H.M.A. Naval Dockyard, Garden Island : a building conservation study of the historic buildings

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H.M.A. NAVAL DOCKYARD, GARDEN ISLAND: A BUILDING CONSERVATION STUDY OF THE HISTORIC BUILDINGS

ERIC J. MARTIN
M. B. ENV. 1980,
U.N.S.W.

SCHEDULE OF AMENDMENTS TO MAIN DOCUMENT

ABSTRACT PARA 3 delete "hardly surpassed in the world."
add "which is very rare."

LIST OF FIGURES No 33 modify source to read (AANSW COD 121 No 488).
No 36 modify source to read (AANSW COD 121 No 605).

Page 76 rewrite para three to read

Tender Information - NSW Gazettes

Tenders called: refer to Gazette for the date mentioned

Contract let: refer to the Gazette for the date mentioned or the following Gazette.

Page 249 Section 8.2.1 replace "register" in recommendation with "records".
Last para, add after first sentence "(refer to section 1.3 page 5)."

Section 8.2.2 replace para with

" *(a) Information in the Australian Heritage Commission records should be corrected and completed".*

Many details on Garden Island and the buildings thereon are not provided. The errors in the records appear to stem from the use of the National Trust of Australia (NSW) Records (see above). Nevertheless, the Australian Heritage Commission should have accurate information about places on the Register of the National Estate.

Page 250 Section 8.2.2 (b) should read

"*(b) The following Buildings should be listed individually on the Register of the National Estate*

Building 88 Battery Shed
Buildings 16-20 Residences Group
Buildings 21 & 22 Two Residences"

delete rest of section and add to this section everything in Section 8.2.2 (c) after the recommendation.

Page 251 Section 8.2.2 (d) should commence

"*(c) The following items which are considered important by the Australian Heritage Commission (refer page 8) should be individually listed on the Register of the National Estate.*"

Page 252 Section 8.2.3 (c) reword recommendation to read

"*(c) Key items of Engineering Heritage should be included on the National Trust Archaeological Register, the Australian Institute of Engineer's Register of Engineering Heritage and individually listed on the Register of the National Estate.*"

Page 253 Section 8.3.1 (c) reword to read

"(c) Most of the original naval station buildings remain thereby forming a unified group which is very rare."

Page 254 Section 8.3.2 rewrite first para to read

"The most important issue here is that the significant elements of the Island must be conserved."

Page 254 Section 8.3.2 cont.
replace "integrity" in para three with "significance".

Page 254 Section 8.3.3 (a) replace *"and upgrading"* with *"to rationalize their layout and use to improve the operation ofthe buildings. Furthermore, unsympathetic additions should be removed."*

Page 255 at end of para one add"(refer section 7 page 241)."

Page 257 add cross reference to items in brackets in the following
"(Building 95 and 98, refer page 215 and page 218)
(Building 99, refer page 221)
(Building 90, refer page 223)."

Page 260 Section 8.4.2 add at end of para one "(refer page 232 item (e))."
add at end of para two "(refer pages 232 and 236)."

Page 260-1 Section 8.4.2 (a) replace words at top of page 261 with
""maintain the principal views free of heavy tree planting and car parks" (refer page 251)""

Page 261 Section 8.4.2 (b) add after recommendation
"Landscape proposals should not include such items as fountains, sunken pits or complex garden designs.
Section 8.4.2 (e) add after recommendation
"This is especially so for the northern hill and is consistent with other Sydney Harbour foreshore landscaping proposals (e.g. South Head)."

Page 265 Section 8.5.2 (a)
Page 267 Section 8.5.3 (a) } replace "unique" with "unusual*".

Page 265
Page 267 add footnote to read

"*It is not very common to have residences so closely intermingled with such a vast industrial area."

Page 299 Section 8.6 delete para two and start of para three and replace with

"A management plan should include:

(i) History of Garden Island;
(ii) History of the Buildings on Garden Island;
(iii) The Present Condition of Buildings;
(iv) Recommendations and conservation guidelines for all significant elements.

These four aspects are covered in earlier sections of this report. Other general conservation guildelines are:"

Page 302 Section 9.0 modify end of para four to read

"unified group of buildings which is very rare."

Page 303 add after para one"(refer section 7 page 232 item (g) and section 7.6 page 241)."

Page 367 add at end the following

"The precise basis for the colours selected has been either

M - determined from microscopic evidence of paint samples,
P - selected, from a range of nineteenth century colours found from microscopic evidence, after analysis of early photographs, or
A - selected, from a range of nineteenth century colours found from microscopic evidence, on aesthetic grounds to blend with the overall colour proposals.

Page 367 cont.

"For the buildings listed on pages 369-376 the basis of the individual colours selected is set out below.

Building 21 & 22 walls -M, rest - P.
Building 25 Door - M, walls - A.
Building 31 walls - M, rest to match Building 21 & 22.
Building 32 walls and columns - M, windows - P.
Building 37 Bays and Pilasters - M, window and doors - P.
Building 88 Wall - M, window to match Building 95, door - A.
Building 95 Wall and window - M, door - A.
Building 99 Bays and Pilasters - M, windows and doors to match Building 37."

H.M.A. NAVAL DOCKYARD, GARDEN ISLAND:
A BUILDING CONSERVATION STUDY OF
THE HISTORIC BUILDINGS

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OCTOBER 1980

ABSTRACT

The history of Garden Island is very much entwined with the history of Australia and with that of the Royal Australian Navy.

From meagre beginnings as a ship's garden it has grown to become the major naval base for Australia.

H.M.A. Naval Dockyard, Garden Island, includes an Historic Buildings Precinct consisting of most of the original naval station buildings constructed between 1885 and 1896. These buildings form an extremely unified group hardly surpassed in the world, and as such are part of Australia's National Heritage.

The Dockyard is at present undergoing a major modernisation to service the Royal Australian Navy for the next twenty five years. One of the original objectives of the modernisation proposals was to enhance the historic precinct and the buildings therein.

However, current proposals do not include any work on many of the historic buildings. Also, a number of the buildings have undergone insensitive additions and unsympathetic maintenance.

There is an urgent need to consider all the historic buildings on the Island and to implement an overall and detailed management plan for the conservation of these important assets.

This study provides the history of the Dockyard and recommends conservation guidelines as the first step in this critical task. Previous research has tended to be scant and reliant on secondary sources which provides an inappropriate basis for defining future action.

In addition research into and commentary on the design of the buildings and the architectural input of James Barnet, the Colonial Architect, is presented.

As some of the modernisation is already underway comments on existing proposals are also made.

Following an assessment of the present condition of all buildings, detailed conservation guidelines are given for the precinct as a whole and for individual buildings.

It is hoped that the Federal Government Departments concerned with the management and modernisation of Garden Island will take up this initiative and ensure the conservation of this asset.

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LIST OF FIGURES

Note: The source of the original photographs or drawings reproduced is given in brackets. Where no source is mentioned the originals are held by the author.

PREFACE

The selection of a conservation study of the Historic Buildings on Garden Island as a Graduate Project resulted from a short series of events.

The writer is employed by the Department of Housing & Construction (ACT Region) and took leave to do the Master of the Built Environment (Building Conservation) course at the University of New South Wales in 1980. For the Graduate Project, which forms an important part of this course, it was decided to complete a study with a practical bias which offered a challenge, satisfied the University's requirements and made a useful contribution to conserving part of Australia's Heritage.

As the writer was unfamiliar with Sydney an approach was made to the NSW Region of the Department of Housing & Construction to see if there were any areas of study which would be of use to them. One of the first suggested was Garden Island. Little was known about the Island, then, except that a large scale modernisation was proposed for it, and that the Department had not considered what should be done with the group of Historic Buildings. A conservation study prepared in 1980 would be invaluable in developing future proposals for the Dockyard.

This was the basis for what follows.

Eric J. Martin

ERIC J. MARTIN

October 1980

SECTION 1

INTRODUCTION

1.0 INTRODUCTION

1.1 AIM OF THE STUDY

A report prepared by the Garden Island Modernisation Planning Team in May 1979 stated that "of particular importance on Garden Island is the fact that so many buildings of the original naval establishments still exist. Thus, whilst some of the buildings individually may have limited architectural value, the fact that they form part of this original group may warrant their preservation."[1]

Over the years there has been a number of insensitive additions to some buildings and the impact of the group is overshadowed by unsympathetic neighbouring structures.

The objective of this project is to research the history of the Island, in particular that of the Historic Buildings. Using this and a study of the present condition of the Historic Buildings, conservation guidelines for future action can be established.

These guidelines bring to a head the future of the Historic Buildings, many of which are not part of the modernisation proposals but which require urgent and sympathetic consideration.

This report is intended to provide the first essential step in

in conserving these assets.

1.2 GENERAL COMMENTS

H.M.A. Naval Dockyard Garden Island, which is located on Sydney Harbour's southern shore (see Figure 1, Location Map), is the Royal Australian Navy's main fleet base and principal ship refitting dockyard.

As a fleet base, Garden Island provides direct support to operational ships of H.M.A. Fleet and any foreign warships which may be visiting Sydney. Also it is the location of the Fleet and Maritime Headquarters.

Garden Island Dockyard carries out major maintenance on, and repairs to, H.M.A. ships and their equipment during periodic refits. The dockyard also undertakes the occasional ship modernisation or conversion task. Other functions of the dockyard are to manufacture and repair stores, repair support craft and assist other naval establishments in the area in the maintenance and repair of naval equipment.

The dockyard occupies 24.5 hectares and contains a large number of buildings as can be seen in Figure 2. Throughout this report the buildings will be referred to by their number denoted on that plan and by their common name.

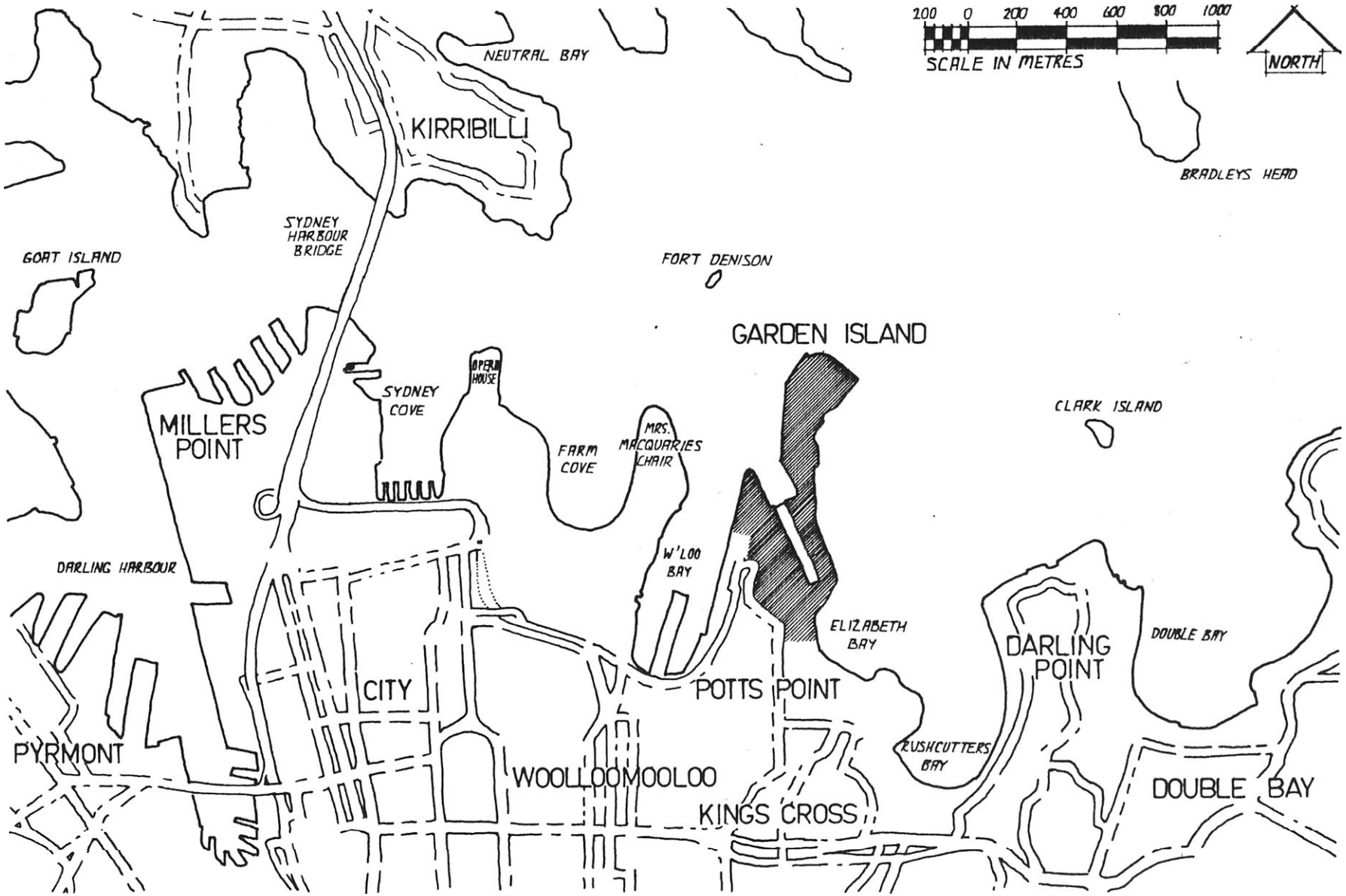


Figure 1 Garden Island Location Map

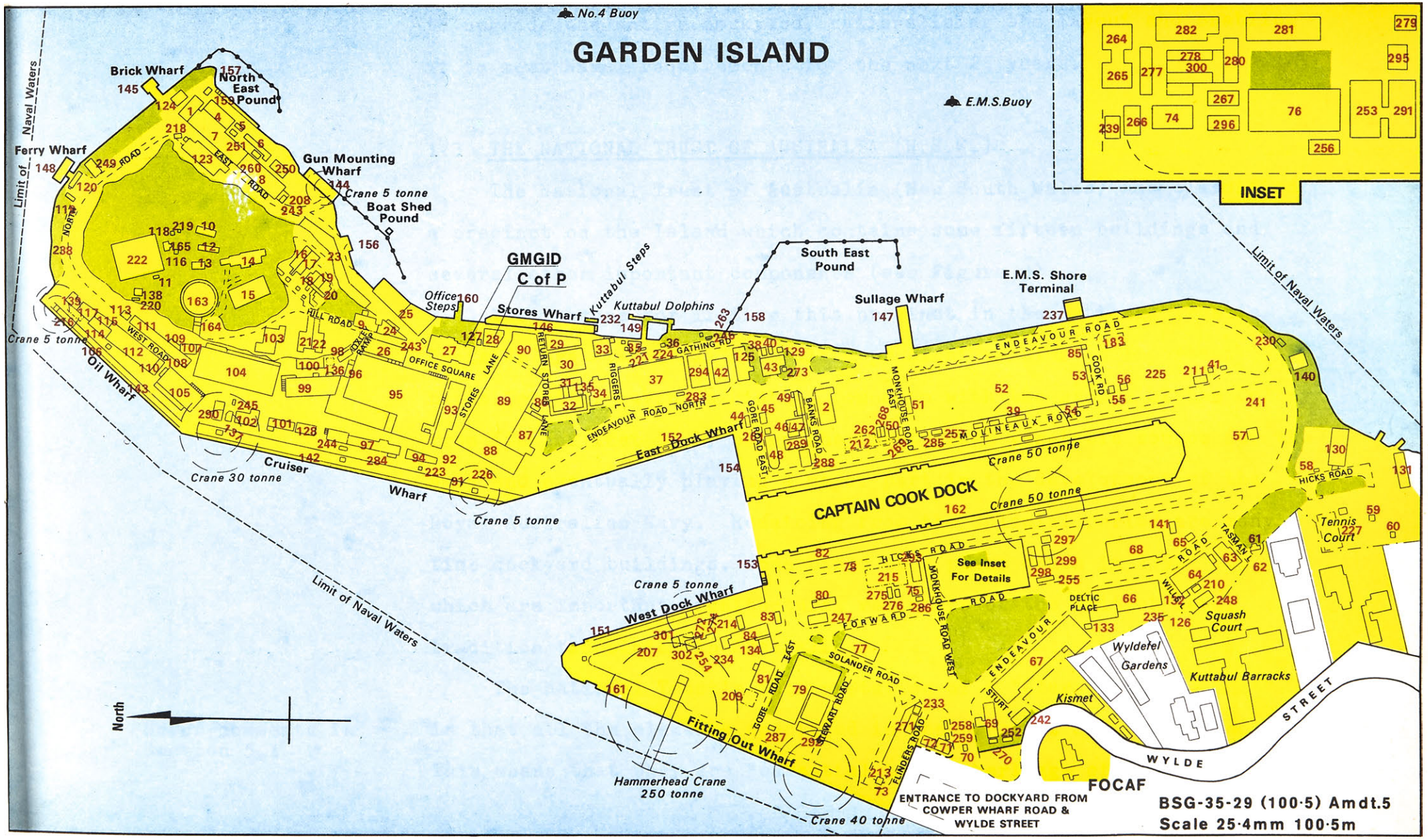


Figure 2 Plan of Garden Island, 1980

Modernisation proposals being prepared at present are intended to upgrade the entire dockyard, rationalising the layout and enabling it to meet Naval requirements for the next 25 years.

1.3 THE NATIONAL TRUST OF AUSTRALIA (N.S.W.)

The National Trust of Australia (New South Wales) has classified a precinct on the Island which contains some fifteen buildings and several other important components (see Figure 3).

The reasons for listing this precinct in the National Trust's Register are stated as "the Island precinct remains an important historic site, having a history bound up with the growth of the Colony from its earliest time, being the first fresh vegetable source for the Navy and eventually playing a major part in the development of the Royal Australian Navy. Remaining from the Colonial period are many fine dockyard buildings, some based upon plans drawn in 1790* ..., which are important architectural reminders of the British naval tradition translated in Australia."

The National Trust's interpretation of a "Classified Precinct" is that all the elements specified in the precinct are classified. This means that they are "essential to the heritage of Australia and

*Refer comments in Section 5.4

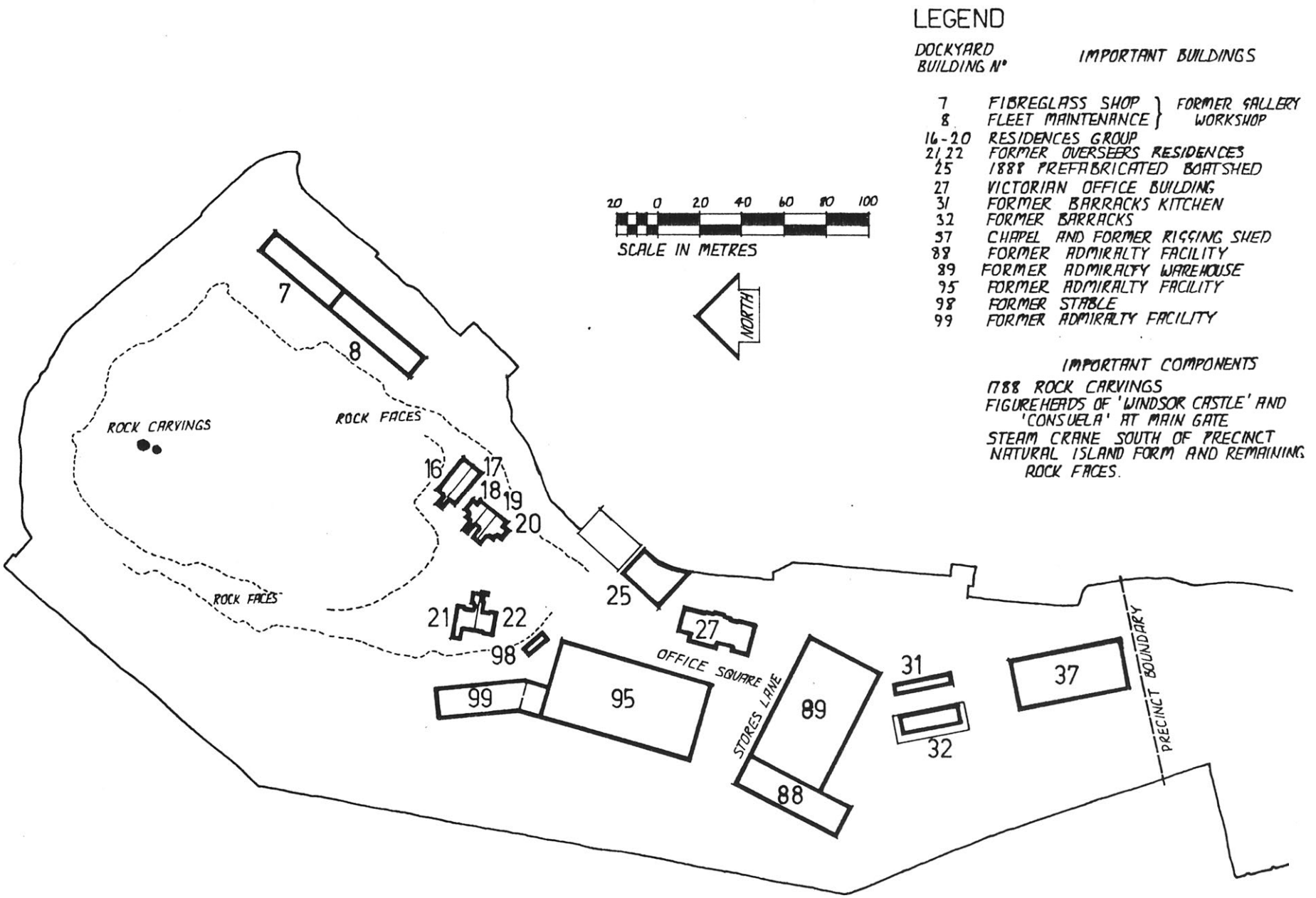


Figure 3 Plan of Garden Island Precinct

must be preserved."

As far as Federal Government assets are concerned the National Trust acts in an advisory capacity assisting the Australian Heritage Commission.

1.4 THE AUSTRALIAN HERITAGE COMMISSION

The Australian Heritage Commission Act (1975-76) set up an Australian Heritage Commission (AHC) to establish and maintain a Register of the National Estate. Other functions are to encourage public interest in, and to ensure appropriate conservation and control of, the National Estate.

The Register seeks to identify places* which are deemed to be of significant value to our heritage.

A precinct and a number of individual places on Garden Island are entered on the Register. The full statement of the entry reads:

"Garden Island Precinct, comprising the whole of the former Island and associated wharves and steps etc. north of the south wall of the Rigging Shed (asset No. 37) Garden Island, Sydney Harbour.#

Secretariat, former Barracks with Kitchen Block at rear,

*Subsection 3(1) of the Act does not define 'place' but notes that it includes a site, area or region, structure or group of structures. Associated equipment, furniture, fittings or articles may be included.

#This is as shown on the National Trust's Register in Figure 3.

Buildings Nos. 31 and 32. Part of Garden Island Precinct north of Captain Cook Graving Dock, Garden Island, Sydney Harbour.

Rigging Shed and Chapel, in former Sail Loft (No. 37). Part of Garden Island Precinct, south of former Barracks Building, Garden Island, Sydney Harbour.

Factory,* part of Garden Island Precinct, north of former Barracks, Garden Island, Sydney Harbour.

Naval Stores,# part of Garden Island Precinct, north of former Barracks, Garden Island, Sydney Harbour.

Office Building,ϕ part of Garden Island Precinct, north of Naval Stores, Garden Island, Sydney Harbour."

Everything within the precinct area is significant and comes under the jurisdiction of the A.H.C. The reasons for listing individual buildings are that those places are considered significant in their own right as well as being associated with the precinct.

The statement of significance specified on the Register is the same as that for the National Trust.

Other items considered important by the Australian Heritage Commission are the:

*Refers to Building 95

#Refers to Building 89

ϕRefers to Building 27

Other Historic Buildings;

Figureheads of the Ships 'Windsor Castle' and 'Consuela';

Signal Station Hill and Planting;

Two incised rocks on the Hill;

Views of Buildings Nos. 37 &32 from Woolloomooloo,

No. 37 from the east,

No. 27 from the east,

Nos. 89, 27 & 95 from Office Square & Stores Lane.

Subsection 30(3) of the Act requires that before any Commonwealth Authority takes any action that might affect to a significant extent a place on the Register of the National Estate, the Authority should inform the Australian Heritage Commission of the proposed action and give the Commission a reasonable opportunity to consider it.

1.5 SCOPE OF THE STUDY

This study concentrates on the Historic Buildings on Garden Island as defined within the Classified Precinct of the National Trust and the Australian Heritage Commission.

Some comment has been made on the more recent buildings which

adjoin or are adjacent to these Historic Buildings.

As Building 37 (Rigging Shed) and Building 31 (Kitchen) form part of Stage 1 of the Garden Island Modernisation proposals, they have undergone a detailed appraisal by Architects Philip Cox and Partners. The brief to these architects was extended to include Building 34 (Canary Cottage)(refer Figure 2). The history of the buildings will be briefly covered in this report and some comments on the Stage 1 proposals given.

SECTION 2

HISTORY OF GARDEN ISLAND

2.0 HISTORY OF GARDEN ISLAND

2.1 INTRODUCTION

This section traces the history of Booroowang[2], (the name that the Aborigines gave to Garden Island)*, from its first contact with the white man in 1788 until 1980.

The story of the development of the Island as a major naval base for the Royal Australian Navy will provide the setting for the detailed report of the buildings.

2.2 1787 - 1811 SETTLEMENT OF GARDEN ISLAND AND ITS USE AS A GARDEN

On the 17th May, 1787, the *First Fleet* left England to sail for Australia under the command of Captain Arthur Phillip. Phillip, on board the *Supply*, arrived in Botany Bay on the 18th January, 1788 and immediately recognized that the area was unsuitable for settlement, there being a lack of arable land. He organized and led a small expeditionary party which set off on the 21st January and headed north along the coastline. Phillip returned on the 23rd January with the news that Sydney Cove in Port Jackson was suitable for settlement and the fleet sailed into Port Jackson and landed officially in Sydney

*David Collins in his book "An Account of the English Colony in NSW", 1798, Appendix xii p 610 defines "Booroowang" to mean "An Island (this word they applied to our ships)"

Cove on 26th January, 1788.

After a journey taking more than 8 months the fleet had few fresh provisions and Phillip wished to get available land under cultivation as soon as possible. Phillip's actions in those first days of the colony are anthologised by J. Cobley (1962).*

"The Governor set aside an area of ground for a vegetable garden for them (sick marines) and allocated an island near the cove to the Sirius for the same purpose."[3]

It then goes on to mention that on the 5th February, 1788

"an island near a mile below the settlement was granted for the use of the Sirius to make a garden of."[3]

In the log of *H.M.S Sirius*, under the date of 11th February, 1788 is the following entry.

"Sent an Officer and party of men to the Garden Island to clear it for a Garden for the Ship's Company."[4]

Thus we see the naming of and the first occupation of Garden Island some sixteen days after the first landing.

The reason for the selection of Garden Island is not clear; however, it is likely it was chosen because its centre appears to have been comparatively clear while most of the foreshores of Port Jackson

*Cobley gathered together all the available accounts and set them chronologically.

were thickly wooded.[5]

Men from the *Sirius* continued to work the island, but water had to be brought by launch[6] as there was no fresh water on the island.

At the northern end of the island are two rocks, one with the initials 'W.B. 1788' and the other with 'I.R. 1788' and 'F.M. 1788' (see Figure 4). It has been suggested by many authors that the 'F.M.' probably belongs to Frederick Meridith, but that is not entirely justifiable. It is difficult to say to whom the initials belong. This issue is discussed in greater depth in Appendix 1.

These carvings are most probably from members of the early work parties and are the only extant evidence of the first settlers in Australia.

Work on the island was not without interference from the natives. On 19th February, 1788

> "a party of them, consisting of fifteen or eighteen persons, sometime after landed on the island where the people of the *Sirius* were preparing a garden, and with much artifice, watching their opportunity, carried off a shovel, a spade and a pick-axe. On their being fired at and hit on the legs by one of the people with small shot, the pick-axe was dropped, but they carried off

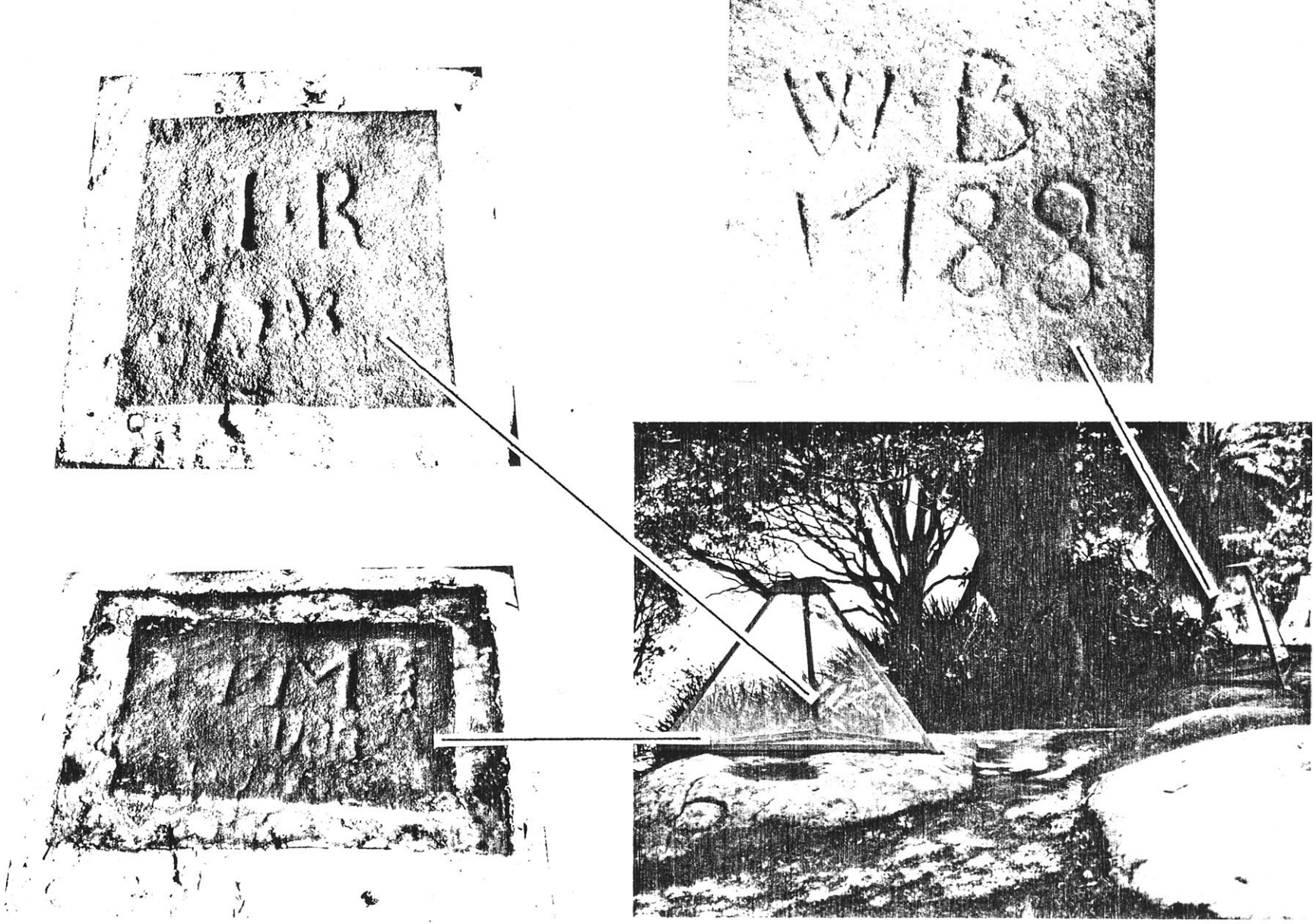


Figure 4 Rock Carvings

the other tools."[7]

Not all contact with the natives was as violent and troublesome, as shown on the 19th April, 1788 when some natives in canoes visited the men working there. They were given some gifts and they went away immediately.[8]

On the 4th May, 1788 three men from the *Sirius* were involved in an incident on Garden Island. These three were employed on the island, the seamen (James Coventry and James McNeal) cultivating the land, and the soldier (Atwell) protecting them. They lived together in a hut that was built for them.* On the evening of the 3rd May, 1788 they received their week's allowance of spirits, became intoxicated and quarrelled. Coventry and Atwell assaulted McNeal, who sustained severe lacerations to the head and was concussed. Judge Advocate Collins tried Coventry and Atwell on the 26th May, 1788, found them guilty and, as pecuniary damages were out of the question, sentenced each to receive 500 lashes.[9]

The only other reference to Garden Island in 1788 was that on 23rd June when the *Sirius* sent a party to Garden Island.[10]

In the first year of the garden, its success was not assured, probably because of planting out of season. This is further shown in

*This appears to be the first evidence of a structure on Garden Island, although it is not documented in any other source found.

a letter from Daniel Southwell, written to his mother and recorded in the log of the *Sirius*.

"H.M.S. Sirius,
Table Bay, Cape of Good Hope,
19th February, 1789.

"...When we left that place (Port Jackson) we left a man to look after a kind of kitchen garden situated on a small island in the harbour, and appropriated to the service of H.M.S. Sirius. Should this succeed and yield increase it will prove of good use and worth the labour it has cost. But though we may, at our arrival, be longing for refreshments of this nature, for my part I will not be sanguine, for not only our blacks, but our still more barbarous neighbours the convicts, may have despoiled or destroyed it."[11]

Southwell's fear of the convicts appears justified. One recorded incident involving convicts on Garden Island is the story of Black Caesar, a notorious convict who was a native of Madagascar. Judge Advocate Collins writing in 1798 maintained that Caesar was

"reputed the hardest working convict in the country,"

but described him by saying

"in his intellects he did not very widely differ from a brute."[12]

In punishment for stealing, Caesar was sent to Garden Island in June 1789, there to work in fetters. In addition to his normal rations he was supplied with vegetables from the garden. It appears from this that the garden was productive.

Caesar was kept on the island for several months. He was eventually permitted to work without the irons but on 22nd December 1789 he escaped from the island taking the only canoe and a week's provisions. A few nights later he stole an iron pot, a musket and some ammunition.[13]

Caesar gave himself up at Rose Hill some time later[14] and was sent to Norfolk Island on the 3rd March, 1790.[15] A few years later he was reported to be at large in Sydney once again.[16]

During Governor Hunter's time (1785 - 1800) Garden Island was allocated to the *Supply (the second)*.[17] This was probably late in 1795 as the *Supply* arrived in the colony on 7th September, 1795. She left for the Cape of Good Hope on 20th September, 1796 and returned to Sydney on 16th May, 1799.

Some time after, a house was built under the direction of Lieutenant Robert Braithwait who resided there for the most part.[17] This appears to be the first building of any substance on Garden Island.

Lieutenant Braithwait made some claims to Governor Hunter for building the house. Hunter directed that a butt of spirits be given to him.[17] As Braithwait was granted land at Mulgrave Place in December 1799 it is probable that he left the island about that time.[18] Allowing Braithwait some time to live in the house he built would mean that it was probably built between 1795 and 1798. The house is shown in the sketch from George Barrington's book of an "Account of a Voyage to N.S.W. in 1803" (see Figure 5). It was described as

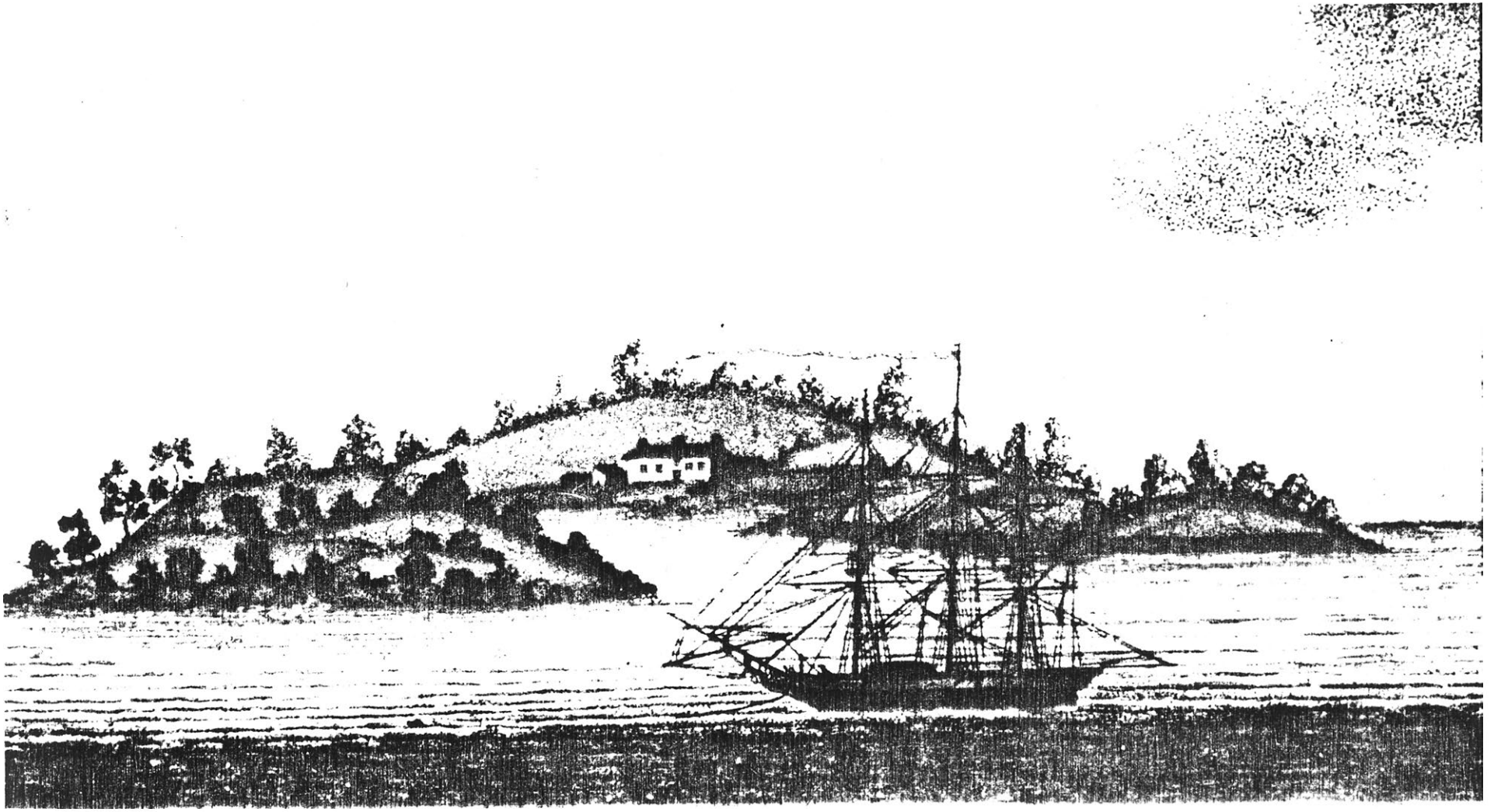
> "a small house ... not always habitable when the winds blew from a particular point."[19]

It is not known how long the house was used or remained on the island, but it was still there in August 1806 as mentioned in correspondence between ex Governor King and Governor Bligh.[20]

During Governor Hunter's time a battery of two guns was constructed on Garden Island. These were mounted on the high part of the Island some time after 1796.[21] The first evidence of them appears on 31st August, 1799 when Collins says that

> "a work had been erected on Garden Island."[22]

In a return of Guns and State of Batteries at Sydney, New South Wales, 1st October, 1800,[23] the following information was contained.



"Reproduced by Courtesy of the Mitchell Library, Sydney"

Figure 5 View of Garden Island - 1803

	GARDEN ISLAND	
	Caliber	
	6 P'Rs	Total
Servicable	2*	2
Unservicable		
Total	2	2

*The tracks of the guns are buried in the sand and rotten.

This number of guns had not changed when the State of the Batteries and Return of Ordinance at Port Jackson, N.S.W. was given on 21st August, 1801.[24]

King's letter to Bligh referred to above[25] has been interpreted by some people to read that a Mrs. Winch lived on the island raising poultry at the time of Governor Hunter. A careful study of the letter will show that this is not the case as the location referred to is Ball's Head on the North Shore and not Garden Island.

The next ship's company to use Garden Island was that of the *Lady Nelson*. At the Cape of Good Hope, on the journey to Australia, many volunteers asked the Captain, Lieutenant James Grant, for passage to Australia. Grant accepted two, a carpenter and 'an eccentric person' named Dr. Brandt.

In the Government and General Order published on 7th January, 1801

and signed by Governor Philip Gidley King appeared the following

"Garden Island being appropriated as a Garden for the *Lady Nelson*, no person is to land there but with Lieutenant Grant's permission, or the Governor's in his absence."[26]

Grant took possession of Garden Island. He said that "there was the shell of a tolerable house on it, which required much repair to make it habitable."[27]

In Grant's absence he had Dr. Brandt reside there and take charge of his property.

Lady Nelson held the Island until Lieutenant Grant went to England on 9th November, 1801. It was then controlled by the Commander of the *Porpoise*, Captain William Scott*, until that ship left for England on 10th August, 1803.[28] After this it was controlled by 'different persons not in the Navy line' until Captain Houstoun asked for it for the *Buffalo*. Captain Houstoun was appointed to command the *Buffalo* on 30th April, 1805, so its involvement with Garden Island was sometime after that. It was still under the control of the *Buffalo* in August, 1806[29] which is the last record of the Island being under the direct control of one of the ships.

An interesting event relating to Garden Island was recorded

*Capt Scott was not commander of the *Porpoise* all the time. He was, however, commander while it controlled Garden Island.

in the Sydney Gazette and New South Wales Advertiser on 10th April, 1803.*

"On Saturday the 2nd inst, the Provost Marshal went with an inquiry to Garden Island, in consequence of a Native being shot the preceeding evening while plundering the grounds of Captain Scott, at that place. After a very minute investigation of the circumstance and its antecedent causes, the Jury brought in a verdict 'Justifiable Homocide'. The canoe of the deceased was found full of maize, melons etc. taken out of the above grounds, and although several others had assisted in the depredation, yet upon the appearance of Captain Scott's servants they leaped into the water, and got clear off. It also appeared, we are sorry to say, that several white men were among the natives, who there is every reason to suspect, had assisted and encouraged them in their delinquency, but who then also escaped apprehension. A fishing boat was found near to the natives' canoe, which as it appeared without an owner, was confiscated to the public use."

From this it seems that the garden was quite prosperous and serving the colony well. How long this continued is uncertain.

In his book on the history of Sydney Harbour written in 1966,

*The first edition was printed on 5th March, 1803.

Stephensen suggests that the use of the garden was now unnecessary as fresh vegetables were available in the market at Sydney Town. This could explain the garden's demise.[30]

In a Government and General Notice issued by the Secretary's Office, Sydney (for Governor Macquarie), 7th September, 1811, it is recorded that:

> "It being deemed expedient that the island situated in the harbour of Port Jackson, and near to Farm Cove, called Garden Island, should be comprised in and considered in future as forming part of the Government Domain, notice is hereby given that all the growth and produce of said island, whether timber or grass, is to be appropriated in future to the exclusive use of his excellency's establishment; and all persons are cautioned not to cut grass or timber there, as any persons detected in so doing after this public notice will be prosecuted and severely punished. Persons detected or convicted of having set fire to any wood or grass on Garden Island will be most severely punished for such wanton mischief."[31]

However, a further Government Public Notice on 17th October, 1812[32] concerning and defining the boundaries of the Domain make no

mention of Garden Island. Also, in a much later Government Order issued by Governor Darling on 8th June, 1829 which gave a 'complete list of certain parcels of land' reserved for public purposes, Garden Island is not included.[33]

From these it may be inferred that Garden Island was no longer considered part of the Domain.

2.3 1812 - 1850 IDLE YEARS

Garden Island was most probably used as a pleasure resort for picnics and the like during this period. However, as it required the use of a boat to get there, and there were other picturesque and more accessible picnic spots around the Harbour, it would not have been used frequently.

Following Macquarie's notice in 1811 there are few references to Garden Island. One did occur on the 27th October, 1821 in the Sydney Gazette and N.S.W. Advertiser. It was reported that Governor Macquarie was seeking voluntary subscriptions to support his proposal to erect a 50 foot Cenotaph 'in a conspicuous and commanding position' on Garden Island. It was to be in memory of the late Princess Charlotte of Wales and Saxe-Coburg, but it did not eventuate.

Another notice in the Sydney Gazette and NSW Advertiser on 3rd May, 1826 is an interesting one. In an anomymous article under the heading of 'Governor Bligh (1806-1808) and Colonel Johnson' the author, in recapitulating the previous 18 to 20 years, stated that Garden Island had been a receptacle of the sick. No other primary reference to Garden Island ever being used in this way can be found, so whether or not it was so used is open to question.

Garden Island was also a cemetery for a number of years.

Ellis Bent who arrived with Governor Macquarie (in 1809) was Deputy Judge Advocate from 1st January, 1809 and Judge Advocate of the Colony from 1st June, 1810 till his death on the 10th November, 1815. Bent was accorded a public funeral, and, after the service in St. Phillip's Church was interred in the burial ground which is in the vicinity of the present day Sydney Town Hall, sometimes referred to as the Old Sydney Burial Ground or the George Street Cemetery.[34] The idea of shifting Bent's remains to Garden Island was under consideration shortly afterwards. In a letter from Mr. Justice Bent* to Governor Macquarie on 15th February, 1817, he reminded Macquarie of his 'promise that the remains of his brother, the late Judge Advocate, might be removed into the Church, in case Mrs. Bent should still object

*Ellis Bent's brother.

to Garden Island.'[35]

In 1819 the Old Sydney Burial Ground became overcrowded and a new one opened up on a site later to be occupied by the Central Railway Station (Devonshire Street Cemetery).[36] After this the George Street cemetery gradually fell into disuse.

Bent's remains were finally removed to Garden Island on 22nd September, 1825.[37]

In Bent's Tomb were also interred the remains of his friend Major John Ovens. Ovens arrived in the Colony in 1810 and was appointed Engineer by Governor Macquarie. In 1811 he returned to England. After serving as Aide de Camp to Major General Thomas Brisbane during the Peninsula War in Spain, he accompanied his General to the colony in 1821. He became the private secretary to Governor Brisbane until Brisbane's end of office on 1st December, 1825. Ovens died a few days later on 7th December, 1825.

The Sydney Gazette of 12th December, 1825 mentions that the funeral cortage came along some streets 'thence to George Street, and finally to the place of interment.' On the 15th December, 1825 the same paper stated that 'an exhumation of the remains will take place so soon as a vault can be expedited on Garden Island.'

It would most probably have been early in 1826 before he was interred with Bent's remains on the southern hill of Garden Island.

It has also been recorded that a Captain Logan's remains were interred with Bent and Ovens. Heaton, in his book "Australian Dictionary of Dates and Men of the Time" (1879), states that Captain Logan's

> "remains were brought to Sydney and interred with Military Honours at Garden Island in the same tomb as those of Judge Bent, a friend of his early youth, murdered by Blacks 16th November, 1830."

However, the Sydney Gazette on 25th November, 1830 mentions that after a burial service at St. James Church the

"cavalcade continued its route to the Protestant burial grounds" and makes no mention of Garden Island. Figure 6 shows the Tomb in a drawing by J.S. Prout in 1843.

When Garden Island was required for naval purposes the tomb was again moved, this time to St. Thomas' Cemetery, West Street, North Sydney.[39] A full transcription of the text from the tomb is included in Appendix 2. Figure 7 shows the tomb in its present location.

Thompson in his history of Garden Island suggests that the tomb

Figure 6 Bent and Ovens Tomb on Garden Island 1843

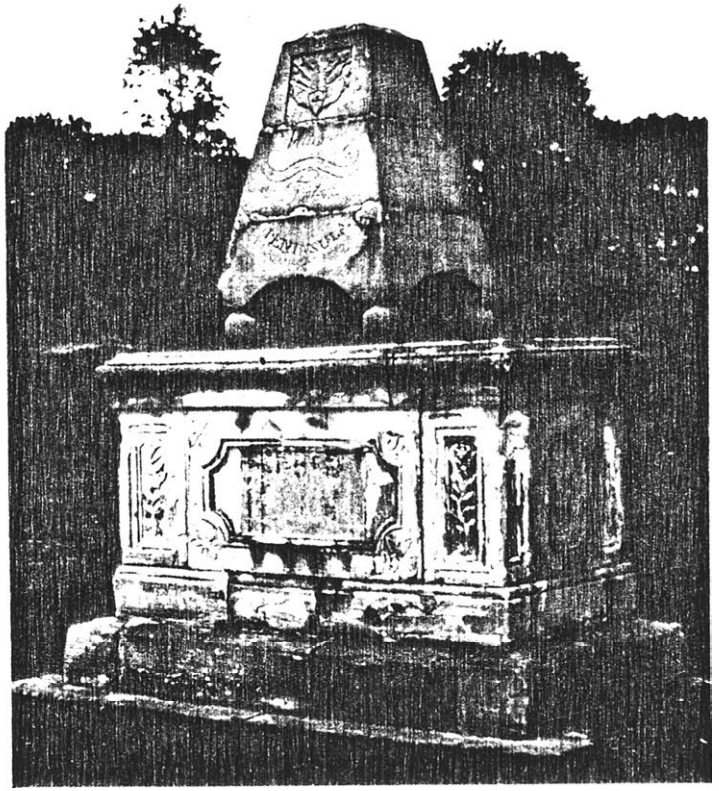


Figure 7 Bent and Ovens Tomb in St. Thomas' Cemetery, North Sydney, 1980

was shifted in 1866,[40] however, a photograph taken in 1869 (Figure 10)* shows the tomb still there. The tomb was on the Island in 1864 as the Colonial Architect was requested to 'furnish an estimate of what it will cost to repair and restore it in a decent manner.'[41] The work was duly executed for a final cost of £86/5/0.[42]

An article in the 'Port of Sydney' magazine published in 1952 claims that as well as Bent and Ovens 'the remains of Commodore Goodenough, and others had been interred on Garden Island.'[43] This is not so as Goodenough died on 20th August, 1875 on board the *Pearl*, 500 miles from Sydney. He was, however, buried in St. Thomas' Cemetery to where Bent's and Ovens' tomb was shifted.[44] From this it appears that the tomb was shifted in the early 1870's.

The skull of a Lieutenant Bower was buried in front of the tomb sometime after his death on 1st October, 1880.

Early life in the colony was not without conflict between individuals in the form of duels. Garden Island was no exception as was recorded in the Monitor on 2nd April, 1828. It said that

> "a duel was fought on Garden Island at an early hour this morning, between the 1st and 3rd Mates of the ships *Elizabeth* and *Captain Cook*, which ended fatally to the former. A Coroner's Inquest has

*Refer page 39.

sat on the body."

The mate and an accessory were tried for manslaughter and were sentenced to three months' imprisonment.

On 24th November, 1830 King Bungaree,* Chief of the Port Jackson tribe passed away on Garden Island. Although Heaton (1879) states that he was buried on Garden Island, the Sydney Gazette on 27th November, 1830 said that

"his aboriginal majesty King Bongarie, Supreme Chief of the Sydney Tribe" would be "interred at Rose Bay."

Bungaree's importance lay in the fact that he accompanied the Navy on some of the coastal expeditions in order to establish friendly relations with the natives. He was on many of Flinders' expeditions. Governor Brisbane, appreciating his assistance and knowing Bungaree's lust for British uniforms, gave him a full suit of his own uniform together with sword.

In the Sydney Herald on 14th January, 1839 it was reported that preparations were being made to house a large 'ironed gang' on Garden Island to level the Island in preparation for the erection of fortifications. This work does not appear to have actually started.

"The Island which stretches across the mouth of the bay and

*Sometimes spelt Boongarie, Bongarie or Bungarie.

like a giant stands to sentinel enchanted lands"

was John Rae's, the Town Clerk of Sydney, description of the Island in 1842. He said that the Island was inhabited by a solitary Crusoe, Selkirk or convict who was not

"monarch of all he surveys" as "his rights there are some to dispute."[46]

2.4 1851 - 1883 EARLY PROPOSALS FOR A NAVY BASE

In 1851, gold was discovered in New South Wales and Victoria, bringing rapid changes to the Australian economic and social environment.

