follows;

Table 7.25 Climate Change Impacts 2100

Item	Impact	Frequency
All wharves and jetties (except for the western Broadside Wharf) and the land seaward of the Port Emergency Services Building	Submerged	50 times per year
All foreshore structures.	Submerged	10 year ARI
Lowest points on shoreline between North and South Depots	Inundation by 98cm	100 year ARI
Boat Shed	Inundation by 173cm	100 year ARI

It is important to note that sea level rise is projected to continue to increase beyond 2100.¹

Table 7.26 Managing Climate Change Policy

Policy	Actions
<i>Managing Climate Change Policy 1</i>	
<i>Use updated sea level change projections to re-assess assets at risk.</i>	1 Obtain updated sea level change projections at regular intervals not exceeding 5 years and identify assets at risk with timeframes for inundation.
<i>Managing Climate Change Policy 2</i>	
<i>Major remedial action will not be carried out to prevent</i>	1 These items will be removed when

¹ Watson P.J and D.B Lord (2009). "Goat Island Sea Level Rise Vulnerability Study", a report prepared by the Coastal Unit, NSW Department of Environment and Climate Change, January 2009.

Policy	Actions
<i>inundation of the following items;</i> <i>Dredge Office 48</i> <i>Gear Shed 49</i> <i>Fire Brigade buildings 50, 56 and 57</i> <i>Wharves 54a and 55b</i> <i>Three door boatshed 23a</i>	placed at risk by rising sea levels.
<i>Managing Climate Change Policy 3</i>	
<i>Items at risk of rising sea level will be archivally recorded prior to inundation or removal.</i>	1 Archivally record any features to be removed prior to damage or removal.
<i>Managing Climate Change Policy 4</i>	
<i>Any wharf repair/reconstruction projects will consider rationalisation and replacement with floating pontoons, as a means of providing longevity of design and use.</i>	1 Develop a long-term use and access strategy so that as wharves require upgrade or reconstruction they can be adjusted to accommodate anticipated sea level changes.

7.15 RESEARCH, LISTING AND RECORDING

Despite the extensive research undertaken in preparation of this CMP and numerous earlier documents for the island, there remains considerable scope for additional research to be undertaken in relation to various aspects of the complex history of the island.

Opportunities should be taken to undertake specific thematic studies, oral history programs with former staff and residents and collation and analysis of photos and memorabilia relating to the island.

Most of the island is currently included on the NSW Heritage Register listing. The free standing wharves and associated elements are not within the listing boundary. It is recommended that the current listing be reviewed and that the whole of the island and the wharfrage be included within the listing boundary.

Mapping of the Island should be upgraded as work progresses with further detailed surveys and mapping of features undertaken to provide a more accurate and comprehensive base for future management. In addition, full copies of all known plans should be collated and held by NPWS.

Table 7.27 Research, Listing and Recording Policy

Policy	Actions
<i>Research, Listing and Recording Policy 1</i>	
<i>DECCW will plan for long term research into the island.</i>	1 Develop a series of research projects, guided by the interpretation plan and current gaps in knowledge that can be undertaken over time. Priority should be given to: a comprehensive (publicly advertised) oral history project; documentary research on the history of the Island in the period 1870 (after the departure of the Imperial garrison) to 1900 when the Magazine complex, and the whole island, was the under the control of the NSW Colonial government; 2 Utilise resources such as student projects for research

Policy	Actions
<i>Research, Listing and Recording Policy 2</i>	
<i>The SHR listing of the site should be reviewed with a view to extending the mapping to include the whole of the islands and all of the remaining wharfage.</i> <i>The content of the listing should also be updated to reflect recent research and analysis.</i>	1 Undertake a review of the current listing and prepare a new curtilage plan of the island.
<i>Research, Listing and Recording Policy 3</i>	
<i>A comprehensive mapping program for the island is required based on the current site survey to locate all identified sites.</i>	1 Undertake mapping upgrades related to future work plans, leases etc to improve the mapping knowledge of the island. 2 Undertake the work on a staged basis and allocate budget funding over several years.
<i>Research, Listing and Recording Policy 4</i>	
<i>A research project to collate all available maps and plans of the island should be undertaken to establish a comprehensive resource base.</i>	1 Undertake a short-term project to collate all available maps and plans in high-resolution digital and hard versions.
<i>Research, Listing and Recording Policy 5</i>	
<i>A centralised repository of all known historical maps and plans of the island will be created.</i>	1 Collate all historical maps and plans in high-resolution digital and hard versions.
<i>Research, Listing and Recording Policy 6</i>	
<i>A research project to collate all available historic images of the island in a digital database should be undertaken as a resource base for interpretation of the island.</i>	1. In the medium term undertake a short-term project to compile a database of all available historic images of the Island in high-resolution format. The database should also include dates and sources for all images, enabling appropriate permissions for use to be sought from the relevant institutions (note however that virtually all of these historic images are over 50 years old and therefore no longer subject to copyright). Utilise Appendix 5 of this report as a starting point for this project.

7.16 RECORDS MANAGEMENT

The future management of Goat Island, seen in managing conservation works, records, movable heritage, etc is an important aspect of conservation planning. Often inappropriate works take place simply because the persons organising them are not aware of constraints, previous work undertaken or do not understand the nature of the materials they are working with. For all projects a centralised control system is desirable so that all proposals, works, etc are co-ordinated by a single person or group. For the management of Goat Island this would involve:

- maintaining records of work proposed and undertaken
- maintaining copies of reports and work schedules
- checking works against control documents such as this CMP
- being responsible for preparing and lodging works applications where required

- undertaking or organising regular and annual inspections of the buildings and site in the form of an audit
- preparing budgets and estimates of works required (with assistance from consultants)
- managing consultants
- being responsible for ensuring that advice is sought when needed on specific issues
- calling and letting contracts for work
- reporting to NPWS

Maintaining records is a key undertaking as this provides guidance in the future for people who will take responsibility and allows them to build on what has taken place rather than starting again.