Overseas there were increased Naval activities due to the Crimean War, the China War and the Indian Mutiny. Furthermore, there was a gradual introduction of Steam powered ships in lieu of sailing ships.

Meanwhile, New South Wales built the *Spitfire* in 1855 and Victoria ordered the construction in England of the steam sloop *Victoria* which arrived in Australia in 1856.[47] These were the first attempts of the colony to provide local protection at sea.

In 1856, the New South Wales Government suggested that Garden Island might be given over for the use of the Navy as a Naval Base. Various discussions followed concerning the transfer of Garden Island

to the Imperial Authorities for use as a Naval Depot in lieu of Port Macquarie.[48] Captain Stephen Freemantle* accepted the offer on 9th December, 1856 subject to the approval of the Lords Commissioners of the Admiralty.[49]

Figure 8 shows a plan of the Island in 1857. Following Colonel Barney's Report[50] which requested the elevated ground at the northern end of the island for the army, Mr. W. Ellyard, on behalf of the Colonial Secretary, wrote to Captain Freemantle on 10th January, 1857. In his letter he said:

> "I am directed to inform you that the portion ofthe above Island which is not likely to be required for the purpose of any Military Defences that may hereafter be projected will be reserved by the Government for the use of the Navy."[51]

There was quite a bit of correspondence between the Imperial and Colonial Governments at this time relating to the possible use of and development of Garden Island as a Naval Base.

Most of the correspondence was tabled in the High Court Hearing No. 15 of 1924. Thompson also has copies of the letters in his book.[52] The key statements are summarized below.

*Royal Navy Senior Naval Officer stationed at Port Macquarie.

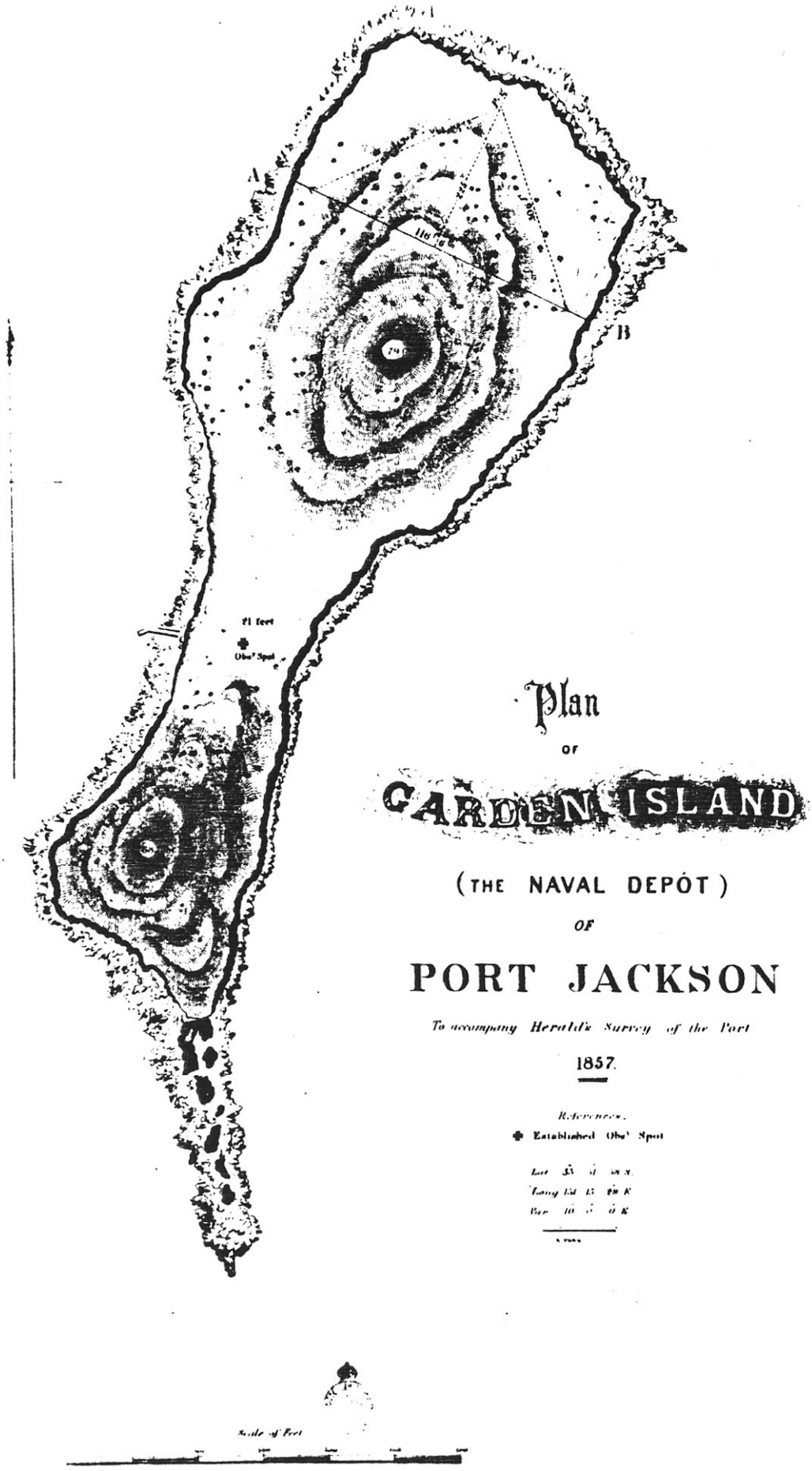


Figure 8 Plan of Garden Island 1857

10th November, 1857: Captain Barney submitted a plan of the island indicating the area required for defence purposes to the Colonial Secretary.

5th April, 1858: Captain Loring* wrote to the Governor General requesting money for erecting a small cottage or guard house on the island.

27th April, 1858: The Principal Under Secretary replied that a sum of £200 would be placed upon the Supplementary estimates for 1858 which was to be submitted to the local legislature. This money was for the purpose of erecting the necessary buildings on Garden Island.

28th June, 1858: The Admiralty approved of an outlay of £200 to £300 to render the Island available for the repair of H.M. Ships.

12th July, 1858: Captain Loring's proposal of the construction of a cottage on Garden Island and the engagement of a trustworthy pensioner as caretaker was approved by the Admiralty.

18th August, 1859: In a letter to Commodore Loring# reference is made to expenses already incurred on Garden Isalnd.

These provide the only evidence for dating the buildings that

*Capt. Loring RN took over command of the Australian Station from Capt. Freemantle sometime before 28th August, 1857.

#It appears that Capt. Loring was promoted to Commodore about mid 1859.

were to remain on the Island over the next 30 years and service the early navies of the Colony.

Even with these buildings and Naval occupation Captain Loring wrote to the Governor General on 15th May, 1859 saying:

> "I find that Garden Island has been much frequented by the inhabitants of Sydney for recreation and they resort there as usual. With your Excellency's concurrence, I would propose that without in any way giving up the right of possession of the Island, the convenience and gratification of the public should be consulted, by permitting them to land and enjoy the occupied space.
> In this case it would be necessary that a ditch and a six foot paling fence should be placed and maintained in repair at the expense of the Colony round that part of the Island required for Naval Purposes at present, to be removed further back, should any increase in the Squadron render it requisite."

The culmination of a decade (1850-60) of rapid increases in the Australian population, sea-borne trade and increased demand for naval protection was the formation of Australia into an independent British naval station on 15th March, 1859.[53]

Early in the 1860's there were discussions between Commodore

Wiseman* and the Government about the formalizing of an agreement for the use of Garden Island by the Navy. This indecision lead to a deterioration of the buildings.

The entire situation is summed up by Commodore Wiseman's letter to the Governor on 27th June, 1864 when he said:

> "The Buildings, roads and slips on Garden Island, at present used by H.M. Ships of War, require extensive and immediate repairs to prevent them falling into complete ruin, it is desirable that before I undertake any expense in repairing them on the part of the Admiralty some understanding should be come to as to the tenure by which they and the Island are held by the Navy.
>
> It is absolutely necessary that some suitable place on shore should be appropriated to the use of the Navy and I see none so suitable as Garden Island, but as the Squadron has been much increased of late - it has become more than ever necessary that such a place should entirely be given up to our use."[54]

Figure 9 shows portion of the Island applied for on behalf of the Admiralty in 1864 and the buildings on the island at that time. This plan is that part of the island not reserved for defence purposes that was designated in 1857 by Colonel Barney (see above).

*Commodore Wiseman succeeded Commodore Loring as the R.N. Chief Officer in the Colony.

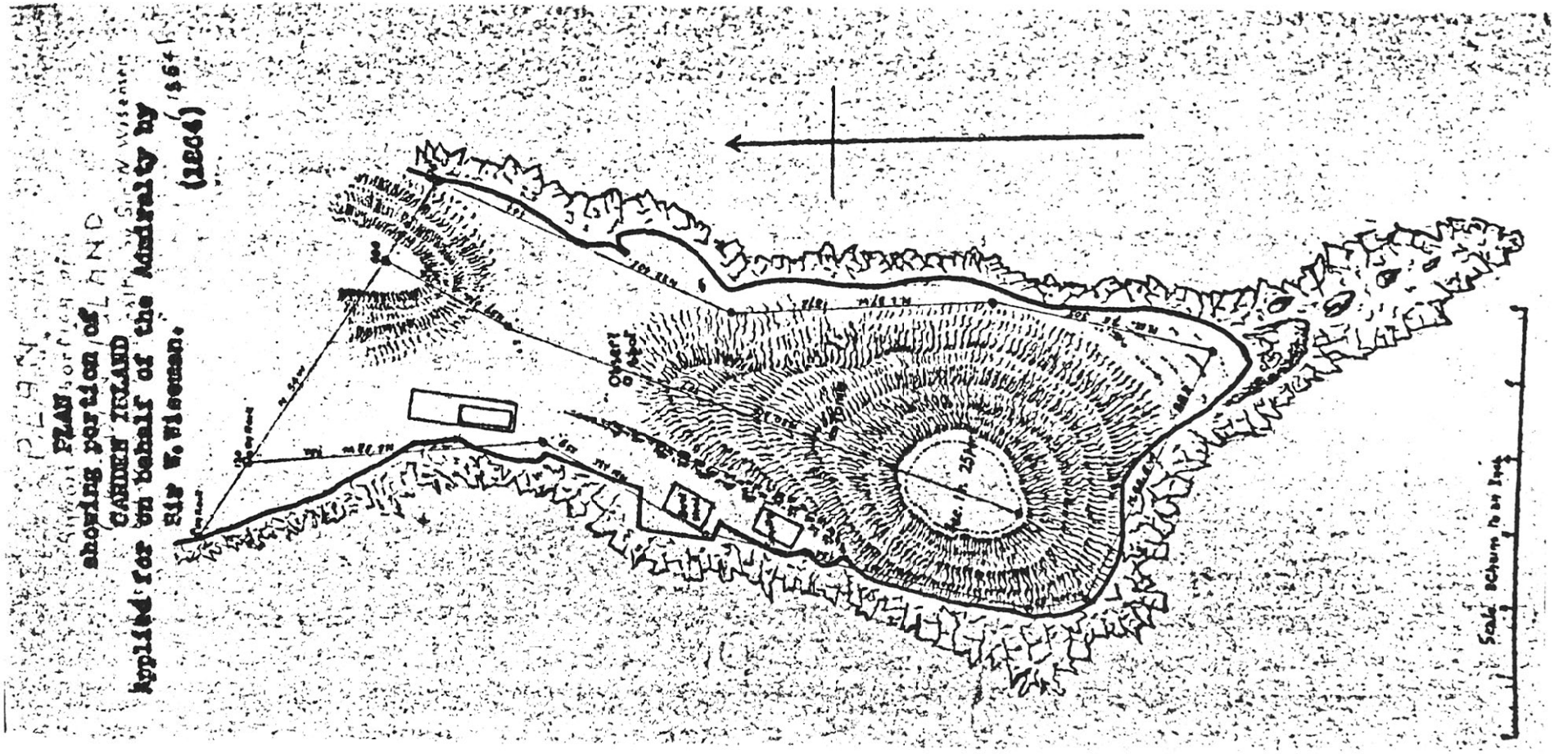


Figure 9 Part Plan of Garden Island 1864

Commodore Wiseman was also proposing to have a fort constructed on Garden Island with Captain Coles' Cupolas. However, in his final recommendations this was not endorsed.[55]

August 1864 saw dedication notices appear in the minutes of the Executive Council of New South Wales,[56] but it was not until the 10th January, 1865, in the Government Gazette, that 4 acres, 1 rood, 25 perches on the southern part of the Island were dedicated. Further discussions followed as the Admiralty preferred to obtain the entire island for its use. The remaining 6 acres, 3 roods and 21 perches were dedicated in the Government Gazette on 5th June, 1866.

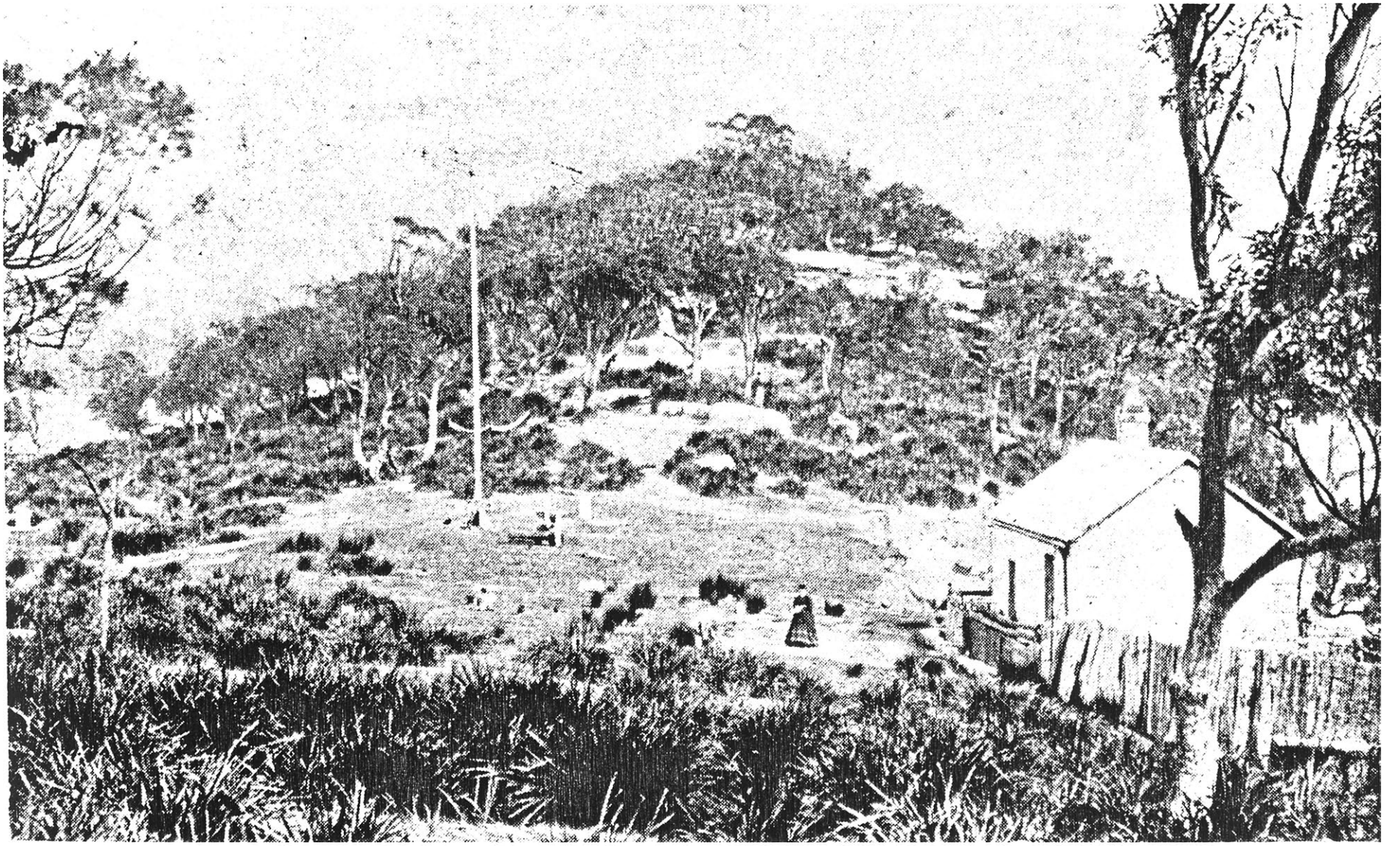
This was approved by the Admiralty and Colonial Office on 26th September, 1866.[57]

The Island as it appeared in 1869 is shown in Figure 10.

Another factor in the development of Garden Island was the Colonial Naval Defence Act 1865 whereby :

> "the Australian States were empowered to provide, maintain and operate warships and to raise and maintain seamen to serve in such vessels."[58]

This was a general trend in the attitude of British Defence as 1870 saw the withdrawal of British Troops from the Continent.[59]



"Reproduced by Courtesy of the Mitchell Library, Sydney"

Figure 10 View South from Northern Hill - 1869

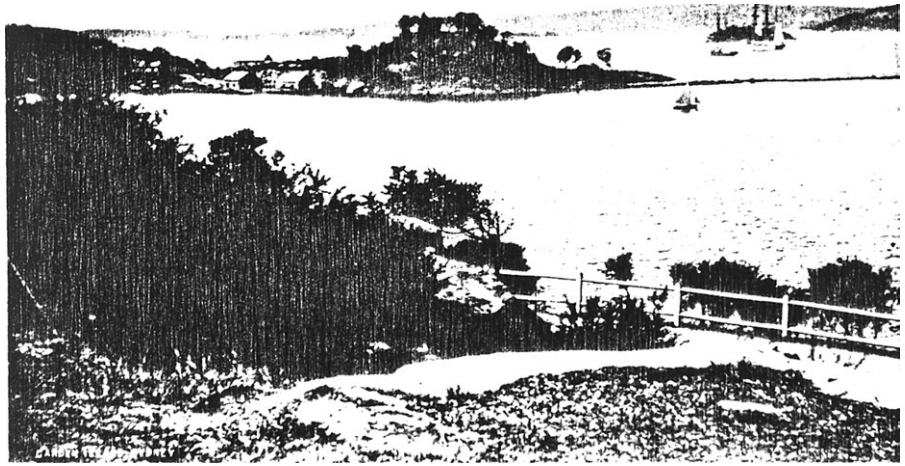
Further discussions followed between the Imperial and Colonial powers with the intention of developing Garden Island as a major Naval Base. in 1873 the Colonial Architect was asked to sketch up plans for a Store House to replace the ones on Circular Quay at an estimated cost of £10,000.[60]

Other buildings proposed as shown on a plan of the Island in 1874[61] included a boat house with sail loft over, mast house and carpenter's shop. The buildings shown in the 1864 plan are still shown on this plan.

For one reason or another none of these proposals came to reality. The Island, however, did continue to be used for naval purposes as the H.M.S. *Sapphire* had its ballast replaced there in 1875.[62] A photograph taken in 1877 (Figure 11 (a)) shows that an additional building (sail making shed) had been constructed in the centre of the Island. This building was constructed before May 1878[63] but after 1877[64] (Figure 11 (b)).

2.5 1883 - 1896 THE DEVELOPMENT OF THE NAVAL STATION

Garden Island's development as a major Naval Base was finally resolved with the construction of some major works in the 1880's.



(a) After Sail Making Shed in Centre of Island Constructed

(b) Before Sail Making Shed in Centre of Island Constructed

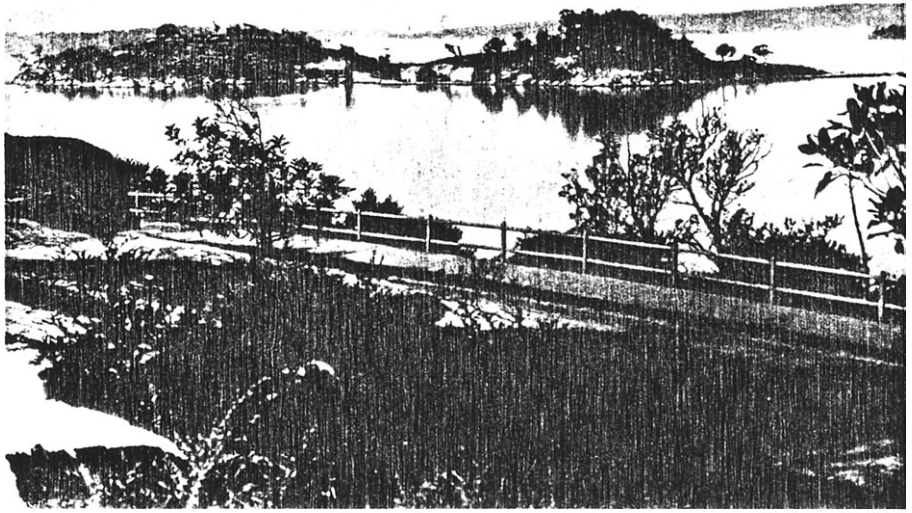


Figure 11 Views of Garden Island in 1877

In April, 1883 the Colonial Government was debating the issue of construction on Garden Island. A minute by the Colonial Secretary on 16th April, 1883 noted that the Legislative Assembly had passed the vote of £50,000 toward carrying out the necessary works on Garden Island.[65]

On April 19th, 1883 Commodore Erskine telegraphed the Admiralty advising them that :

"Parliament voted £50,000 towards Naval Depot, Government proposes erecting suitable buildings and wharves, Garden Island. Colonial Architect will prepare plans entirely agreeing, request permission accept terms and proceed."

The Admiralty reply (on 30th April, 1883) was:

"Accept proposal provided necessary Storehouses and Landing Places are built on situation at Woolloomooloo Bay and on Garden Island with approval of Commodore."[66]

Following this came a major change to Garden Island. As in the NSW Government Gazette on 7th September, 1883 and again on 2nd October, 1883 tenders were called for the:

"erection of wharf, cutting down and levelling off Portion of Garden Island to close on the 9th October 1883 at the Office of

the Engineer-in-Chief for Harbours and Rivers in Sydney."

The contract was awarded to Batty and Sheehy on the 29th October, 1883 by the Department of Public Works. According to the Daily Telegraph of 24th April, 1889, the work commenced on site in 1884. It also said that as a large portion of the island turned out to be rock, the work proved much more costly than at first anticipated.

Fishenden of the R.N. arrived in the colony late in 1883 to assist in the preparation of plans and specifications by the Colonial authorities.[67]

A drawing signed by the Colonial Architect, James Barnet, in March 1884 (Figure 12) shows the buildings existing at the time and the extent of the work involved in this contract.

Figure 13 is a photograph of the Island during the levelling of the Southern Hill.

The Sydney Morning Herald reported on 7th December 1885 that much of the initial work of levelling the island, reclamation and preparation of the foundations for buildings were executed by day work by the Department of Harbours and Rivers.

It appears that this work took a couple of years during which the Colonial Architect was preparing drawings for the other works on the island.

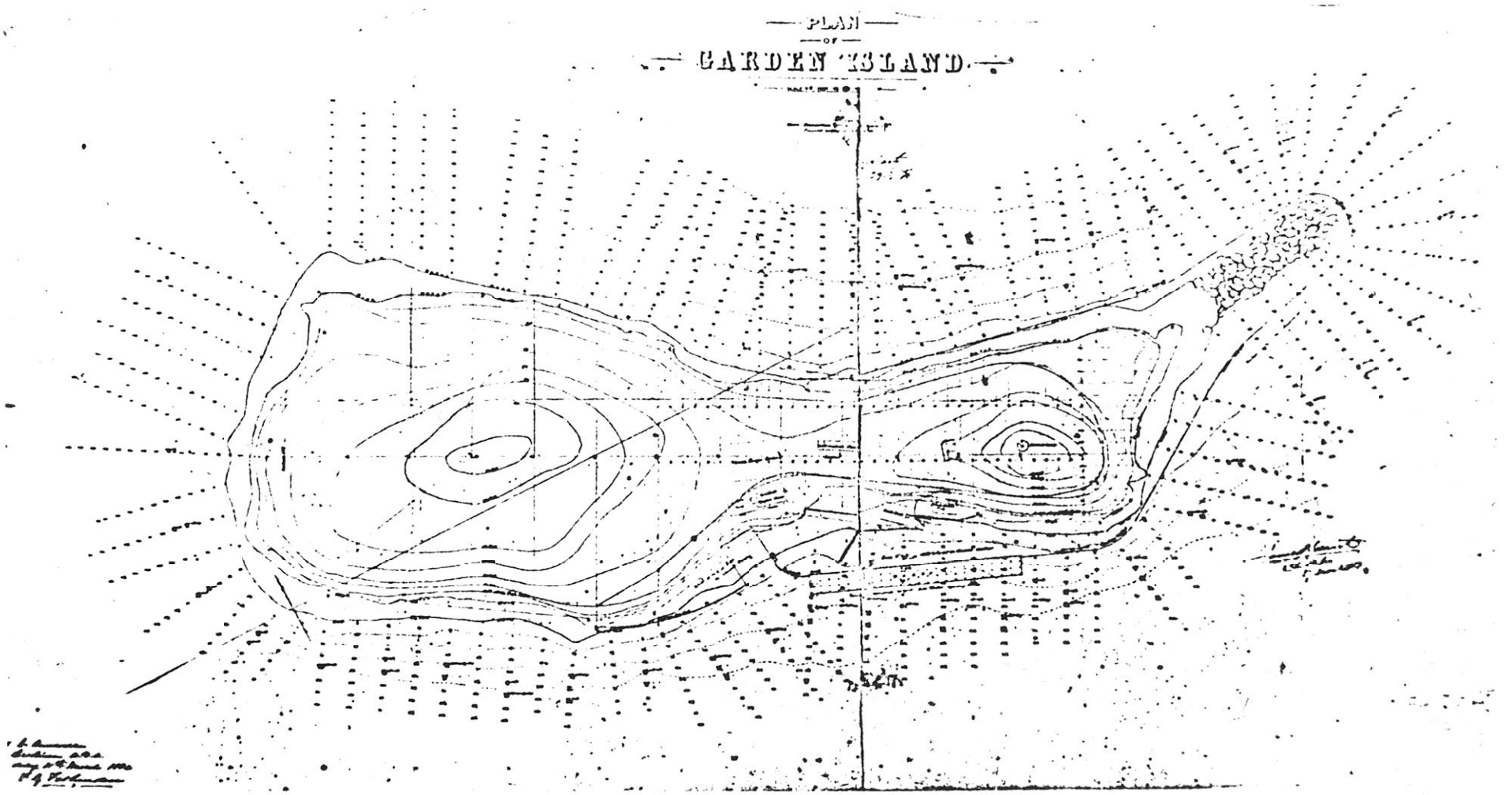


Figure 12 Proposed Work to Level Southern Hill, 1884

Figure 13 Levelling the Southern Hill, 1884

The next recorded evidence of tenders being called for work at Garden Island occurred on 24th March and 2nd April, 1885 when tenders were called for the supply and erection of a 10 ton Revolving Steam Crane. This contract was awarded to Atlas Engineering Co. on 28th April, 1885. (Cost of foundations was £800 and the crane £655.)

The first buildings as such were two Cottages (Buildings 21 & 22) which were advertised on 25th August, 1885 and the contract let on 22nd September, 1885.

A full detailed history of each of the early buildings on Garden Island is given in Section 3 of this study.

At a Colonial Conference in London in 1887, the Australian States agreed to pay to maintain Royal Navy Ships in Australian Waters. This resulted in the Australasian Naval Defence Act (1887).[68]

Early in 1889 there was concern with the slowness of work and Admiral Fairfax wrote suggesting the removal of the Naval Base to a colony where the authorities would honour their promise.[69]

This shook up the New South Wales Government and the 'offices fairly hummed with life.' In a note dated 11th September, 1889, Sir Henry Parkes advised the Royal Navy that authorization had been given to proceed with the works as proposed and requested additional money

to enable the work to be completed.

Two photographs taken in 1887 show the Rigging Shed (Building 37) completed and the Barracks (Building 32) under construction (Figure 14).

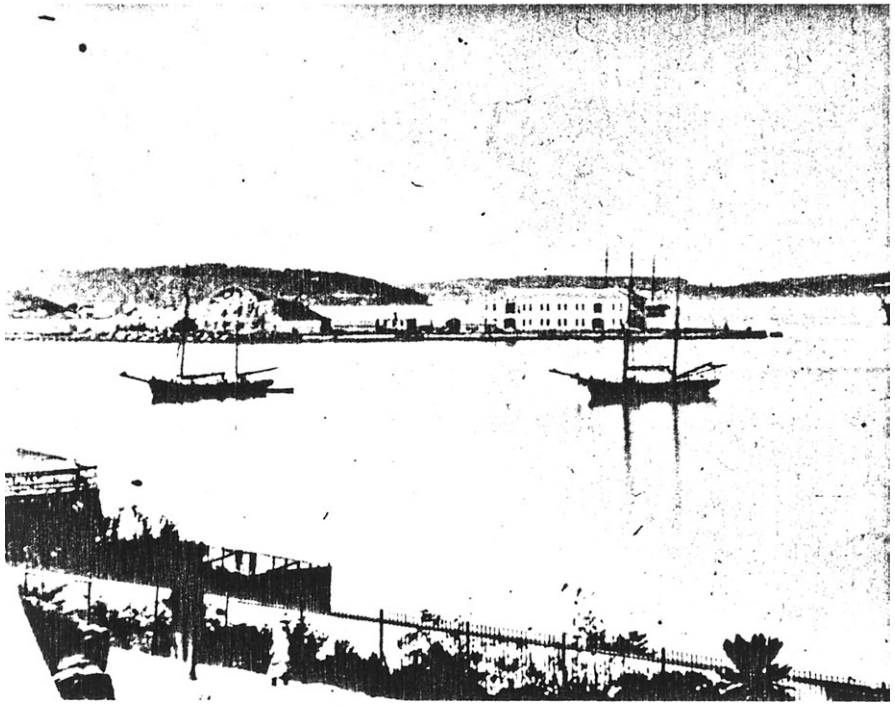
The Rigging Shed and Sail Loft, having been finally fitted out, were pronounced complete on the 12th September, 1889 and taken over by the Admiralty. This was the first building available for use by the Navy.

The 1889 site plan shows the buildings completed and the proposals for some of the buildings constructed in the 1890's (Figure 15).

The story of the giant Sheer Legs constructed in 1892 is interesting. Originally 50 ton Sheer Legs were ordered and foundations prepared accordingly. After some delay a cable requesting 1-50 Sheer Legs was sent to hasten the delivery. In response 150 ton Sheer Legs arrived causing the foundations to be modified at a cost of £13,551/12/11.[70]

The Sheer Legs are shown in Figure 16(a) and the overall development of the Island in Figure 16(b). Both pictures were taken in 1892. Another view down the Island in 1893-4 is illustrated in Figure 17.

A hydrographic survey prepared by the Admiralty in 1895 (Figure 18) also shows the extent of the development at this time. Electricity was provided to the Island for lighting in 1896. Prior to this there



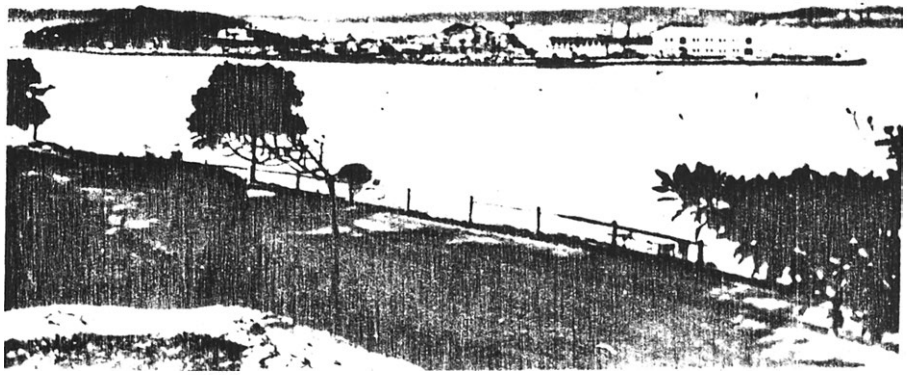


Figure 14 Views of Garden Island from Mrs. Macquarie's Chair, 1887

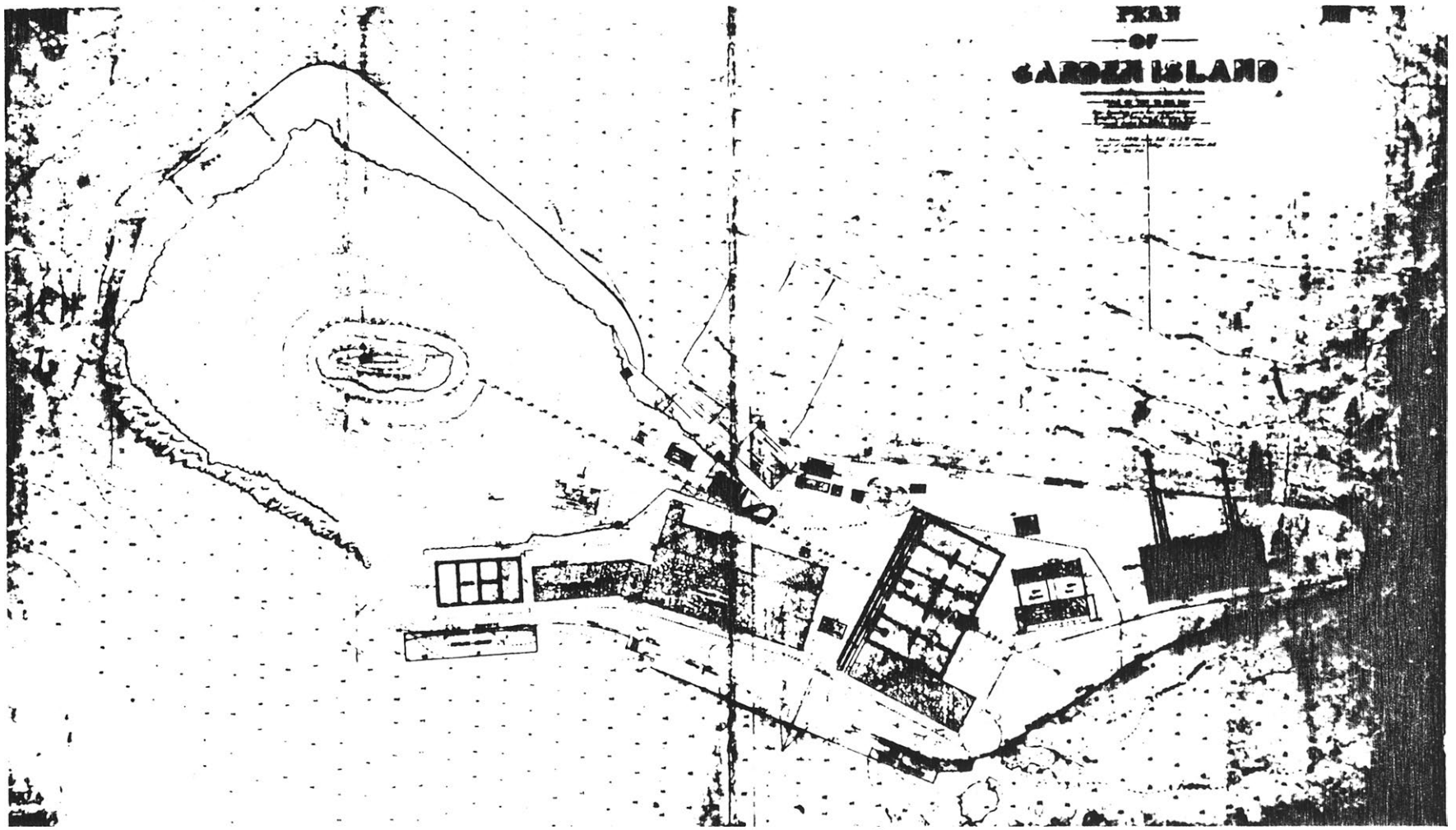
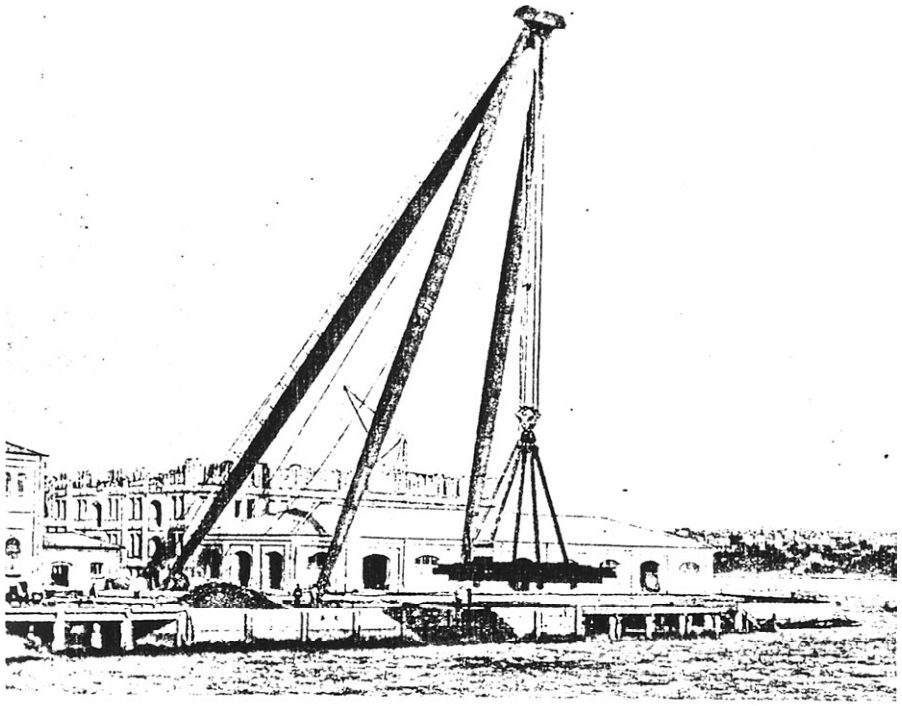


Figure 15 Plan of Garden Island, 1889



(a) View of Sheer Legs

(b) View from Mrs. Macquarie's Chair

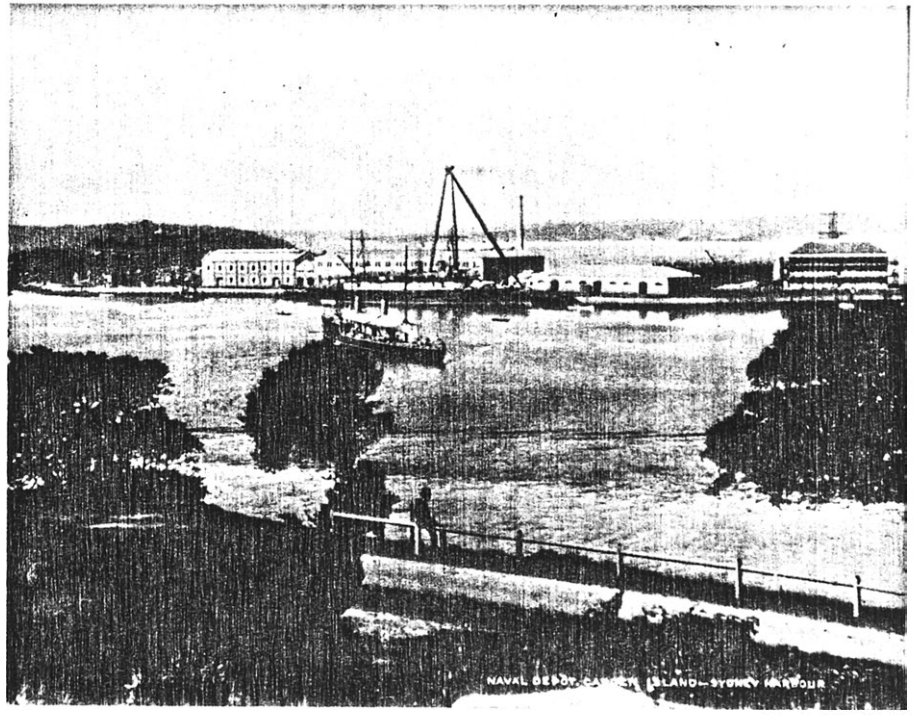


Figure 16 Garden Island, 1892

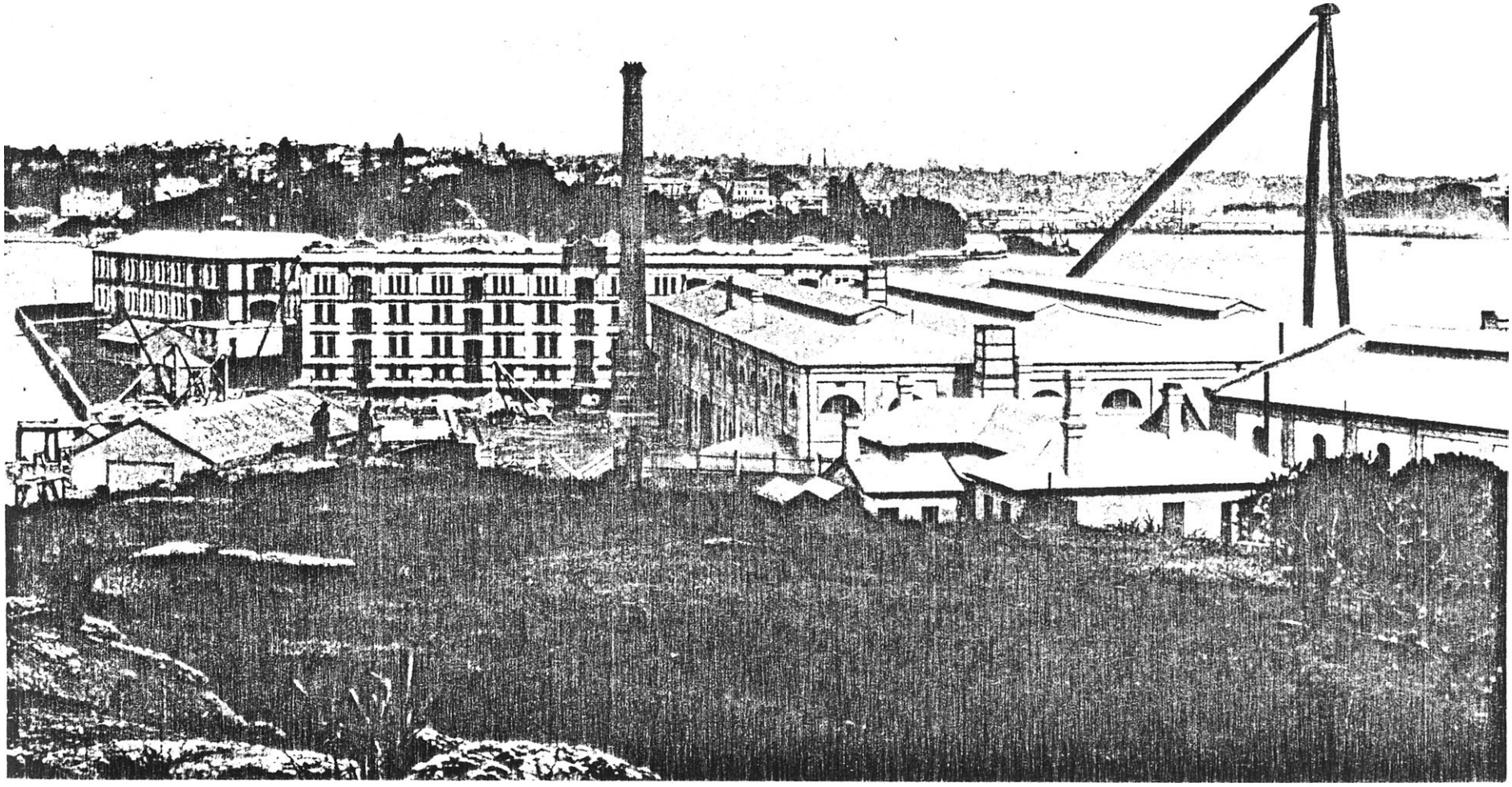


Figure 17 View South from Northern Hill, 1893/4

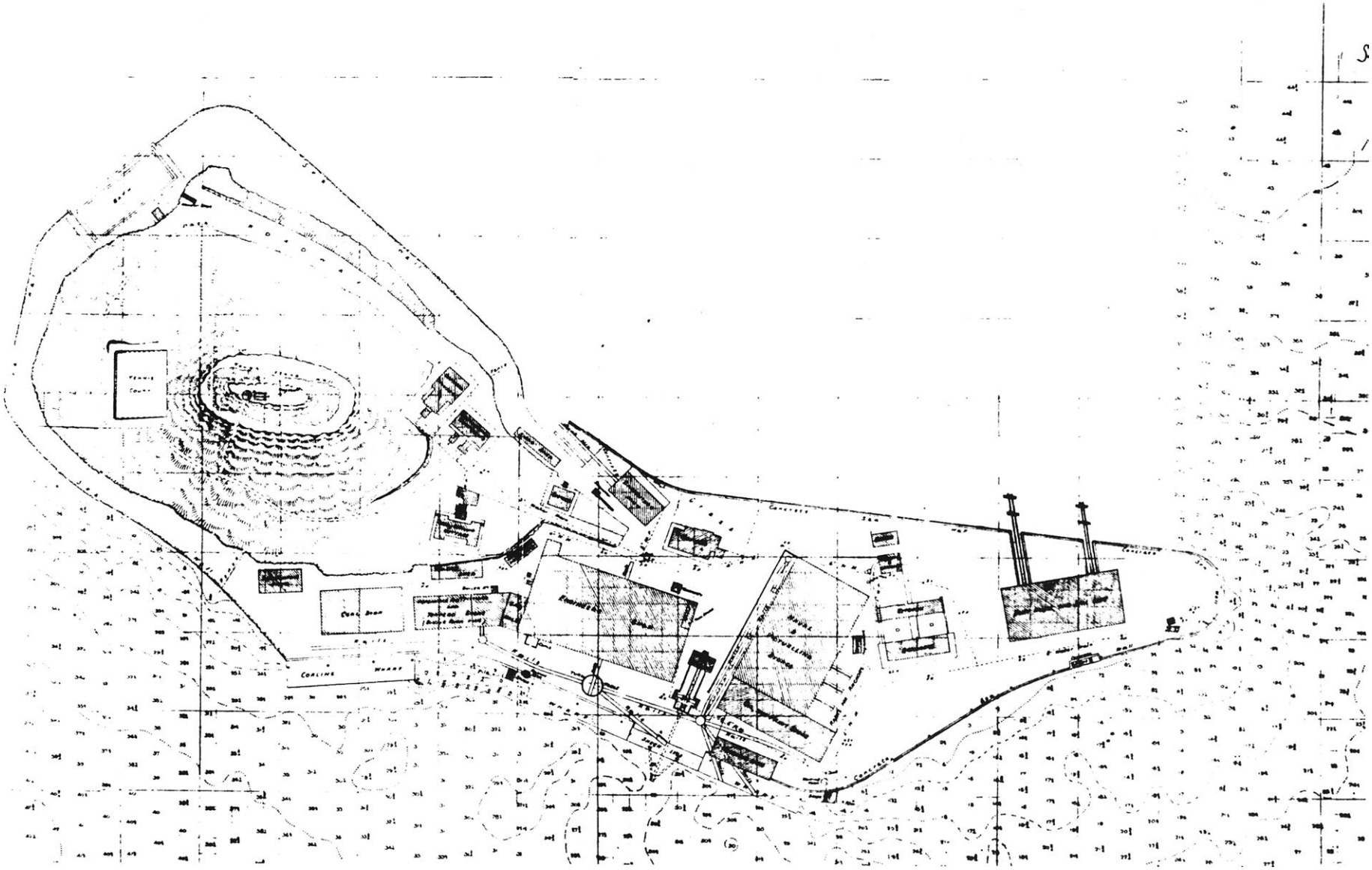


Figure 18 Plan of Garden Island, 1895

was a gas generating plant for lighting housed in the Boat Shed (where Building 25 is now).

The Public Works Report in 1896 for the financial year 1/7/1895 to 30/6/1896 stated that the Naval Station was then nearing completion.

On 5th September, 1896 the Naval Base was inspected and handed over to Rear Admiral Cyprian Bridge. His report to the Admiralty on the Naval Establishment mentioned :

> "The neatness and orderly appearance of Garden and Spectacle Island generally, the careful and systematic way in which all the stores of various kinds are placed in the storehouses - some of the buildings almost palatial in character - and the state of the machinery and workshops are very creditable to the Captain-in-Charge and his Subordinates."[71]

2.6 1897 - 1918 FEDERATION, THE ROYAL AUSTRALIAN NAVY AND WORLD WAR I

The Federation of Australian states in 1901 gave the Commonwealth Government responsibility for defence, bringing to a close the era of State Navies. On 1st March, 1901, the ships and personnel of the State Navies transferred to Commonwealth control but continued to be administered

under the provisions of existing State Acts and Regulations until the Commonwealth Defence Act was proclaimed on 1st March, 1904.

With this change, Garden Island became the principal Naval Base for the Commonwealth of Australia. During the period up to World War I there was little construction work carried out on the Island.

It is interesting to compare the description of Garden Island by Rear Admiral Cyprian Bridge given above with those recorded by some contemporary journalists:-

August 1904:[72] "That once fair spot, a gem of Sydney's beautiful Harbour is now covered with naval workshops. The charm is gone, but the memory remains."

Sydney Morning Herald, 11th February 1907: "No romance here only the strenuous activity of the modern day workshop."

Evening News, 24th August, 1907: "The Garden Island of today has little in common with its name. Rather is it an island of foundries, workshops and stores, plain to the verge of ugliness." Also "today it is a jumble of unsightly buildings."

The Island in 1901 is shown in the Plan (Figure 19) and the view from Mrs. Macquarie's Chair in 1907 (Figure 20).

In 1909, Britain became alarmed by the rapid expansion of

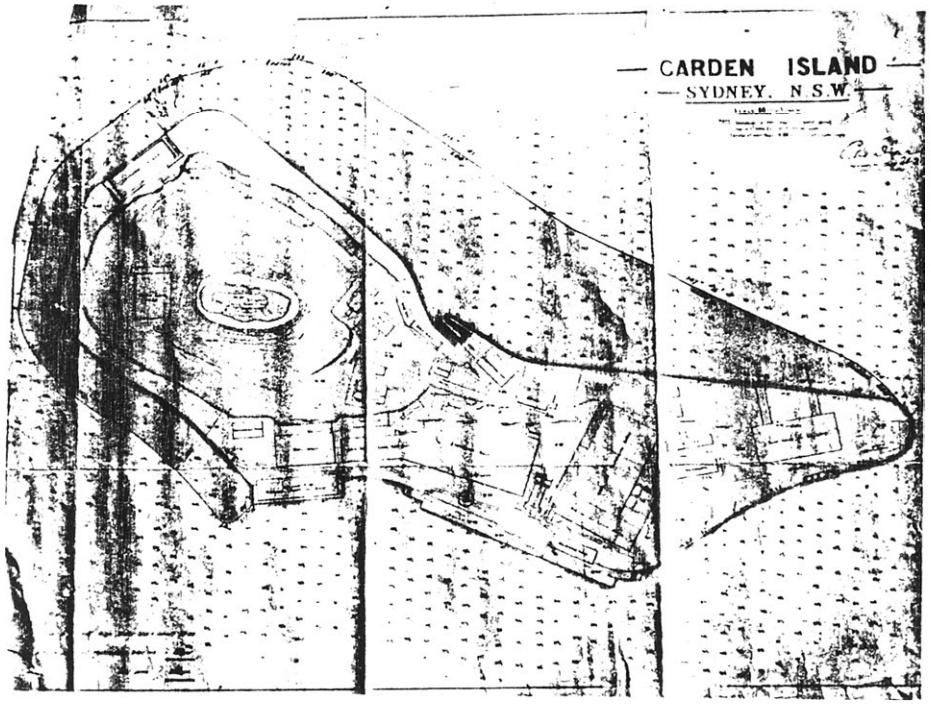
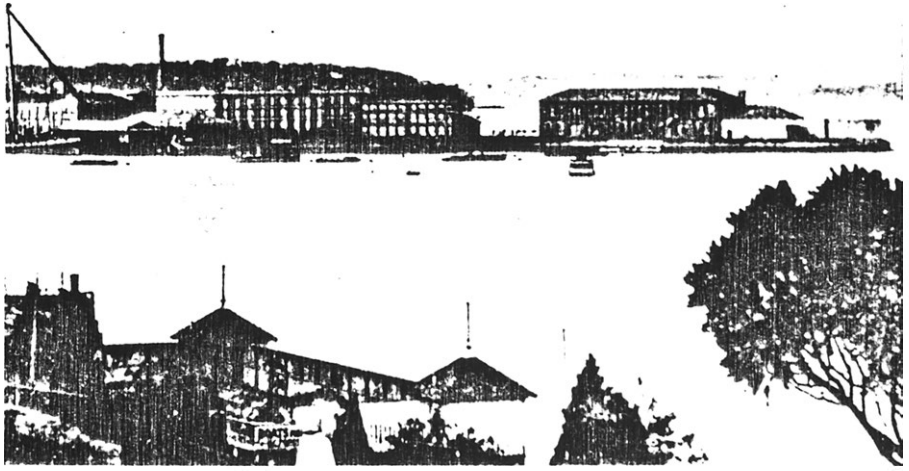


Figure 19 Plan of Garden Island 1901

Figure 20 Garden Island from Mrs. Macquarie's Chair 1907



German naval power and decided to convene an Imperial Naval Conference to consider counter measures.

It met on 28th July, 1909 and agreed to remodel the Pacific Ocean defence arrangements by creating three 'Fleet Units'. The Australian one would be the only one paid for, controlled and eventually manned by Australians and not by the Admiralty as the East Indies and China Units were. This momentous decision created an Australian sea-going navy.[73]

A further Imperial Conference in 1910 agreed on the final status of the Australian Navy and on 10th July, 1911 King George V granted the title of 'Royal Australian Navy' to the Permanent Commonwealth Naval Forces.

However, it was not until 1st July, 1913 that the Naval establishments were transferred to the Commonwealth of Australia by the Royal Navy. This function was carried out by Admiral G. King-Hall, Commander in Chief of the Royal Navy.[74]

It is recorded in Thompson's book on the history of Garden Island[75] that the Island was not turned over as were other establishments as a cable was received the previous day from the Admiralty saying that:

"Pending further instructions do not take steps for the formal

transfer of these Properties (Admiralty House and Garden Island), but the Commonwealth Government is to be allowed to have the use of Garden Island necessary for purposes of the Royal Australian Navy as from 1 July."

The Evening News on 2nd July, 1913 makes no mention of this[76] nor do the Australian Naval Histories.[77] However, on 9th July, 1913 the Sydney Morning Herald mentions that a cable was received but does not mention the date of it. It was also reported that the New South Wales Government raised the question of the right of the Imperial Government to dispose of the properties.

Thompson also states that on 1st July Captain Henderson's report to the Commonwealth Naval Board mentions that he had taken over the Naval Establishments of Tresco, Spectacle Island and the Royal Edward Victualling Yard, but does not mention Garden Island or Admiralty House.

On 13th October, 1913 the Admiralty instructed King-Hall to hand over Admiralty House.

The true situation is uncertain, but it appears as if the Commonwealth was granted the use of Garden Island but not the ownership of the Island.

This question was not pursued by the New South Wales Government

at this time because of World War I. Figure 21 shows a plan of Garden Island at the commencement of World War I in 1914.

During the period of World War I Garden Island was engaged in fitting out and arming transports and troopships for the war.

Over the period 1914 - 1918, 852 vessels were dealt with at Garden Island and the number of men engaged on the Island rose to 3,000. Not only were Australian ships refitted but so were ships from the Royal Navy, the United States Navy, the French Navy and the Royal Netherlands Navy.[78]

2.7 1919 - 1938 BETWEEN WARS AND THE OWNERSHIP QUESTION OF GARDEN ISLAND

The years following the war (1919-1920) saw an active period for Garden Island with the reconditioning of Merchant Ships. Some additional buildings were constructed to store post war stocks (Building 7 & 8).[79]

A plan of the Island as it was in 1923 is shown in Figure 22 and in 1926 in Figure 23. Two aerial photographs taken in the late 1920's are shown in Figures 24 and 25.

The question regarding the ownership of Garden Island was raised again by the New South Wales Government in 1922.[80]

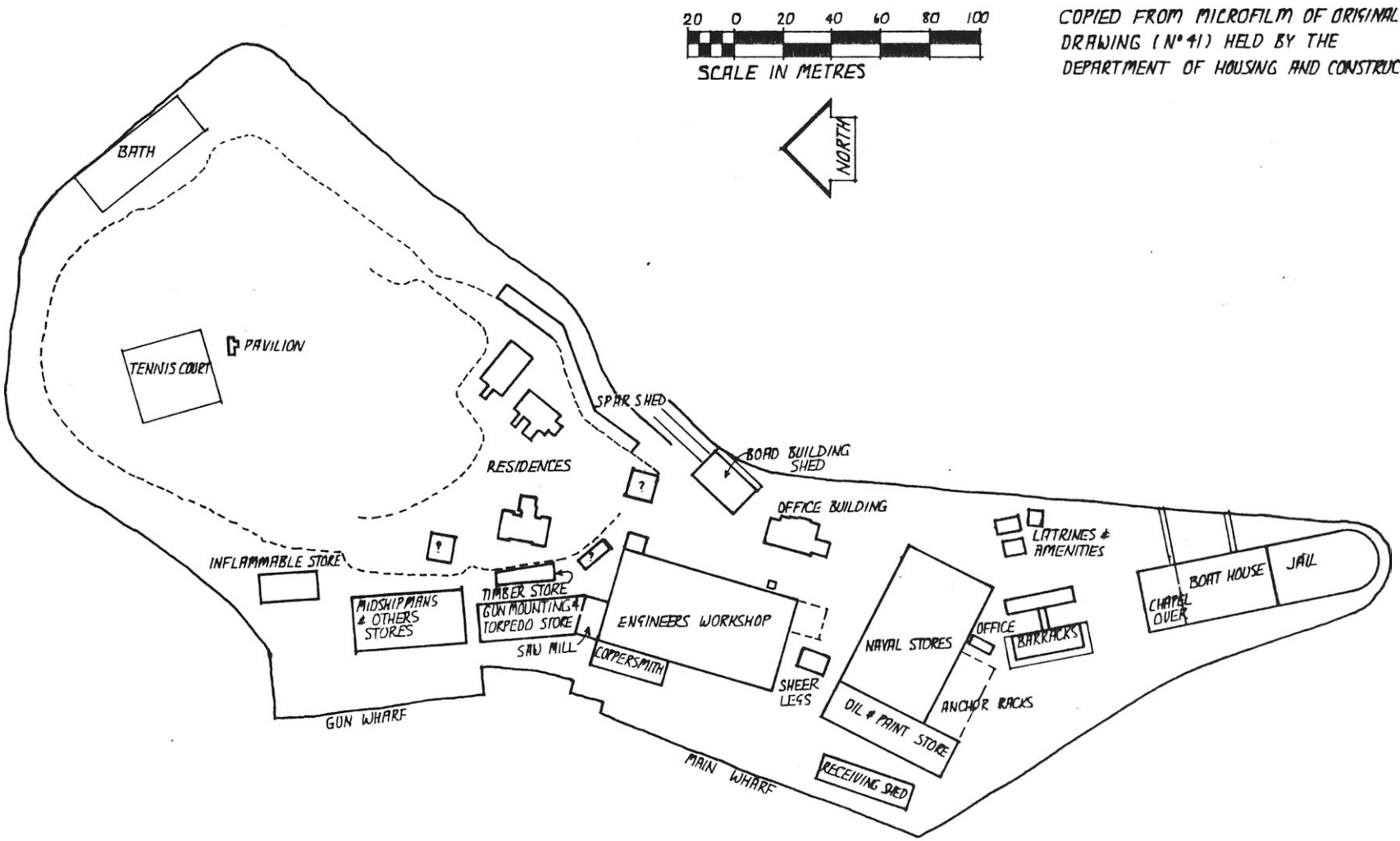


Figure 21 Plan of Garden Island, 1914

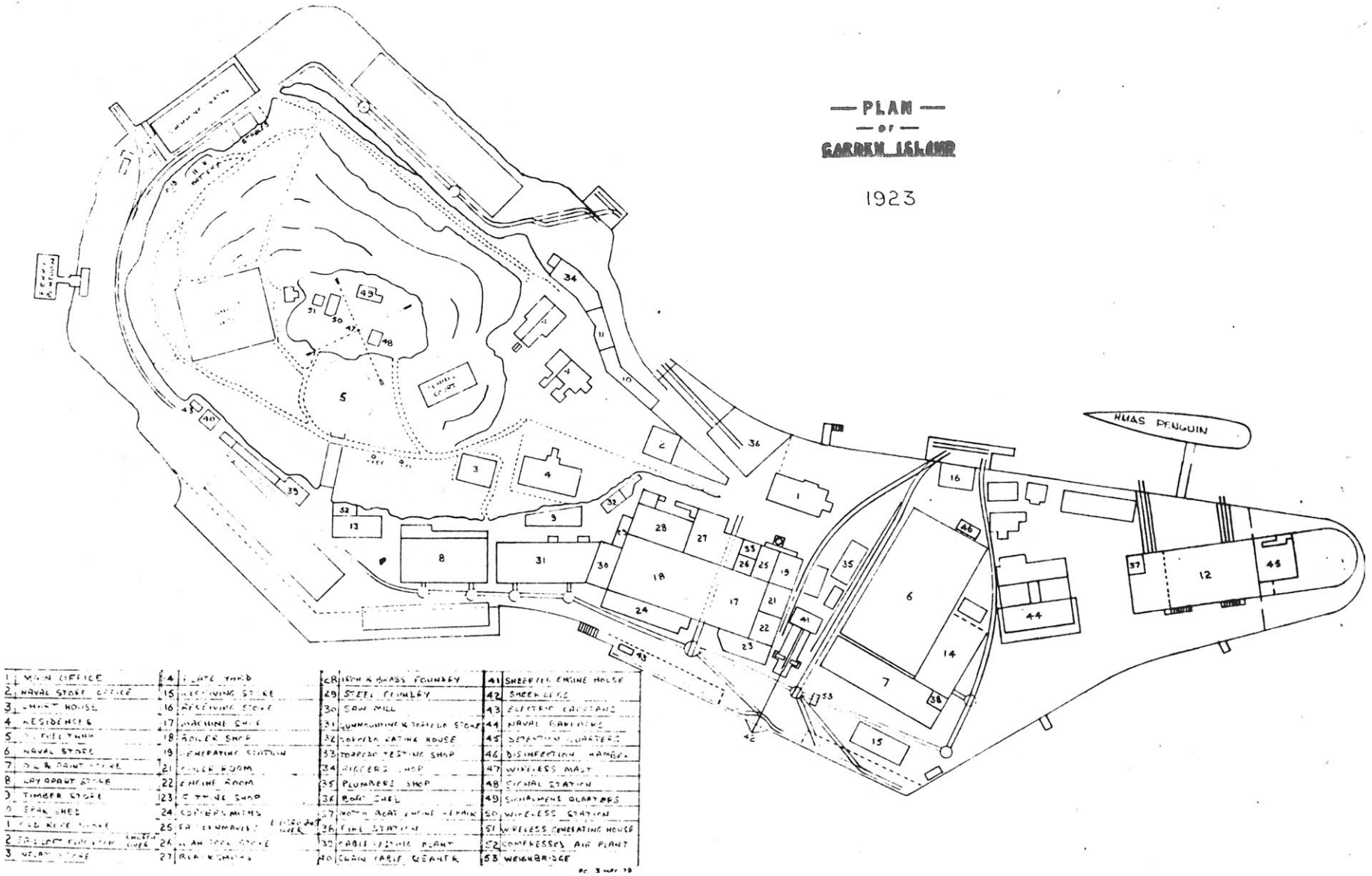


Figure 22 Plan of Garden Island, 1923

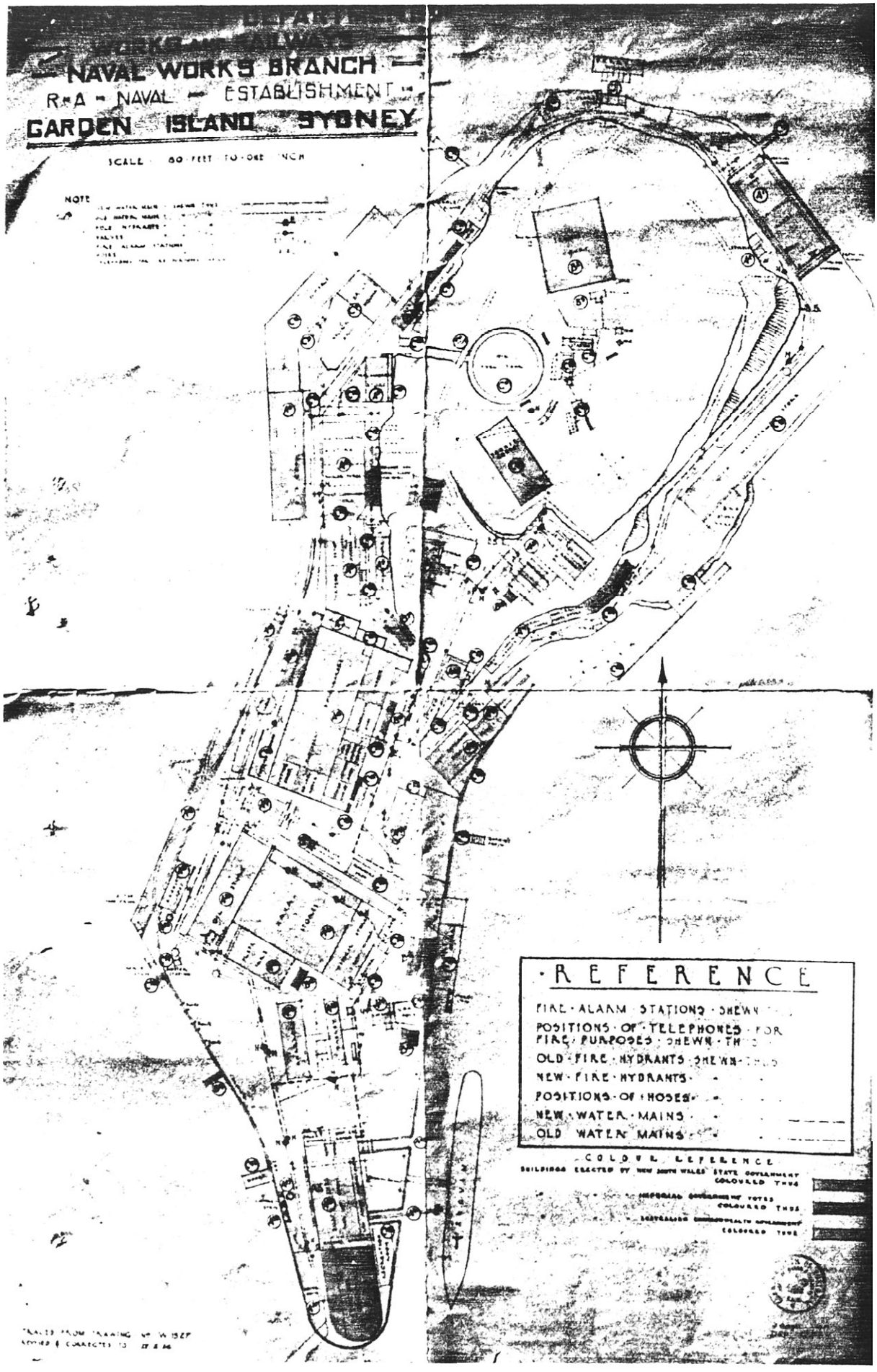


Figure 23 Plan of Garden Island, 1926

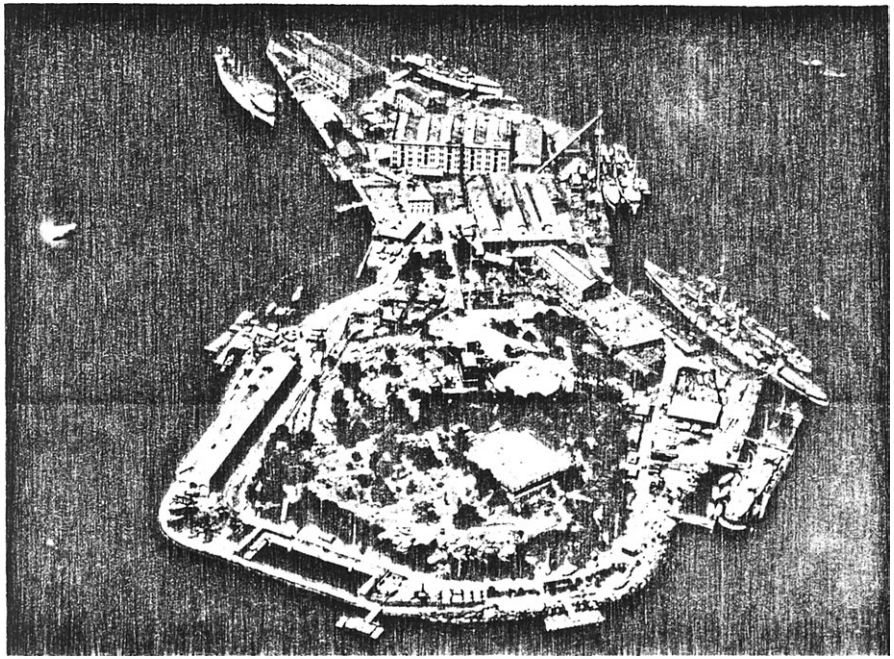
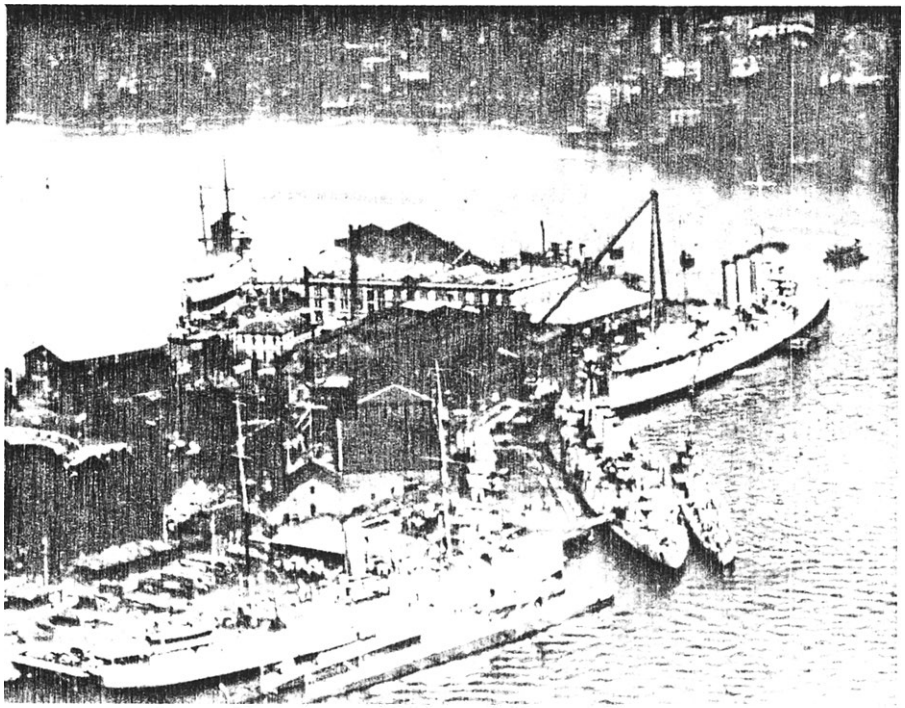


Figure 24 Aerial Photograph, 1927

Figure 25 Aerial Photograph, 1929



The argument, which spanned seven years and ended up in the Privy Council, revolved round points of law rather than questions of fact.

On 12th October, 1923 the N.S.W. Minister administering the Crown Lands (Consolidation) Act 1913 revoked the dedication of Garden Island made in 1865 and 1866.

This was the basis of the legal battle in which the question was to decide on the effectiveness of an order of revocation made by a Minister of the New South Wales Government.

A final statement made on 15th December, 1925 by Mr. Justice Starke said that the Minister had not the power to revoke any dedications and ordered it to go before the full court.[81]

The matter came before the High Court in April 1926, in a claim by the State of New South Wales for a declaration that the State was entitled to possession of the Island. On behalf of the Commonwealth it was contended that the dedication was in perpetuity, and for the use of the Imperial Government, and the fact that the Imperial Government had abandoned the Island was not material, as the Commonwealth had been chosed by the Imperial Government to use the Island as a Naval Depot. In a majority decision (Justices Gavan Duffy, Rick, Knox and Starke

for and Sir Isaac Isaacs and Mr. Justice Higgins dissenting) on 18th August, 1926[82] the High Court ruled that the Commonwealth had failed to substantiate its defence which meant that the State of New South Wales was entitled to possession of Garden Island.

Leave to appeal to the Privy Council against the decision was granted in June 1927, and the appeal was dismissed in January 1929.[83] Their Lordships held that the real question was whether the dedication had effectually been revoked, and this they answered in the affirmative.

On the 11th February, 1929 the Sydney Morning Herald made the statement that the 'Privy Council confirmed the view of the High Court of Australia that the NSW Government is entitled to possession of Garden Island.' In 1930 the High Court signed an order to that effect.

The Navy, Army and Air Force Journal summed up the situation as it stood in 1932. It said:

> "Garden Island belongs to the State of New South Wales, but the Commonwealth is still in possession. At the time of writing the future of the island is in the melting pot."[84]

Between the wars there was an expansion of the Naval Dockyard activities which gave rise to a vigorous building programme. This work was predominantly related to the wharves.

2.8 1939 - 1980 WORLD WAR II AND BEYOND

The growing naval strength and expansionist policy of Japan led to a request by the British Admiralty in 1938 that a graving dock* be built at Sydney.

After an intensive study of 16 possible sites in Australia the War Cabinet decided that the dock should be built between Garden Island and the Mainland.

In July 1940 construction of the dock began as a matter of wartime emergency. The work proceeded in shifts round the clock employing on an average about 1,750 workers rising to a peak of over 4,000.

The work involved reclaiming thirty three acres of the sea bed between Potts Point and the southern shore of Garden Island to include the basin in which the graving dock was constructed.

With this also went the excavation of the cliff at Potts Point to allow the building of an access road, past the Woolloomooloo wharves.

After a coffer dam of rock filling was built the basin was pumped dry, and the immense task of constructing the dock began.[85]

In March 1945 the Captain Cook Graving Dock was ready for use and on the 12th March, 1945 it was officially opened by H.R.H. Duke of Gloucester. The dock has been described as 'the greatest engineering

* A 'Graving Dock' is defined as a dry dock in which vessels can be careened by being 'laid on shore' for bottom cleaning and painting; but that meaning has been extended to include any repairs to the hull requiring dry docking.

work to be carried out in the history of Australia.'[86]

With the outbreak of war in 1939 the Island was busy refitting ships from reserve, arming of Merchant Ships and converting ships for war time use.

It was during the second World War that the ownership question was again brought to a head. At the outbreak of the war the Commonwealth Government resumed the Island under wartime powers. Following notification in the Commonwealth Gazette No. 37 of 22nd February, 1945 it was finally acquired by the Commonwealth for £638,000.

Sydney's only serious wartime action was centred on Garden Island. Late on 31st May, 1942 two Japanese midget submarines, each manned by two men and armed with two torpedoes, penetrated the boom defence net.

One of them was detected by an alert seaman on Shark Island and the harbour defences were swung into action. Depth charges were dropped and a hit registered.

The other submarine surfaced in the confusion and was illuminated by searchlights. (It was now after 10.30 p.m.) It fired its torpedoes at the United States cruiser *USS Chicago* which was moored on the eastern side of Garden Island. One torpedo hit the foreshore, but failed to

explode. The other passed under a Dutch submarine moored near the *Chicago*, and continued on its way to explode beneath the keel of *HMAS Kuttabul*, a ferry used as a depot ship. The vessel split and sank with the loss of 19 men.[87]

To commemorate the loss of lives and the *Kuttabul*, *HMAS Kuttabul** was commissioned on 1st January, 1943,[88] and Kuttabul Steps and Kuttabul Dolphins named (refer Figure 2) in the area where *Kuttabul* was sunk.

Since World War II there have been only three significant industrial buildings constructed. The 250 ton crane was completed at the fitting out wharf in 1951.

However, the base became gradually more and more outdated and ineffective. The question on the future of the base came to a head in the 1970's.

In 1973 Ruth Park, in her 'Companion Guide to Sydney', described the Island as:

> "this man built peninsula, sprouting with all the fantastic disorder that any form of engineering seems inevitably to create, is majestically ugly. Formidably it disregards all aesthetic principles."[89]

**HMAS Kuttabul* is the Naval Establishment near Garden Island Dockyard which provides administrative support for headquarters' staff and accommodation for ships undergoing refit.

This and other comments may have contributed to the proposals in hand today.

In 1976 the stated objective, in a white paper on Australian Defence, was that:

> "the Government intends that the major Naval base at Garden Island should remain, but be modernised and developed in a way which pays careful attention to environmental considerations and improved aesthetics."[90]

In March of the following year a special team consisting of officers of the Department of Defence and Department of Housing and Construction and private consultants was established to look at the redevelopment and modernisation of the Island. This team is referred to as the Garden Island Modernisation Planning Team (GIMPT). The basic aim of the team was to try and meet Naval requirements for the next 25 years.

In 1979 GIMPT completed its report and the Environmental Impact Statement was prepared.

The modernisation proposals were presented to the Parliamentary Works Committee in July 1980 and were approved in September 1980.

A summary of the main dates and events relating to Garden Island

is given in Appendix 3.

Figure 26 gives an outline of the Island at various superimposed stages in its history.

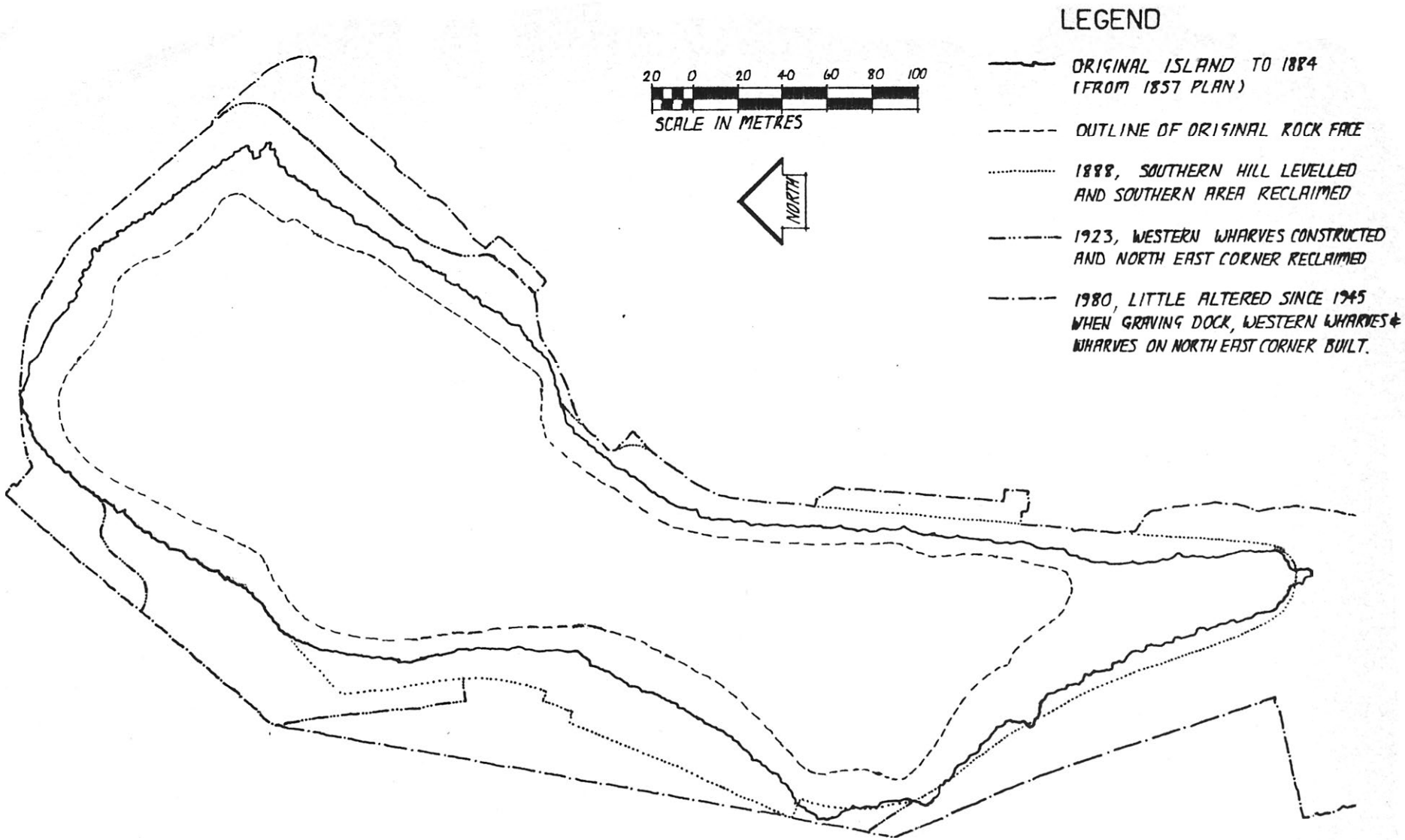


Figure 26 Superimposed Plans Showing Historical Development

SECTION 3

HISTORY OF THE DOCKYARD'S EARLY BUILDINGS

3.0 HISTORY OF THE DOCKYARD'S EARLY BUILDINGS

This section details the history of each of the dockyard's early buildings in the precinct area (refer Figure 27). The other buildings in the area are briefly covered in Section 4.

Items included in discussions of the history of the buildings are names of the buildings, a description, original drawings, when constructed, contract costs, early photographs and major modifications.

A summary of the information in this chapter is shown graphically in Figure 28.

Most of the early buildings were designed by the Colonial Architect's Department under the control of James Barnet. Barnet's contribution to the design is discussed in Section 5.

3.1 BUILDINGS PRIOR TO 1883

The buildings constructed on Garden Island prior to the main construction phase in 1883 are outlined below.

1788 a hut was built for the men working on the Island developing a garden (refer note 9, page 15);

1795-98 house built by Lieutenant Robert Braithwait. (Illustrated in Figure 5);

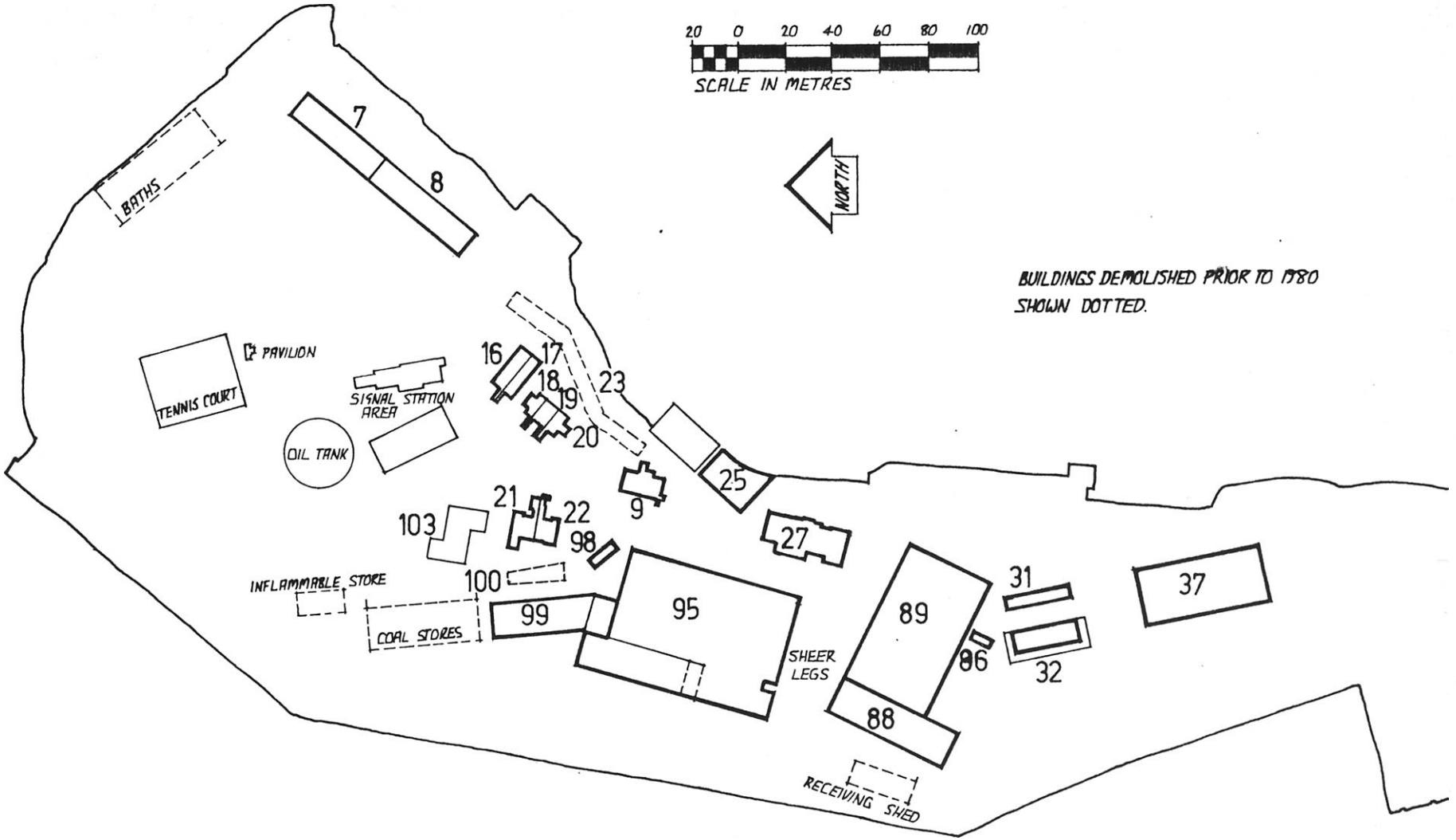


Figure 27 Key Plan to Historic Assets (Section 3)

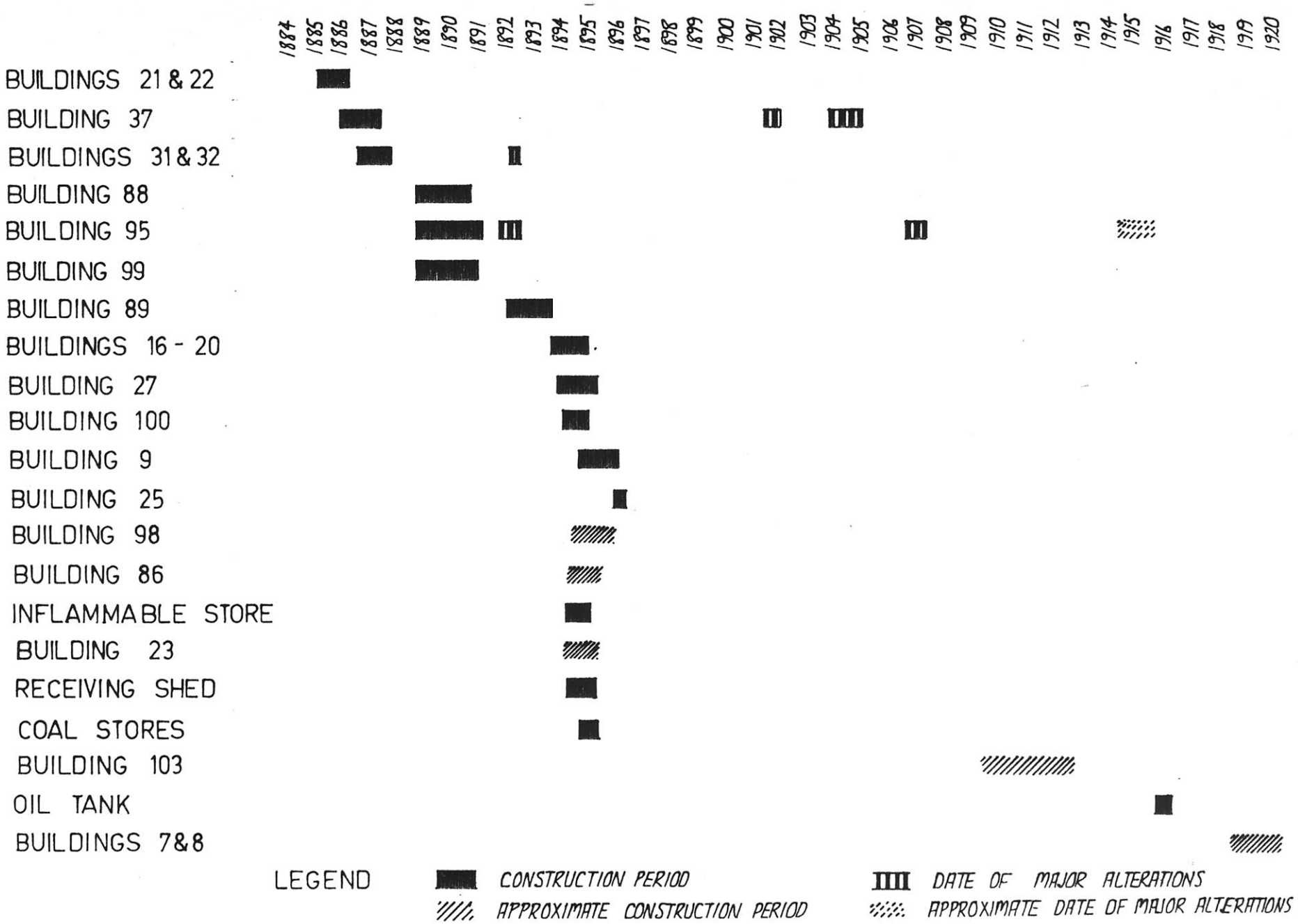


Figure 28 Table of Construction Periods for Historic Buildings

1858-60 Keeper's House, Boat Shed and Blacksmith's constructed (refer Figures 9 & 10);

1877 Sail Maker's Shed constructed (refer Figures 11 & 12).

No evidence of any of these early buildings remains on the Island today.

3.2 THE EARLY NAVAL STATION IN PERSPECTIVE

It is important to realize that the significance of the Island lies in the large number of high quality nineteenth century naval structures which form this group. Each building, although not always individually of exceedingly high significance, forms part of a unified group hardly surpassed in the world. This rare quality is often under-rated and cannot be emphasized enough.

The period of the late 1880's saw many changes occurring in Australia. To put the buildings on Garden Island into perspective some aspects of the stage technology had reached are outlined below.

(a) A new mechanized brick making process was developed in the 1880's. This included the 'dry process' which made the bricks harder and more durable.

(b) Cavity wall construction came into common usage in the 1890's.

(c) Marseilles tiles began to be more widely used especially for domestic and smaller buildings.

(d) There was an increasing dissatisfaction with the monotonous overall greyness of the 1860's and 1870's which led to demands for colour in buildings and 'Polychrome' techniques became more dominant.

(e) The usual construction details of the period were cast and wrought iron storey posts supporting timber, cast iron or wrought iron beams and timber floor joists and timber flooring.

(f) After 1890 rivetted plated girders of the 'early' mild steel, coke breeze flooring system over arched corrugated galvanized iron came to be used.

(g) Reinforced concrete came into common use after 1905.

Following the boom period up to the early 1890's there was a financial collapse and by 1893 a 'foggy cloud of depression lay thickly and darkly over eastern Australia.'[91]

3.3 SOURCES OF INFORMATION

The details that follow are not individually referenced. However, the information is derived from several key primary sources which

are set out below.

Plans - Department of Housing and Construction and Department of Defence (Navy) Records. Only the original drawings are mentioned in the text with a full list of available drawings set out in Appendix 4.

Tender Information - N.S.W. Gazettes.

Construction Dates & Costs - Public Works Department Annual Reports;

Statistical Register of N.S.W.;

Information tabled in the 1924 High Court Hearing 92;

James Barnet's papers;

Study of early drawings and photographs.

Where there has been a conflict of information (this often occurs in reference to costs) preference has been given to the data from Gazettes and the PWD Reports.

As mentioned earlier this period saw many changes and developments and this was so with the Public Service as well. Some of the key factors which influence research and data availability are:

(a) From 1888 individual buildings were not separated in the Statistical Register on NSW. However, the PWD Reports still

provided individual details.

(b) On the 1st August, 1890 the Colonial Architect's Office became the Government Architect's Branch of the Department of Public Works. Works on Garden Island were handed over to the control of the Harbours and Rivers Branch.

(c) From 1892 the PWD Reports did not separate work on the individual buildings on Garden Island.

(d) From 1st January, 1894 financial arrangements in the NSW Government changed from calendar years to financial years. This meant that the records went from 1/1/1894 to 30/6/1895, then annually from then on.

(e) Some of the work was executed by day labour* and few records exist for such work.

*Tradesmen employed by the Government, on a regular wage, to carry out various work as instructed.

3.4 BUILDING 21 & 22: TWO RESIDENCES

Earlier Names Overseers' Cottages
Caretakers' Cottages
Petty Officers' Cottages

Description

Two Georgian styled semi-detached houses of stuccoed brick (overall dimensions about 21m x 12m). Brickwork appears to have been sandstock bricks in lime mortar. Stucco, simulating stone, was used externally and internal walls were rendered.

Timber floor, ceiling and roof framing was used to support timber floor boards, a lath and plaster ceiling and a corrugated galvanized iron roof.

The timber box framed double hung windows have 6 lights per sash and at least the northern windows had shutters.

Originally the residences consisted of 6 rooms each.

Both residences have had verandahs enclosed, a corrugated asbestos cement roof added and substantial internal modifications. An additional room has been added in the north west corner.

Construction

Drawings: None exist.

Measured drawings prepared by the present author in 1980.

(Figure 29 shows the probable original plan and elevations.)

Dates: Tenders called 25th August, 1885.

Contract let 22nd Septebmer 1885.

Completed in 1886.

Contractor: Thos. Wearne

Cost: £1,577/5/6

Early Photograph

Figure 30. (Refer also Figures 17 and 41.)

Main Alterations

(a) Various outbuildings on east side added before 1894.

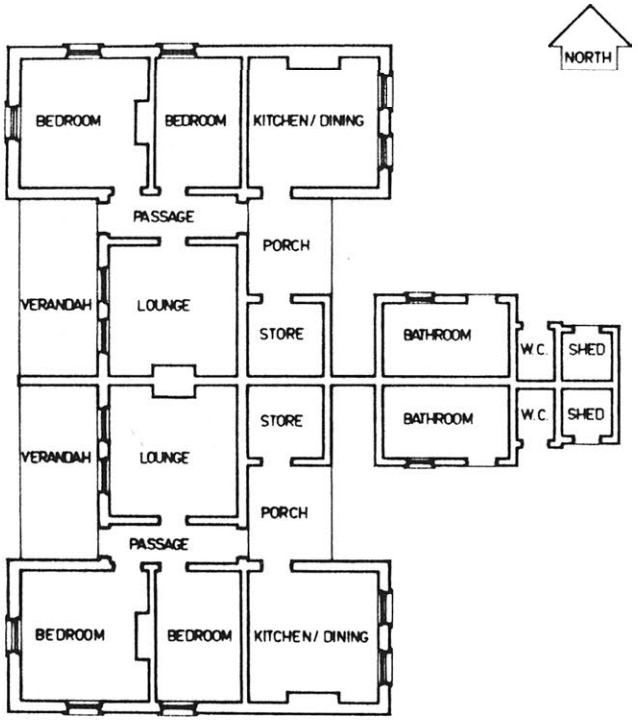
(b) Verandahs and spaces on east and west sides enclosed.

(c) Room on north west corner added between 1923 and 1926.

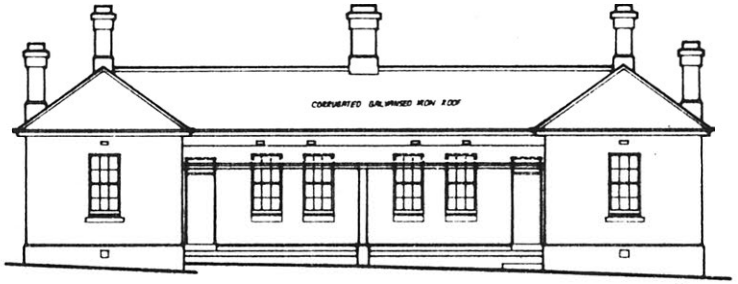
(d) New Garages replaced older sheds.

Comments

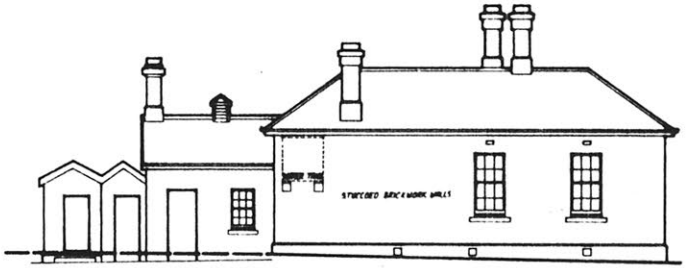
The oldest building existing on the Island.



PLAN



WEST ELEVATION



NORTH ELEVATION

MEASURED STUDY
GARDEN ISLAND DOCKYARD-TWO RESIDENCES
SUGGESTED ORIGINAL PLAN AND ELEVATIONS
SCALE (1:100) ERIC J MARTIN OCT 1980 SHEET 5/5

Figure 29 Building 21 & 22: Probable Original Plan & Elevations

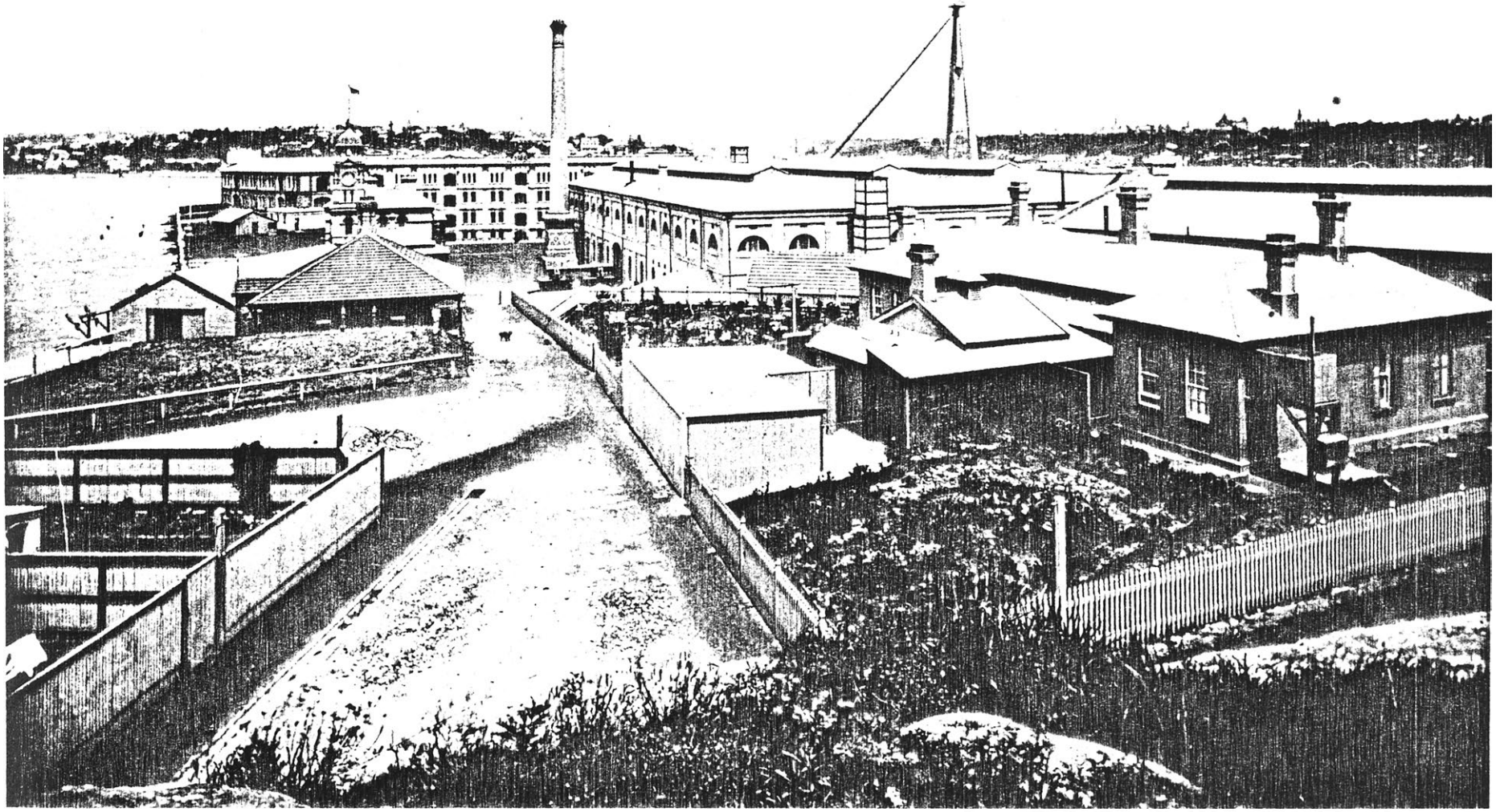


Figure 30 Two Residences (Building 21 & 22) from Northern Hill 1896

3.5 BUILDING 37: RIGGING SHED & CHAPEL

Earlier Names Rigging House and Sail Loft
Boat House and Sail Loft

Description

A utilitarian two storey structure in Italianate Style with facades of recessed bays containing small arched windows and large doorways.

The building is rectangular in plan approximately 55m x 25m.

Constructed from stuccoed brick, simulating stone, external walls and an internal ground floor central arched brick spine wall over which are Tuscan columns supporting a series of lightly framed iron trusses.

Rolled and wrought iron girders support a timber first floor which is still caulked with oakham and bitumen. The ground floor is also timber.

The original roof was corrugated iron in a simple hipped form with the underside of the roof framing lined with diagonal timber boarding. The present asbestos cement roof has ridge lights.

Windows consist of timber box framed double hung sashes of 6 lights.

Most of the original whips* remain although all pulleys and cables have been removed.

Part of the first floor was converted to a chapel in 1902 and external stairs added. This is the Royal Australian Navy's oldest church.

Two stone slipways were originally located on the eastern side. Today only some bollards and mooring rings remain.

Construction

Drawings: Plans (Figure 31).
Elevations and Sections (Figure 32).
Details of Iron Roof, Columns and Girders.

Dates: Tenders were called on 19th January, 1886.
Work commenced on site on 31st May, 1886.
A report of 10th October, 1887 stated that the building was complete except for internal fittings. Fully completed with internal fittings by September, 1889.

Contractor: William Farley was awarded the contract on 15th March, 1886. He was recommended for the contract for fittings

*Hinged hoisting facilities adjacent to the first floor loading doors.

on 25th November, 1887.

Costs: £4427/1/7 spent in 1886, £11627/7/5 in 1887 and £200/8/11 in 1888.

Final Building Cost £16,289/18/11

Fittings £623/10/0

Early Photograph

Figure 33.

Main Alterations

(a) In 1902 the northern end of the sail loft was divided off with a canvas wall to form a Chapel and external stairs added.

(b) Naval jail and warders Quarters were added to the southern end. Foundations were poured in March 1904 and it was ready for occupancy by 18th July, 1905. Cost was about £6,400. This resulted in many changes to the south facade. After it was demolished in 1948 windows were added to the south face. (Refer Figure 34.)