Table 7.28 Management Policy

Policy	Actions
<i>Management Policy 1</i>	
<i>Establish a system of records for all information related to Goat Island and its fabric and store in a secure location.</i>	1 Utilise existing recording systems where possible or develop a record system for all site records.
<i>Management Policy 2</i>	
<i>Establish a central point of control for all property matters.</i>	1 Appoint a member of NPWS staff to manage property matters on the island. Ensure with changes of personnel that adequate hand-over of material takes place.
Policy	Actions
<i>Management Policy 3</i>	
<i>Provide copies of this CMP and other key reports to the NSW Heritage Council.</i>	1 Issue copies of this plan to key agencies.

7.17 PLAN CONSULTATION AND REVIEW

Limited consultation has occurred as part of the preparation of this revision of the CMP. An internal steering committee has provided input and advice throughout the development of the CMP and an external community advisory group provided further advice. The draft Goat Island Conservation Management Plan (CMP) was placed on public exhibition in 2009 for a period of 6 weeks. Six submissions were received and the key issues raised are summarised as follows;

- There was a perceived bias of significance of colonial buildings/landscapes and views of colonial buildings/landscape over later buildings/landscapes (ie that of maritime industrial heritage).
- All submissions urged the conservation of all layers of history (including the maritime industrial layer).
- The Hammerhead Crane is considered by submissions to be of 'high' significance.
- Buildings/structures of 'high' significance should not be removed.

In response to the submissions and internal NPWS review the draft CMP has been thoroughly reviewed and, where agreed, these concerns have been addressed and incorporated into the final version of the CMP.

It is proposed that a review take place within seven years, which provides sufficient time to see the first stages of conservation, public access and other potential uses established, and gives enough time for monitoring over several years. Should a review be required in a shorter time frame for a specific reason, such a review is supported.

The objective of a review is not to rewrite the plan but to provide a formal process to consider policy and whether it remains appropriate to guide the next stages of the future of the place.

The plan may remain in its current form with a simple addendum addressing new or changed issues.

Table 7.29 Plan Consultation and Review Policy

Policy	Actions
<i>Plan Consultation and Review Policy 1</i>	
<i>Conservation policy should reflect accurate information, significance to past, current and future generations and changing community expectations.</i>	1 Review this CMP within ten years or sooner if new information comes to light that changes the basis of the policy.

7.18 URGENT ACTIONS

The following is a summary of identified urgent actions which should be undertaken within 1-2 years, they are drawn from previous policy sections.

Table 7.30 Urgent Actions

Policy Area	Actions
Uses Policy	
<i>Uses Policy 1</i>	1 Undertake a program of works to allow for public access to the island
<i>Uses Policy 6</i>	2 Establish a maintenance program for buildings and equipment (such as the hammerhead crane) based on Appendix 5: Schedule of Cyclical Maintenance Works
Public Access Policy	
<i>Public Access Policy 1</i>	1 Prepare an access management strategy for the whole island.
<i>Public Access Policy 3</i>	1 Develop consistent approaches to restricting public access to areas that are potentially dangerous, areas subject to lease, areas undergoing rehabilitation etc. Develop designs for fences, signs and barriers.
<i>Public Access Policy 4</i>	1 Provide appropriate signs on wharfs around the island advising of restricted access.
Interpretation Policy	
<i>Interpretation Policy 1</i>	1 Develop a detailed interpretation plan with a strategy based on the outline of themes in this CMP
<i>Interpretation Policy 2</i>	1 Develop a comprehensive interpretation display for visitor arrival and orientation area on the island
Conservation and Maintenance Policy	
<i>Conservation and Maintenance Policy 1</i>	1 Based on the recommendations of Appendix 5, budget and seek funding for undertaking of urgent conservation works.
<i>Conservation and Maintenance Policy 2</i>	1 Develop a management program to monitor each structure, to record works undertaken and to set out required works within budgets as the basis of a comprehensive works program

Policy Area	Actions
Adaptation of Buildings Policy	
<i>Adaptation of Buildings Policy 1</i>	1 Based on the recommendations of Appendix 5 of this CMP and on a detailed site review, prepare a schedule of immediate works with budgets to seek funding to undertake the works in the immediate future.
OH + S Policy	
<i>OH+S Policy 1</i>	1 Prepare a risk assessment based on the proposed use and access of the island and its various parts
<i>OH+S Policy 2</i>	2 Develop OH + S signs and advice and train staff in risk management
General Landscape Policy	
<i>General Landscape Policy 1</i>	1 The landscape management zone plan at Figure 7.1 of this CMP should be implemented.
<i>General Landscape Policy 2</i>	1 Continue urgent programs such as weed eradication, removal of unwanted undergrowth and general grounds maintenance across the island.
Managing Alien Uses Policy	
<i>Managing Alien Use Policy</i>	1 Put in place agreements with all service providers present on the island.
Management Policy	
<i>Management Policy 1</i>	1 Use a record system (existing or developed) for all site records
<i>Management Policy 2</i>	1 Appoint a member of NPWS staff to manage all property matters on the island. Ensure with changes of personnel that adequate hand-over of material takes place.
<i>Management Policy 3</i>	1 Issue copies of this CMP to all key agencies.

ⁱ Minor new elements are elements which would not adversely affect the heritage significance of the Island, and would include works such as: temporary buildings eg. marquees, or temporary lighting, erected in areas without known or high archaeological potential and without adverse impact on views of high or exceptional significance. Discretion should remain with National Park heritage staff for determination in this regard.