(c) A prisoners' gallery was incorporated as part of the Chapel and a wire netting barrier used to prevent any defaulter from

throwing his hymn book at the Admiral.

(d) A mezzanine floor has been added to the south end of the building.

(e) In 1958 the canvas wall to the Chapel was taken down, a new wall constructed and the gallery closed off.

(f) Ridge skylights have been added.

Comments

The Chapel today has richly polished timber furnishings, mosaics, memorial plaques and stained glass windows. The stained glass windows commemorate ships and men of the R.A.N. The pulpit is in the shape of a ship's bow.

The Sydney Morning Herald (11th February, 1907) described the building as:

"an incongrous and most inharmonious collocation. The one structure embraces a church, a boat store and sail loft, a boardroom, a humble theatre, and a naval prison and warders' quarters."

On 24th August 1907 the Evening News said that the Naval Prison was: "from an architectural point of view, the best building on the island."

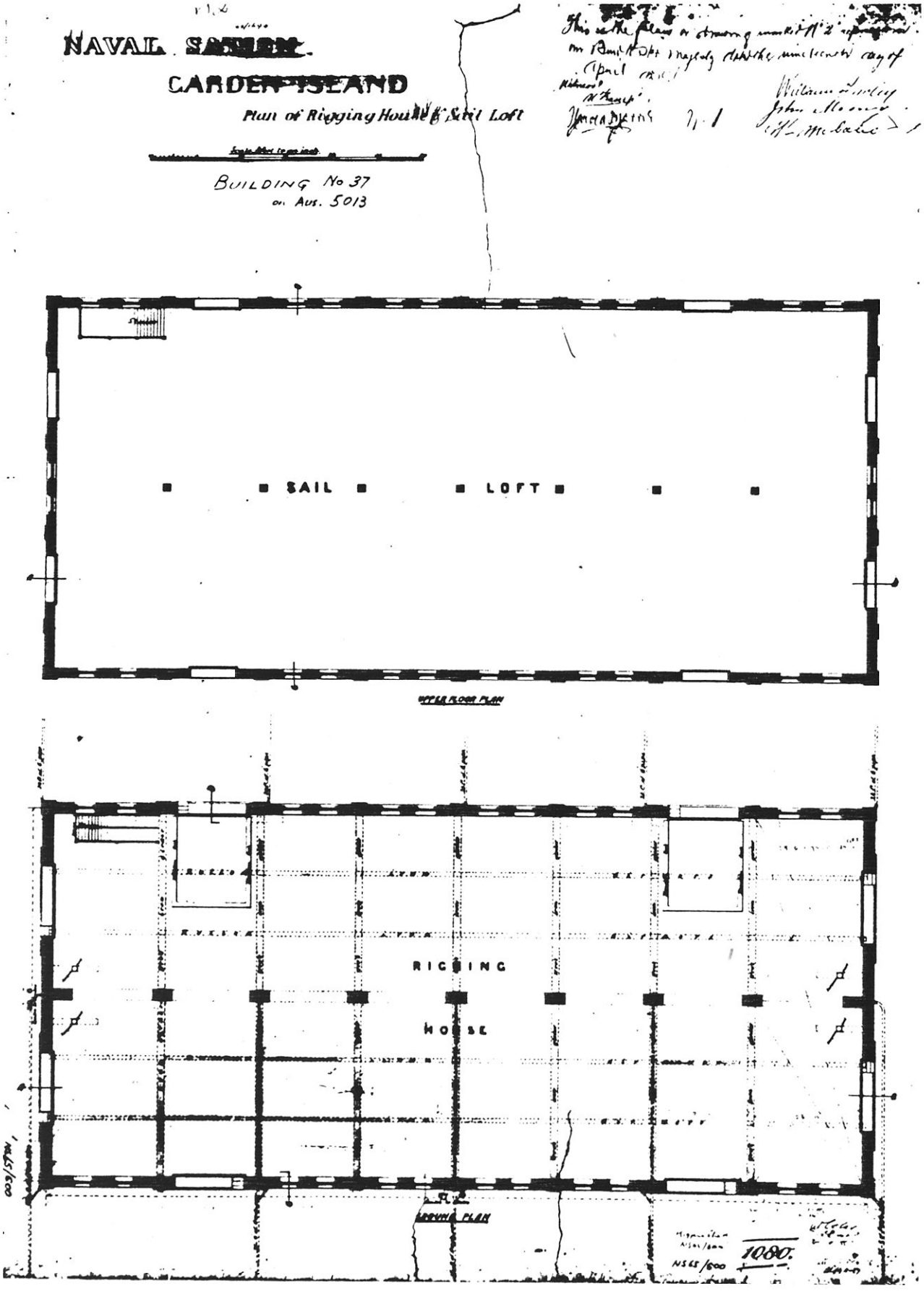


Figure 31 Plan of Rigging Shed & Sail Loft (Building 37), 1886

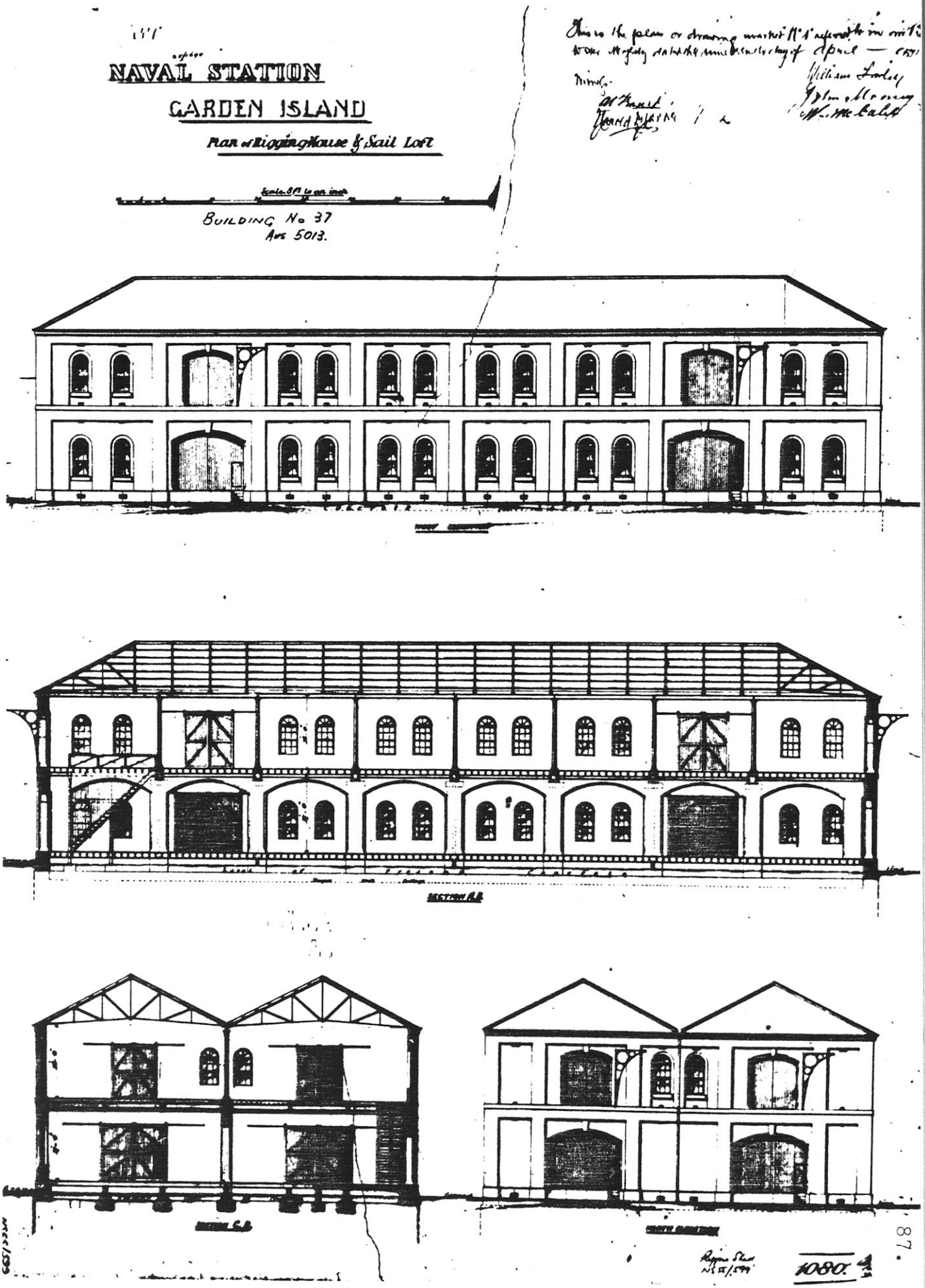
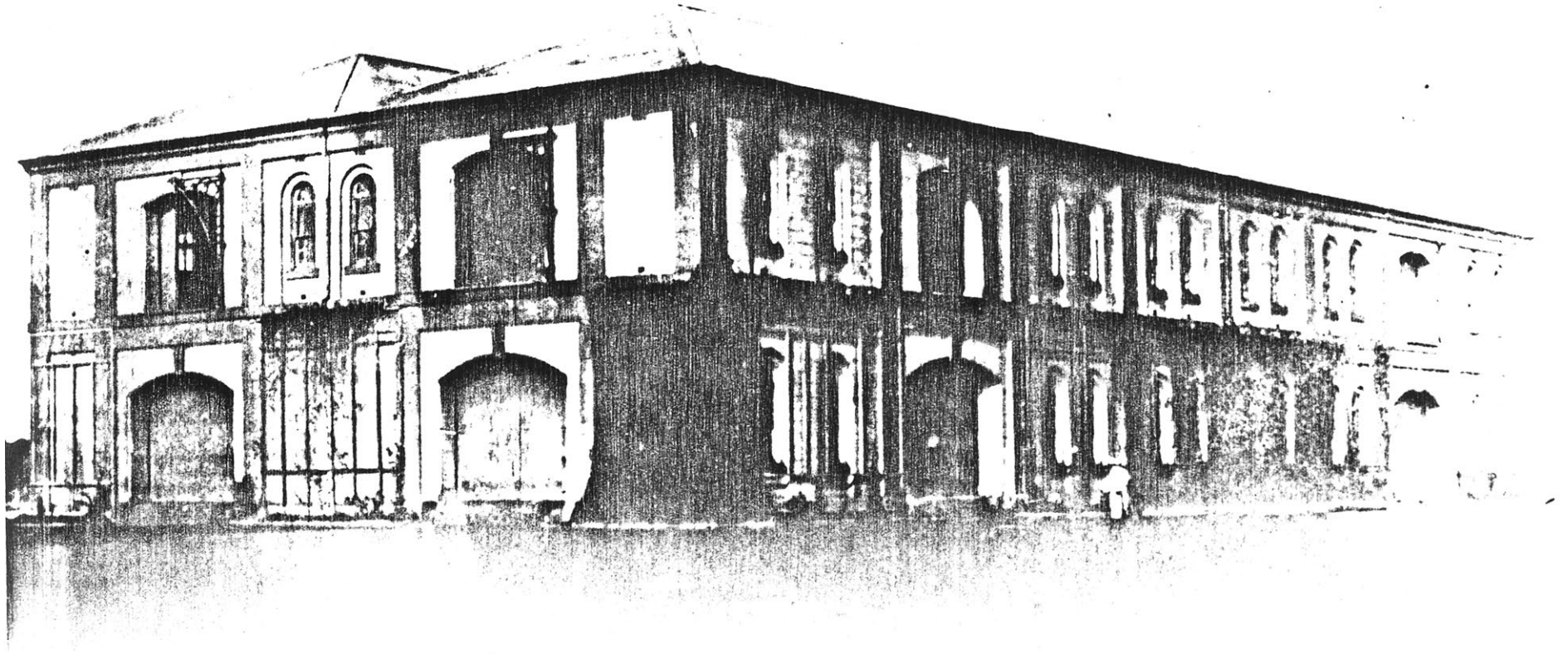
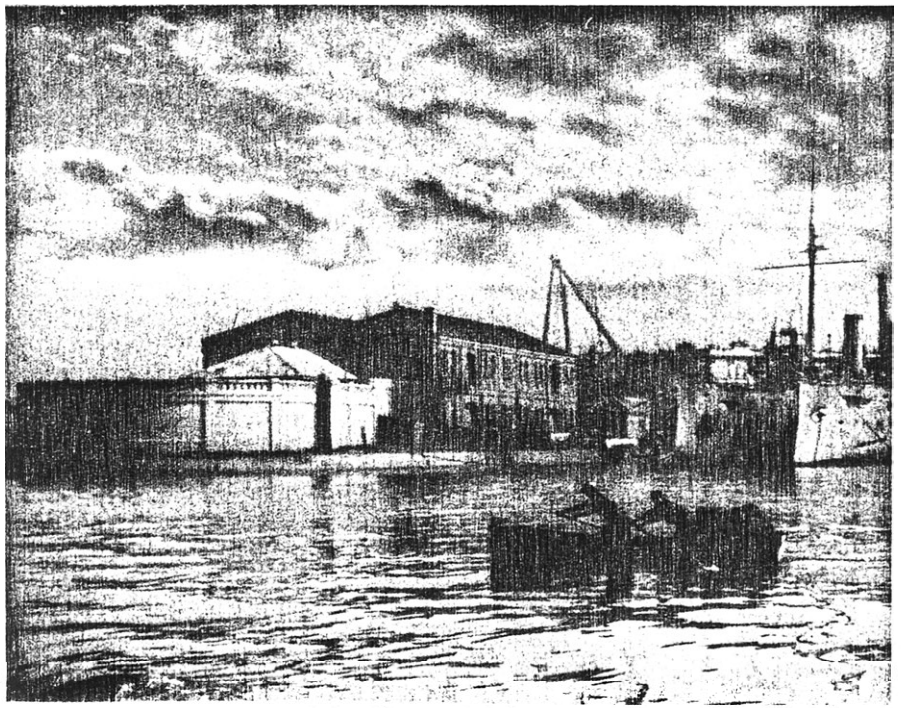


Figure 32 Rigging Shed & Sail Loft - Elevations & Sections, 1886



"Reproduced by Courtesy of the Archives Authority of New South Wales."

Figure 33 View of Rigging Shed & Sail Loft (Building 37) c 1895



"Reproduced by Courtesy of the Mitchell Library, Sydney"

(a) View from South East (before 1927)

(b) View from South West (after 1929)

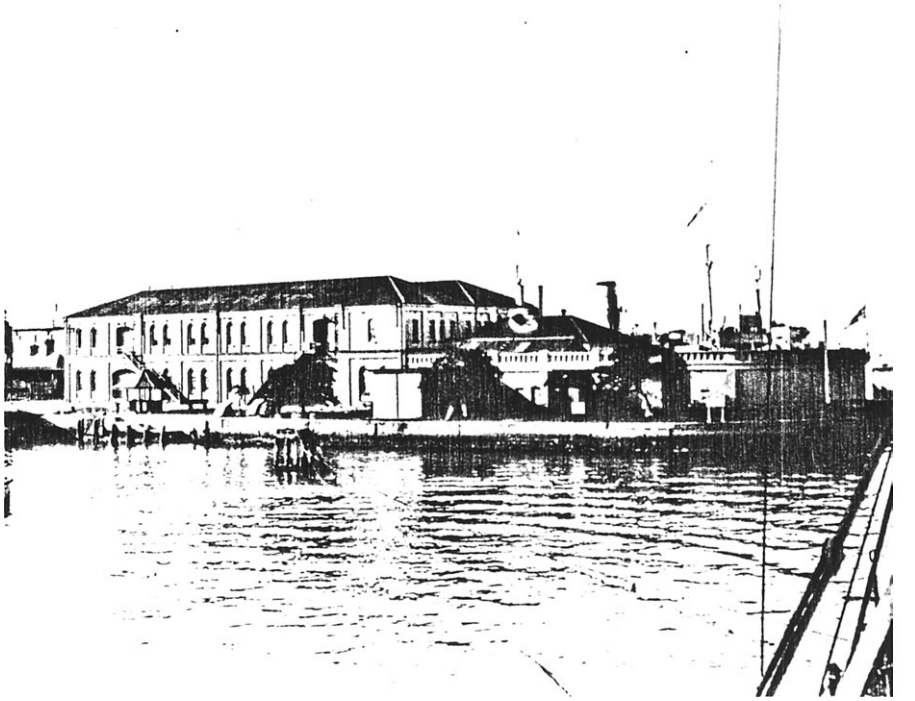


Figure 34 Former Jail Adjoining Rigging Shed and Sail Loft

3.6 BUILDINGS 31 & 32: REGISTRY & OFFICES AND SIGNWRITERS SHOP

Earlier Name Barracks & Kitchen

Description

A three storey stuccoed brick, simulating stone, building having a hipped slate roof with a similar single storey building behind.

The buildings are rectangular (approximately 29m x 10m with a 2.5m verandah and 29m x 6m respectively) and were originally linked by a covered way.

The western elevation has a three storey verandah with a corrugated iron roof. This was extended a few years after being built to include the northern and southern verandahs. The timber verandahs are supported on Tuscan cast iron columns. Balustrades to the verandah are cast iron and pipe.

External load bearing walls are pierced with timber box framed double hung windows with six lights per sash and timber doors. Window sills (none on west side) are stone.

Internally, two rows of circular cast iron corinthian columns support iron girders and timber first and second floors. The roof

is supported on timber trusses.

Constructed originally for 239 officers and men it has undergone subdivision and alteration over the years to reach its present use as offices. Several hammock brackets remain as evidence of early times. The top floor was used for the officers and partly as a hospital.

Construction

Drawings: Plan and Elevations (Figure 35).

Dates: (a) Tenders called 30th November, 1886.

Contract let on 7th January, 1887.

Work commenced on 10th January, 1887.

On 10th October, 1887 it was reported to be three quarters complete.

Completed in 1888.

(b) Contract let for fittings on 9th April, 1889.

(c) Tenders called for alterations and additions on 24th June and 1st July, 1892.

Contract let on 9th August, 1892.

Completed 1892.

Contractors: G. Langley for Building and Fittings;

Frank Guest for alterations and additions.

Costs: (a) £5150 spent in 1887, £3815/11/10 in 1888, £700 in 1889.
Contract Sum £8003.

(b) Fittings - £1270 spent in 1889.
Contract Sum £1476.

(c) Alterations and additions £825.

Early Photograph

Figure 36.

Main Alterations

(a) The north and south verandahs have been added (refer above).

(b) In 1912 an internal rearrangement occurred and the second floor became Sick Quarters (hospital).

(c) The entire building has been converted to Offices.

(d) The verandah was enclosed in part prior to 1945.

(e) The covered way was demolished and toilets added to the eastern side (early 1950's).

Comments

The 1892 PWD Report said that the Barracks were fitted with extra stairs and verandahs to give independent access to the officers' quarters at the top of the building.

A complete set of latrines, associated with the Barracks, were constructed in 1892 on the east side of Building 31.

Fittings and other work executed prior to 1900 included:

(a) Washouses £172 (1889);

(b) Cooking apparatus £200 (1889), £128 (1890): total £328;

(c) Repairs to Barracks in 1889 £71;

(d) Repairs to Cook House in 1898-99 £3/14/1.

In 1948-9 when additional toilets were being considered proposals were put forward to locate them on the first and second floor verandahs. Associated with this proposal was the enclosing of some other sections of the verandah for offices.

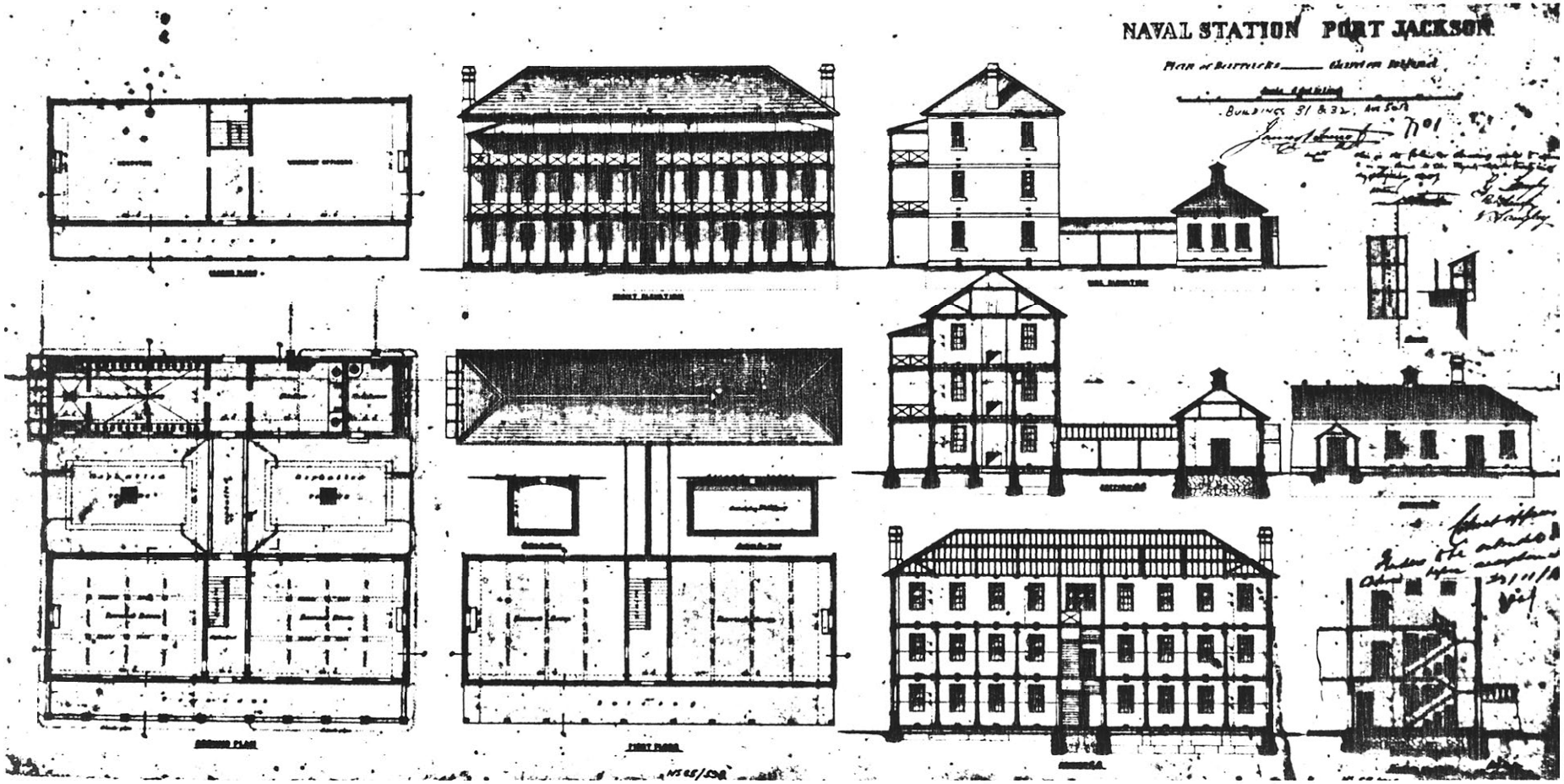
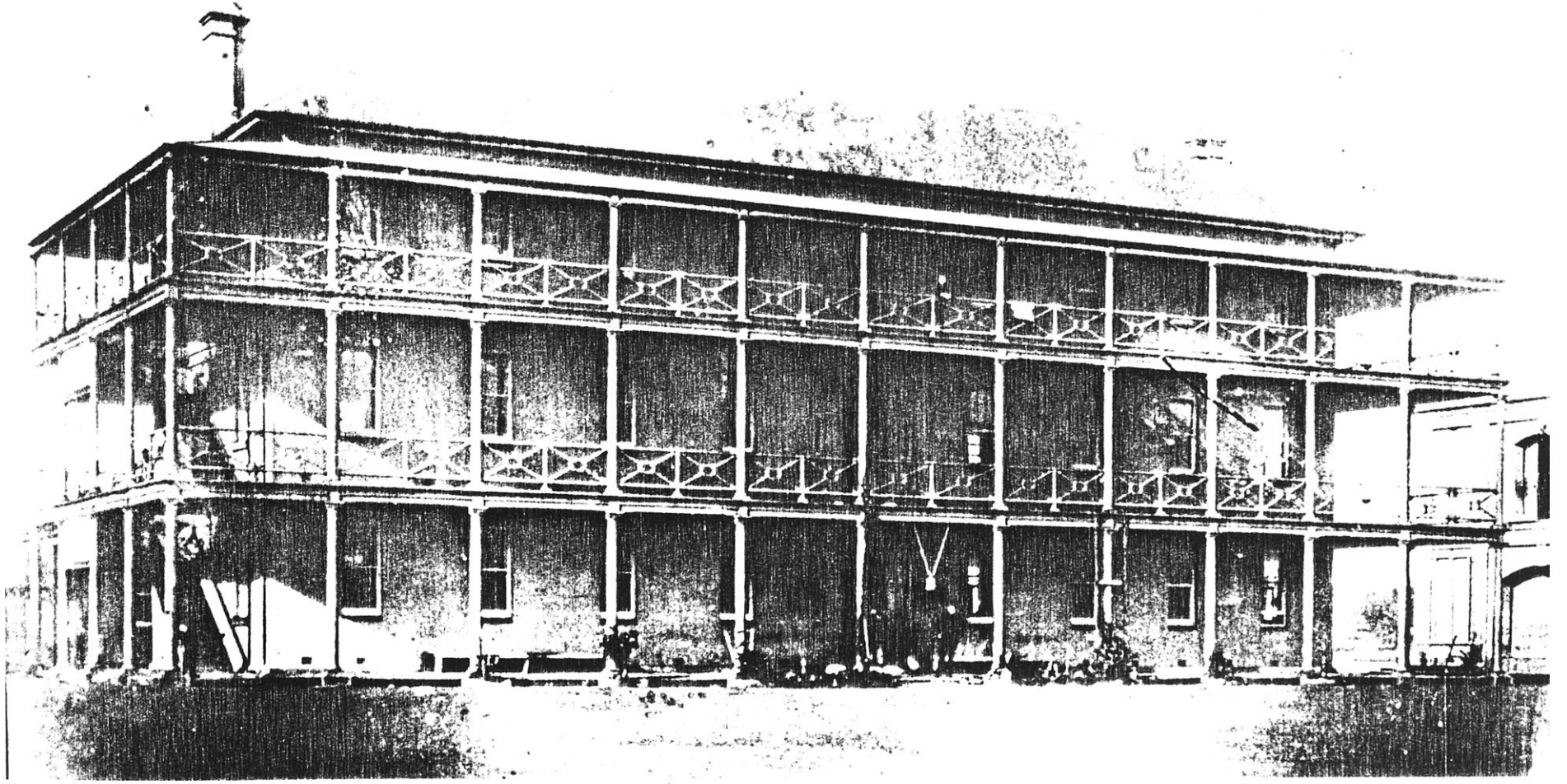


Figure 35 Plan of Barracks (Buildings 31 & 32), 1886



"Reproduced by Courtesy of the Archives Authority of New South Wales"

Figure 36 View of Barracks (Building 32), between 1892 & 1902

3.7 BUILDING 88: BATTERY SHED

Earlier Names Chain & Anchor Store
Paint Store

Description

A single storey utilitarian stuccoed brick, simulating stone, building in Italianate style with arched openings in recessed bays. The bays have small arched timber windows at a high level or large doors.

The plan is a rectangle approximately 55m x 17m.

The floor is a concrete slab on the ground.

A simple hipped roof, supported by a number of lightly framed iron trusses, was originally corrugated galvanised iron. It now has ridge ventilators and is sheeted with corrugated asbestos cement.

Many of the original openings are presently bricked up and other bays have new openings made through them.

Construction

Drawings: Plan and elevations (Figure 37).

Dates: Tenders called 8th and 12 March, 1889.

Contract let on 23rd April, 1889.

Completed 1891.

Contractor: Parry and Farley

Costs: £1195 spent in 1889, £1859 in 1890.

£5725 contract sum.

Early Photographs

The best available is one of the sheer legs with Building 88 behind (Figure 16).

Main Alterations

(a) The ridge ventilators were added in 1928.

(b) Several alterations to openings have occurred at various stages.

(c) Travelling Cranes were erected internally.

Comments

Gates and grilles to the openings were constructed in 1894 at a cost of £128.

The gantry crane was altered in 1964 at a cost of £14,389/9/6.

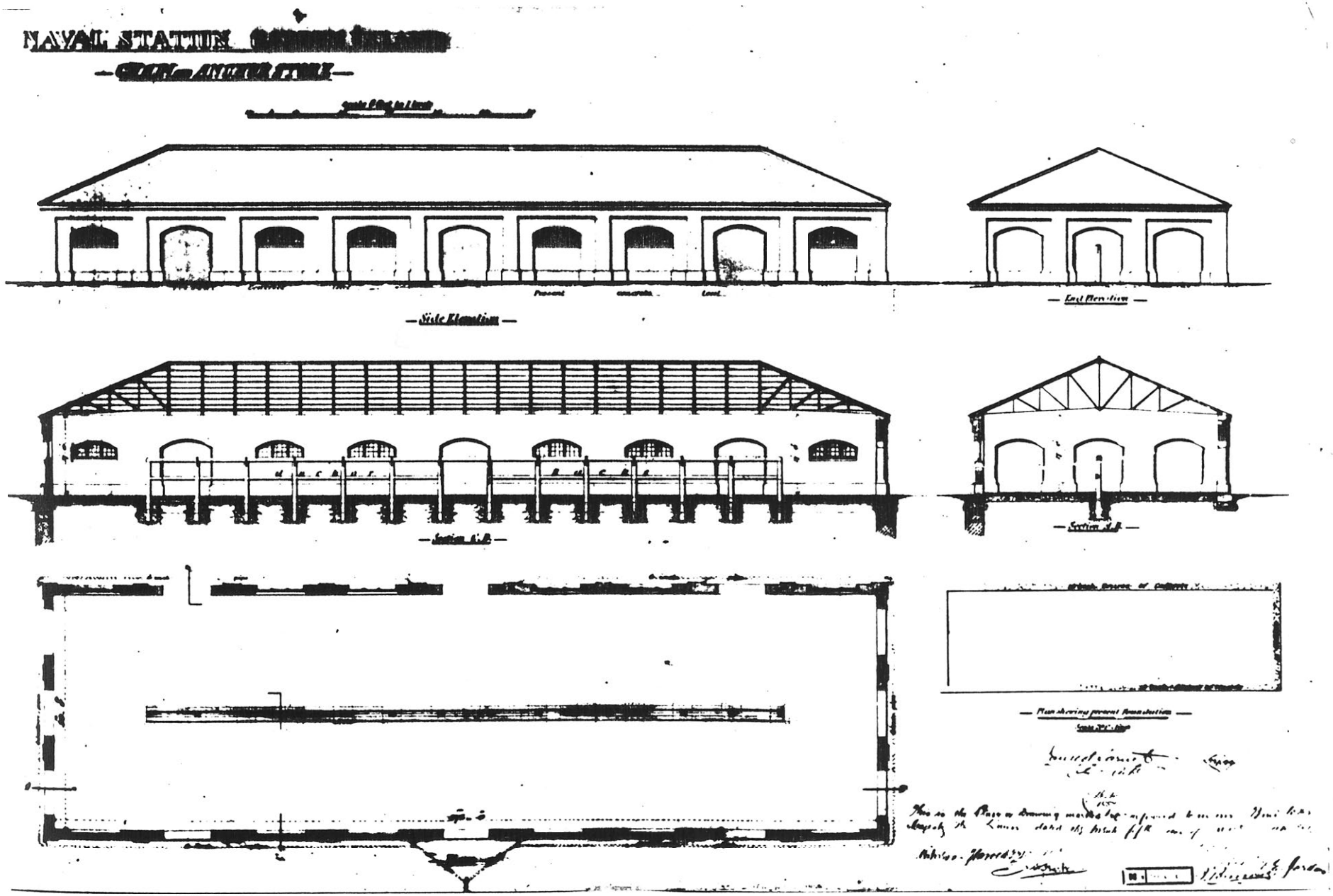


Figure 37 Chain & Anchor Store - Plan & Elevations, 1889

3.8 BUILDING 95: FACTORY

Earlier Names Engineers' Shop

Description

A utilitarian load bearing stuccoed brick, simulating stone, building in Italianate style. The facades consist of recessed bays containing arched timber windows and large doorways on the ground floor with small arched timber windows and semicircular windows on the upper floor.

The building originally consisted of a large double height main workshop area with two small rooms on the southern side (plan 77m x 36m). However, an eastern section (77m x 18m) was added soon after the other workshop was completed. This section was two stories and housed a foundry, pattern shop and other engineering functions.

In the main workshop a central row of double circular cast iron columns supporting a series of lightly framed iron roof trusses.

The two storied section has large rivetted iron plated girders supporting timber framing and timber first floor. Lightly framed roof trusses span the entire width of the section.

The ground floors are generally concrete with some sections wood block.

Originally the building had a double hipped roof with the eastern section having a hipped roof. The roof was originally corrugated galvanized iron with ridge ventilators but currently has sections of corrugated asbestos cement.

Incorporated in the factory was a steam power house with a 50m chimney on the eastern side. The chimney was removed sometime in the 1930's.

Along the western side several extensions have occured. The present one is a three storey brick building extending along the entire western side and houses workshops and a cafetaria.

Construction

Drawings: Elevations and sections (Figure 38).

Dates: (a) Engineers' Shop - tenders called 8th and 12th March, 1889; contract let 23rd April, 1889; completed 1891.

(b) Extensions to Factory - tenders called 23 October and 3rd November, 1891;

contract let 1st March, 1892;

completed 1892.

Contractors: Parry & Farley for both the original work and the extensions.

Costs: (a) Tender for the Engineers' Shop was £17,730.

(b) Extensions to the Factory at cost of £7,760.

Early Photographs

General impressions of the building are shown in Figures 17 and 30. Internal views (Figures 39 and 40).

Main Alterations

(a) The chimney was banded before 1907 and demolished inthe 1930's.

(b) A single storey Coppersmith's Building was added along the northern part of the western side in 1907.

(c) A single storey Engineer's Fitting Shop was added along the Southern part of the western side about 1915.

(d) Alterations (b) and (c) above were demolished to make way for a major western extension about 1944.

(e) A Foundry Annex has been added to the northern side.

(f) An external stair added to eastern side provides access to the first floor.

Comments

Details of the equipment proposed for the building was given in the Sydney Morning Herald of 7th December, 1885.

The 1892 PWD Report stated that the extensions included a machine shop, boiler shop, foundry for iron and brass, forge shop, tool and pattern shops, dynamo room, zincing room, office, engine house and boiler house. It also said that most of the machines were erected and ready for work.

The contract for the erection of eleven large external doors was completed on 22nd April, 1893 at a cost of £580. (This may have included doors for Buildings 88 and 99 as well.)

The western extension is a 3 storey brown brick building which has, up to 2m above ground, 2 courses every fifth course projecting slightly. The brick walls extend above the roof to form parapets on 3 elevations. A continuous concrete sill to the second floor windows projects some 300mm from the face of the building. A similar concrete projection occurs above the three doors on the western side. The internal structure is reinforced concrete and the windows are steel framed.

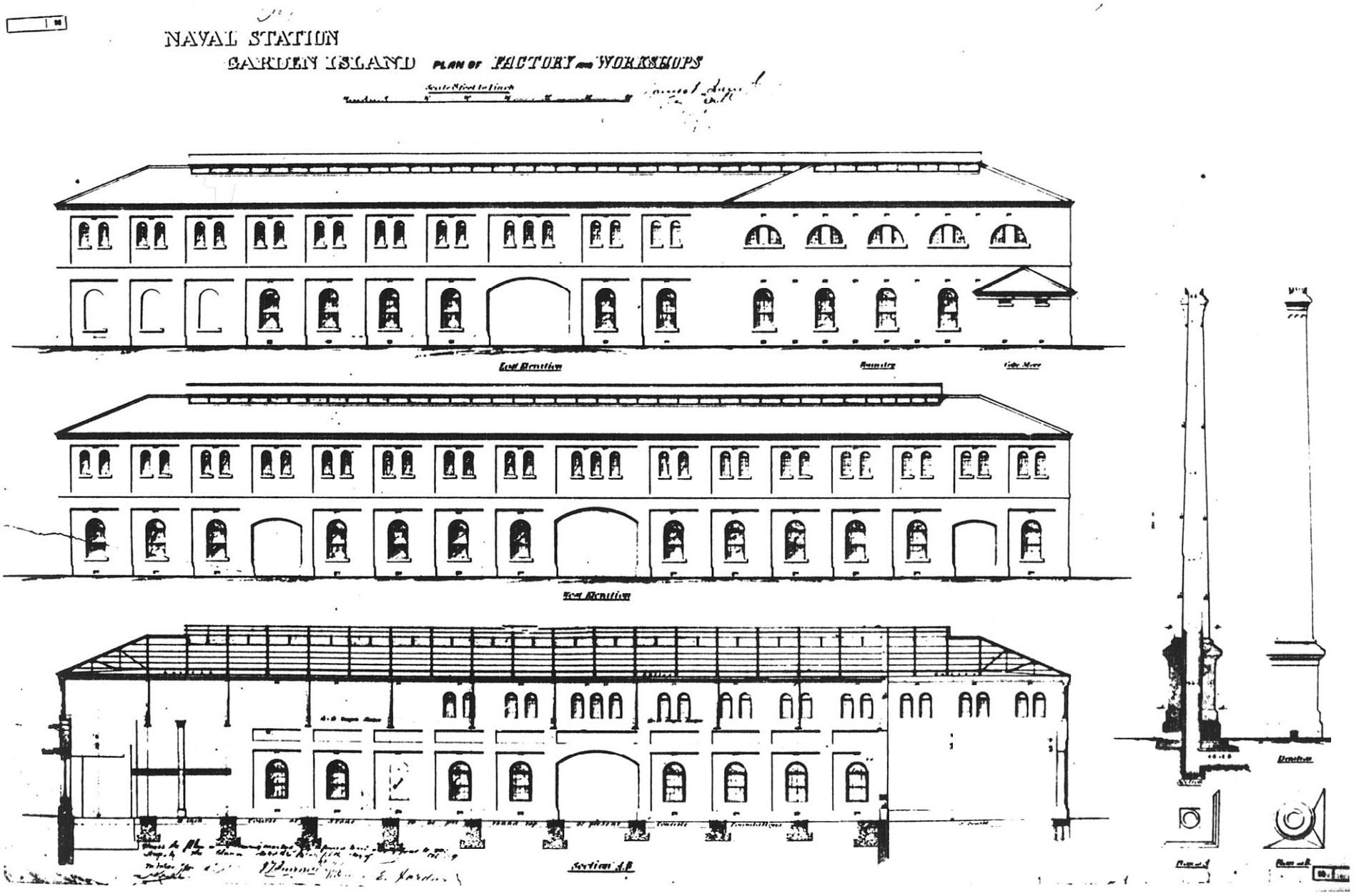
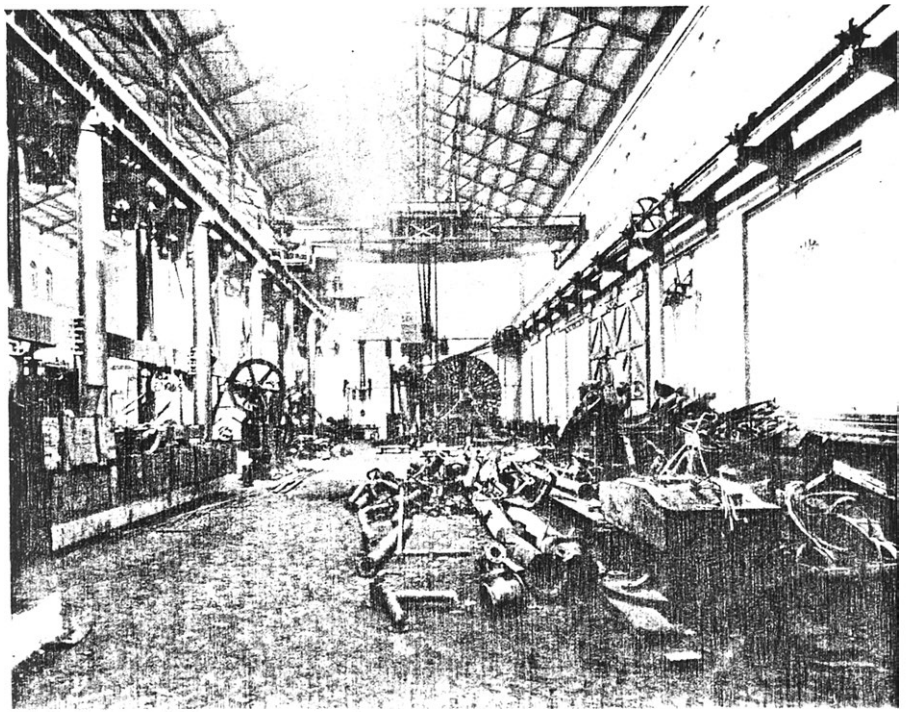


Figure 38 Factory and Workshops - Elevations & Sections, 1889



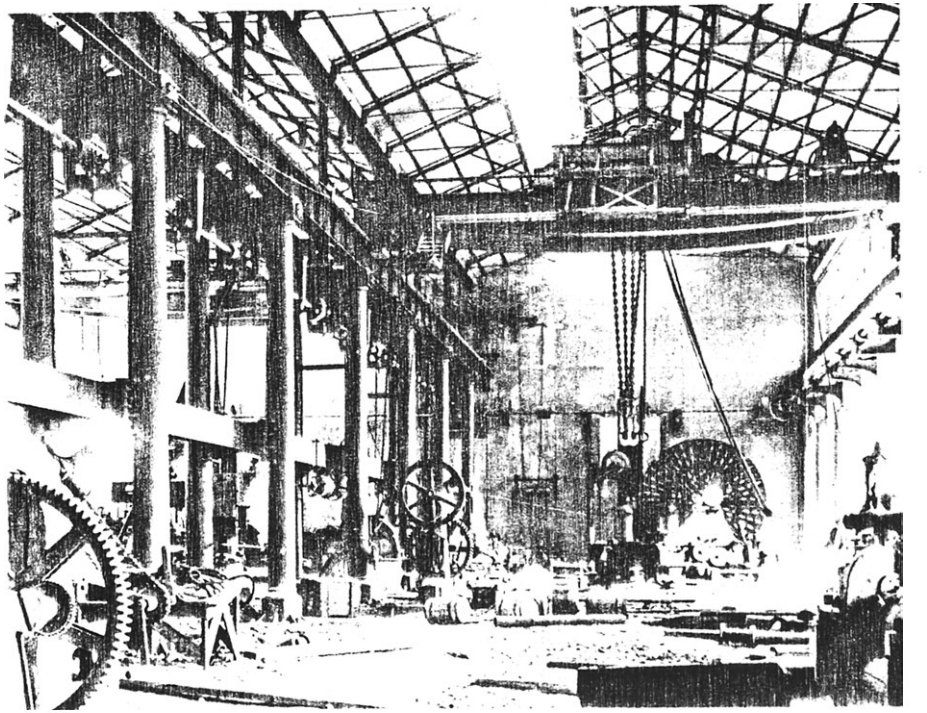


Figure 39 Factory & Workshop (Building 95) - Internal Views, c 1900

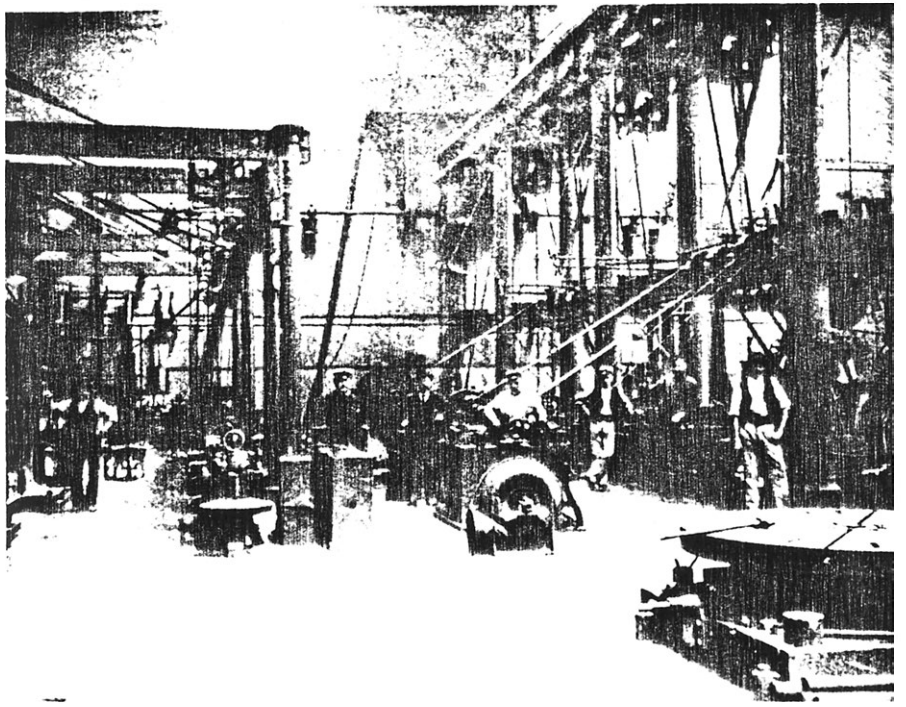
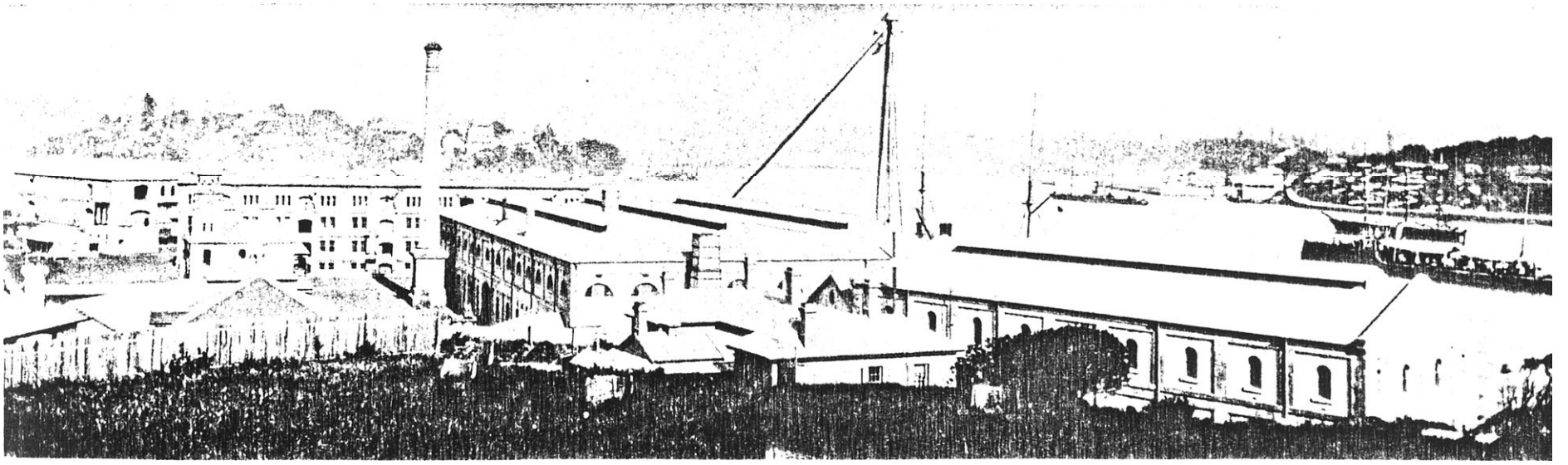


Figure 40 Factory & Workshop (Building 95) Internal Views, 1901

Figure 41 Buildings 95 & 99 from North East, 1896



3.9 BUILDING 99: WORKSHOPS

Earlier Names Spar Shed & Dining Room

Store for Gun Mountings, Torpedo Store, Workshop & Dining Room

Gun Mounting and Torpedo Store

Southern section was a Saw Mill

Description

A utilitarian two storey building in Italianate style with facades of recessed bays containing small arched windows and large doorways. The building is approximately 40m x 14m with an angled section connecting to Building 95.

It is constructed from load bearing stuccoed brick, simulating stone, with a concrete ground floor. A central row of circular cast iron columns support iron girders and a timber first floor.

A series of lightly framed iron trusses support the roof. The original roof was corrugated galvanised iron with a ridge ventilator and lined on the underside with diagonal timber boarding. At present the roof is corrugated asbestos cement.

The timber box framed double hung windows have single lights per sash.

Access to the dining room was originally by internal stair but an external stair was added at a later stage.

Construction

Drawings: Plan, elevations and sections (Figure 42).

Dates: Tenders were called on 12th March and 2nd April, 1889.
Contract let on 23rd April, 1889.
Completed 1891.

Contractor: G. Langley

Costs: £1,950 spent in 1889 and £2,798 in 1890;
£8,440 contract sum.

Early Photographs

No photographs of this building alone are available. However, Figure 41 gives a reasonable impression of it. It can also be seen in part in Figure 56.

Main Alterations

(a) In 1892 a section was fitted out as a torpedo store resulting in several internal alterations.

(b) External stairs have been added to the northern side.

(c) A single storey amenities building (Building 136) has been added to the eastern side.

(d) All ground floor windows have been modified to fit rectangular windows.

(e) Other internal alterations have occurred including partitions and walls to define office areas.

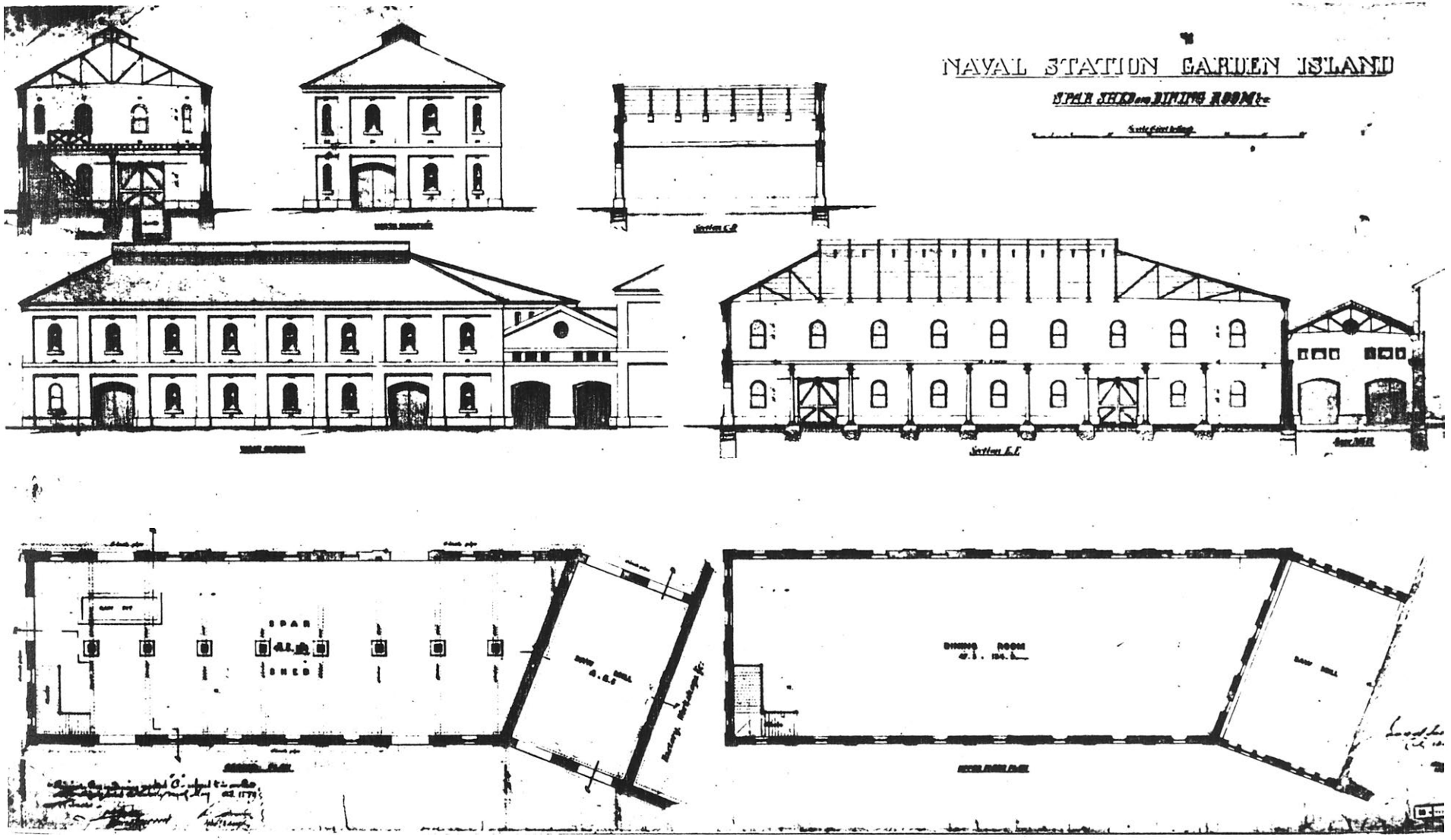


Figure 42 Spar Shed & Dining Room - Plan & Elevations, 1889

3.10 BUILDING 89: NAVAL STORES

Earlier Name Naval & Victualling Stores

Description

A four storey (semi-basement and three upper floors) late Victorian warehouse of load bearing polychrome bricks with sandstone string courses, cornices, sills, copings and granite thresholds to doors.

The building is divided into five fire separated compartments by vertical cross walls. Within each section are two rows of circular cast iron columns supporting iron girders, timber joists and a 50mm tallowwood floor. The ground floor was paved with Val-de-Travers asphalt 38mm thick.

Plan dimensions of the building are approximately 64m x 39m. The building was located next to the eastern side of Building 88.

Lightly framed wrought iron roof trusses span between the masonry walls and support the roof. Originally corrugated galvanised iron, the roof has been corrugated asbestos cement and is currently zincalume.

To service the stores, five externally mounted wrought iron whips are provided above the large arched doorways on the northern side.

Between these doorways and around the rest of the building are numerous windows of varying size. The timber box framed double hung windows have two and four light sashes.

In the centre of the northern and southern parapet, carved in sandstone, is the Royal Cypher of Queen Victoria and the date 1893.

The original water operated hydraulic plant consisted of engines, accumulator, five hoists (whips) and two lifts. The lifts have since been electrified with lift motor rooms projecting above the roof level. The accumulator, originally planned to be located in Building 95 is now located in the western bay of Building 89.

Additions (Buildings 87 & 90) have been constructed on the southern and eastern sides.

Construction

Drawings: North, south and east elevations (Figure 43).
Sections.
Plan showing position of hydraulic hoisting machinery (Figure 44).
Details of staircase.
Details of gates and railings to lift openings.

Dates: Tenders for the foundations were called on 3rd July, 1891.

Contract for foundations let 11th August, 1891.

Tenders for Stores Building called on 14th April and 3rd May, 1892.

Contract let firstly on 14th June, 1892 and again on 26th July, 1892 (refer comments below).

Completed early 1894.

Contractors: Foundations - P. O'Rourke & W. Roper;

Building - Howie Brothers.

Costs: £31,886.

Early Photographs

The building under construction can be seen in Figure 16. Figure 45 is a view after it was completed.

Main Alterations

(a) Electric lifts replaced the hydraulic ones sometime in the 1930's.

(b) Building 90 was added to the eastern end about 1939.

(c) Building 87 was constructed against part of the southern side.

Comments

The first contract for the construction of the building was let to J.C. Waine but it appears that the depression had its effect and so the contract was awarded to Howie Brothers shortly afterwards.

Early in the 1900's there was concern about the lack of space and in 1904-5 plans were drawn up to extend the building on the eastern end. This did not eventuate; instead the Victualling Stores were transferred to the Royal Edward Victualling Yard on 23rd February, 1907.

Morts Dock and Engineering Company were awarded the contract to supply and install the Hoisting Machinery on 22nd August, 1893.

The contract for other fittings for the stores was let to Henry Hunt and David Jones on 19th June, 1894 at a cost of £2,445.

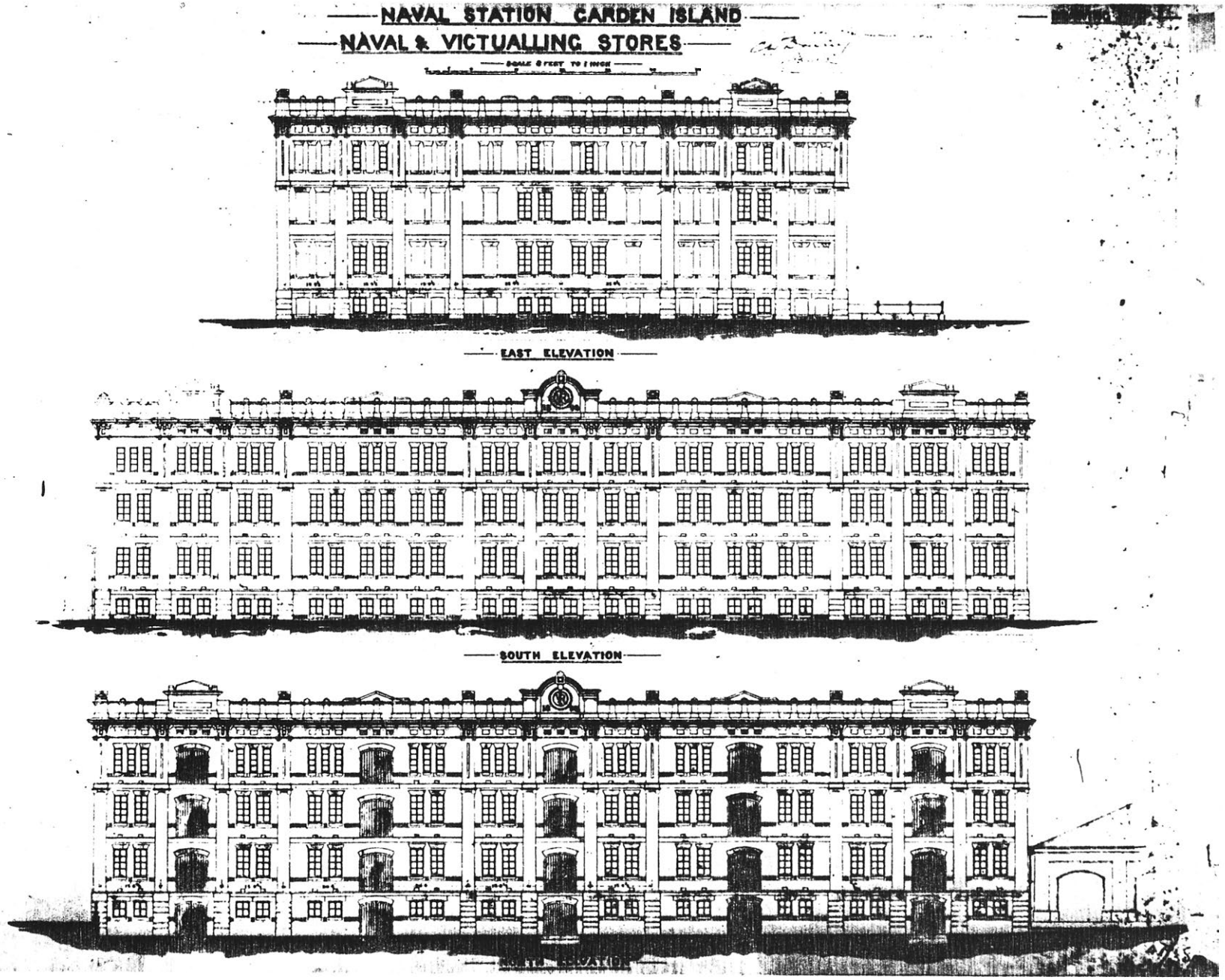


Figure 43 Naval and Victualling Store (Building 89) - Elevations, 1892

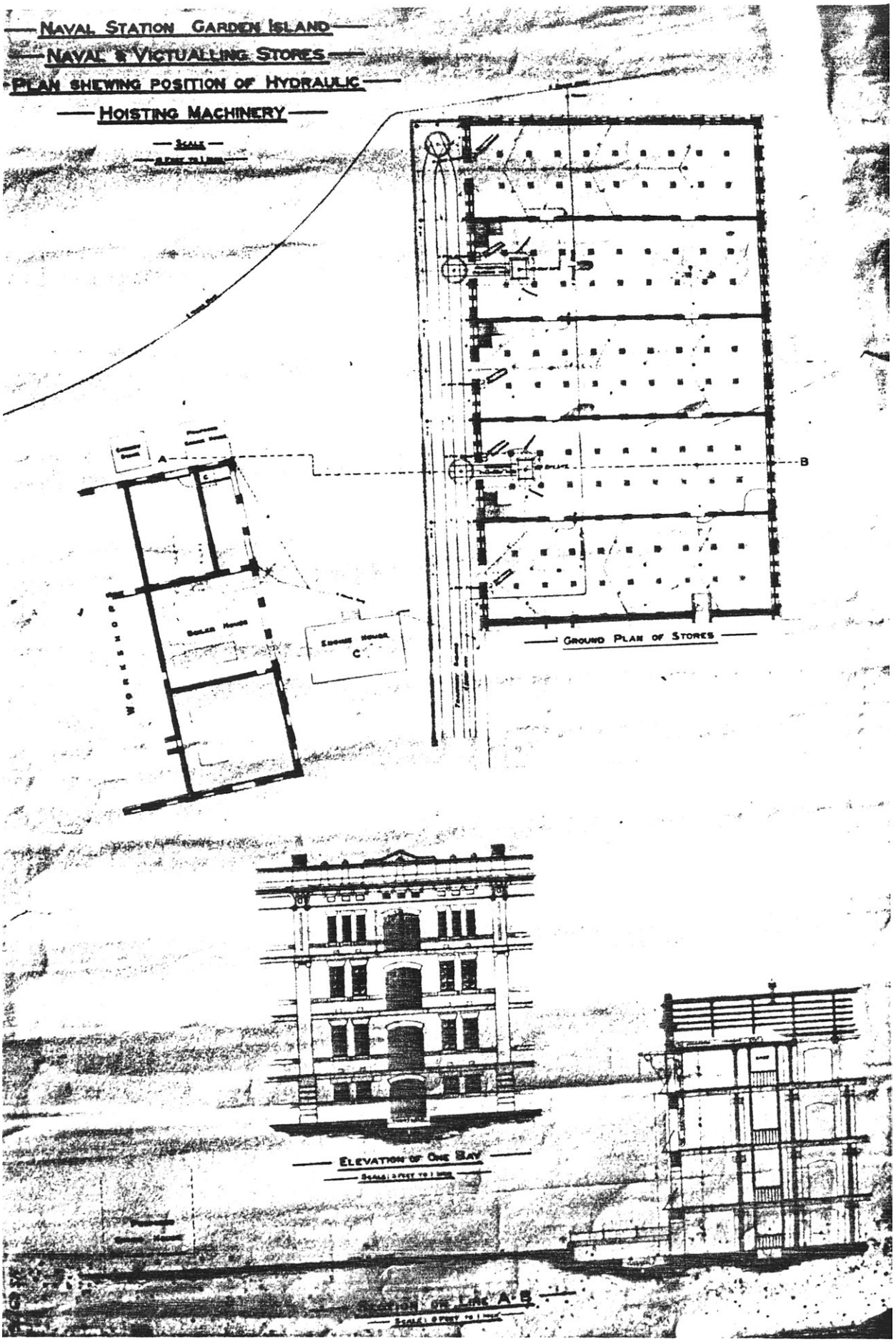


Figure 44 Naval Stores - Plan of Hydraulic Hoisting Machinery, 1892

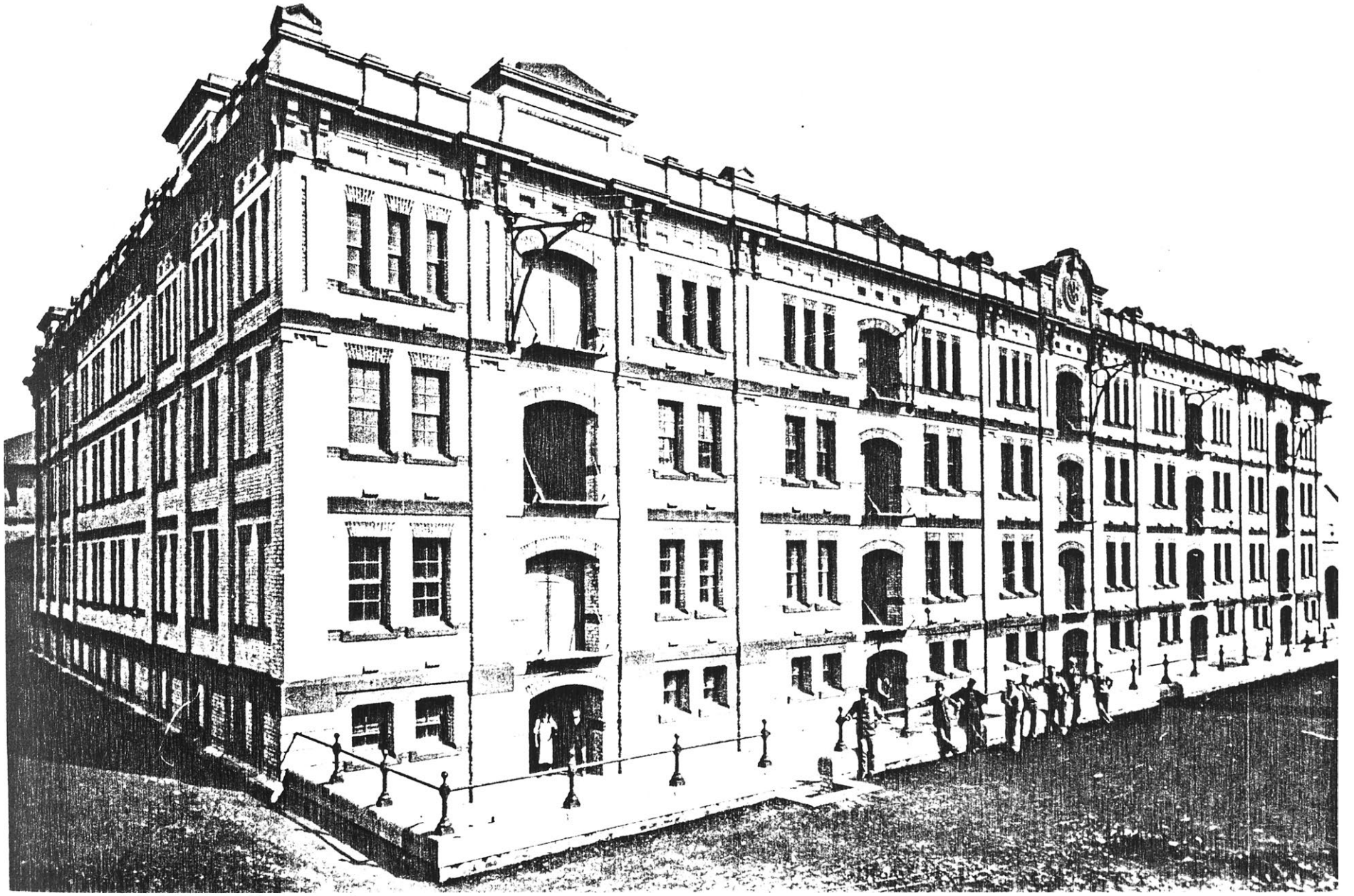


Figure 45 Naval & Victualling Store (Building 89) from N.E., c 1894

3.11 BUILDINGS 16 - 20: RESIDENCES GROUP

Earlier Names Residences for Assistant Storekeeper, Warrant Officer and Storehousemen.

Description

A group of two brick buildings, each being two storey maisonette type in the Federation Style. One has three residences and the other two.

Bricks were light coloured with red brick bands at window head and sill levels. Sandstone dressings (sills, lintels etc.) were used throughout.

Ground and first floors are timber and a timber roof structure supports the tiled roof. It is possible that the roof could have been slate originally. Gable ends were attractively detailed in timber,

Timber double hung windows have nine light top sashes on the ground floor and six on the first floor. Lower sashes throughout have single lights.

First floor balconies had sculptured timber columns, timber rails and balusters.

These balconies have since been enclosed, the external walls painted and the gable ends modified.

The approximate sizes of these two buildings are 21m x 13m (2 residences, Nos. 16 & 17) and 18m x 9m (3 residences, Nos. 18 - 20).

Construction

Drawings: Two Houses - plans, elevations and sections (Figure 46).
Three Houses - plans, elevations and sections (Figure 47).

Dates: Tenders called 3rd January, 1894.
Contract let on 20th February, 1894.
Completed 1895.

Contractor: Eaton Brothers.

Costs: An estimate in 1888 was £4000. Final cost was £3167.

Early Photograph

Figure 48.

Main Alterations

(a) All verandahs have been enclosed (Buildings 18 - 20 rear verandahs were enclosed about 1936, but the date of the others is unknown.

(b) The exterior was painted prior to 1927.

(c) Several smaller buildings have been added to rear of the residences.

(d) The roof has been retiled and the gable ends modified.

Comments

The retaining wall to the east of these residences had to be constructed before it was possible to build the five cottages. Tenders for excavating, filling in and erecting the retaining wall were called on the 8th and 22nd September, 1893. The contract was let initially to D. O'Sullivan on 14th November, 1893, but was subsequently let to William Sommer on the 28th November, 1893. However, the 1893-4 PWD Report said that this work was carried out by Day Labour at a cost of about £500. There is an additional retaining wall north and west of the residences and this could have been constructed by Day Labour.

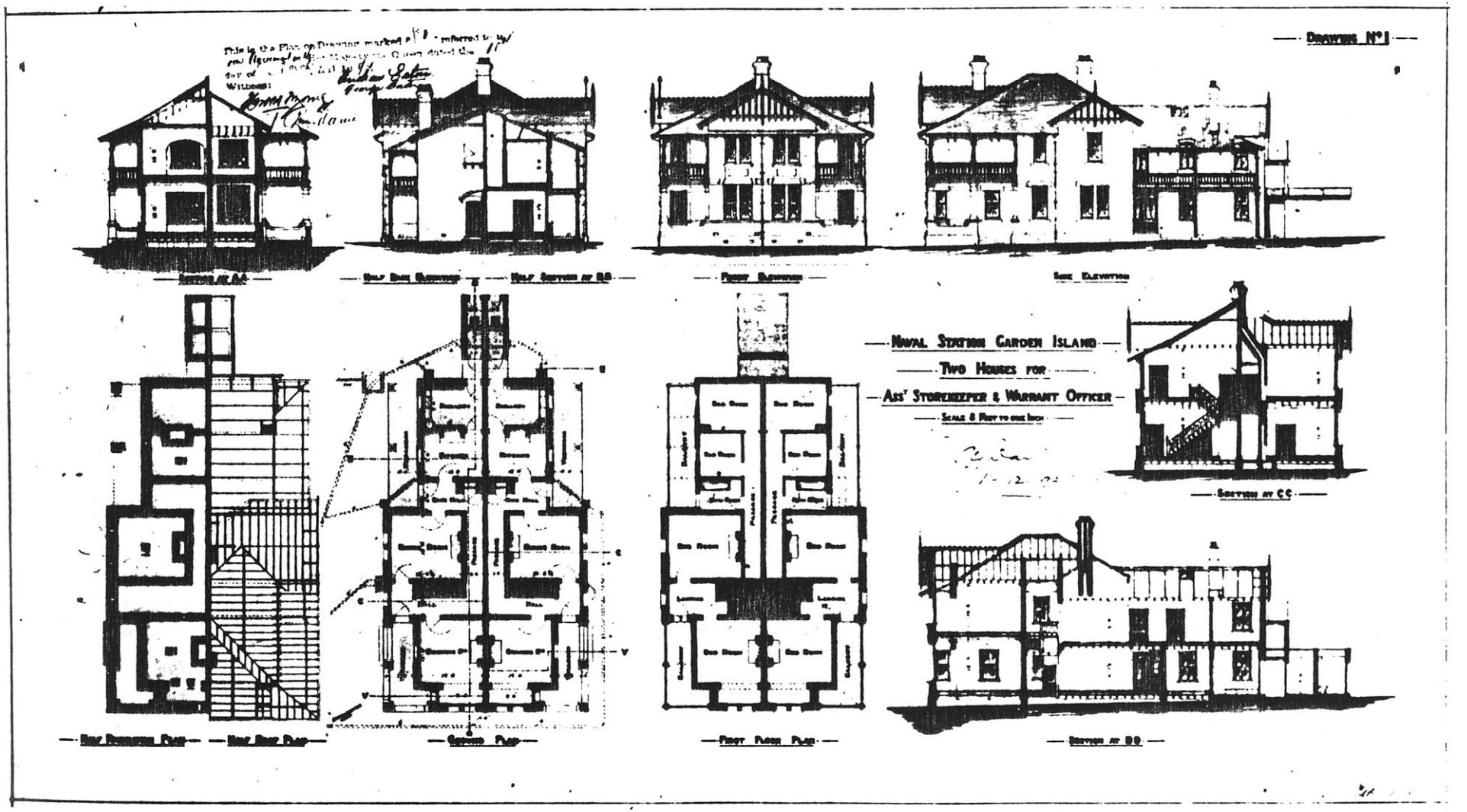


Figure 46 Two Houses for Ass^{t} Storekeeper & Warrant Officer, 1893

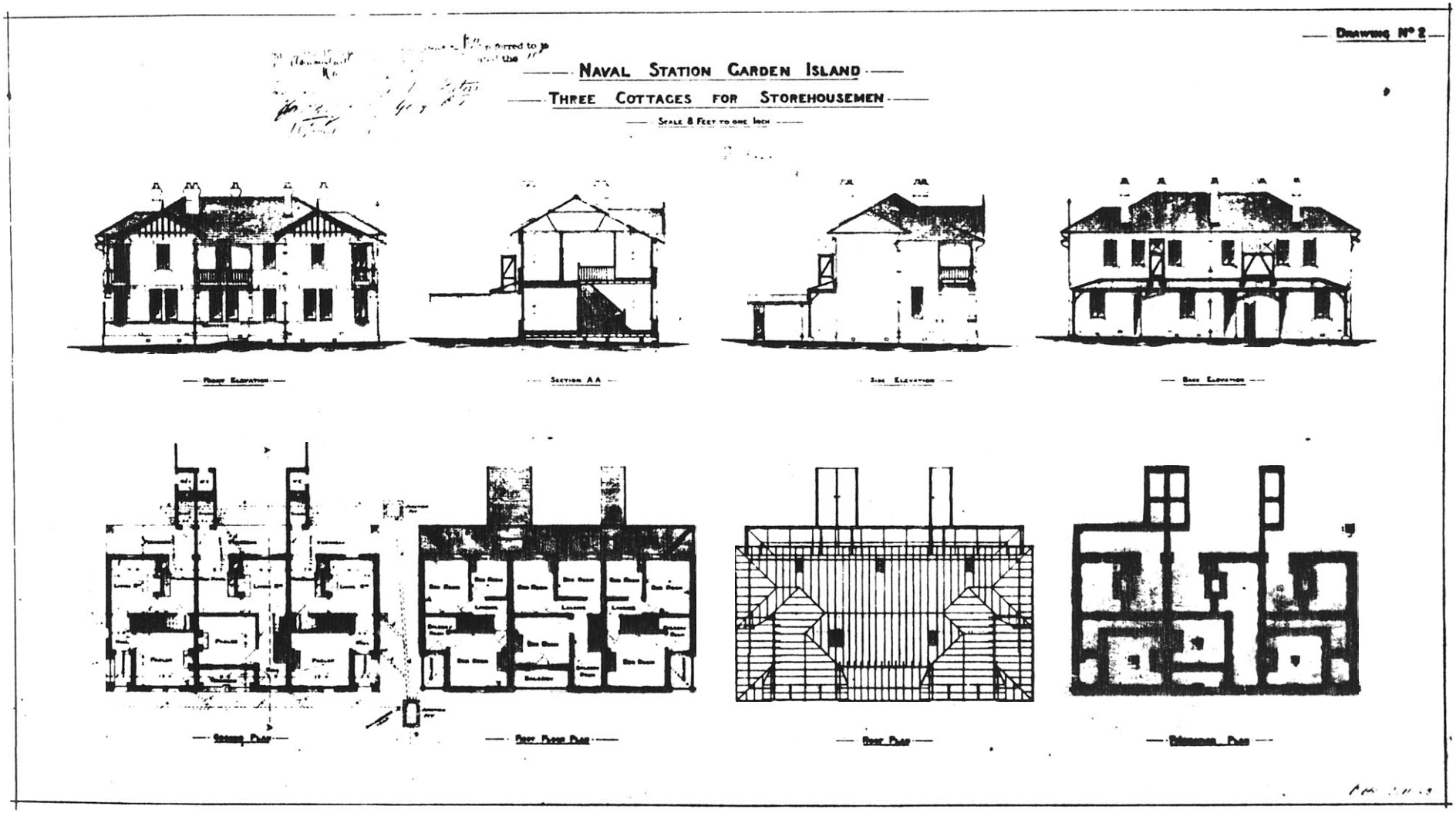


Figure 47 Three Cottages for Storehousemen (Buildings 18-20), 1893

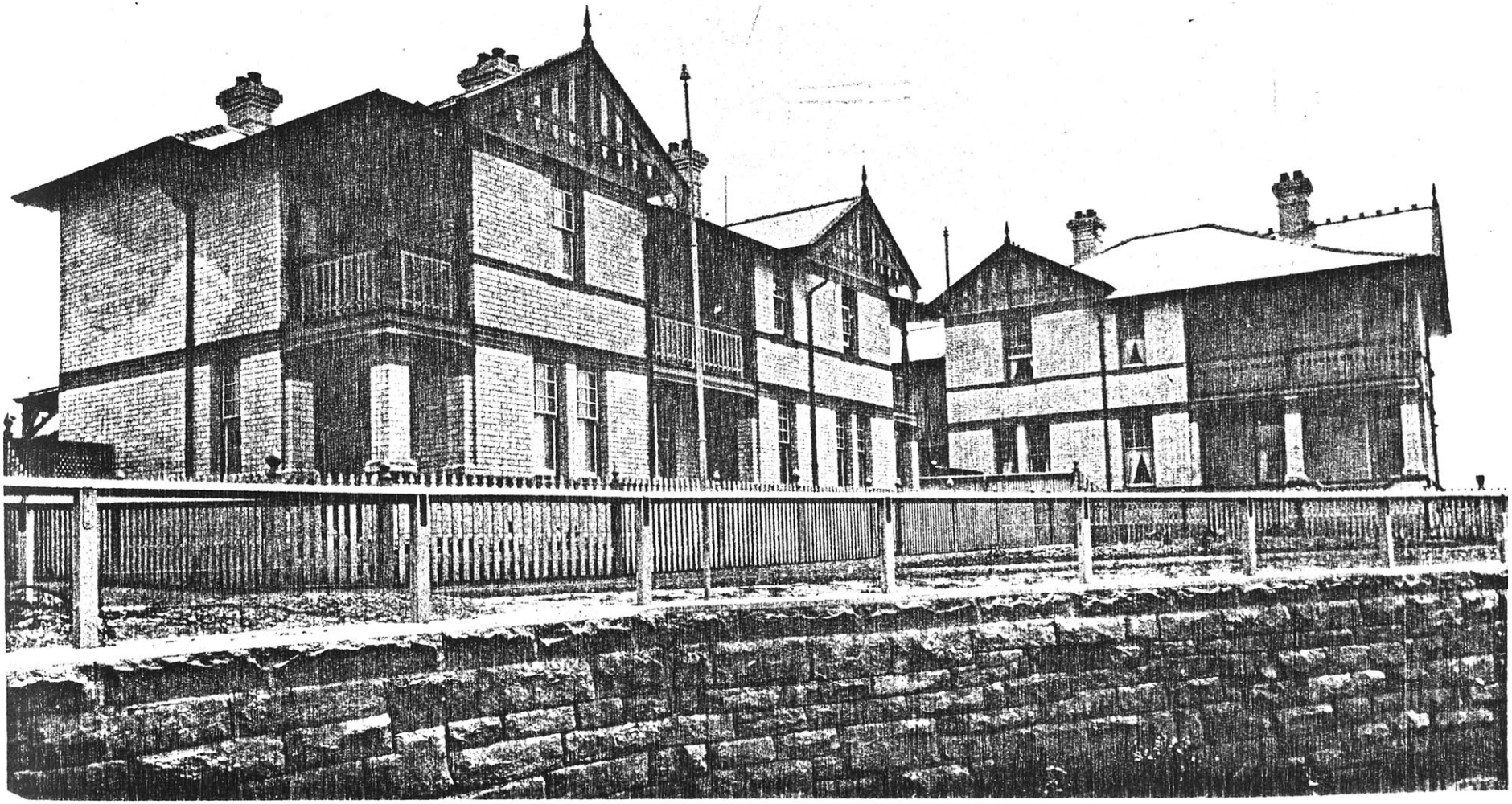


Figure 48 Residences (Buildings 16-20) from South East, c 1895

3.12 BUILDING 27: OFFICE BUILDING

Description

A two storey Victorian Italianate building of cream coloured brickwork* with sandstone dressings. A clock tower, surmounted by a cupola supported on finely carved sandstone and polished marble columns, contains a rare mechanically operated clock.

External brick walls have cavities and every fourth course on the ground floor is slightly recessed.

The ground floor is concrete whilst the first floor is timber supported on internal masonry walls. Timber framing supported the slate roof which is tiled at present.

Originally the building had verandahs on three sides supported on attractively moulded timber posts. Balusters were timber and the verandah roof corrugated galvanised iron.

The double hung timber windows with single light sashes, have flat arches on the ground floor and semi-circular arches on the first floor.

*Called white in the PWD 1894 Report.

The entrance hall is tiled and there is fine cedar joinery throughout. Openings in the corridors are arched and some of the

original five and six panelled timber doors still remain. A finely executed balustraded staircase bears the initials of Queen Victoria on the newel post. Etched glass entrance doors and fanlights portray a delightful array of several varieties of Australian plants.

Internal walls are rendered, simulating stone, with rendered skirtings on the ground floor, cedar skirting on the first floor, plaster ceiling and cornice and ceiling roses in the stair halls.

Some of the marble fireplaces have since been bricked up.

The motive power for the clock is a pulley and weight system which is wound up manually twice a week. An ingenious differential gear turns all four sets of hands simultaneously.

Later extensions to the north and south have substantially altered the building. These extensions are brick with dressings rendered to match the original building. An extension to the west is out of character with the rest of the building with a flat roof and no dressings.

The original building was roughly 23m x 16m (including verandah) however, the present building is roughly 37m x 18m.

Construction

Drawings: Plans, elevations and sections (Figure 49).

Section through the tower (Figure 50).

Dates: Tenders were called on 6th February and 2nd March, 1894. Contract let on 24th April. Completed in 1895.

Contractor: R.D. Sime. W. Auld supplied and erected the Clock.

Costs: £5,463 Building, £259 Clock, £600 Furniture.

Early Photographs

Building in original form is shown in Figure 51. A view north from the Naval Stores Building shows how the verandahs were later enclosed (Figure 52).

Main Alterations

(a) The original verandahs were enclosed prior to 1909 (Figure 52).

(b) In 1924 the northern extension was constructed.

(c) In 1936 the southern extension was constructed.

(d) The western extension was added sometime in the early 1940's.

Comments

Soon after the building was completed (in 1895) a contract was let to N.M. McDonald and Alex Martin for the construction of new furniture and repair to the old offices at a cost of £723.

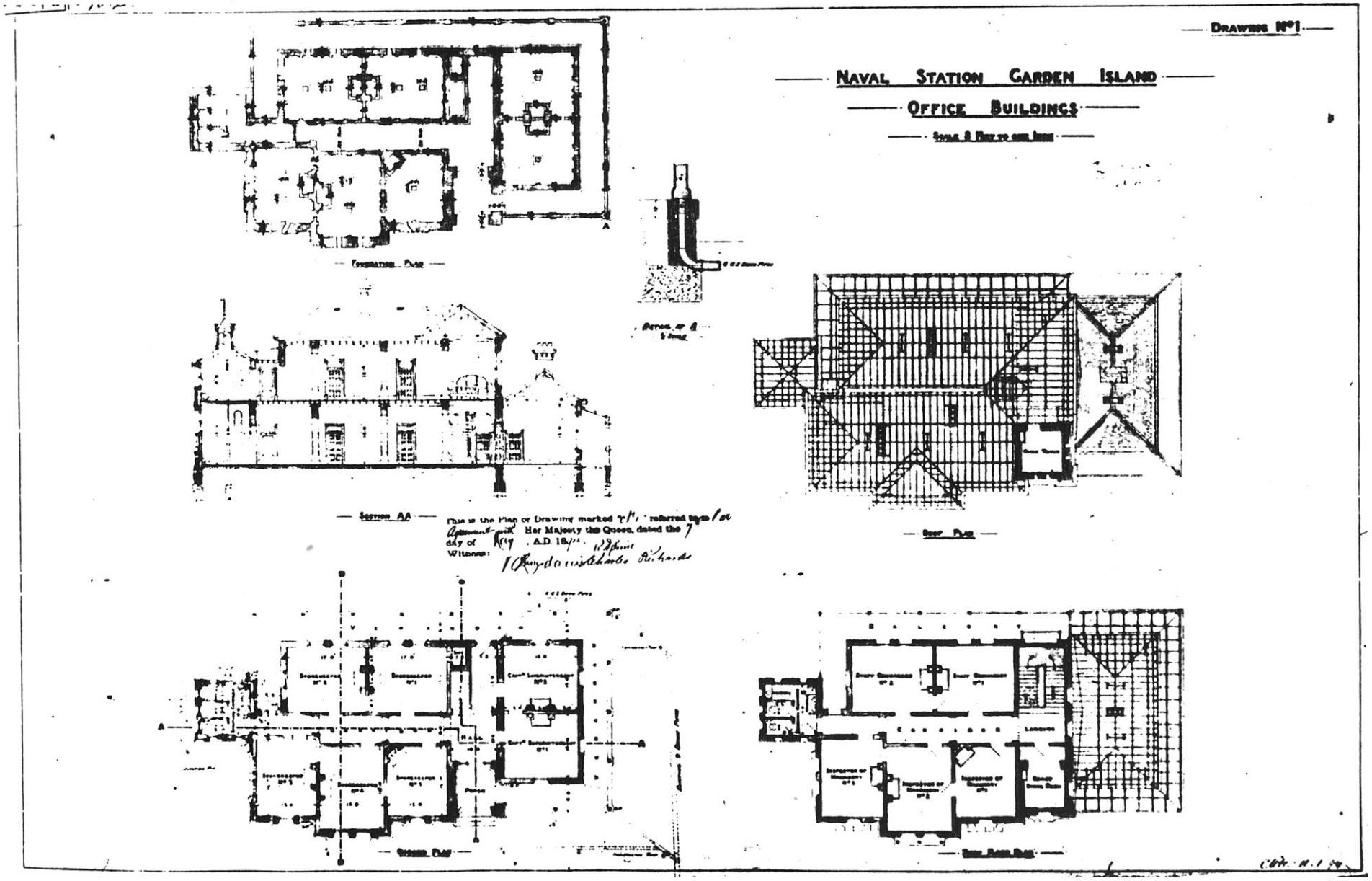


Figure 49 Office Buildings (Building 27) - Plan & Elevations, 1894

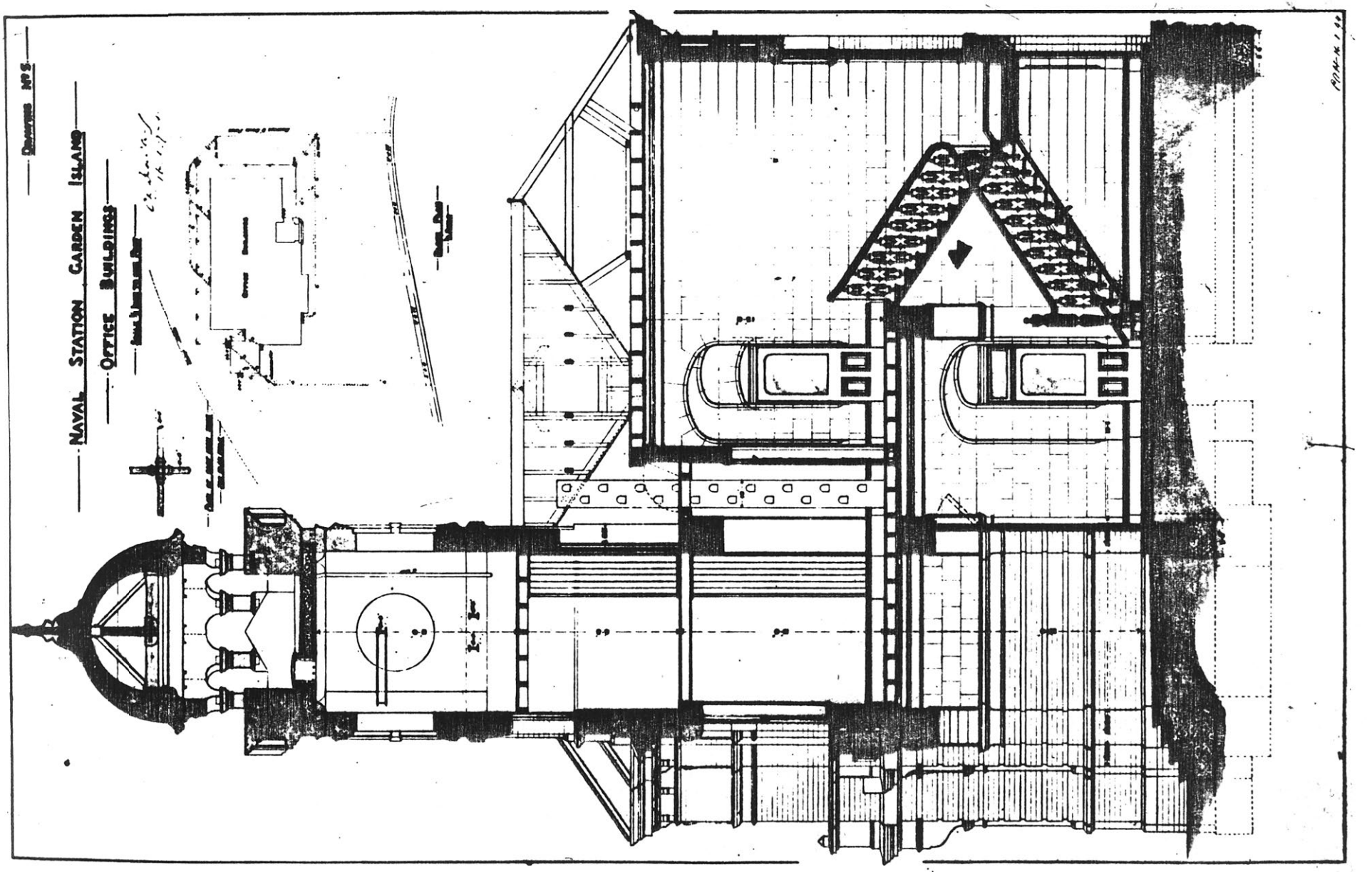


Figure 50 Office Building - Section through Tower, 1894

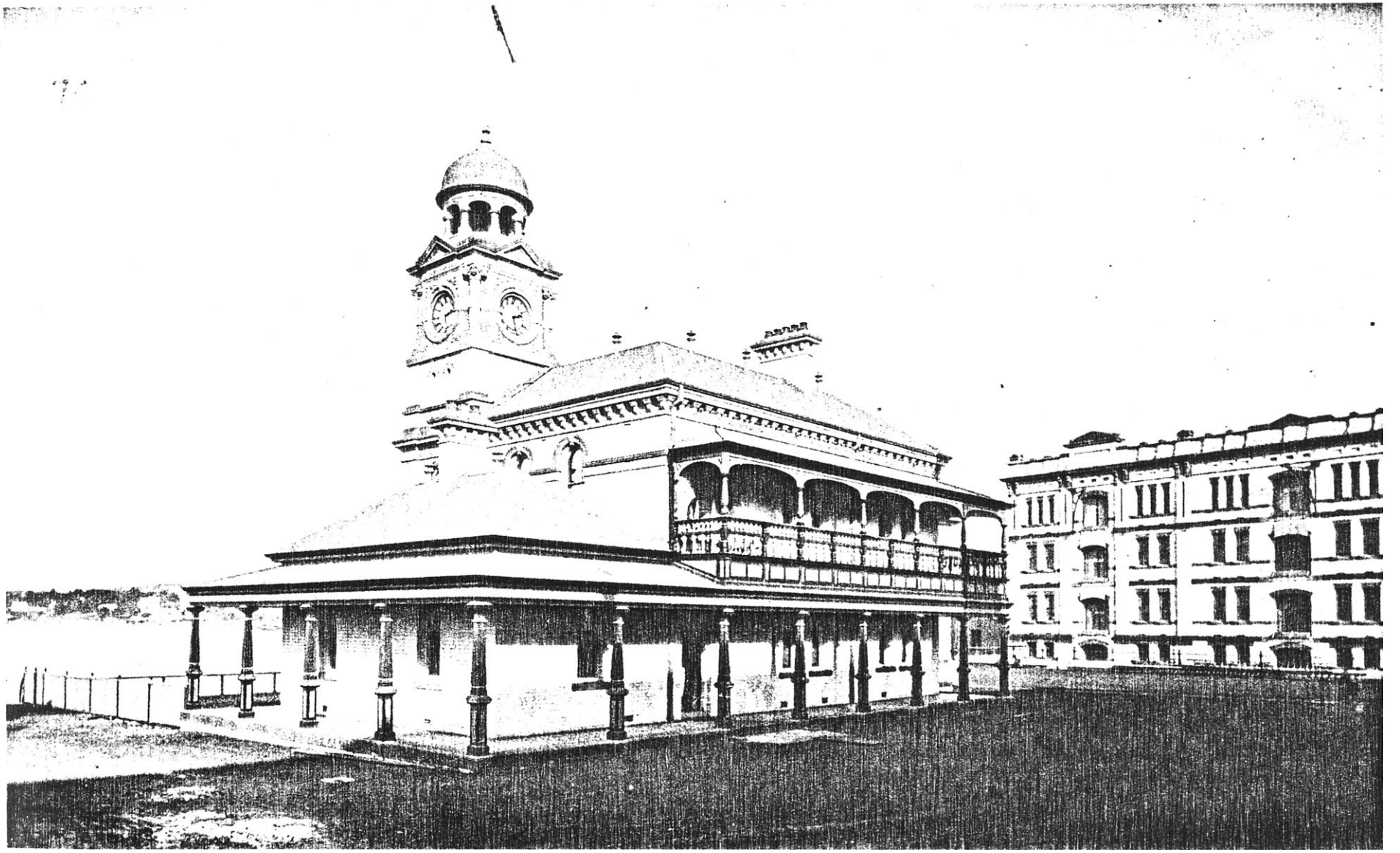


Figure 51 Office Building from North West c1895

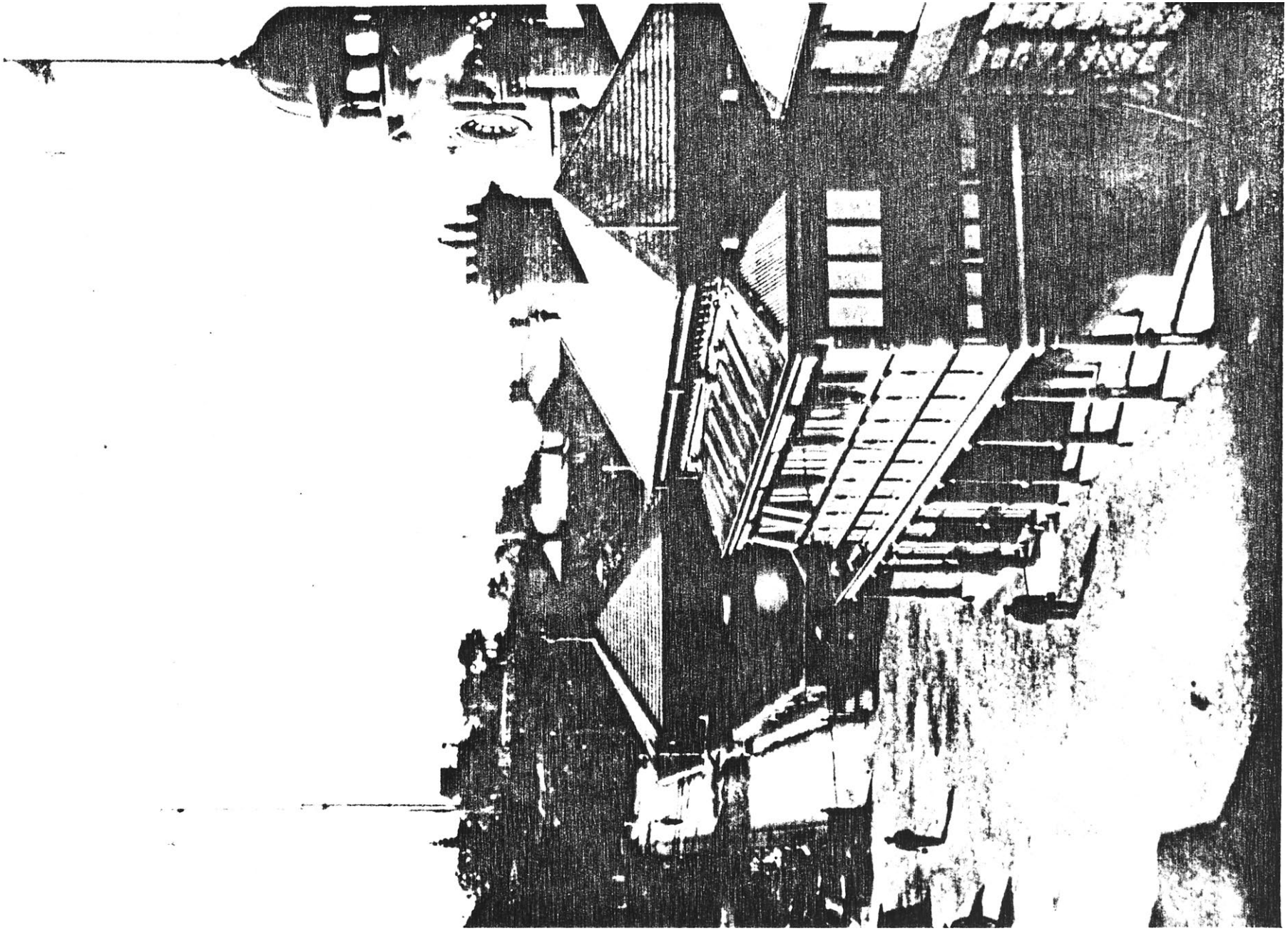


Figure 52 View North from Naval Stores in 1909

3.13 BUILDING 100: TIMBER SHED

Description

A simple timber framed single storey structure (21m x 4.5m) constructed adjacent to a rock face. Large timber gates enclose three sides between columns. The skillion roof is currently corrugated asbestos cement.

Construction

The building was constructed in 1894-5 at a cost of £220.

Comments

This building was demolished in October, 1980.

3.14 BUILDING 9: PERSONNEL ADMINISTRATION BUILDING

Earlier Name Additional Office Building

Description

Originally, this was a simple and attractive single storey red brick building surrounded by a verandah. The four room building (14m x 13m including verandah) had a central chimney supporting timber joists and a pyramidal shaped red tiled roof.

The building has had a large extension to the north and it has been modified to make it two storey. This has completely altered its character and charm.

Construction

Drawings: Plan and elevations (Figure 53).

Dates: Tenders were called on 19th October and 2nd November, 1894.
Contract let on 22nd January, 1895.
Completed 1896.

Contractor: W.J. Green.

Costs: £688.

Early Photograph

Figure 54.

Main Alterations

(a) The building was converted to a two storey building in 1928.

(b) A two storey northern extension was added about 1940.

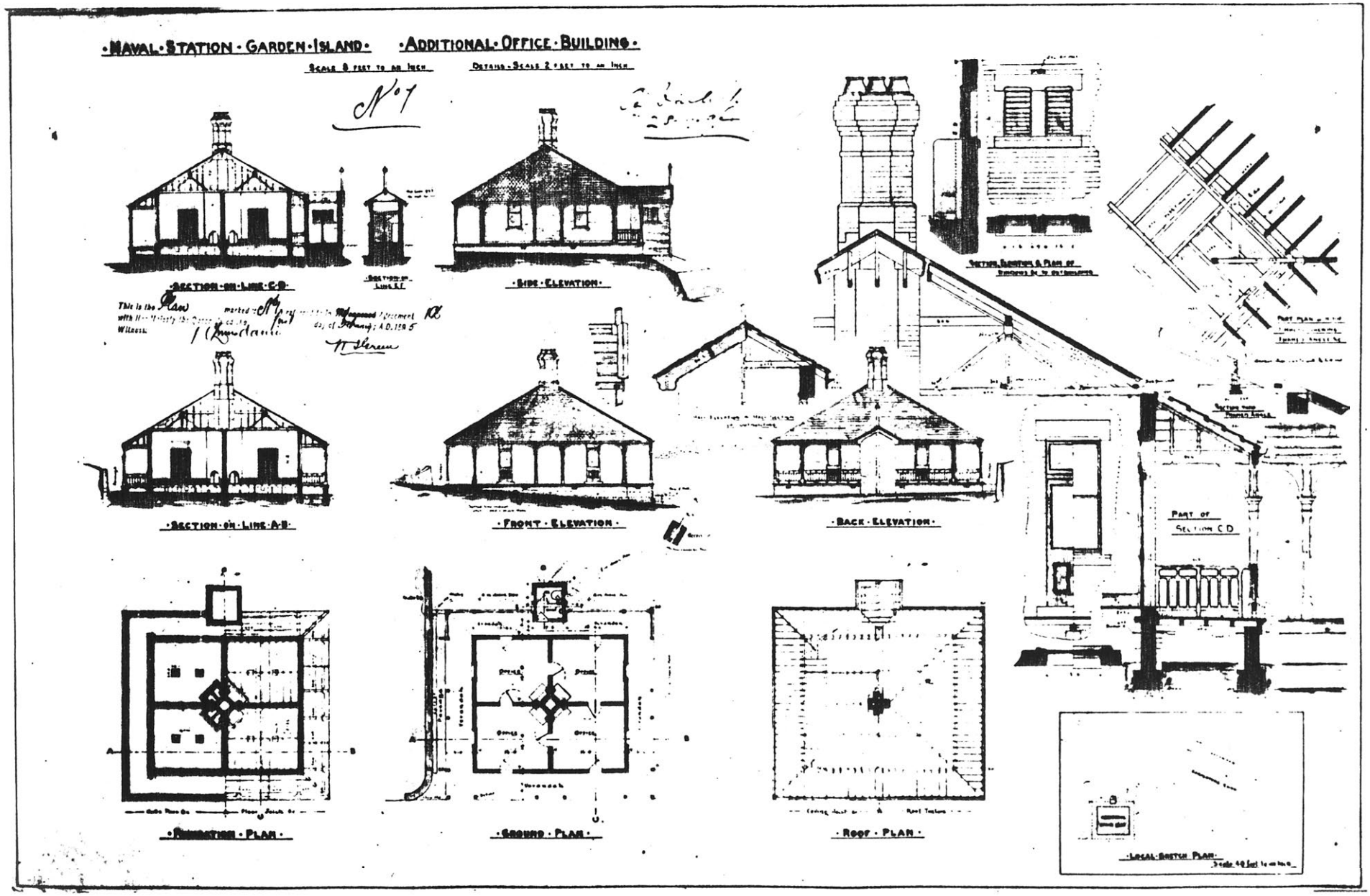


Figure 53 Additional Office Building - Plan & Elevations, 1894

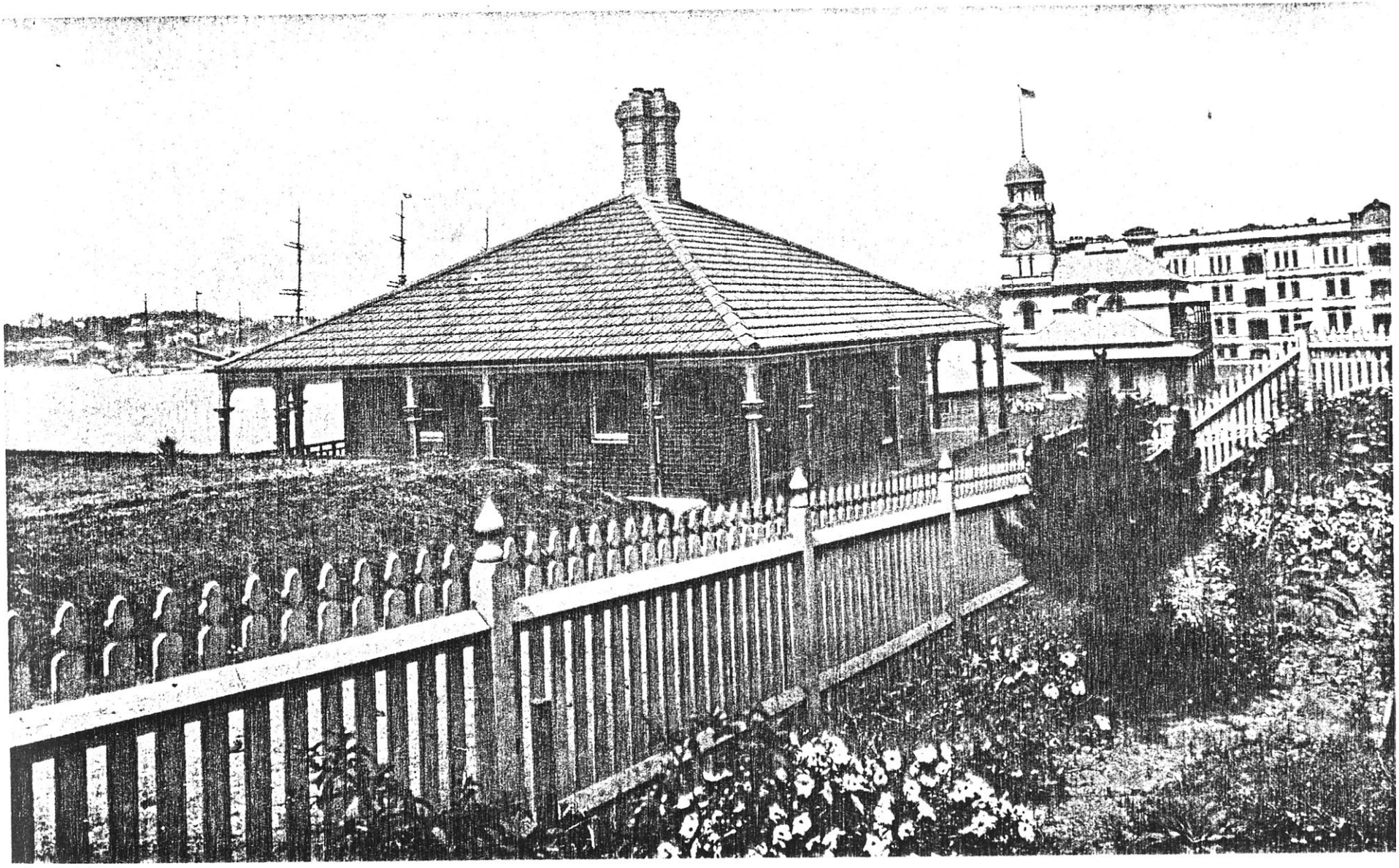


Figure 54 Additional Office Building from North West, c1896

3.15 BUILDING 25: BOAT SHED

Earlier Name Boat Repair Shed

Description

A single storey timber framed and lined Federation styled prefabricated building (25m x 12m).

Window and door frames are secured at the joints by wooden wedges, columns are secured by iron drop bolts and wall boarding is slotted in between columns.

Timber trusses support a gambrel roof which was originally tiled or slated and which is tiled at the present time.

External walls have double hung timber windows with six light sashes and high level bottom hung awning windows with 6 lights. Large timber doors are located in the north and south sides.

Extensions to the east are in a similar style although flat roofed. A two storey building has been added to the north at a later period.

Construction

Drawings: Measured drawings available.*

Dates: Tenders advertised 5th May, 1896.

Contract let 16th June, 1896.

Completed September, 1896.

Contractor: Farley and McCarthy.

Cost: £647.

Main Alterations

(a) Extensions and modifications to the eastern side were made sometime between 1914 and 1923.

(b) A new building was added to the north in 1927-9. It is a two storey building having an open ground floor area with slip ways to the water edge. Constructed from reinforced concrete columns, it has steel beams and timber joists and floor boards with flat asbestos cement weatherboard wall cladding and double hung timber windows. The overall size is about 25m x 14m. The gable roof is sheeted in corrugated asbestos cement.

*Prepared by Boland & Ryder in 1978 and held at the U. of NSW Library.

Comments

The 1896 P.W.D. Report (p. 27) states that the old building was not worth repairing so a contract was let for a new one on the same site, of timber on stone foundations with tiled roof. It is 80' x 40' with a 13' awning along one side. Store rooms were provided as was a gantry for lifting the boats into position.

The original building on the site referred to has been called a Carpenters' Shop in the 1889 plan (Figure 15) and is thought to be called a Boat Cradle in the P.W.D. Reports. This was commenced in 1888 (spent £500) and completed in 1889 (spent £39/3/0 in that year) at a total cost of £539/3/0.

It was simpler in form and had a corrugated galvanised iron roof. Sections of it can be seen in other early photographs (e.g. Figure 30).

3.16 BUILDING 98: CORE SHOP

Earlier Names Lime Store, Workshop
Lime Store
Galvanising Shed

Description

A small (13m x 4m) Federation styled two storey brown brick building with a tiled gable roof.

Two brick courses at the first floor level are a light cream brick.

The first floor was timber and the roof framing is timber.

Windows consisted of 12 light fixed timber framed semi-circular arched windows on the ground floor south west side and timber framed flat arched casement windows on the first floor.

All windows and doors have sandstone sills with sandstone lintels to the doors. Ground floor window arches have sandstone keystones.

Ventilators in the gable ends are very attractive and ornate.

Construction

No specific information is available. However, the building

does not appear on the 1894 plan (Figure 55) but does on the 1895 plan (Figure 18). Also it appears in a photograph (Figure 30) taken before the new boat shed (Building 25) was constructed in 1896.

This puts the date of the building as 1894-5.

Main Alterations

(a) The first floor window on the south east side has been bricked up.

(b) A rendered brick ground floor extension has been constructed on the south east end.

(c) The first floor has been removed.

(d) The south east facade has been painted.

(e) The ground floor openings have been modified and a new opening constructed.

3.17 BUILDING 86: PLANT ELECTRICAL STORE

A small single storey Federation styled rectangular building (9m x 4m) of brown brick and a hipped tiled roof.

The timber double hung windows are set in flat arched openings with sandstone sills.

Constructed between 1894 and 1895 the building was originally called the Paymaster's Office.

The south east corner of the roof has been cut back to permit traffic to pass.

3.18 OTHER WORK PRIOR TO 1900

Other work that was executed during the initial development of Garden Island as Australia's principal Naval Base is outlined below.

1885-6 The supply and erection of a ten ton steam crane by Atlas Engineering Company at a cost of £108/12/4.

Several small buildings, including a Foreman's Office, were constructed during the late 1880's. Most of these were later demolished to make way for the Office Building (Building 27).

1892 Rails and turntables were laid for trams used in moving goods and machinery around the Island.

Sheer Legs together with hoisting and cranking engines for walking them were installed (see Figure 16).

1894 Alterations occurred to the ten ton crane by Morts Dock Company (contract let 17th July).

The supply and erection of a six ton steam crane was awarded to Hudson Brothers on 3rd October.

1894-5 Tennis courts were constructed (refer Figure 18). The date of the pavilion is uncertain, but it was constructed before 1907.

1895 Electric lighting was provided to all buildings. Tenders were called on 23rd May, 11th June and 2nd July, 1894. The work was

completed by 18th May, 1887 at a cost of £4,193. Plan layout of proposals is shown in Figure 55.

1896 Latrines west of the Barracks were constructed for £550/12/0. Latrines for workers (in connection with workshops) were constructed.

1888-9 A coal shed (54m x 15m) was erected on the wharf by contract at a cost of £858.

Various other minor works such as fencing, extensions to water supply and formation of roads, drainage etc. were also constructed during this period.

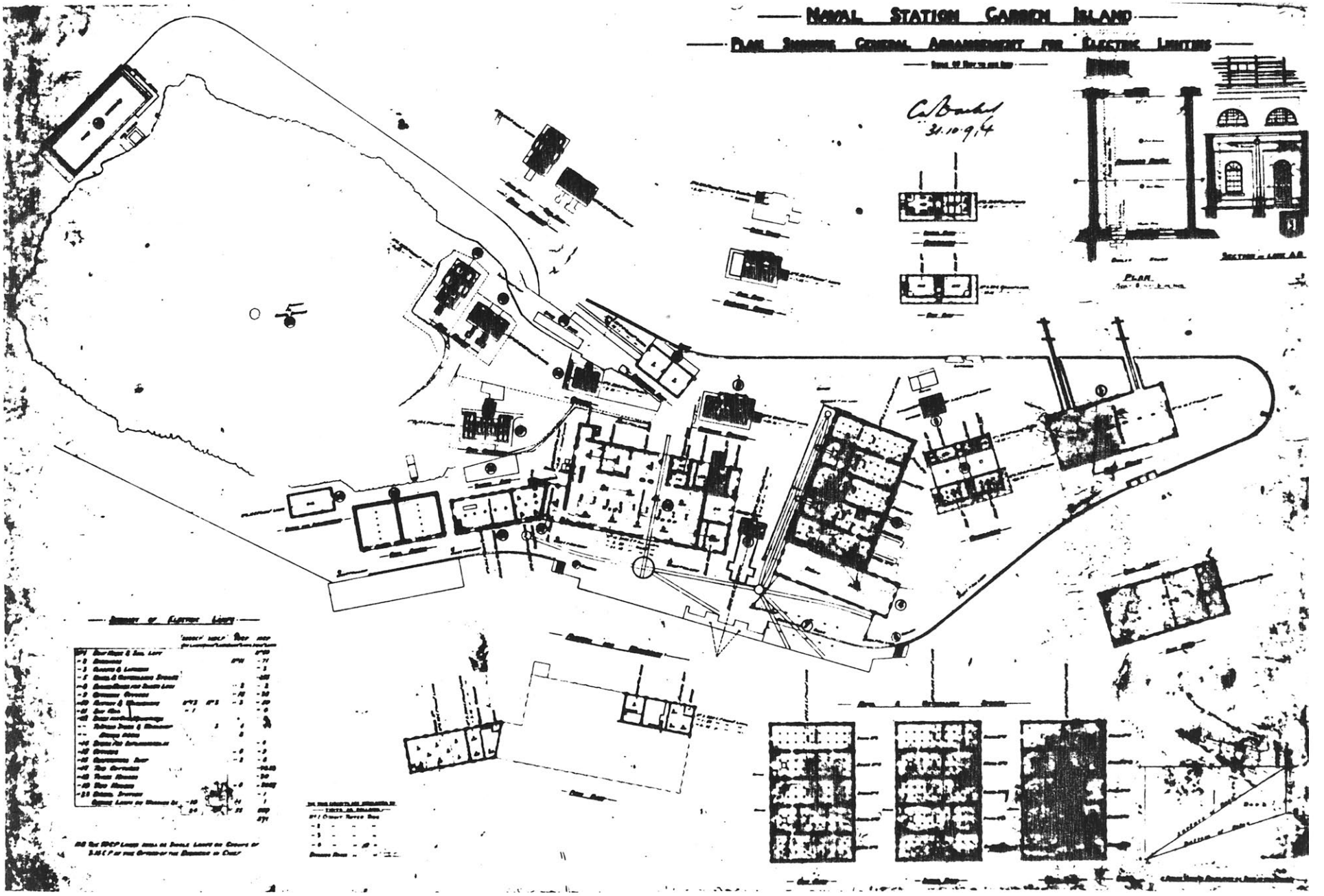


Figure 54 Plan of Island Showing Electric Lighting Proposals, 1894

3.19 BUILDINGS NOW DEMOLISHED

Buildings existing prior to 1900 and now demolished are mentioned briefly here to complete the picture of the early naval base.

3.19.1 Coal Stores

These were located where Building 104 is now (refer Figure 2).

Tenders for the two storey high brick warehouse consisting of four bays (Figure 56) were first called on 30th August and 2nd September, 1892. For some reason no tenders were accepted at this time since they were readvertised on 22nd January, 1895.

The contract was awarded to Farley and McCarthy on 26th February, 1895. The building, costing £2012, was completed in August, 1895. It was capable of holding 2500 tons of coal.

With the construction of Building 104 in the 1940's the building was demolished.

3.19.2 Store for Inflammables

A 20m x 10m store constructed of red bricks with stone dressings and a floor paved with Val-de-Travers asphalt was built by John Bruce at a cost of £833. in 1894-5.

This too was demolished in the 1940's to make way for Building 104.

3.19.3 Spar Shed (Building 23)

This simple shed was located where the southern end of Building 23 was. It was completed in 1894-5 at a cost of £145, extended prior to 1914 and demolished in 1980.

3.19.4 Receiving Shed

This was located between Building 88 and the Western Wharf.

The contract was awarded to John Bruce on 18th September, 1894 and the building was completed in 1895 at a cost of £618.

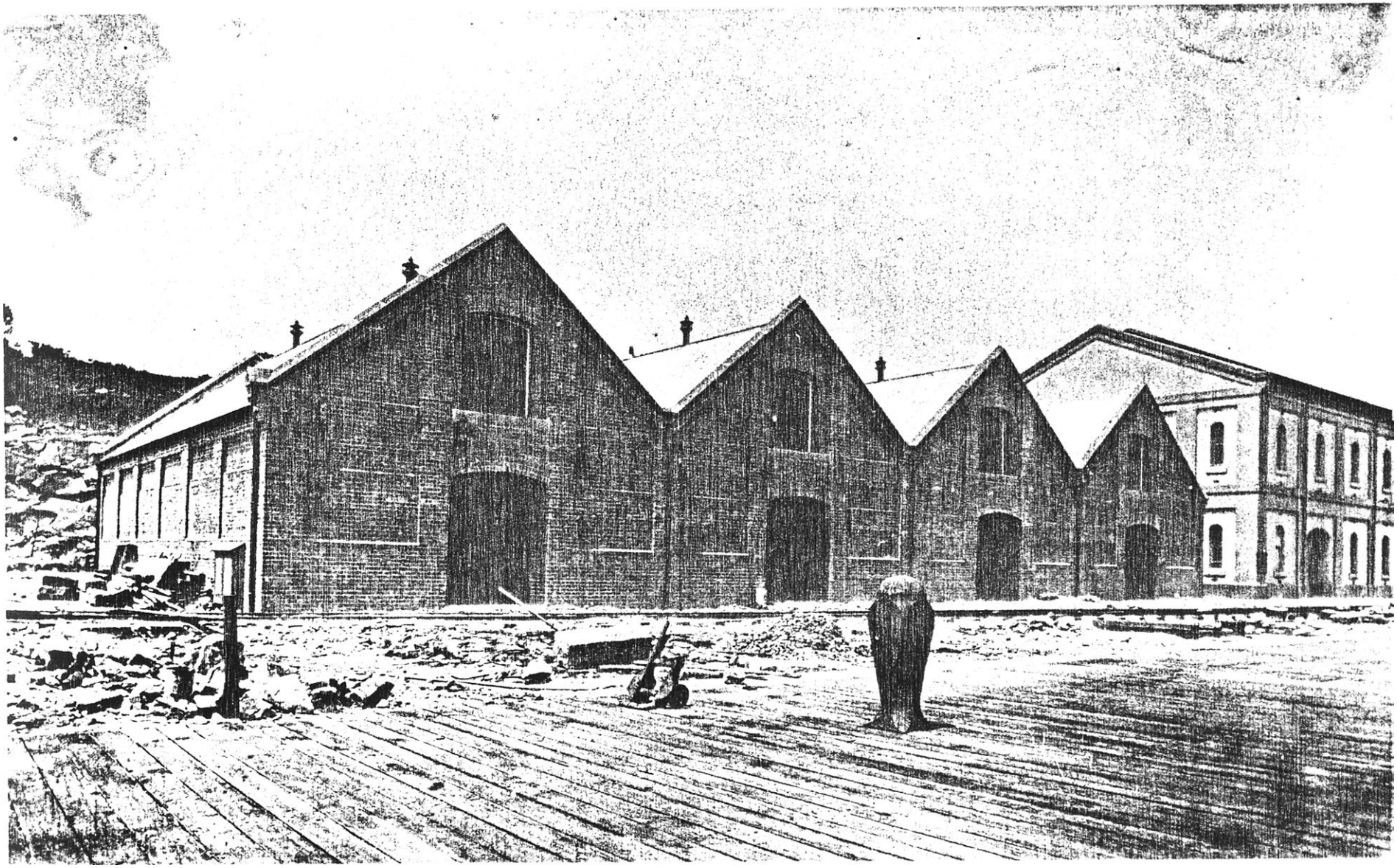


Figure 56 Former Coal Stores from North West, c1895

3.20 SUMMARY OF MONEY SPENT

A summary of the money spent on new works on Garden Island in the nineteenth century is given below.

The figures exclude work executed by day labour . Figures do not add up perfectly as they are taken from more than one source.

Year(s)	Money Spent in Year (£)	Total Money Spent to End Year (£)
1885	4,843/19/ 3	
1886	30,727/ 7/ 8	
1887	49,735/12/ 9	
1888	13,587/ 2/ 9	
1890	33,806/19/ 6	158,050/ 7/ 4
1891	32,087/ 9/ 8	190,137/17/ 0
1892	23,773/ 9/ 4	213,911/ 6/ 4
1893	34,621/11/ 6	248,532/17/10
	Money Spent to Mid Year (30th June)	
1894-5	47,451/17/ 1	295,984/14/11
1895-6	4,477/16/ 8	300,462/11/ 7
1896-7	5,732/ 3/ 1	306,192/14/ 8
1897-8	2,392/15/ 8	308,587/10/ 4

1898-9	1,600/ 0/11	310,187/11/ 3
1899-1900	4/ 2/ 0	310,191/13/ 3

Figure 57 shows the above figures graphically and illustrates the peak periods of work on the Island.

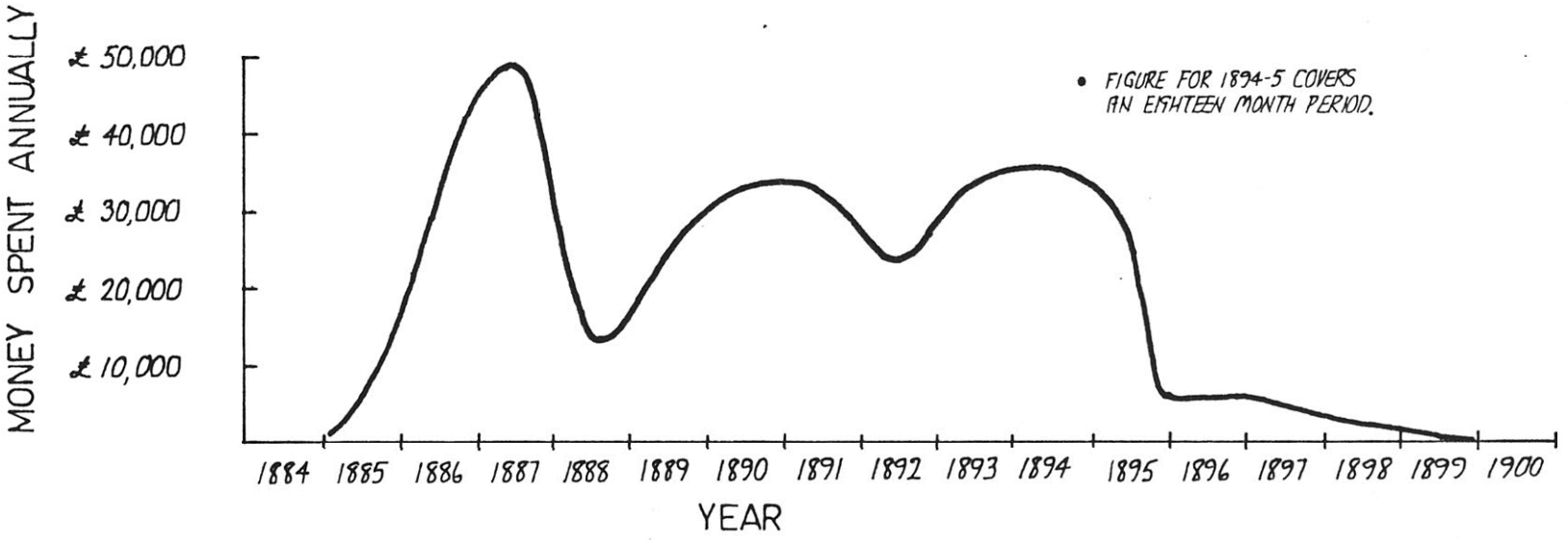


Figure 57 Annual Expenditure in Developing Garden Island

3.21 BUILDINGS 7 & 8: FIBREGLASS & BOAT BUILDING WORKSHOP, WEAPONS' EQUIPMENT STORE

Earlier Name Gun Mounting Store

Description

A double height long building (95m x 13m) with some sections two stories. Load bearing brown brick external walls with timber trusses support a gable tiled roof.

The ground floor is a concrete slab on the ground.

The two long facades consist of a series of one storey high arched recessed bays with arched timber framed windows and large doors.

Above these windows the wall is corbelled out with semi-circular timber framed windows in every other bay.

The north and south facades have three arched recessed bays with an arched window in the centre one and a circular window above in the gable end.

Sills and other dressings are rendered and profiled.

Construction

Drawings: 2 detail sheets available.

Dates: Drawings prepared in 1914.

Building constructed in 1919-20.

Main Extensions

(a) Building 1 was added to the north end.

(b) Building 4 was added to the northern end of the east side.

(c) A small extension to the east facade was constructed about midway along the side.

Comments

The date of construction is based on the fact that the buildings do not appear on the 1914 plan (Figure 21). In addition, the date is specified in 'Garden Island 1788 - 1932', in the Navy, Army and Air Force Journal, Vol 1, No. 6, August, 1932, p.33.

With the intervention of World War I the date of 1919-1920 is quite feasible.

Other details about the building's construction are unknown.

3.22 OTHER WORK PRIOR TO 1920

A brief statement below sets out main work carried out on Garden Island before 1920 which has not been previously mentioned.

Building 103: Maritime Headquarters

Constructed between 1907 and 1914, extended at a later stage.

Oil Tank (Asset No. 163)

Constructed in 1916 at a time when fuel was changing from coal to oil. The 5840 gallon tank cost about £6000 to construct in rivetted steel plates and is said to be first of its kind in Australia.

Building 14 & 15: Signal Station

Constructed between 1901 and 1906.

In 1914 a 56m high mast was constructed.

Sometime between 1913 and 1925 the W/T station was built.

SECTION 4

DESCRIPTION OF NON HISTORIC BUILDINGS IN PRECINCT AREA

4.0 DESCRIPTION OF NON HISTORIC BUILDINGS IN THE PRECINCT AREA

This section describes briefly other buildings in the historic precinct area adjacent to the main historic buildings. An outline of the history of the buildings is given where appropriate.

These buildings form an intimate part of the total area and should be considered before any conservation guidelines are proposed. These guidelines are discussed in Section 8.

The dates of the buildings where given are derived from available drawings or from photographs. Approximate dates are given for some buildings and these are based in known construction dates of similar styled buildings.

Figure 58 is a plan showing the buildings discussed in this section. The present condition and current photographs of most of these buildings are given in Section 6.

4.1 BUILDING 1: STORE

This store is a timber framed two storey building (12m x 12m), with a tiled gable roof, which has been added onto the north end of Building 7. Timber gates enclose the ground floor on the north and west sides.

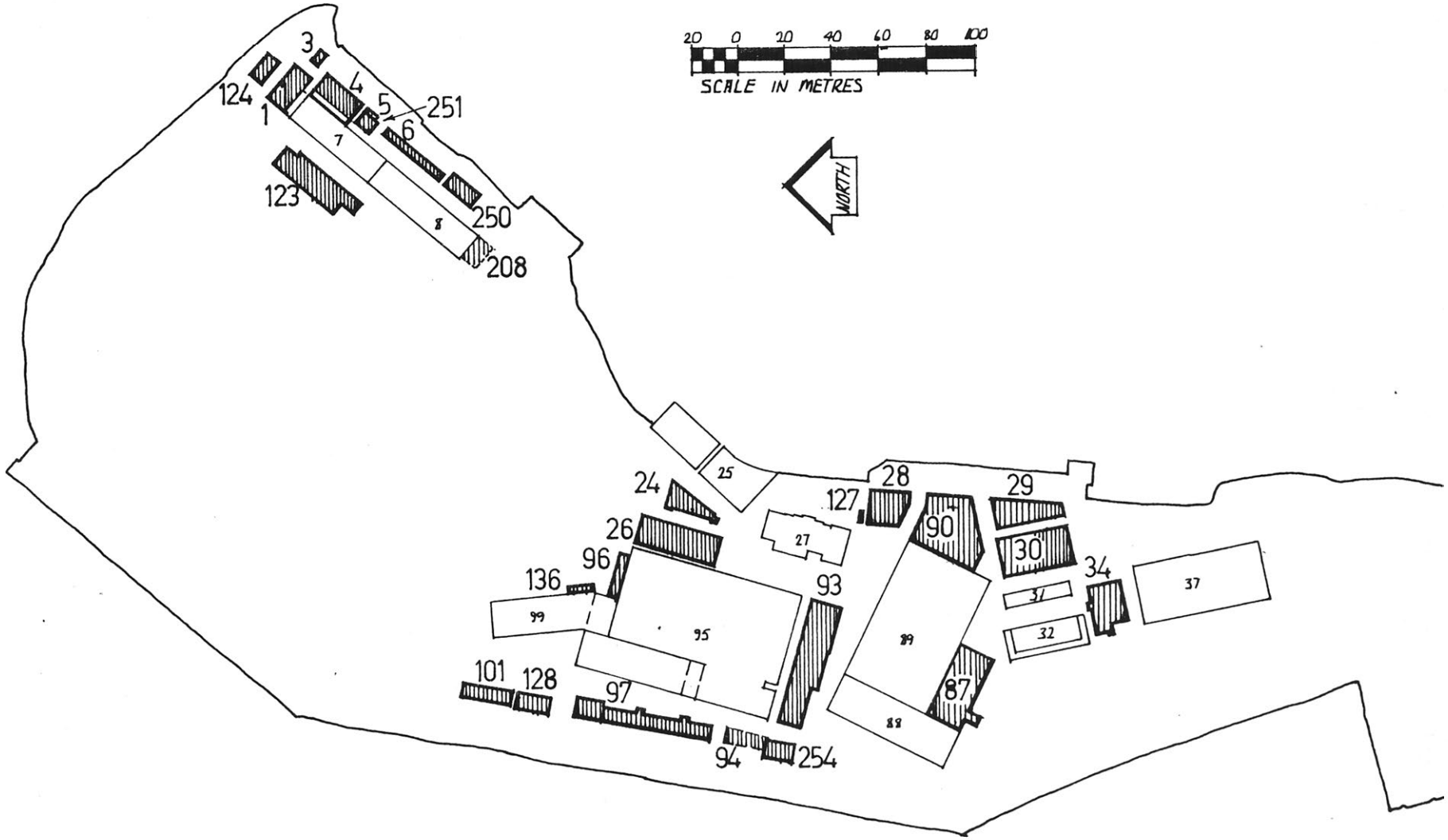


Figure 58 Key to Buildings Discussed in Section 4

A cathead beam on the north side serves the upper floor.

The ground floor is opened up adjacent to Building 7 to provide a 2m wide walkway.

A 5m x 10m single storey timber framed asbestos cement sheeted extension has been added on to the east side of the Store. The lean-to roof is corrugated asbestos cement and windows are timber framed.

4.2 BUILDING 3: AMENITY BUILDING

This is a small single storey timber building (6m x 4m) with a steel deck skillion roof.

4.3 BUILDING 4: REFRIGERATION WORKSHOP

This is a two storey weatherboard building (19m x 10m) with timber windows and a hipped corrugated asbestos cement roof.

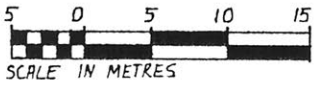
The single storey link between this building and Building 7 is covered with a corrugated asbestos cement lean-to roof.

4.4 BUILDING 5: TOILET

This small brown brick building with a corrugated asbestos cement lean-to roof adjoins Buildings 4 and 251 (6m x 2.5m).

4.5 BUILDING 6: AMENITY BLOCK

This is a single storey brown brick building (29m x 4m) with a tiled gable roof. Timber double hung windows occur along the west and east sides and a small tiled lean-to roof section has been added to the north end.



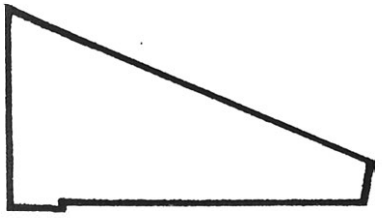


Figure 59 Outline Plan of Building 24

4.6 BUILDING 24: NAVAL POLICE TRAINING/DOCKYARD INDUSTRIAL OFFICE c1948

This brown brick concrete framed building is wedged between two roads, which explains the unusual shape (refer Figure 59). It is predominantly a two storey structure with a flat roof, although the eastern side is three storey.

The west side has two rows of small timber windows with a continuous projecting concrete lintel. A similar detail occurs on the lower ground floor eastern windows. The east side also has two rows of timber framed windows.

4.7 BUILDING 26: OFFICE, STORE & AMENITIES c1940

This is a two storey brown brick building with an open walkway through the building at ground floor level. A recessed bay occurs in the south side.

Figure 60 Outline Plan of Building 26

The ground floor is concrete and the timber first floor is supported on steel beams and timber joists. Trusses support the corrugated asbestos cement gable roof.

The overall size is about 37m x 12m with a small single storey extension on the south side to enclose a stair.

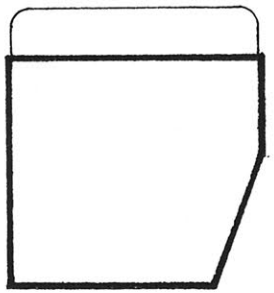


Figure 61 Outline Plan of Building 28

4.8 BUILDING 28: STORE & MAS OFFICE c1940

This two storey tan brick building has sandstone parapets with a gable roof behind. External brickwork to the ground floor has every fifth course slightly recessed.

Along the eastern side is a suspended verandah. Timber double hung windows are used throughout.

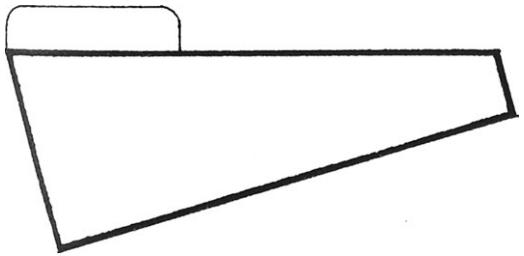
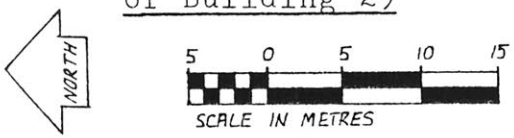


Figure 62 Outline Plan of Building 29



4.9 BUILDING 29: STORES WHARF AMENITY c1940

This is a two storey load bearing brickbuilding with a timber first floor and a corrugated asbestos cement skillion roof. The ground floor is concrete.

Externally, the ground floor consists of a reddish brown brick with every fifth course slightly recessed. Above this is tan coloured brickwork extending to parapet walls on the north, south and east sides.

The timber framed windows have a rendered concrete continuous projecting lintel and a suspended verandah occurs along part of the eastern side.

4.10 BUILDING 30: STORE 1927-8

This is a two storey brick building with a concrete ground floor, with steel columns and beams supporting a concrete first floor and timber trusses supporting a gambrel roof of corrugated asbestos cement.

Bricks are brown with some projecting string courses in dark red coloured bricks. Dark red bricks also occur at the sides of openings.

The wall is rendered, simulating stone, just below the eaves and from ground level up to and including the ground floor window sills. Windows are steel framed. Overall size is 29m x 16.5m.

4.11 BUILDING 34: AREA FINANCE c1940

A single storey asbestos cement clad building with a painted galvanised hipped iron roof. Footings are brick and the floor, framing and windows, timber.

The shape is irregular, approximately 20m x 18m (refer Figure 63). This building was referred to as 'Canary Cottage', especially

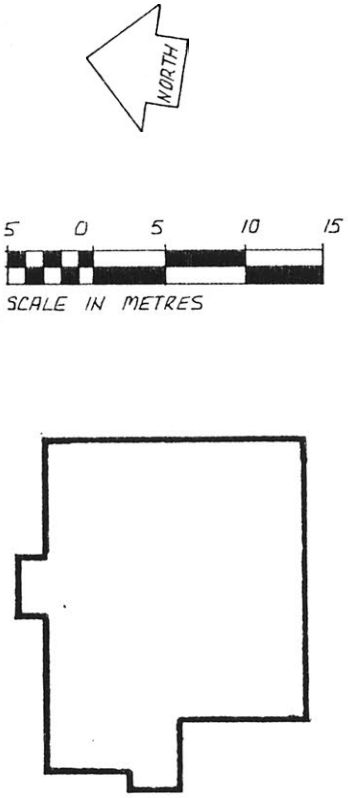


Figure 63 Outline Plan of Building 34

during World War II.

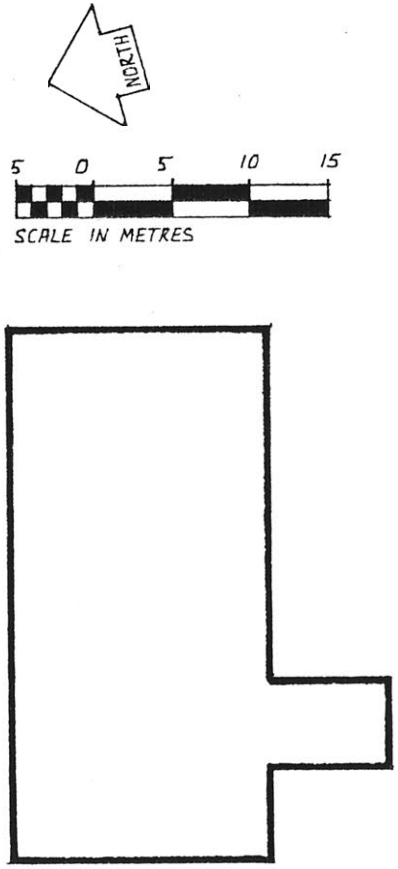


Figure 64 Outline Plan of Building 87

4.12 BUILDING 87 - BATTERY SERVICING AND ELECTRICAL SUBSTATION NO. 109

This two storey flat steel deck roofed building varies in materials and detail. It has a light tan coloured brick on the ground floor and a later extension to the south west and first floor of red/brown brick with exposed aggregate wall panels on the south side.

Ground floor brickwork (up to 2.5m) has every fifth course slightly projecting. The ground floor timber windows have red bricks above with the concrete first floor slab projecting out over the red brick course. The first floor windows are timber and steel.

The building has been constructed adjacent to Building 89 and has a separate reinforced concrete structure. The window openings to Building 89 which opened into Building 87 were bricked up flush with the external face of Building 89. A flashing from Building 89 onto the roof of Building 87 prevents the ingress of water between the two buildings. The entire face of the enclosed part of Building 89 was painted.

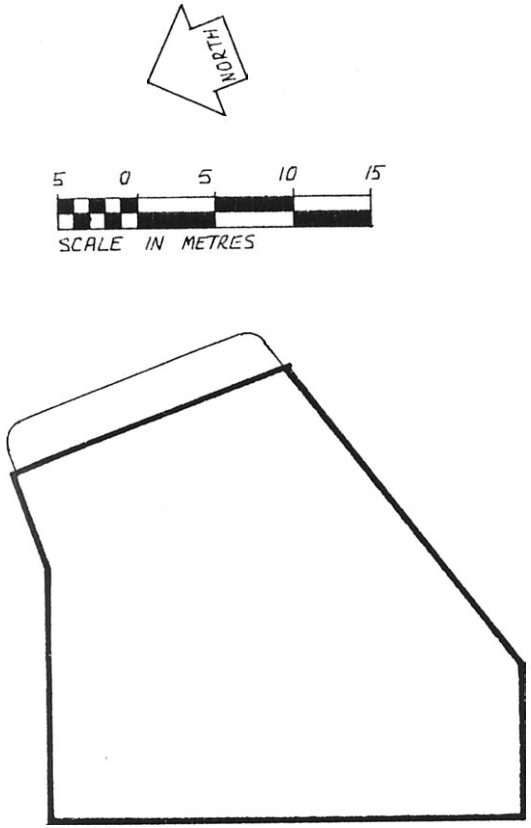


Figure 65 Outline Plan Of Building 90

4.13 BUILDING 90: RETURN STORE c1939

This building is a three storey tan brick building with a reinforced concrete structure, including the roof. Red brick voussoirs, a red brick course under the sandstone cornice, a simple sandstone string course at second floor level and sandstone parapet are similar to the adjoining Building 89.

The ground floor has large openings with roller shutter doors and an open walkway (Stores Tunnel) next to Building 89.

Timber double hung windows are similar to those in Building 89.

Brickwork on the ground floor has every fifth course slightly recessed.

A suspended verandah extends along the eastern side and the flat roof is covered with bituminous membrane.

4.14 BUILDING 93: ELECTRICAL WORKSHOP

Originally considered in 1916, this building was commenced some twelve years later and currently consists of three distinct developments.

The eastern section (constructed 1927-8) is a brown brick two storey building with timber trusses supporting a corrugated asbestos cement gambrel roof. The northern half of the building is a double

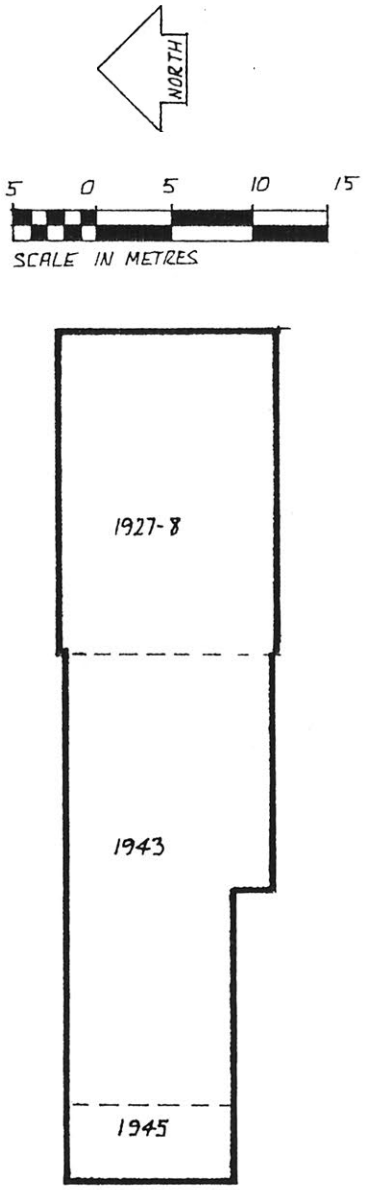


Figure 66 Outline Plan of Building 93

height section. Recessed bays occur externally together with a rendered string course just below the ground floor window sill.

The structural system is load bearing brickwork with concrete beams supporting the first floor.

Windows are steel framed and the eastern facade is painted.

The major part of the western end was added in 1943 after the Sheer Legs were demolished in 1941. This sections opens into the earlier section and consists of two stories on the north and three on the south. The 1943 part is a tan brick building, with two courses out of five (up to about 2m) slightly projecting from the wall. The structure is reinforced concrete and the windows, timber.

A three storey brown brick smaller extension was added to the extreme western end about 1945. The reinforced concrete frame ends with a flat roof above which is placed a small asbestos cement clad building. Similar to the adjacent work, two courses of brickwork (up to a height of about 2m) in every fifth course project slightly. Windows have steel and aluminium (possibly a later inclusion) frames. The west side has a continuous projecting concrete sill under the second floor windows and similar detail to the lintels over the larger ground floor door.

4.15 BUILDING 94: ELECTRICAL STORE

This consists of a chainwire mesh enclosure 18m x 8½m with a galvanised iron carport type structure and several canvas structures inside.

4.16 BUILDING 96: .FOUNDRY ANNEX

This is a single storey sturcture with walls of brown brick, painted corrugated iron wall cladding and chainwire gates. The lean-to roof is corrugated galvanised iron.

It adjoins the northern side of Building 95 and the eastern side of Building 99.

The northern facade of this 16m x 4½m structure has a high level timber framed window.

4.17 BUILDING 97: CANTEEN BLOCK

This consists of two distinct sections. A single storey brown brick building (44m x 6m) with a corrugated asbestos cement hipped roof on the south, and a two storey timber framed building (11m x 9m) with flat asbestos cement cladding and a corrugated asbestos cement hipped roof on the north.

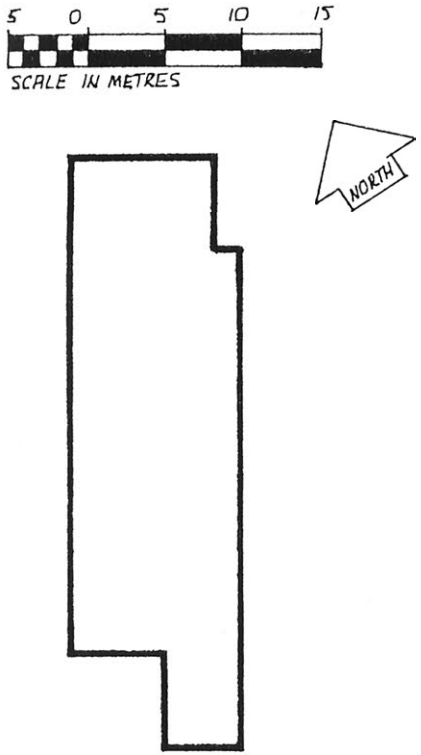


Figure 67 Outline Plan of Building 123

The ground floor is concrete, the first floor timber and all windows timber.

4.18 BUILDING 101: AMENITY BLOCK

A two storey building (20m x 6m) with brown coloured bricks on the ground floor and flat asbestos cement cladding on the first floor. The hipped roof is corrugated asbestos cement. The ground floor is concrete, the first floor timber and windows timber.

4.19 BUILDING 123: F.M.P. STORE

A brown brick single storey building with a tiled hipped roof and glass brick windows.

4.20 BUILDING 124: SQUASH COURTS

This high single storey painted brick building (19m x 6m) with a corrugated asbestos cement roof has a vertical timber boarded extension 2.5m wide on the west. The original roof is continued over the extension.

4.21 BUILDING 127: TOILETS

A small single storey brick building (5m x 2m) with a hipped tiled roof.

4.22 BUILDING 128: AMENITY FOR BOILER MAKERS

A transportable two storey building (14m x 8.5m) clad in painted vertical iron cladding serves for an amenity for Boiler Makers.

The gable roof is corrugated asbestos cement, the floors timber and the windows aluminium.

4.23 BUILDING 136: AMENITY FOR PLUMBERS

This single storey brown brick building with timber windows and a flat bituminous membrane roof adjoins the eastern side of Building 99.

4.24 BUILDING 250: WORKSHOP

This is a single storey transportable pressed metal clad building with a corrugated galvanised iron gable roof (13m x 6.5m).

4.25 BUILDING 251: PAINT SHOP AND FOREMAN'S OFFICE

This is a single storey transportable pressed metal clad building with a corrugated galvanised iron gable roof (8m x 8m).

4.26 BUILDING 254: TRAINING ROOM

This is a two storey transportable pressed metal clad building with a corrugated asbestos cement gable roof (14.5m x 6.5m). Floors are timber and windows aluminium.

SECTION 5

JAMES BARNET AND THE DESIGN OF THE EARLY BUILDINGS ON GARDEN ISLAND

5.0 JAMES BARNET & THE DESIGN OF THE EARLY BUILDINGS ON GARDEN ISLAND

5.1 INTRODUCTION

Most of the early works on Garden Island were designed by James Barnet, the Colonial Architect. The designs were probably based on standard Admiralty Plans.

This section provides an outline of the life and character of James Barnet and gives a detailed discussion of Barnet's input to the design of the buildings.

James Barnet was Colonial Architect from 1865 to 1890 when his services were dispensed with. There is some controversy surrounding his dismissal but it appears to have been largely a result of the handling of Defence Works. Garden Island works were not included in those projects that went sour, however, the events surrounding his dismissal and the subsequent Royal Commission into Defence Works are interesting and indirectly related to Garden Island. The dismissal of Barnet is discussed further in Appendix 5.

5.2 AN OUTLINE OF JAMES BARNET'S LIFE

17th October 1827: born in Almericlose, Arscroath, Scotland, the son

of Thomas Barnet, a builder. His early education was at the local school.

1843: went to London and worked as an apprentice to a builder till 1845. During this time he studied drawing and design under William Dyce, Professor of Fine Arts, Kings College, London and architecture with Charles Richardson.

1845-54: employed as a Clerk of Works* with the Worshipful Company of Fishmongers in London.

22nd July, 1854: married Amy Gosling at the Wesleyan Chapel, Richmond Road, Hackney, Middlesex. Within three weeks he joined the *Marchioness of Londonderry* bound for N.S.W.

10th December, 1854: arrived in N.S.W.

1854-60: engaged in building operations until appointed Clerk of Works at Sydney University. Here work was under the supervision of Edmund Blacket. The buildings under construction were St. John's College, the Main Buildings and the Great Hall.

O'Loughlin, in his thesis,[93] maintains that there is some reason to believe that Barnet had a hand in the design of some of Blacket's buildings since, in an edition of Town & Country Journal of the 1860's, the Great Hall is described as 'having been supervised

*Clerk of Works in this era was the same as what is referred to today as a junior architect.

by Barnet and the hammer beam roof as being designed by him.'

1860: By invitation joined the Colonial Architect's Department, which was under the control of Alexander Dawson, and was appointed Clerk of Works.

1st November, 1862: appointed acting Colonial Architect.

18th January, 1865: officially gazetted as Colonial Architect after the formal retirement of Dawson. Salary £1,000 p.a. The position of Colonial Architect had 'previously been held by Architects of considerable talent, but few of them had retired or resigned with their professional integrity untarnished.'[94] This was to prove the case with Barnet as well.

1865-90: Colonial Architect. During his term of office the staff of 17 with 324 buildings under the care of the office grew to 64 officers and 1,351 buildings. The total money spent in these 25 years was about £6,000,000 (Sterling) with nearly £500,000 being spent annually by 1890. Some of the works for which he was responsible are detailed in Appendix 6.

1870: sat on the Commission set up to plan the Colony's defences. More works were recommended.

1885: took leave without pay for one year to go to England and the Continent.

1887-1892: Friction grew between De Wolski (an engineer appointed to oversee defence works) and Barnet about the handling of defence works. Following submissions to the Legislative Council in 1889* Barnet was sent notice on 16th May, 1890 saying that he should retire from the service from 30th June following. This he did. From 1st August, 1890 W.L. Vernon was appointed to the new position of Government Architect, superceding the Colonial Architect's function.

Also in July 1890 came the appointment of a Royal Commission on the Defence works executed by Barnet. The main work under consideration was the Bare Island Fort. Works on Garden Island were not included. The Royal Commission concluded with a commensurate censure on Barnet. A full discussion of the dismissal of Barnet is given in Appendix 5. From 1st July, 1890 Barnet received a pension £592/18/0 and the reason given for retiring was 'services dispensed with.'

1890-1904: lived in Glebe and he was looked upon as the oldest resident of that suburb, having lived there for 50 years.[96] He died at his residence 'Braeside' Forest Lodge on 16th December, 1904 (age 78) after a month's illness with a bronchial infection.

5.3 JAMES BARNET - THE PERSON

During Barnet's long career as Colonial Architect he was generally highly regarded as an Architect. He has made a large contribution to the Architecture of New South Wales and most towns and cities can boast excellent examples of his works.

He was forthright and spoke without fear or favour against those who might attack his opinion or condemn his decisions. He had little patience with the pompous uninformed critic and his appearance before and comments on the findings of official enquiries did not endear him to influential citizens.

One remarkable feature connected with his official career is that he was not absent one day from duty due to illness or other reason.

He was critical of modern trends in architecture including competitive designs for public buildings and sometimes the principle of employing private architects on government projects.[97]

The position of Colonial Architect, being responsible for so large a part of the government expenditure, was frequently blamed for bungling and negligence for items ranging from exceeding a budget to sticking window sashes.

As far as his architecture was concerned, he used mainly sandstone

as a building material and loved adorning his buildings with sculpture, although after some trouble with the G.P.O. carvings he was more cautious.

Most of his major works are in an Italian Renaissance style of various types with Florentine being his favourite.

According to Barnet himself,[98] the most important influences on the form of his buildings, were the high price of land, the introduction of lifts, architecture of the United States of America and the general use of telephones.

Barnet's later life was not blessed. Possibly due to the changing times, the coming depression or his outspokeness, he fell victim to the political infighting and was made the scapegoat for career men bent on getting ahead no matter what.

Barnet's life and attitude is summed up in his own words:

> "throughout my long term of office it has been my earnest and anxious endeavour to have in all cases buildings designed suitable for their purposes and built with the most durable materials in the best manner obtainable under the various circumstances and situation, always having in mind that the buildings for the government, utility and durability, with due exercise of economy, are the supreme requirements as well as an example to the public."[99]

5.4 THE DESIGN OF BUILDINGS ON GARDEN ISLAND

5.4.1 Introduction

The basis of the design of the buildings on Garden Isalnd is an interesting one. Although James Barnet was Colonial Architect until 1890, his input into the design is another intriguing question.

These two questions are important in considering the original Naval Station but are not easy to resolve.

5.4.2 Statements Made Relating to the Design of the Buildings

Two secondary sources refer to this issue in the following way:

(a) L. Lind, 'Old World Charm on Sydney's Shores', in Triad, No. 14, Winter 1979, states that 'design drawings for naval dockyards produced by the Admiralty early in the nineteenth century were modified for the site by the Colonial Architect, Mr. James Barnet. This design standardisation accounts for the similarity of all British Naval Architecture of the period.'

(b) The National Trust Register states that Buildings numbered 27, 31 & 32, 37, 88 and 95 were based on 1790 Admiralty Plans.

5.4.3 Comments on Statements

This issue has been discussed with the authors of both these statements. Mr. Lind maintains that sometime in the past he saw some design development drawings of Barnet's which showed details of how Barnet modified Admiralty standard plans. Although following up leads suggested by Mr. Lind no evidence of this nature has been uncovered.

However, Mr. Lind has travelled widely and has some first hand experience at seeing buildings similar in design to those at Garden Island at former nineteenth Century Admiralty Naval Bases throughout the world.

The details for the National Trust Register were provided by the Navy, but the basis of the '1790' is a complete mystery and is unstated by any other source found.

5.4.4 Other British Naval Bases

Further research into Naval Stations at Devonport and Plymouth in England and stations in Auckland, West Indies, Bombay and Hong Kong has revealed no details of the buildings on them.

Investigations of Portsmouth Dockyard buildings [100] show none similar to those on Garden Island, although some basic details are

similar to those on English buildings of the same era.

Therefore, the extent to which similar designed buildings are spread throughout the world has not been verified.

5.4.5 Information from England

Advice from the British Ministry of Defence and Naval Historical Library in London is that they are unable to establish the existence of standard Admiralty Plans of 1790. Garden Island works were not included in Class ADM140 (Navy Works Department Maps and Plans).

Although there are a number of references to Garden Island in Admiralty documents at the Public Record Office in London, including an 1896 plan and some photographs, no information was available as to the basis of the design of buildings on Garden Island.

Requests for information to the Hydrographic Department at the Ministry of Defence, London, revealed an 1895 Hydrographic Survey (Figure 18), but nothing else.

Further details were sought from the British Library and the Navy Records Society (National Maritime Museum) in London, but nothing further was obtained.

5.4.6 Other Details

There are several records which provide additional details on this issue.

Mr. Fishenden (of the Admiralty) arrived in Australia in late 1883 to assist in the consideration of plans for the naval establishment.[101]

Plans and specifications were prepared by the Colonial Authorities in conjunction with Mr. Fishenden in accordance with the requirements of the Imperial Services.[102]

It is interesting to note that 'a new building for a foundry with a complete foundry plant, not previously asked for or authorised was added in England.'[103] This was the third and eastern section of Building 95.

In 1885 James Barnet took twelve months leave without pay and went overseas. Whilst in England he made several contacts with the Admiralty to assist in his design of the buildings on Garden Island. Those recorded in his Diary of 1885 [104] include:

Thurs 2nd July 'Chatham Dockyard with Mr. Fishenden.'*

Mon 6th July 'Portsmouth - I visited the dockyard, saw all the workshop and Docks, attained plans of Dockyard.'

Tues 7th July 'called in on Mr. Fishenden.'

*Fishenden was in Australia for about 12 months then returned to England.

Wed 8th July 'spent day with Mr. Fishenden seeing forts, lighthouses, etc.'

Thurs 9th July 'Plymouth - Visited Devonport Dockyard and Keysham Workshops also Sailor Hospital or Barracks for 1000 men in course of construction, with the officer in charge.'

Wed 21st Oct ' Went to Chelsea ... saw Army and Navy Stores.'

Thurs 22nd Oct '... there to Mr. Baldry's office to meet Mr. Fishenden by appointment about Naval Station Buildings in Sydney.'

A letter of Barnet's published in 1892 [105] states that he: "met Mr. Fishenden of the Admiralty (in 1885) and accompanied him to Chatham Dockyard about work at Garden Island obtaining plans of all the British Dockyards and newest English Prisons."

5.4.7 The Drawings

James Barnet's signature appears on the drawings of Barracks and Kitchen (Buildings 31 & 32), Factory and Workshops (Building 95), Spar Shed and Dining Room (Building 99) and the Chain and Anchor Store (Building 88).

The Rigging Shed and Sail Loft (Building 37) drawing was prepared in 1885 whilst Barnet was overseas and is signed by W. Coles.*

*Coles was one of the Clerks of Works in the Colonial Architect's Office.

A hydrographic plan of the Island in 1889 (Figure 15) includes

the basic floor plans of the Coal Stores and the Naval Stores so the early work for these buildings at least was prepared during Barnet's time as Colonial Architect.

The drawings for the Naval Stores (Building 89), Office Building (Building 27), Additional Office Building (Building 9) and the Residences (Buildings 16-20) were signed by Charles Darley, the Engineer in Chief of the Harbours and Rivers Branch till 1895. This Branch took over the Administration of the Naval Station after the abolition of the Colonial Architect's Branch.

An 1895 Hydrographic Plan (Figure 18) has the signature of B. Hickson. Mr. Robert Rowan Hickson became the Engineer in Chief for Public Works from late 1895 when several branches of the Public Works Department amalgamated.

5.4.8 Conclusions

The conclusion relating to the design of the early buildings on Garden Island gleaned from the above analysis is that most of the early buildings on Garden Island were designed by the Colonial Architect's Branch under the control of James Barnet. These designs were most probably adapted from standard Admiralty Plans available for British

Naval Stations in the nineteenth century.

The basic design of some buildings constructed in the 1890's appears to have been executed during Barnet's time as Colonial Architect so his influence spreads further than just the buildings constructed prior to 1890.

No other known architect made any significant contribution to the initial development of the Garden Island Naval Station.

SECTION 6

PRESENT CONDITION OF BUILDINGS

6.0 PRESENT CONDITION OF BUILDINGS

This section covers the manner in which the historic buildings have been modified from the original design and the present condition of the main buildings in the study area.

Generally, the buildings have been fairly well maintained and are in reasonable condition but have been altered internally to suit changing needs. All lighting throughout is comparatively modern.

No details are given for Buildings 31 and 37 as they fall within Stage 1 of the Modernisation Proposals (refer section 7).

6.1 BUILDING 7 & 8: FIBREGLASS & BOAT BUILDING WORKSHOP, WEAPONS' EQUIPMENT STORE

6.1.1 Alterations from Original Design

This is made difficult because no original drawings have been found. However, the following are believed to be the modifications made to the original design.

(a) Building 1 has been added to the north end.

(b) Building 4 has been added to east side northern end.

(c) A first floor painted pressed steel extension supported on a pipe frame together with stairs has been added to the east side.

(d) A stair providing access to the first floor and associated alterations have occurred on the west side.

(e) Several doorways have been constructed through the external walls - one on west side, three on east side.

(f) The circular window in the north gable end has been bricked up while that on the south has been blocked up.

(g) The windows in two bays on the east side have been partly bricked up.

(h) Many windows have been altered including:-

Louvres incorporated into semicircular windows (4 off west side).

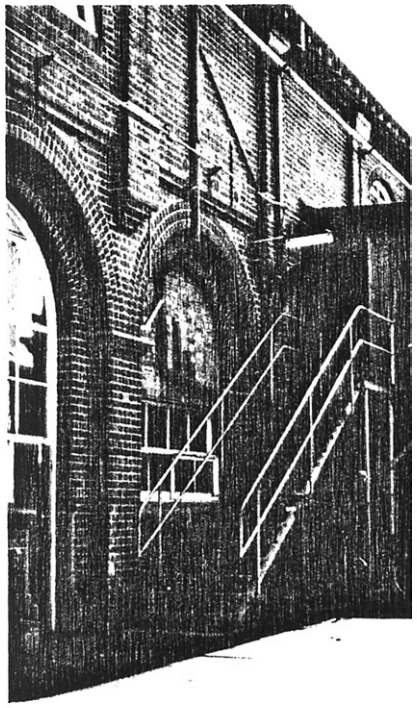


Figure 68 Building 7 & 8 East Side Alterations

Modifications to include casement windows (7 off west side, 4 off east side).

Exhaust fans located in windows (3 off west side).

Air conditioning units located in windows (2 off east side).

Lower windows amended to incorporate a single light in the lower part (3 off east side).

(i) The arch over one window on the east side has been cut back to suit an air conditioning unit which has since been removed.

(j) Pipework has been added to the face of the building on all sides including the addition of sprinklers under the eaves. In some locations this has resulted in damage to rendered dressings.

(k) A small box like shed housing sprinkler valves has been added to the western side. Pipes emanating from this have penetrated the wall and rendered dressings.

(l) Area lighting and associated cables/conduits have been fixed to the western side of the building.

(m) A large vent has been built through the roof.

(n) Internal lightweight partitioning has been added in several areas for offices.

Figure 69 Building 7 & 8
West Side Alterations

(o) Mezzanine floors have been added in parts of the buildings, generally constructed from steel columns and beams with timber floors.

6.1.2 Present Condition

(a) Foundations - sound.

(b) External walls - in good condition except for minor brickwork cracking around circular window south side, one bay on the east side, through central arch on the north side and in one bay on the west side.

Damage to rendered dressings occurs in several places. It is generally small and in some cases due to pipes being placed on the external walls.

(c) Windows - the frames are basically sound although paint is peeling off in many areas. Many panes of glass are cracked and several windows have glazing smashed and removed (especially on the east side, southern end).

(d) Doors - there is minor damage to the doors and the paintwork is in only fair condition.

(e) Roof - the tiles are in good condition although minor sagging

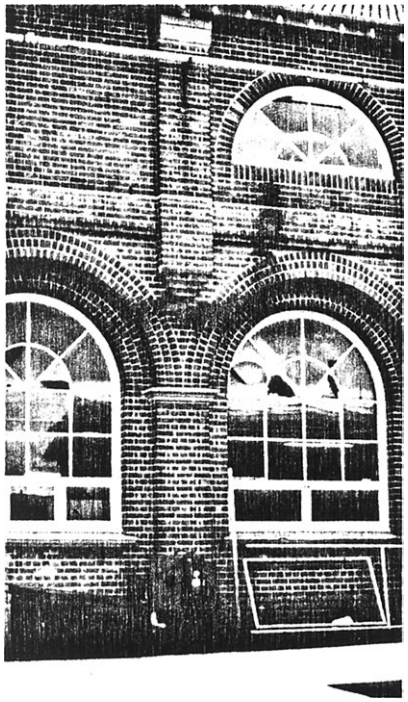


Figure 70 Building 7 & 8
Detail of East Side
South End

of the roof has occurred. Copper gutters and downpipes are sound except at ground level where about half have been damaged. The gutters sag in parts but drainage appears satisfactory. A gap (about 50mm) left between gutters for expansion has resulted in increased deterioration of the fascia at these locations. Fascias and barge boards require repainting and on the northern gable part of the timber barge coping is missing.

(f) Interior - in quite good condition, although there is some evidence of rain penetration through the smashed windows.

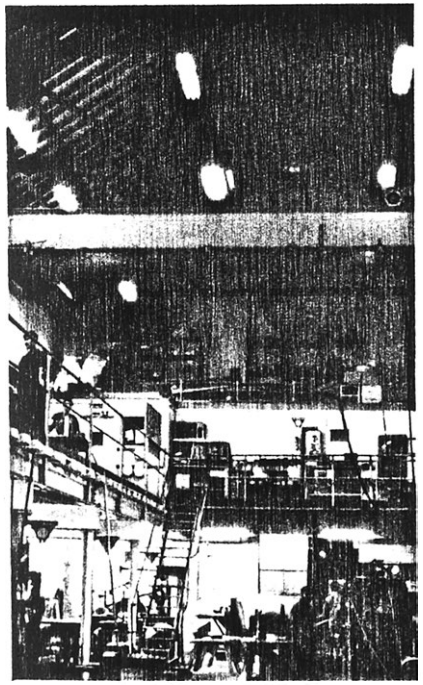


Figure 71 Internal View of Building 8

6.1.3 Changes to Area Around Building 7 & 8

A number of buildings have been added to the area around the building which prevents a true appreciation of the original building (see Figure 72). These include Buildings 5, 6, 250, 251 (described in Section 4) and, adjacent to the south side, a timber store consisting of canvas covered chainwire on glavanised pipe framing.

6.1.4 Summary

Building 7 & 8 is in quite good condition and requires low to medium maintenance for its preservation. It is structurally sound and would be suitable for medium duty workshop for some time.

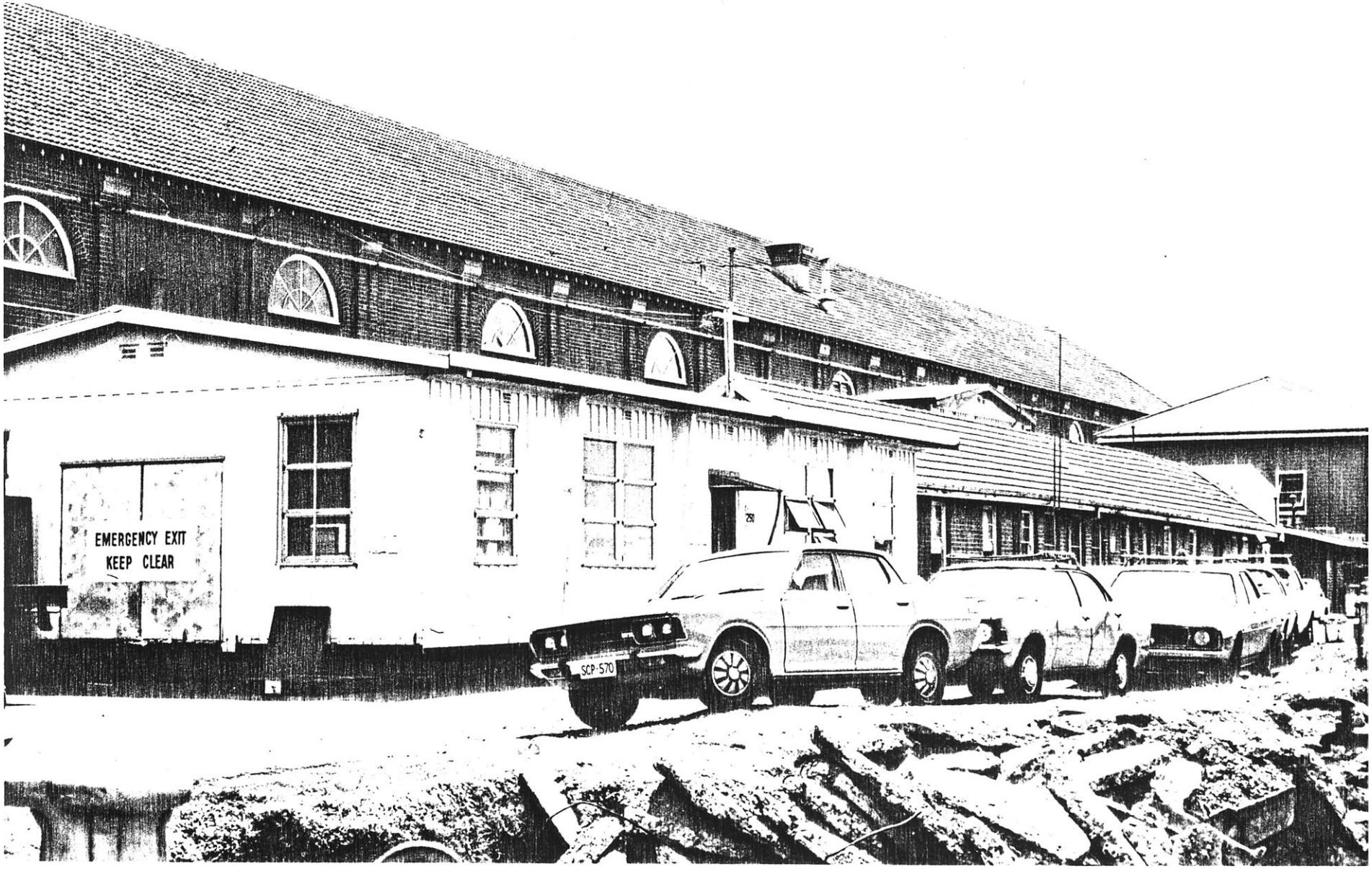


Figure 72 Building 7 & 8 from the South East

6.2 BUILDINGS 16-20: RESIDENCES GROUP

6.2.1 Alterations from Original Design

(a) Balconies have been enclosed. In Building 16 and 17 shingles, casement windows and horizontal timber boarding have been used, whereas in Building 18-20 the enclosures consist of timber boarding and several types of windows.

(b) Extensions have been added to the west side of Building 18-20.

(c) Outbuildings have been added to rear of all residences (west side).

(d) An extension to north side of Residence No. 18 has been added. This consists of asbestos cement sheeting, timber double hung windows and fixed glazing and a tiled skillion roof.

(e) The roof tiles have been replaced with modern tiles and the west side of Building 16 and 17 has corrugated galvanised iron roofing. Finials, special ridge tiles and other details have been removed.

(f) The buildings have been painted externally.

(g) The timber fence to Building 16 and 17 has been replaced.

(h) The sculptured tops of all fence posts have been removed.

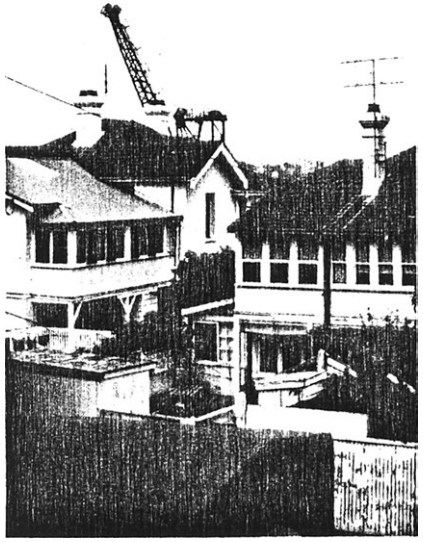


Figure 73 Buildings 16-20 From the West

(i) Many alterations and modernisations have occurred internally. (This advice was obtained from Garden Island personnel as the interiors of the buildings were not seen.)

6.2.2 Present Condition

(a) Foundations - sound.

(b) External Walls - in good condition except the paintwork which is peeling off, especially in Building 18-20. There are cables, conduits and pipework on the walls in a few locations.

(c) Windows - in good condition except the paintwork on Building 18-20 which is in poor condition.

(d) Doors - in satisfactory condition.

(e) Roof - the tiled roof sags a little, but is quite sound. The corrugated galvanised roof over western sections of Building 16 & 17 is in good condition. The copper gutters and downpipes as well as the timber fascias and barge boards are in good condition.

(f) Interior - not investigated.

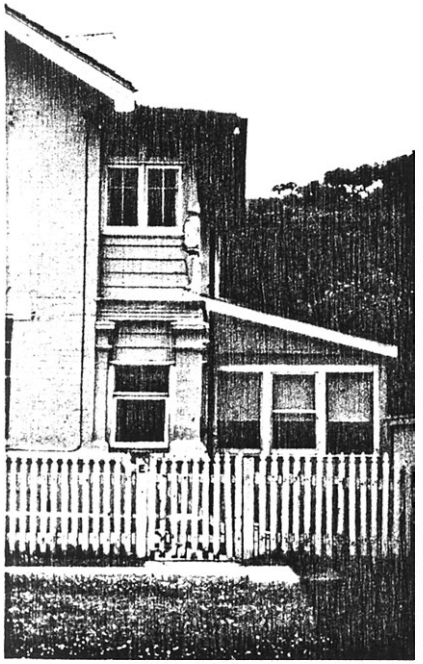


Figure 74 Extension to North of Building 18

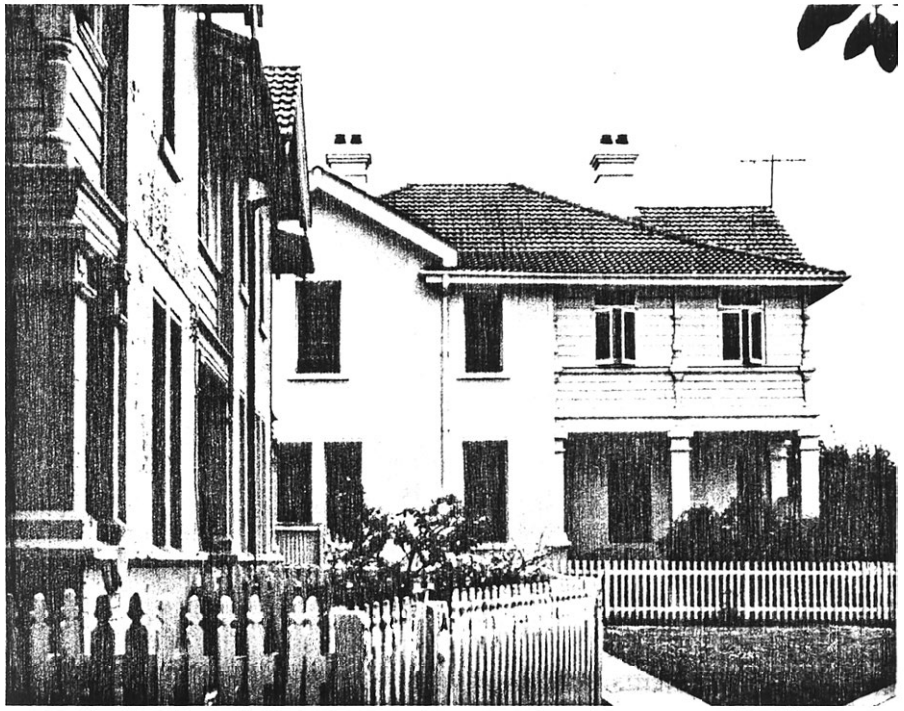


Figure 75 Building 16 & 17 from the South

Figure 76 Building 18-20 from the North East

6.3 BUILDING 21 & 22: TWO RESIDENCES

6.3.1 Alterations from Original Design

(a) The western verandahs have been enclosed at different times for each residence.

(b) One room was added to the north west corner of Residence 21.

(c) The eastern porches and adjacent area have been substantially altered. This includes the removal of rooms and roof and the addition of walls and a new roof.

(d) The double gable roof over the toilets and sheds on the east side have been altered.

(e) Garages and other outbuildings have been added on the east side.

(f) Substantial internal alterations have occurred. These includes removal of, additions to and modifications to walls to such an extent that little of the original form and details remain. Also, most fire places have been sealed up.

(g) The roof has been changed to corrugated asbestos cement.

(h) Fences have been altered and details changed.

(i) Shutters have been removed from the northern windows.

(j) The north east chimney has been removed.

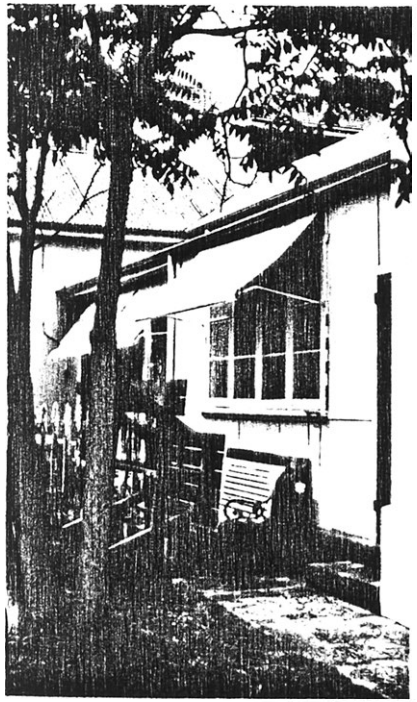


Figure 77 Building 21 & 22 Western Verandahs

6.3.2 Present Condition

(a) Foundations - sound.

(b) External Walls - in good condition and the paintwork reasonable, although there is some evidence of crazing paintwork. Pipes and conduits have been added to face of the wall in several locations:

(c) Windows & Doors - good condition and paintwork satisfactory.

(d) Roof - the corrugated asbestos cement roof is in satisfactory condition although old and brittle with minor damage at the gutter ends.

The flat galvanised iron roofs over the eastern alterations are in fair condition but show evidence of ponding, and rust is beginning to appear.

Painted galvanised iron gutters and downpipes are in good condition although discharging onto footpaths. Paint is peeling off metal roof flashings. The timber fascias are in satisfactory condition.

The top of the central chimney has a minor crack through the rendered brickwork.

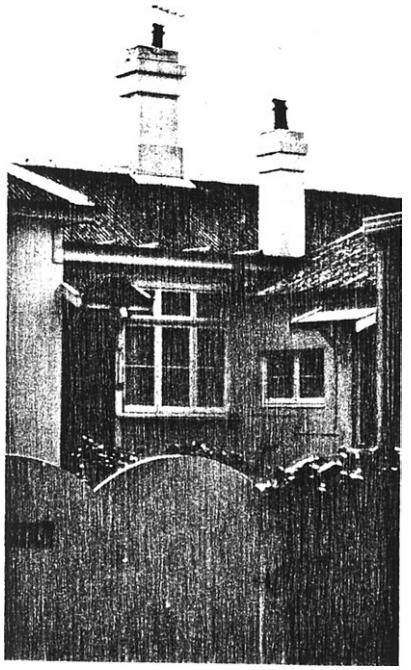


Figure 78 Alterations to Eastern side of Residence 22

(e) Interior - walls consist of rendered solid masonry and some

newer walls are timber framed and plasterboard lined. Walls are generally painted although timber panelling and wallpaper do occur.

Walls are in good condition although paintwork is deteriorating in the northern Residence (No. 21). Residence 22 is undergoing alterations and is being refinished. However, some damaged architraves and existing windows are not being maintained and attended to.

The picture rail remains in most rooms. Timber details throughout have been painted.

(f) Floors - original floorboards are carpetted or covered with linoleum. The structure is in reasonable condition although termites have caused problems in the past.

(g) Ceilings - originally lath and plaster with no cornice, these ceilings are now supplemented with plasterboard and a simple cornice in several rooms. Condition is reasonable but it varies somewhat.

(h) Other comments - as the western verandahs have been enclosed natural lighting into the internal room is inadequate. General details vary from room to room due to 'upgrading' at various times.

6.3.3 Changes to Area Around Building 21 & 22

Originally when constructed these buildings had a commanding view to the west (Figure 14) but this began to be restricted from 1890 with the construction of Buildings 95 and 99 and currently no view is left.

The large building to the north (Building 103) is quite imposing and out of scale with the residences. Other nearby buildings are constructed at a much lower level and do not dwarf Building 21 & 22 to the same extent.

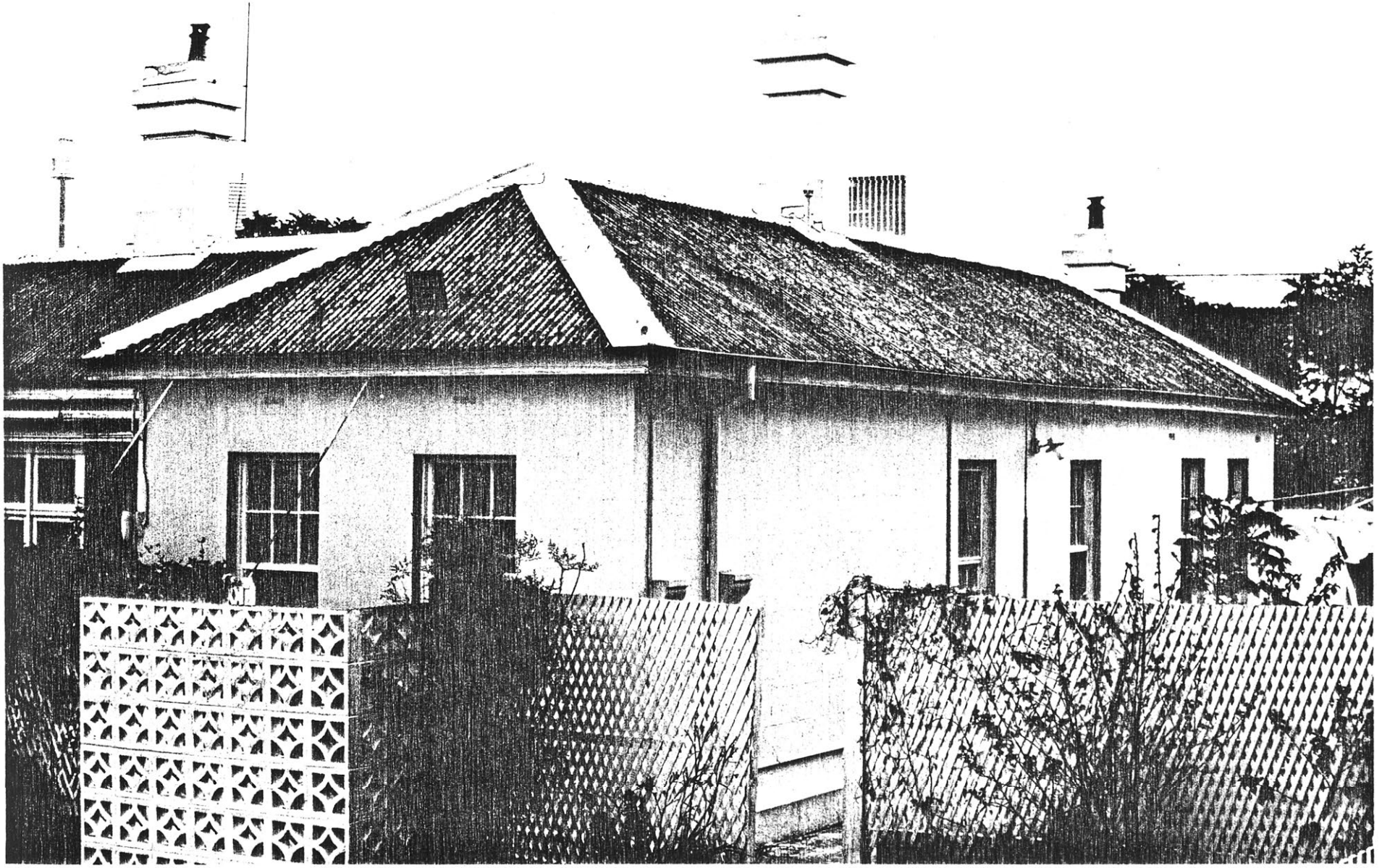


Figure 79 Building 21 & 22 from the North East

6.4 BUILDING 25: BOAT SHED

6.4.1 Alterations from Original Design

(a) The eastern extensions, although similar in basic construction, differ in roof form (flat) and several wall details. This extension involved an external stair on the south side and modifications to the south side eastern end.

(b) A large dominating building has been added to the north. Although separated from the original building it has resulted in several alterations to the original building.

(c) The roof has been retiled in modern tiles incorporating roof lights.

(d) A small box like shed housing sprinkler valves has been added to the west side.

(e) The timber sill piece to one upper window on the north side has been replaced and does not match the detail of the others.

(f) Many pipes, conduits and extinguisher boxes have been added to all walls both internally and externally.

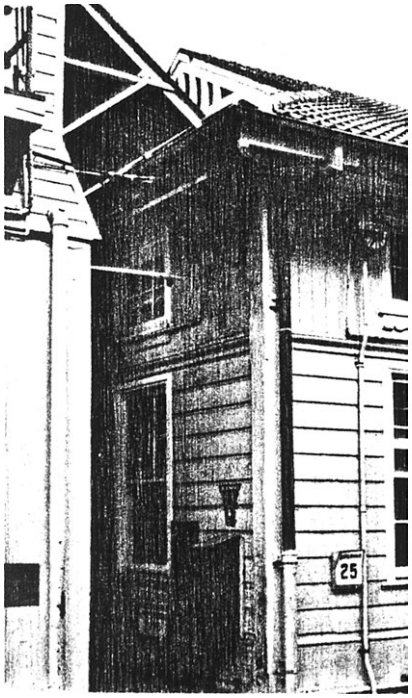


Figure 80 Internal Detail of Building 25

6.4.2 Present Condition

(a) Foundations - sound.

(b) External Walls - in good condition except for the paintwork on

the north side of the original building which is in poor condition with a large amount peeling off.

The top of the concrete ground floor columns to the northern section is cracking and has spalled off in several places.

(c) Windows - in reasonable condition, paintwork fair. 3 panes of glass on the west side (1 in nth.sect., 2 in older sect.) smashed.

(d) Doors - in reasonable condition with minor surface damage and the paintwork in fair condition.

(e) Roof - the tiled and corrugated asbestos cement roofs, cast iron and copper gutters, and copper and asbestos cement downpipes are in acceptable condition. External roof timbers are well weathered but in fair condition.

(f) Interior - the timber structure is in good condition except for the limewashing which has largely worn away.

Figure 81 Internal Detail of Building 25

6.4.3 Changes to Area Around Building 25

The only change near to Building 25 has been the addition of Building 24 across the road which conflicts in scale and appearance with this small simple timber boat shed. However, this has been the story of Garden Island from the beginning and so the imposition is not a major concern.

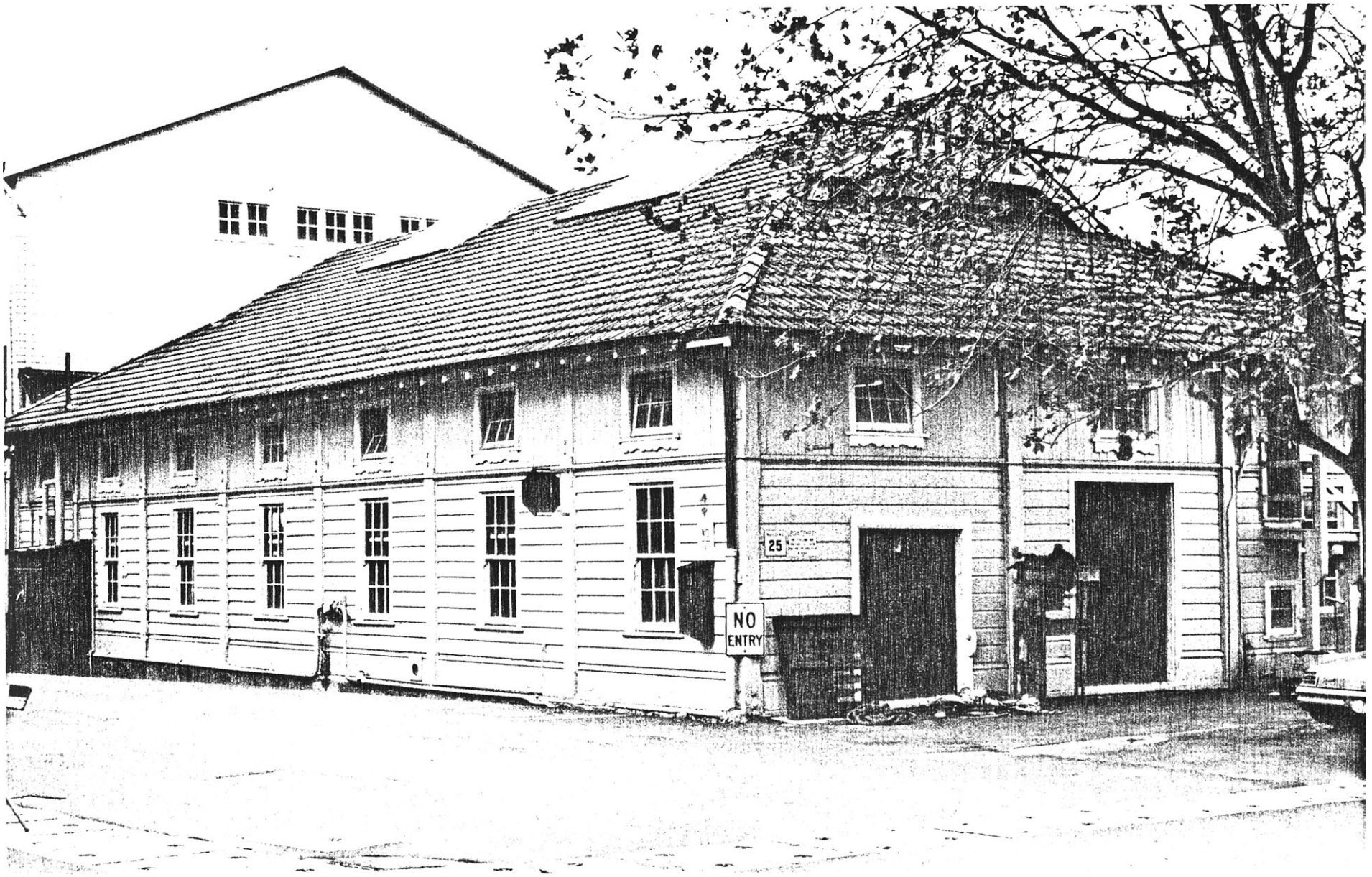


Figure 82 Building 25 from the South West

6.5 BUILDING 27: OFFICE BUILDING

6.5.1 Alterations from Original Design

Alterations to the original building have been very substantial with extensions to the north, south and west.

The extensions to the north and south have been very sympathetically treated but the western one is less so with different window shapes, a flat roof, no matching string courses and variations in other details.

Excluding these major alterations, present anomalies include:-

(a) The roof is tiled in lieu of original slate.

(b) A doorway near the centre of the western side has been bricked up.

(c) An external and steel stair has been added to the south side.

(d) Pipework appears on the external face of the west side.

(e) A window mounted air conditioner has been added to one window on the west side.

(f) Several exhaust fans are located in windows on the west side.

(g) Conduits and floodlighting has been fixed to face of the building on north and east sides.

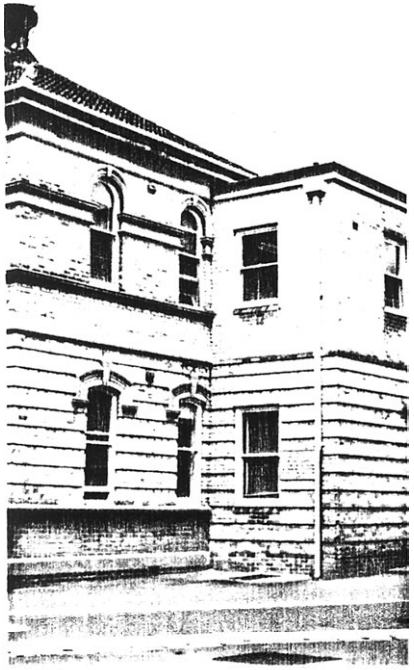


Figure 83 Building 27, North and West Extensions

6.5.2 Present Condition

(a) Foundations - sound.

(b) External Walls - the sandstone in the original building is suffering from falling damp and is spalling in many locations (see section 6.5.3 below).

Rendered dressings on the north and south extensions have crazed extensively with several cracks through the render. However, it appears to be quite sound.

Brickwork is sound except for one minor crack in the west wall northern end. Pointing is satisfactory for the most although certain exposed areas on the eastern side require touching up. Paint is peeling off the inside of the clockface and the flagpole on the tower requires repainting.

(c) Windows & Doors - in good condition except for cracked glass in two windows on the west side.

(d) Roof - the tiled roof, painted galvanised iron gutters (of two different profiles) and downpipes are in satisfactory condition although paint is peeling off and one downpipe on the western side is damaged near ground level.

Small gaps in gutters left to permit thermal movement have

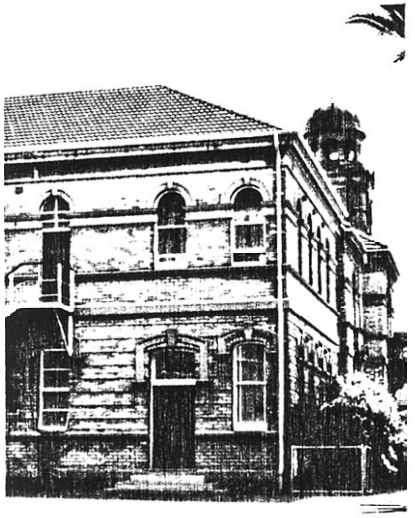


Figure 84 Part of South Elevation, Building 27

permitted water to run off onto the sandstone and discolour it slightly.

(e) Interior - the original rendered masonry walls and the lightweight partitions in the extensions are in good condition.

(f) Floors - the structure and the vinyl tiles and carpet with large rendered skirtings (ground floor original section), large timber skirtings (first floor original section), and timber skirtings in the extensions are all in good condition.

(g) Ceilings - plaster ceilings, the large cornice (in original ceilings) and the smaller cornices (in extensions) are in good condition.

(h) Other comments - Many original timber panelled doors in the original section remain and are in good condition. The main stair, front doors with acid etched windows are likewise in good condition.

Fire protection throughout is provided by thermal detectors which are generally fairly unobtrusive.

A structural report indicates that the floors are capable of taking loads of up to 5kPa in the File Room.

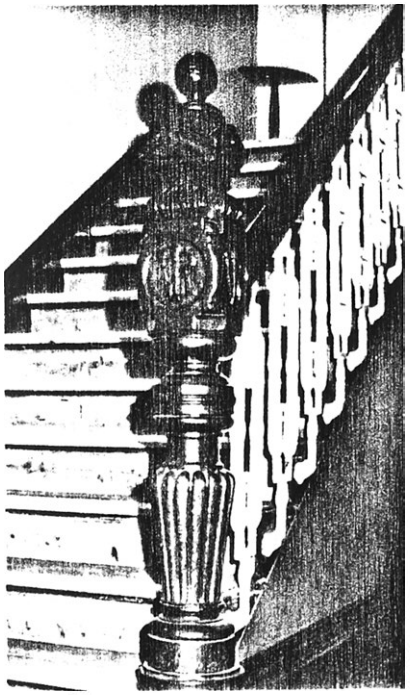


Figure 85 Building 27
Detail of Main Stair

6.5.3 Sandstone Deterioration

Sandstone was fairly extensively used for dressings in the original building, however, it is now evident only on the eastern facade and in the clock tower owing to the presence of later extensions.

All the deterioration to the sandstone, outlined below, (refer also Figure 86), is an aesthetic problem and presents no hazard to the building or to users at the present time.

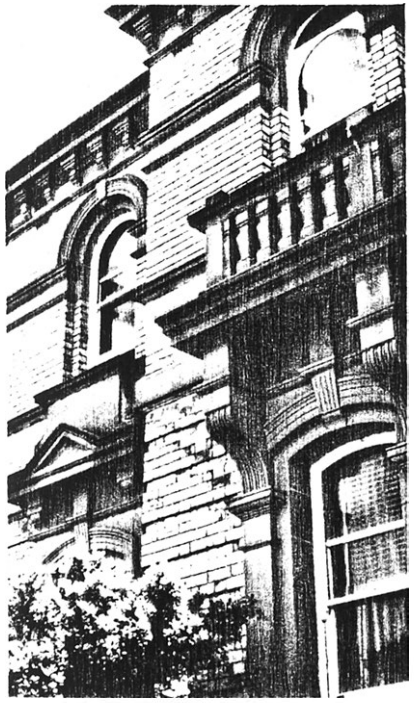


Figure 86 Building 27
Spalling Sandstone

(a) Sandstone has spalled off up to 25mm on the underside of the pediment coping and in the pediments. Decay is least in the pediment over the main entrance.

(b) Spalling on the underside of the sandstone string course level with first floor window sill is quite extensive along the entire length of the string course.

(c) The underside of string course at the level of the first floor shows little spalling.

(d) Sandstone is spalling in the coffers between the corbels of the corbel table.

(e) The underside of the small balcony has extensive spalling especially near the outer edge. This has resulted in complete loss of detail.

(f) The underside of main horizontal projections in the clock tower

shows signs of deterioration and spalling on all four sides.

6.5.4 Summary

Building is in reasonable condition requiring low maintenance.

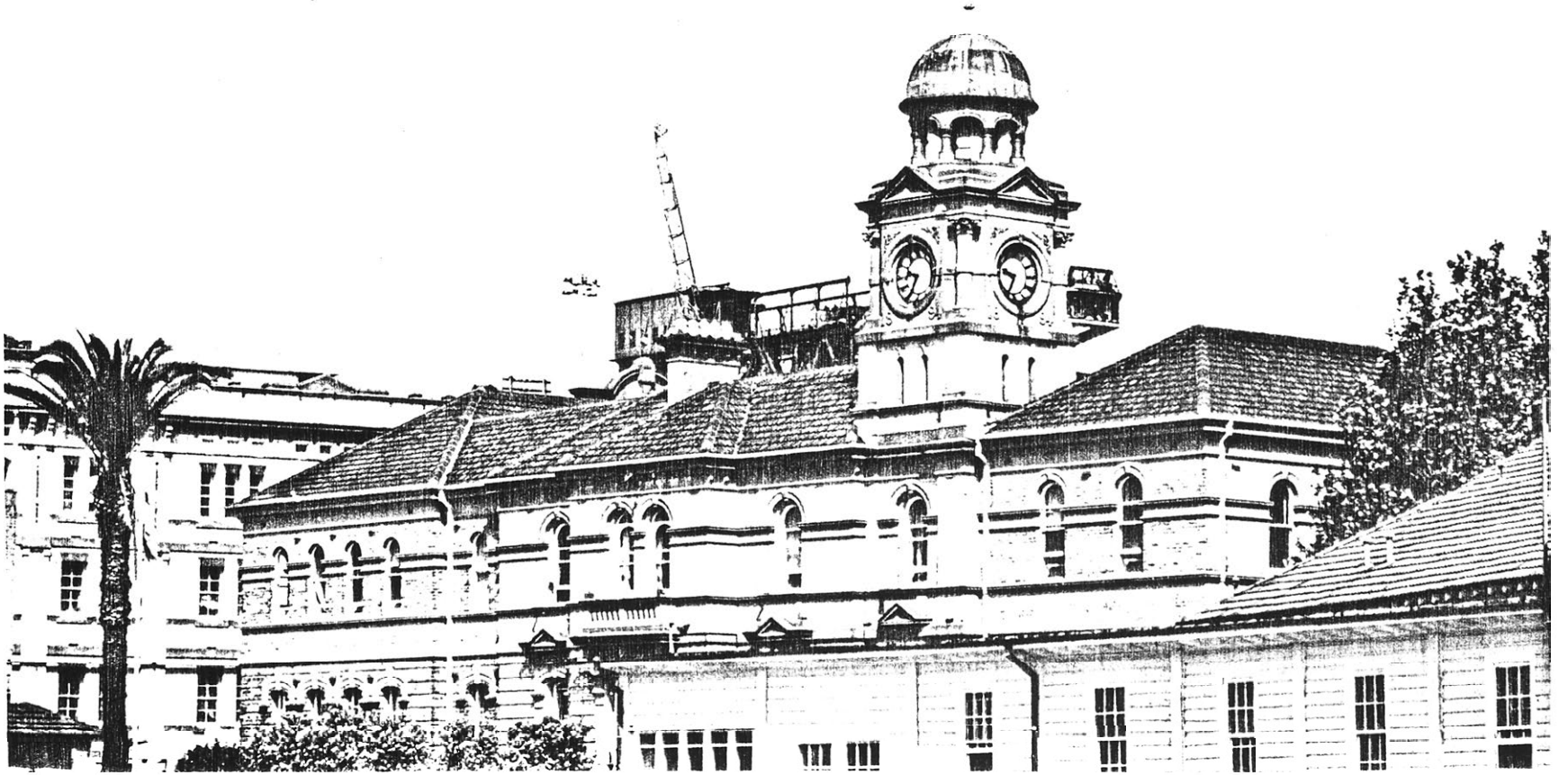


Figure 87 Building 27 from the North East

6.6 BUILDING 32: REGISTRY AND OFFICES (FORMER BARRACKS)

6.6.1 Alterations from Original Design

This excludes the north and south verandahs which were added within two years of the building's original completion date.

(a) A three storey extension has been added to the east side to accommodate toilets. This extension has rendered brick, simulating stone, walls and a flat roof.

(b) Additional doors have been constructed through former window openings to the ground floor west side second window from northern end; to the first floor on the north side (both windows although one has been further altered), south side (2 off) and west side second window from northern end and to the second floor on the north side eastern end, west side northern end and south side western end.

(c) The main front doors on the ground floor have been glazed and modified.

(d) A window mounted air conditioner has been included in the first floor east side southern end window.

(e) A double window mounted air conditioner has been built into

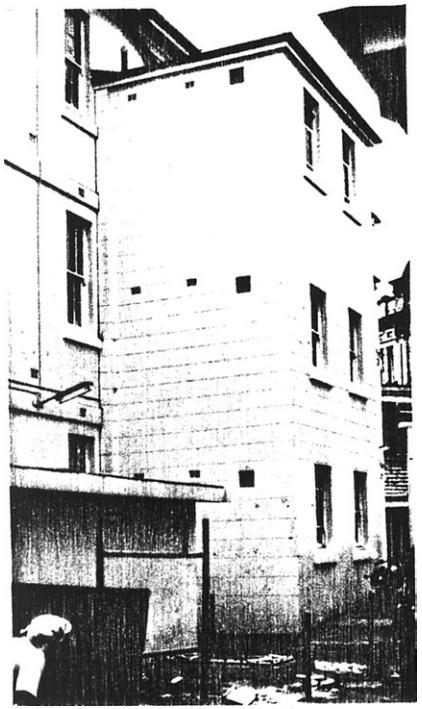


Figure 88 Building 32 East Side Extensions

one window on the ground floor east side.

(f) A copper downpipe has been added to the centre of the east side.

(g) The steel rope ladder has been added to face of west verandah.

(h) A fire extinguisher box has been added to north side under the external stairs ground floor and to the west side second floor.

(i) The meter box has been added to the ground floor, west side northern end.

(j) Area lighting and conduits have been fixed to the walls to enable the lighting of the verandah.

(k) A bituminous fabric has been fixed over the timber verandah floor.

(l) Internally the building has been substantially divided with lightweight partitions and false ceilings throughout incorporating modern light fittings and thermal detectors.

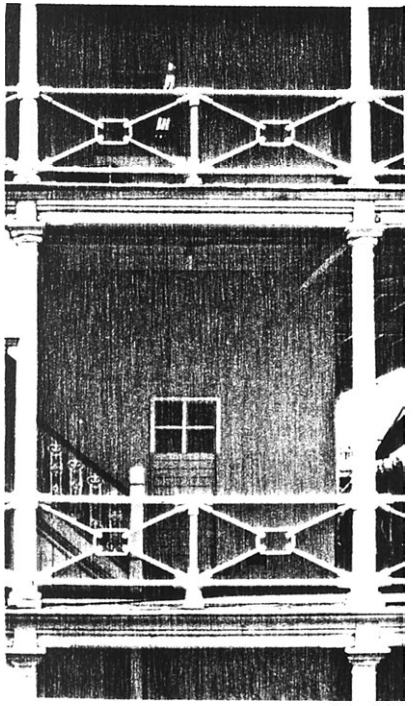


Figure 89 Building 32
Detail of Nth Elevation

6.6.2 Present Condition

(a) Foundations - sound.

(b) External Walls - in good condition except for paintwork on the east side which is extensively crazed and flaking off.

Minor crazing in the paintwork also occurs on the south side.

(c) Windows - in good condition with the paintwork satisfactory. Some of the small windows beside the central doors on the west side no longer open.

(d) Doors - in good condition except for blistering paint on the central western door second floor.

(e) Roof - the slate roof is in good condition although a few slates have slipped down into the gutter. The corrugated galvanised iron verandah roof is in good condition. Cast iron gutters are sagging, slipping away from the fascia and sections are separating from each other. The three downpipes on the east side (cast iron and copper) are in good condition although the one at the south east corner discharges onto the ground. The verandah does not appear to have any downpipes.

(f) Verandahs - some rust appears on the cast iron columns. Paint is flaking off the nosing flashing and balustrades (especially on the western side). Paint on the west face of the unprotected columns is crazed. The bituminous fabric is breaking down along the outer edge and timbers near the outer edge are rotting.

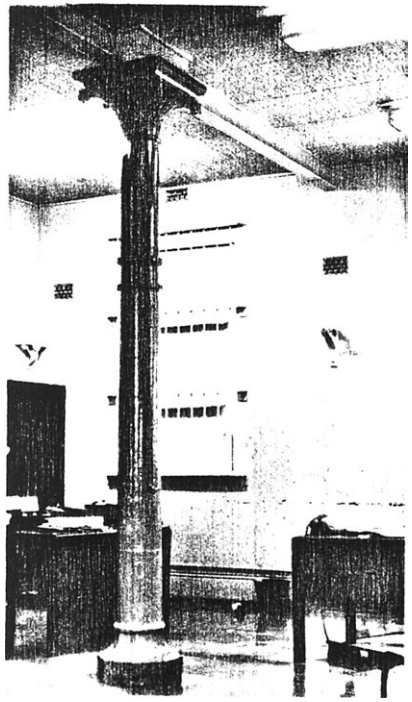


Figure 90 Internal Detail of Building 32

(g) Interior - the rendered and painted masonry main walls and the lightweight partitions are all in good condition.

(h) Floors - vinyl and carpet covered floors are in good condition except in the stair halls where many vinyl tiles have been damaged.

(i) Ceilings - false ceilings of acoustic tiles are in good condition. Fire protection is by thermal detectors fixed to the false ceilings. There is some deterioration of the ceiling above the ground floor tea room urn.

(j) Other comments - a detailed structural report and analysis is provided in Appendix 7 (a).

Fire hose reels are mounted on the wall just inside the central western doors at all levels.

6.6.3 Summary

The building is structurally sound and generally in good condition but some areas require repainting.

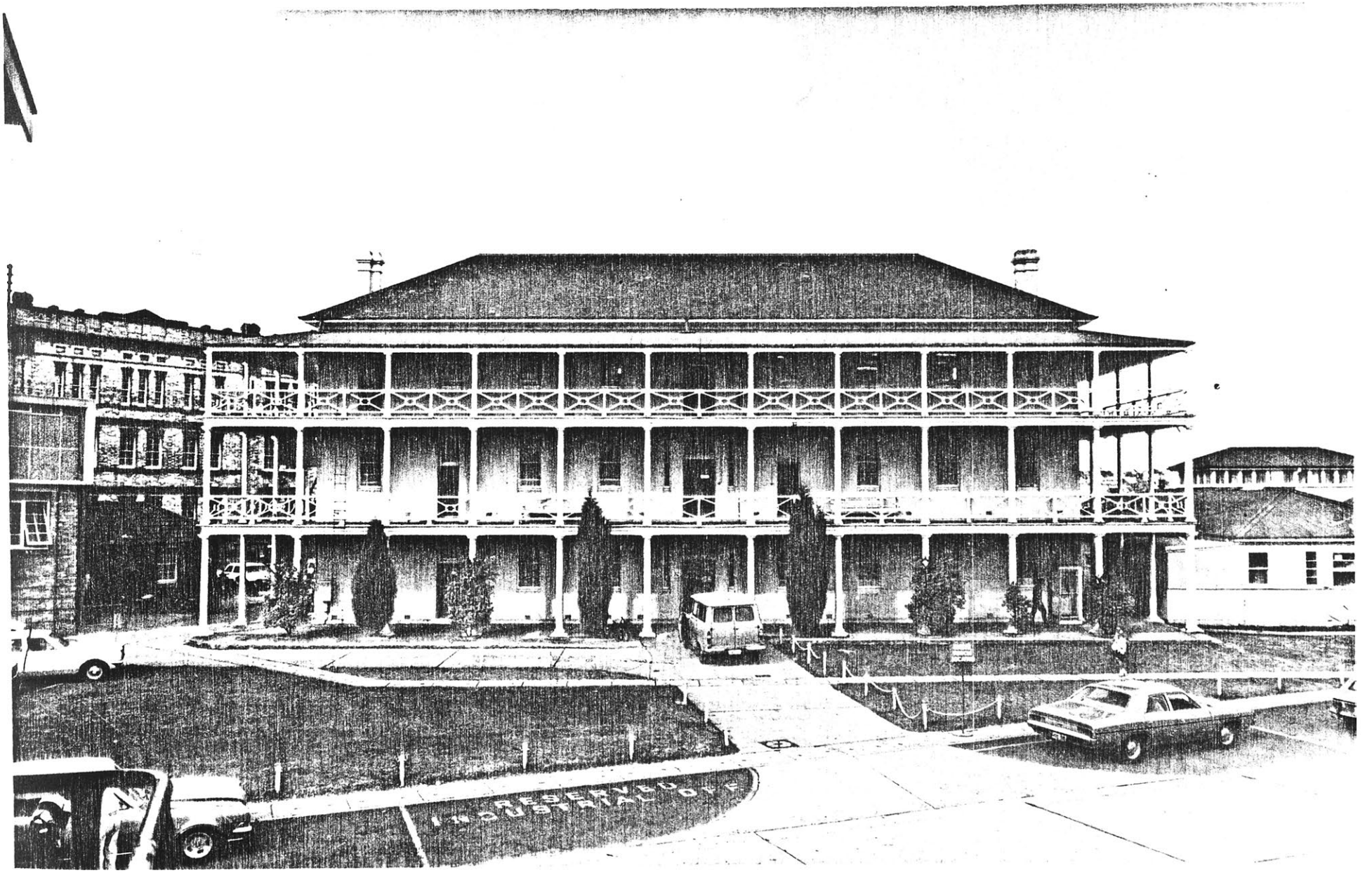


Figure 91 Building 32 from the West

6.7 BUILDING 88: BATTERY SHED

6.7.1 Alterations from Original Design

(a) The main ridge ventilator and eight smaller ventilators have been added.

(b) Alterations have occurred to many of the recessed bays. This includes:-

(i) south side central bay - bricked up, rendered over and a small door included;

(ii) west side - the former large door on the northern end has been bricked up and rendered over. A window similar to others was built in.

(iii) west side bay immediately north of central door has been bricked up to the face of the pilasters, part of the pilaster removed and the entire area rendered over.

(iv) west side former large door southern end has been bricked up, rendered over and a window built in. A smaller opening has been made through the wall to provide general access;

(v) north side central bay - bricked up, rendered over and a small door included.

(vi) East side - most windows remain although painted. One

Figure 92 Building 88
Part of South Elevation

bay has been bricked up and one modified to include an observation window from an office behind.

Where bays have been bricked up the painted render continues to ground level compared with just to top of lower stone course as in the original detail.

(c) Building 87 and 89 have been added to the eastern side.

(d) The ramp link to Building 89 has been sealed off.

(e) Roller shutter doors have been added to the large openings on north and south sides.

(f) The central bay west side has had a large timber door added externally.

(g) A mobile overhead crane has been added internally. Supports fixed to the wall required steel plates to be provided on the outside of the wall. A central row of columns support the central track.

(h) A vent pipe has been added to south side.

(i) The original chain racks have been removed.

(j) Electrical conduits, pipework and street lighting have been added to various elevations.

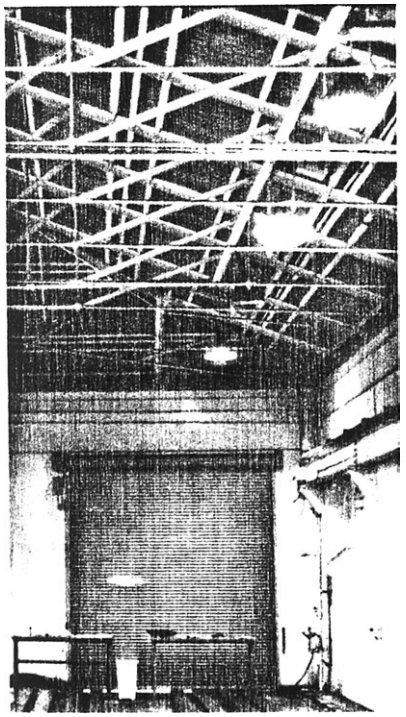


Figure 93 Internal View of Building 88

6.7.2 Present Condition

(a) Foundations - sound.

(b) External Walls - sound. Paintwork is crazing badly and peeling off.

(c) Windows and Doors - acceptable. Paintwork is fair. Minor damage to doors.

(d) Roof - the corrugated asbestos cement roof is in reasonable condition, although brittle. The asbestos cement gutters and downpipes are in good condition except for paintwork.

6.7.3 Summary

Generally, the building is in good condition and of low maintenance type and is capable of sustaining very high floor loads.

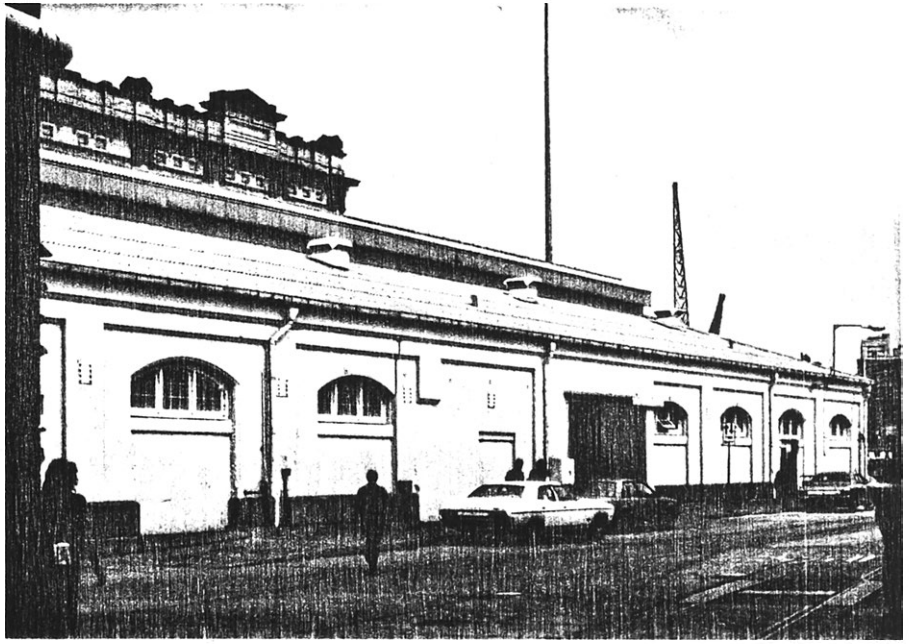


Figure 94 Building 88 from the North West

6.8 BUILDING 89: NAVAL STORES

6.8.1 Alterations from Original Design

(a) Building 87 has been added to part of the south side resulting in window openings having an external skin of brickwork, painted externally (internal of Building 87) and other minor alterations, e.g. flashings keyed into external wall.

(b) Building 90 has been added to most of east side resulting in a complete change of that facade. Building 90's detailing is sympathetic to that of Building 89.

(c) The roof has been replaced and is currently zincalume with insulation and aluminium foil/sacking under.

(d) Timber framework supporting electrical cables on the north and south parapets has been added.

(e) The two lifts have been electrified and the lift motor rooms project through the roof.

(f) Small concrete block upstands project above the parapet level on the north side western end.

(g) The accumulator for the water operated hydraulic whips has been added into western bay.

(h) The access into Building 88 has been sealed off.

Figure 95 Part of Hydraulic Equipment

(i) Ceilings (asbestos cement sheeting and masonite) have been added to several sections.

(j) Chain wire fences and gates have been added internally.

(k) Lightweight part glazed internal partitions for offices have been added in several locations.

(l) Minor alterations to the floor have occurred to suit the inclusion of a compactus to the ground floor.

(m) Several 'fire doors' between bays have been modified and all have had their locks altered.

(n) Timber gates have been included to divide the areas up. These gates are quite old and may be original although no documentation exists to confirm it.

(o) Cables, lights, conduits, steam pipes and other pipes have been added throughout the building and in many cases on the external facade as well.

(p) Sprinklers have been added internally to provide fire protection.

(q) The south wall of the ground floor has been rendered in the three central bays.

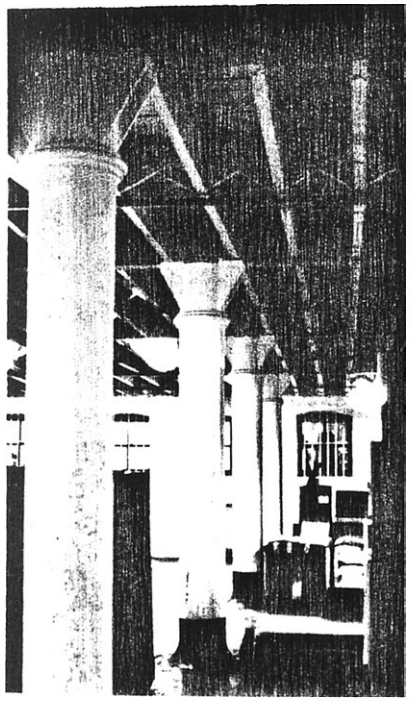


Figure 96 Building 89 Internal Details

6.8.2 Present Condition

(a) Foundations - sound.

(b) External Walls - except for the spalling sandstone (discussed in section 6.8.3 below) the walls are in reasonable condition. Discolouration of brickwork and sandstone is quite noticeable and the brickwork on the northern face appears to have 'yellowed' more than on the southern side. A small amount of rising damp is evident on the south side eastern half (where Building 87 does not adjoin). This appears to have resulted from building up the external ground levels above the damp proof course or from a failure of the damp proof course. Much of the ground floor brickwork, especially around openings on the north side, has been damaged due to handling of stores over the life of the building. A little damage has also occurred to some of the sandstone on the ground floor north side.

(c) Windows - in reasonable condition except for the paintwork on the north side which is peeling off.

(d) Doors - in fair condition with paintwork poor and a little damage to several doors.

(e) Roof - the zincalume roof is in good condition but the lead flashings against north and south parapets are poorly detailed and water penetration to the inside is excessive. This water

Figure 97 Building 89 from the South East

entry is further assisted by water penetration of sandstone at joints and galvanic action between lead/aluminium. Several rooflights are cracked and half of the roof ventilators are rusted and unstable. Downpipes are sound but they discharge onto grated sumps in the ground floor and overflow into the floor during heavy rains.

(f) Interior - walls in good condition except for peeling paint, and surface marks in the water affected areas.

(g) Floors - except for a general uneveness, the timber floors are in good condition.

(h) Ceilings - in good condition.

(i) Other Comments - a detailed structural report and analysis is provided in Appendix 7(c). All floors have a live load capacity of 15kPa.

Figure 98 Building 89
Deteriorated Sandstone

6.8.3 Sandstone Deterioration

Sandstone is spalling from copings, cornices, string courses and window sills and in certain areas is severe and hazardous. Complete loss of detail on the underside of the coping and cornice and the spalling off of the entire face of the cornice are the major problems. String course and sill deterioration is intermittent and minor.

Rising damp is causing some problems on the southern side western end to the sills and the lowest string course.

Sandstone in the north west parapet is damaged due to the construction of a screen wall many years ago and its subsequent removal a few years ago.

6.8.4 Changes to the Area Around Building 89

There have been a number of buildings added to Building 89 and constructed in the nearby area. These all tend to alter and enclose Building 89 and restrict views of it. Buildings 87 and 90 adjoin, Buildings 28, 29, 30, 86, 93 and a small carport on the south side are the buildings in the area having some impact on Building 89.

Figure 99 Building 89 from the North East

6.9 BUILDING 95: FACTORY

Few original drawings exist for the original building so a detailed assessment of how the building has been modified is difficult to ascertain.

Changes have tended to be quite extensive which further complicates a detailed listing.

6.9.1 Alterations from Original Design

This excludes the eastern section which was added almost immediately the first double section was completed.

(a) The large three storey western extension housing workshops and cafeteria completely changed the western side. This solidly constructed building of reinforced concrete structure, brown brick external walls and steel windows is unsympathetic with the original structure.

(b) A Foundry Annex (Building 96) has been added to the northern side.

(c) External steel stairs have been added on the east side (in Office Square). Associated modifications to Building 95 include the incorporation of a door in a semi-circular window.

(d) Timber external stairs have been constructed on the eastern side (between Buildings 26 and 95) and a door provided into Building 95.

(e) Many openings have been filled in or altered to incorporate

Figure 100 Building 95
North Elevation

rectangular windows. This is most predominant on the south side but occurs also on the east and north.

(f) The 50m high chimney has been demolished and the space between a lower section of the chimney and Building 95 enclosed to form a room.

(g) Two first floor bridges to Building 93 have been constructed.

(h) A large number of cables, pipes, flues and other services adorn all facades.

(i) Three exhaust fans and one air conditioning unit have been incorporated into windows on the east side.

(j) Roller shutter doors have been provided to openings on the east side.

(k) Ventilators have been altered on all facades.

(l) Several string courses have been cut to allow passage of service pipes and downpipes.

(m) Steel bars have been fixed to the windows around the substation.

(n) A door opening has been made through the south walls.

(o) The original single storey room on east side northern end (see Figure 30) of Building 95 has been removed and east wall of Building 95 altered.

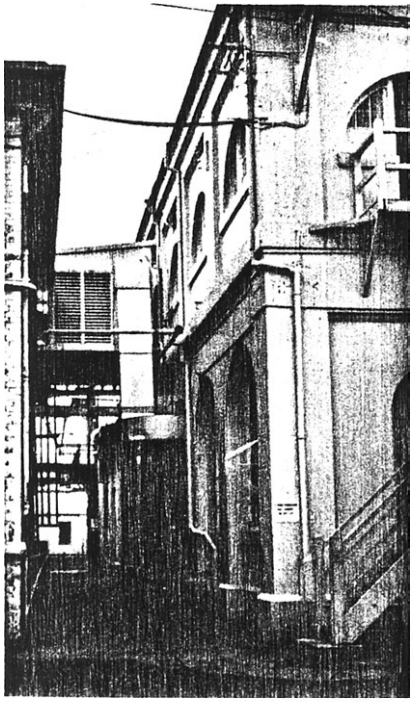


Figure 101 View Between Buildings 95 & 93

(p) The roof sheeting was changed, and additional roof lights and ventilators incorporated.

(q) Internal alterations are quite extensive although little change to the main structure has occurred. Rooms have been added and amended in the eastern section and some light weight partitioned rooms constructed in the main workshop space. Equipment and associated changes have been carried out throughout the entire building at various stages.

Figure 102 View Between Buildings 95 & 26

6.9.2 Present Condition

(a) Foundations - sound.

(b) External Walls - in reasonable condition although some cracks appear in the external wall and the paintwork is crazed and peeling off in several areas. One horizontal crack occurs along most of the Foundry's east wall and one diagonal crack rises from the south east corner along the east side.

(c) Windows - in reasonable condition except on the east side adjacent to Building 26 where paintwork is poor, some dry rot is evident and several are damaged with glass smashed.

(d) Doors - in good condition.

(e) Roof - the corrugated asbestos cement and galvanised iron roof

is in reasonable condition with sections of the asbestos cement being replaced as it deteriorates. Painted galvanised iron gutters and downpipes are also in reasonable condition except on the east side adjacent to Building 26 where several are rusted out, sections are missing and all discharge into an open channel. .

(f) Interior - in reasonable condition generally, although some sections are poor. Accommodation in the eastern section is substandard and very badly organised.

(g) Other Comments - a detailed structural report and analysis is included in Appendix 7 (d) and (e). Suspended floor load capacity is 10kPa and the main floor is suitable for heavy industrial work.

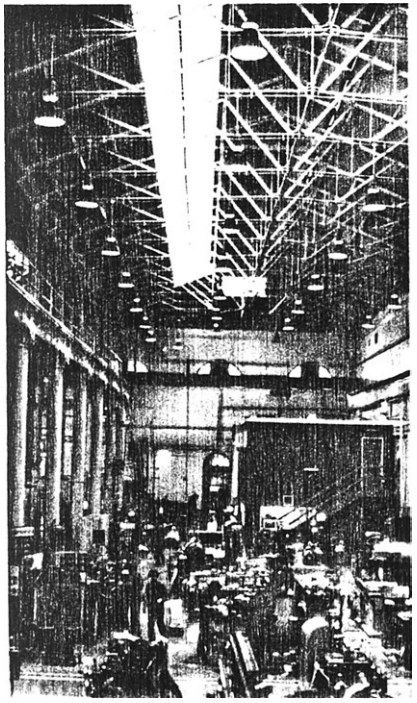


Figure 103 Internal View of Building 95

6.9.3 Changes to Area Around Building 95

These have been extensive and significant, resulting in very little of the original structure being seen at all. Additions include Building 96 and the western extension. Nearby buildings greatly modifying the setting are Buildings 93 and 26.

6.9.4 Summary

The structure of the building is in reasonable condition but

internal spaces are very congested which has resulted in a large number of changes both internally and externally.

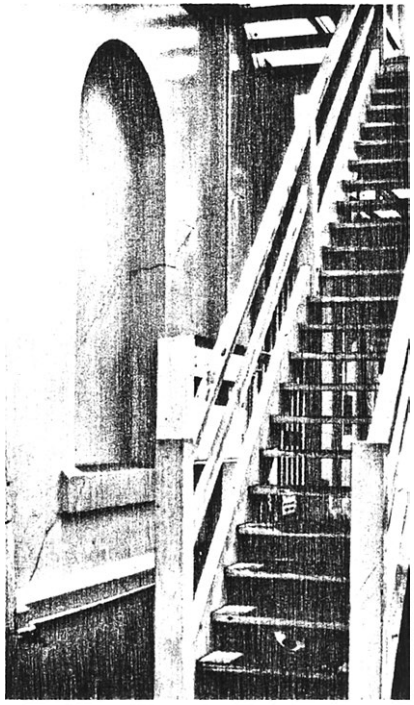


Figure 104 Building 95 S.E. Corner Detail

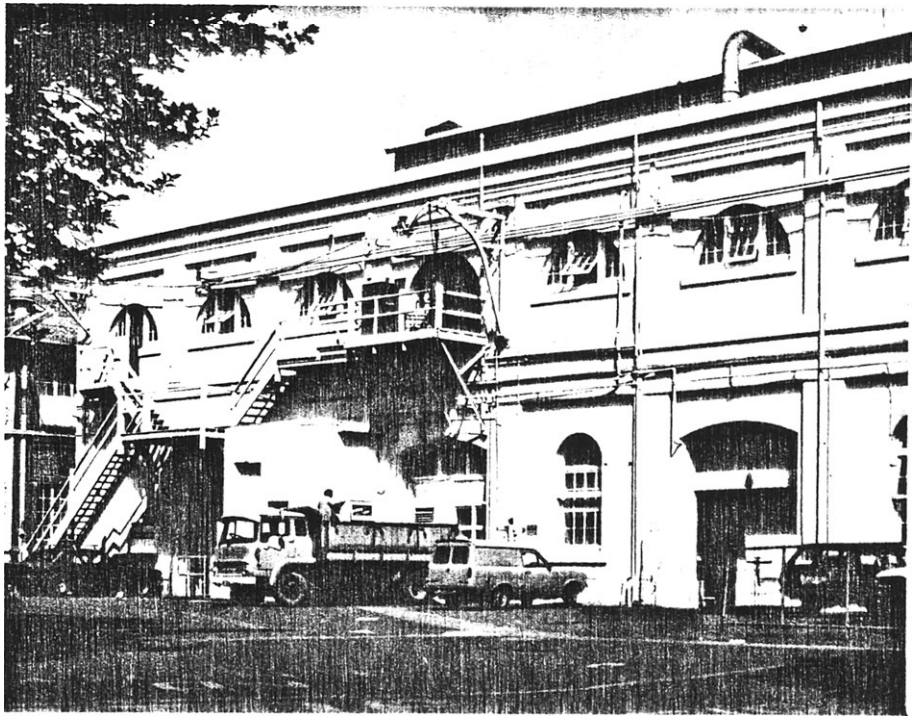


Figure 105 Building 95 from the North East

6.10 BUILDING 98: CORE SHOP

6.10.1 Alterations from Original Design

As no original drawings exist, it is difficult to make a total assessment of the alterations that have occurred, although as the building is nor large or complex, a reasonable interpretation can be made.

(a) The former window on the first floor of the south east side has been bricked up.

(b) The ground floor door on the south east side has been bricked up.

(c) A large opening has been made in the south west side.

(d) The ground floor door on the north west side has been altered and a small window added beside the door.

(e) An exhaust fan has been installed in the north east wall.

(f) A first floor link to Building 96 and then onto Building 95 has been added.

(g) The south east side has been painted.

(h) The first floor has been removed.

(i) A small room for equipment has been built in the north corner of the ground floor.

(j) Several conduits and pipes have been fixed to the walls.

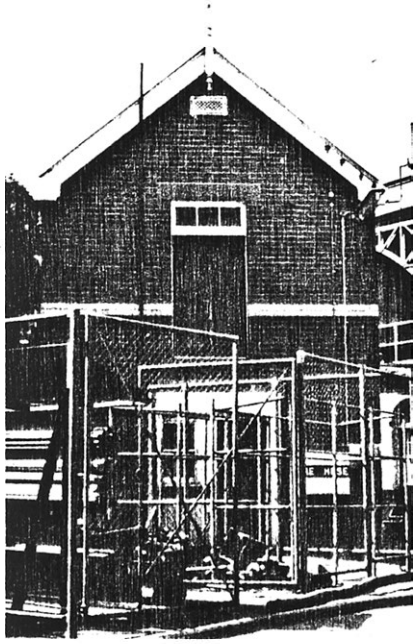


Figure 106 Building 98 from the North West

6.10.2 Present Condition

(a) Foundations and Walls - good condition.

(b) Windows and Doors - one window is smashed and a sandstone sill on the south west side has been damaged. The remainder of the building is in reasonable condition.

(c) Roof - the tiles are in good condition although one is missing near south east gable end. The galvanised iron gutter on the north east side is rusted through in many areas. Downpipes, timber barge boards and fascias are in reasonable condition.

(d) Interior - in reasonable condition.

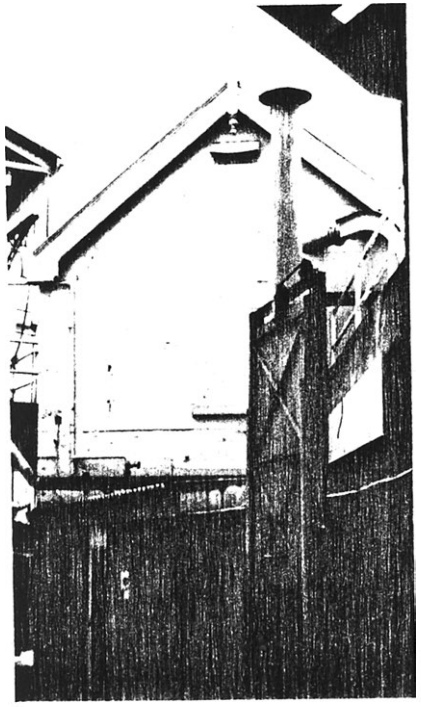


Figure 107 Building 98 from the South East

6.11 BUILDING 99: WORKSHOPS

6.11.1 Alterations from Original Design

(a) Building 96 has been added to east side and the two openings in the adjoining wall bricked up.

(b) Building 136 has been added to the east side and the enclosed windows to Building 99 modified.

(c) All ground floor windows have been enlarged and made rectangular.

(d) The former large door openings on the north side have been bricked up.

(e) Vents have been added to one first floor window on the east side and one on the west side.

(f) The four northern bays on the first floor east side have been substantially altered with original openings bricked up, new ones created and a variety of doors and windows added.

(g) A stair and external walkway have been added to the north side extending around corner and along part of east side.

(h) A window mounted air conditioning unit has been added to one ground floor window on the east side.

(i) Ground floor windows on the north side have been altered.

(j) Two doors have been installed in the north facade, are on the

Figure 108 East Side of Building 99

ground floor and the other on the first floor.

(k) The ridge ventilator has been partly sealed off.

(l) A small painted galvanised iron shed has been added to the east side.

(m) Pipes and other services have been fixed to all walls. This has resulted in holes being cut out of the entablature to permit the passage of pipes.

(n) The large doors on the west side have been altered incorporating standard sized doors and glazed panels.

(o) Several lightweight partitions and a stair have been added internally. Part of the northern end of the first floor now has a false ceiling.

(p) The roof is now sheeted in asbestos cement and a few gutter sections have been replaced in a different profile.

(q) The west side of the southern end has been completely opened out into the western extension of Building 95.

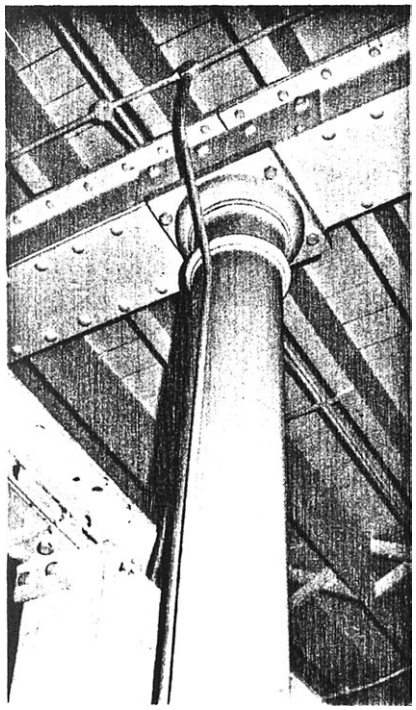


Figure 109 Internal View of Building 99

6.11.2 Present Condition

(a) Foundations - sound.

(b) External Walls - in good condition except the paintwork which is crazed and peeling off in several areas (east side ground

floor northern end, east side southern end above Building 96, west side pilasters around doors, west side southern end in the proximity of leaking steam pipe and to the north side).

(c) Windows - the frames are in good condition but the paintwork is poor and peeling off especially on west side.

(d) Doors - in satisfactory condition.

(e) Roof - the corrugated asbestos cement roof is in good condition although brittle. One section of the cast iron gutter on the west side is missing and a few sections are separating from each other on the east side. The painted asbestos cement and galvanised iron downpipes have lower sections damaged. In some cases on the east side the lower section of the downpipe is missing.

(f) Interior - in good condition.

(g) Other comments - a detailed structural analysis and report is included in Appendix 7(d).

The suspended floor live load capacity is 5kPa.

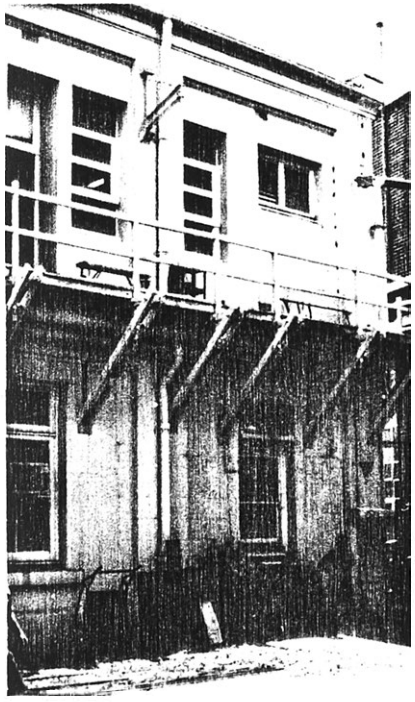


Figure 110 Building 99 East Side North Bay

6.11.3 Changes to Area Around Building 99

Except for the additions on the east side (Buildings 96 and 136) several buildings now occur between Building 99 and the western wharves

and thus encroach into the area. These buildings include Buildings 101, 128 and 97. Building 104 on the north now replaces the former Coal Stores and, being larger, is out of scale with Building 99.

6.11.4 Summary

Building is in fair condition but requires some maintenance work.

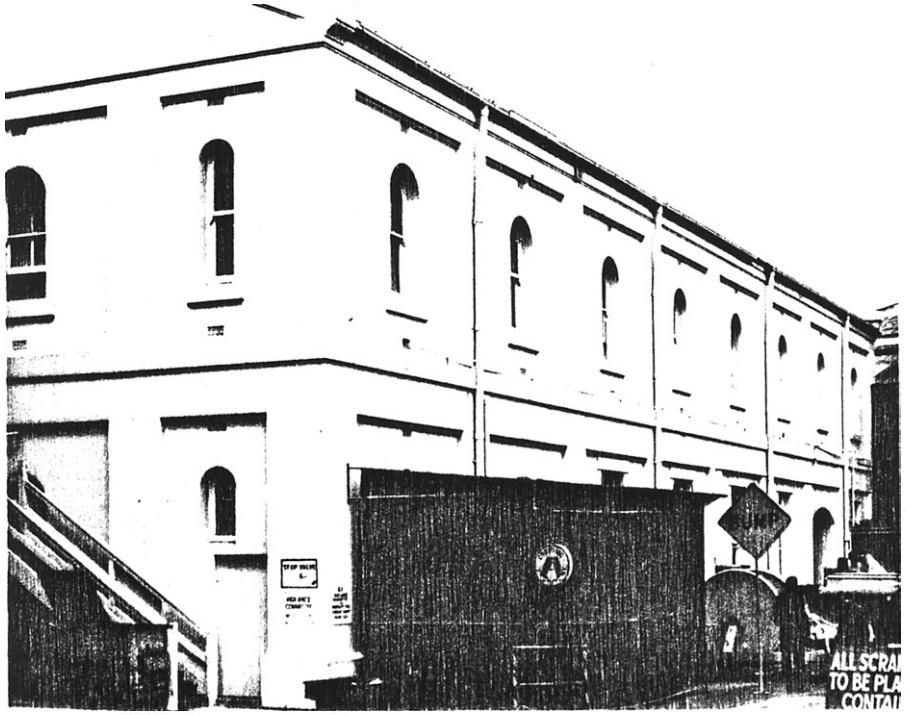


Figure 111 Building 99 from the North West

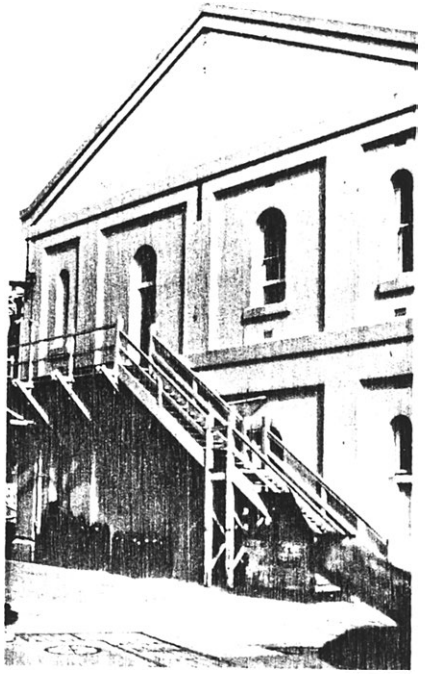


Figure 112 Northern Side of Building 99

6.12 BUILDING 9: PERSONNEL ADMINISTRATION BUILDING

The present condition of this building is set out below.

(a) Foundations - sound.

(b) External Walls - the brickwork is in good condition but the paint work is peeling off the asbestos cement clad tea room enclosing the south west corner of the verandah.

(c) Verandah - the floor timbers are beginning to rot. Paint is peeling off the few remaining timber posts, the balustrading near the south east corner, the pipe handrail between the brick columns and the handrail to the timber steps.

(d) Windows - the timber framed windows are in good condition. The sandstone sills and lintels on the ground floor are likewise in good condition. The rendered lintels on the first floor have crazed but are quite sound.

(e) Doors - in reasonable condition.

(f) Roof - the tiled roof, PVC gutter and downpipes are all in good condition. Downpipes discharge into an open channel directly onto the paving. Paintwork on the eaves lining is in fair condition.

(g) Interior - this consists of rendered masonry walls, timber

Figure 113 Building 9 from North West

skirtings, plaster ceilings with coverstrips, lightweight office partitioning and a simple attractive timber internal stair with timber balusters. Generally, it is in good condition although paint is flaking off some internal walls particularly in the stair hall.

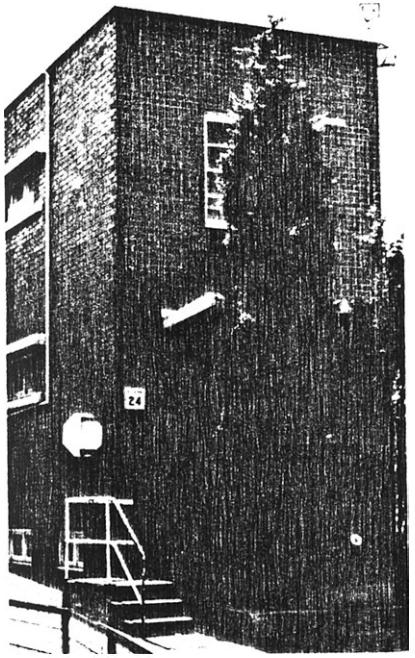


Figure 114 Building 24 from the South West

6.13 BUILDING 24: NAVAL POLICE TRAINING/DOCKYARD INDUSTRIAL OFFICE

Brickwork has cracked (mainly vertically) at all corners. The rendered sills are crazed but quite sound. Paint is flaking off the concrete projecting lintels.

Internally, paint is peeling off the ceiling above the stairs. It appears as if the damage is due to water penetration from the roof or cracked brickwork.

Other than the above the building appears to be in a satisfactory condition.

6.14 BUILDING 26: OFFICE, STORE AND AMENITIES

This building, except for a very minor amount of rust to the steel windows, is in good condition. The painted galvanised iron downpipes discharge into an open channel and one downpipe on the east side is

slightly damaged near ground level.

6.15 BUILDING 28: STORE AND MAS OFFICE

Paint is peeling off the 4 light sash double hung timber windows and the vent pipes near the north west corner. Several service pipes have been fixed to the north wall and, although presenting no problems, appear unsightly. Several joints in the sandstone parapet have opened up.

The suspended verandah on the east side is deteriorating in several areas. Steel work is rusting, paint is peeling off the asbestos cement ceiling lining and several cover strips on the ceiling are missing.

Brickwork is damaged on the ground floor south corner.

Other than the above problems the building appears to be in a satisfactory condition.

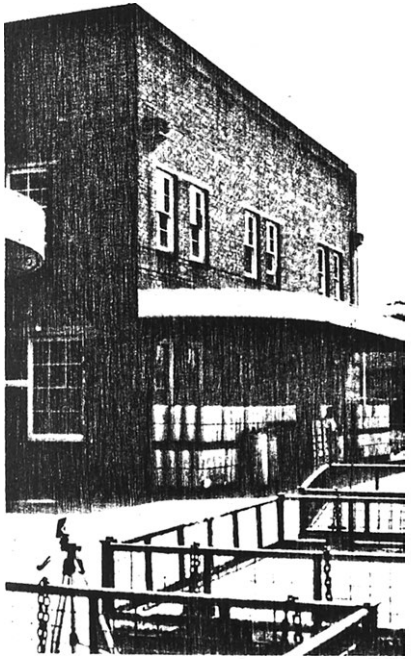


Figure 115 Building 28 from the South East

6.16 BUILDING 31: SIGNWRITERS SHOP

Alterations from the original design and present condition are covered in the Stage One Modernisation Proposals and are not discussed in this study.

6.17 BUILDING 37: RIGGING SHED AND CHAPEL

Alterations from the original design and present condition are covered in Stage One Modernisation Proposals. However, a detailed structural report and analysis can be found in Appendix 7(b).

6.18 BUILDING 86: · PLANT ELECTRICAL STORE

The south east corner of the roof has been cut back. The brickwork to the south east corner has been damaged slightly. Paintwork to the galvanised iron downpipes, timber eaves lining and the 12 light double hung timber windows are in reasonable condition.

Figure 116 Buildings 86 & 87 from the South

6.19 BUILDING 87: BATTERY SERVICING & ELECTRICAL SUBSTATION NO. 109

The projection concrete first floor slab is spalling at the south east corner and at the downpipe on the south side. Paint is peeling off the rendered wall on the east side near the south east corner, the window frames, the east side canopy of the south projection and the timber fascias. The single downpipe on the south side is damaged near the base.

Other than the above the building is in good condition.

6.20 BUILDING 90: RETURN STORE

The building is in good condition except for the points made below.

The sandstone cornice has moved and opened up the mitre joints at the south east and southern corners. The south east corner has a gap of about 40mm. Also the sandstone parapet coping has moved and most joints have opened up and several of the stones on the north side have shifted out.

Brickwork has cracked on the eastern end of the south wall at the top floor between the large door and corner. Brickwork has been damaged on the ground floor south east corner and on corners of unprotected openings.

The verandah has rusted in areas, the asbestos cement lining on the underside shows signs of water penetration and several of the cover strips are missing.

A number of cables, conduits and service pipes have been fixed to all walls.

One glass brick on the south side is smashed.

The box gutters to the flat roof are blocked up due to debris on the roof and water has penetrated to the inside resulting in deterioration of the painted walls internally.

A few ground floor brick walls have been damaged.

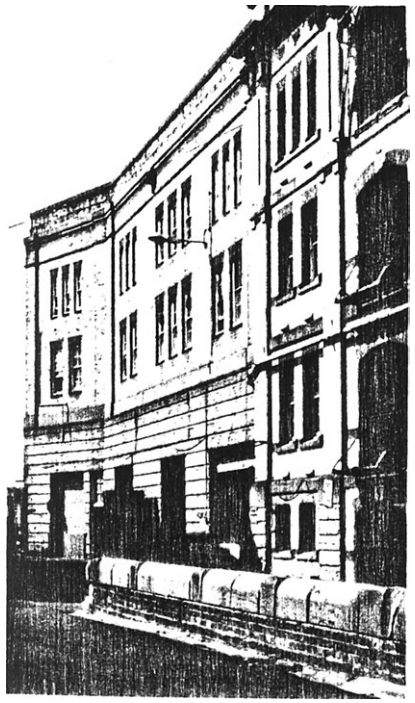


Figure 117 Building 90 from the North West

6.21 BUILDING 93: ELECTRICAL WORKSHOP

Generally, the condition of this building is reasonable although some areas have deteriorated.

Paint is peeling off most areas including windows, doors, eaves, eastern facade. Several corners at the lower levels have been damaged. Many pipes, cables and services have been added to all sides of the building especially the north. The cast iron downpipes on the south side have rusted.

The internal layout is congested and poorly arranged.

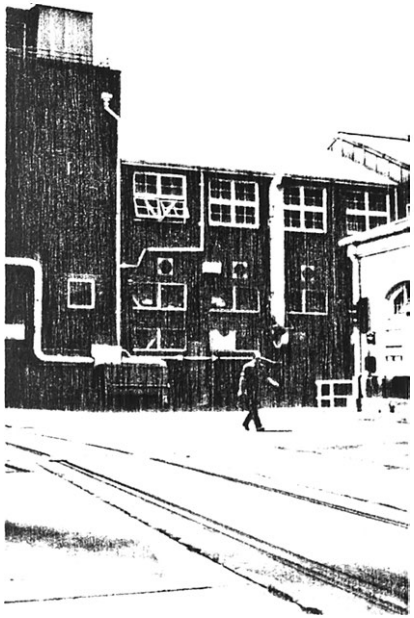


Figure 118 Building 93 from South West

6.22 BUILDING 100: TIMBER SHED

This building was in poor condition and its demolition was underway at the time of this report.

Timbers were rotten, metal work severely rusted and the roof damaged in several areas.

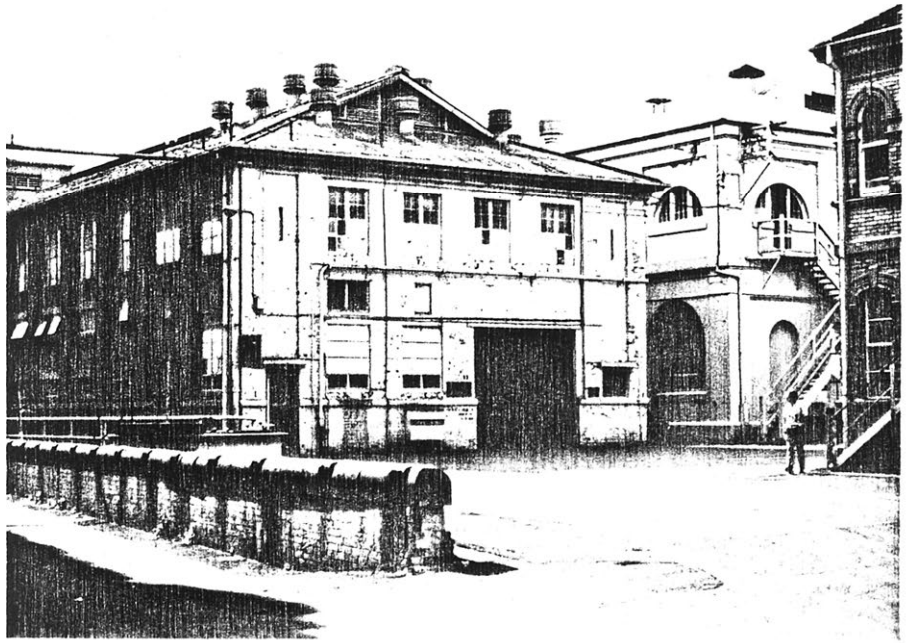
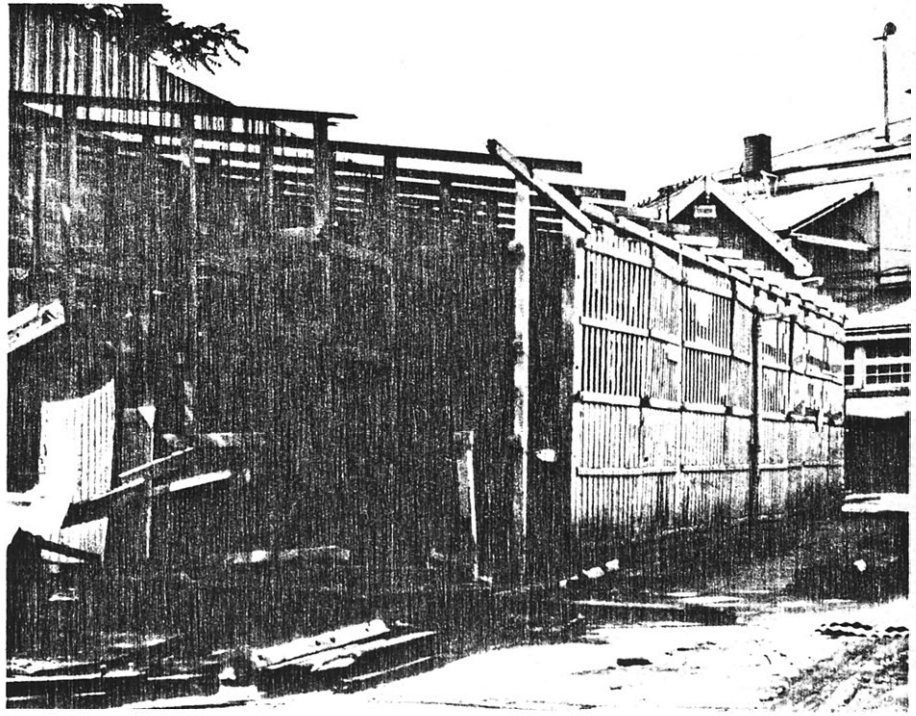


Figure 119 East side of Building 93

Figure 120 Building 100 from the North West



SECTION 7

MODERNISATION PROPOSALS

7.0 MODERNISATION PROPOSALS

7.1 INTRODUCTION

This section relates briefly the Modernisation Proposals suggested for the various buildings under consideration in this study.

The information contained in this section has been derived from:

(a) G.I.M.P.T. "Garden Island Modernisation Study Report", Volumes 1 - 10, May 1979.

(b) G.I.M.P.T. "Garden Island Modernisation - Draft and Final Environmental Impact Statement", 1979.

(c) The Department of Housing & Construction which has provided information on developments since 1979.

This information provides the background and a basis for the recommendations and conservation guidelines set out in section 8.

No discussion is included on those aspects of the Modernisation which do not have a direct bearing on the Precinct area studied.

When extracting the details from these references only those related to the scheme finally adopted have been mentioned. In 1979 there were two main schemes under consideration, but after the Environmental Impact Statement the Woolloomooloo Development Scheme was preferred

(and eventually adopted) to the Eastside Development Scheme.

The Stage One Proposals for the southern end of the precinct are also discussed briefly.

7.2 GENERAL ISSUES

7.2.1 Objectives of Modernisation

The main objectives of the Modernisation are:

(a) to improve the effectiveness and efficiency of the dockyard and fleet base;

(b) to separate the dockyard and fleet base activities and provide each with a capability of operating independently;

(c) to minimize undesirable effects on the environment and maximize the aesthetic appearance of Garden Island;

(d) to retain those historic buildings which can be usefully utilised after Modernisation.

7.2.2 Criteria for Planning

Throughout the reports several other planning criteria have been specified. These include:-

(a) Controlled public access would be permitted to the scenic or historic areas of Garden Island.

(b) Historic artifacts would be retained.

(c) Industrial activity in the northern section of the Island would be reduced.

(d) The new east side road would free the historic buildings group of vehicular traffic enabling a pedestrian precinct to be created with limited vehicular access into the area.

(e) The natural vegetation and harbourside landscapes to the northern knoll would be reinstated.

(f) The height of buildings on the flat, reclaimed section was limited to reinforce the natural form of the northern knoll and the Potts Point Headland and to reduce the conflict of scale with the Historic Buildings Group (refer Figure 121).

(g) The character of the Historic Precinct is to be enhanced by the removal of ancillary temporary buildings and unsympathetic additions.

(h) Restore Historic Buildings.

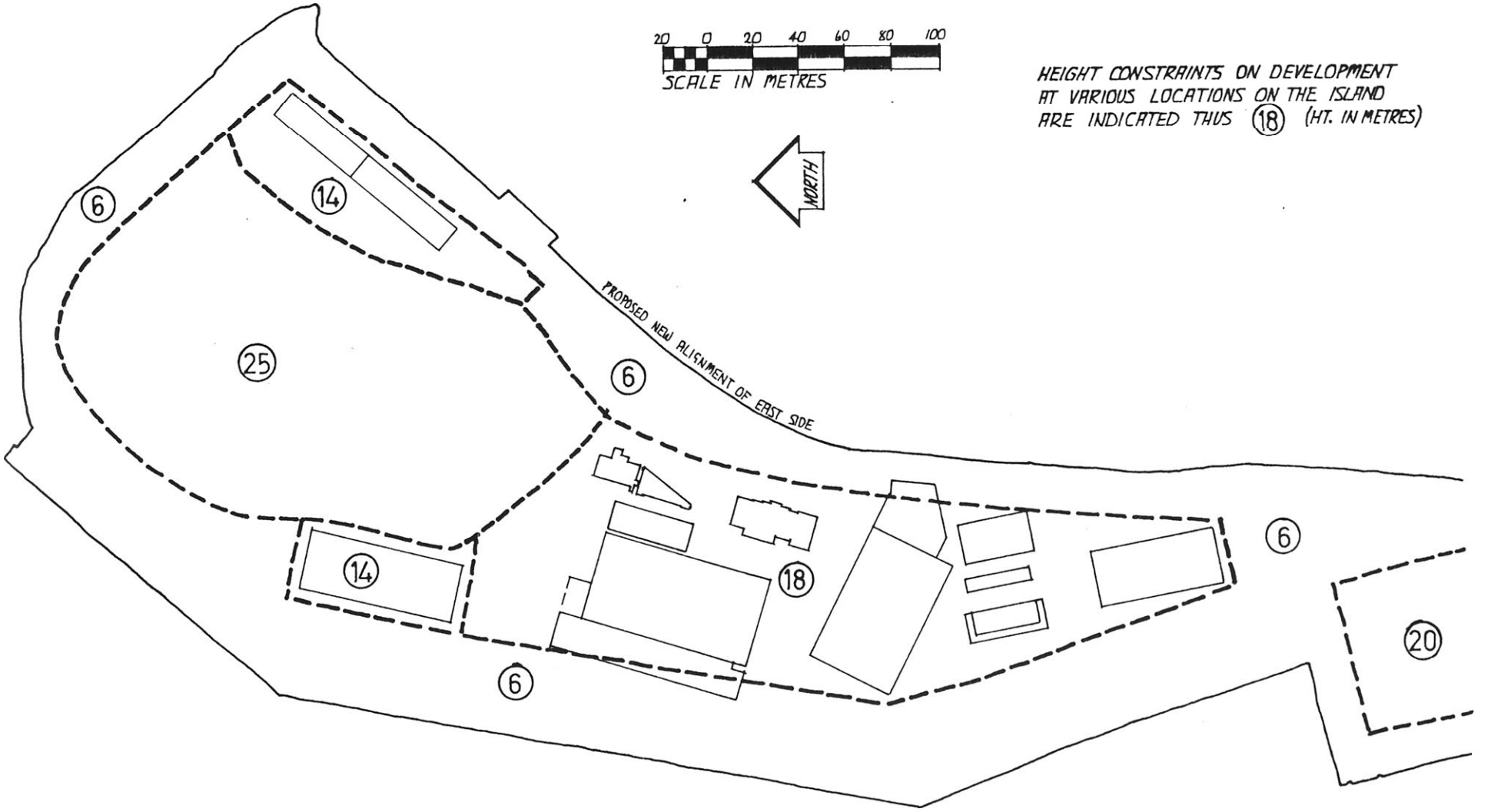


Figure 121 Height Constraints for Modernisation Proposals

7.3 OUTLINE OF WORK AND PROGRAM PROPOSED

The overall proposals, illustrated in Figure 123, include:

(a) Stage 1 - This included the design of several buildings around the Graving Dock up to and including refurbishing of Buildings 31 & 37. Also included were a car park in Woolloomooloo and a Utilities Building in the north east corner of the Island.

(b) Stage 2 - Work includes development of the Woolloomooloo Wharves, several new buildings around the Graving Dock, conversion of Buildings 30, 89/90, the east side road and landscape works throughout the Island.

Figure 124 shows the extent of work proposed in the Precinct area.

(c) The current program is illustrated in the table below.

	1980 J A S O N D	1981 J F M A M J J A S O N D	
STAGE ONE	. PWC*Hearing . Parliament adopts PWC Report . Documentation commences		
STAGE TWO	. Briefs prepared	. PWC Hearing . Parl. adopts PWC Report . Documentation commences	

* Parliamentary Works Committee

Figure 122 Table Outlining Modernisation Program

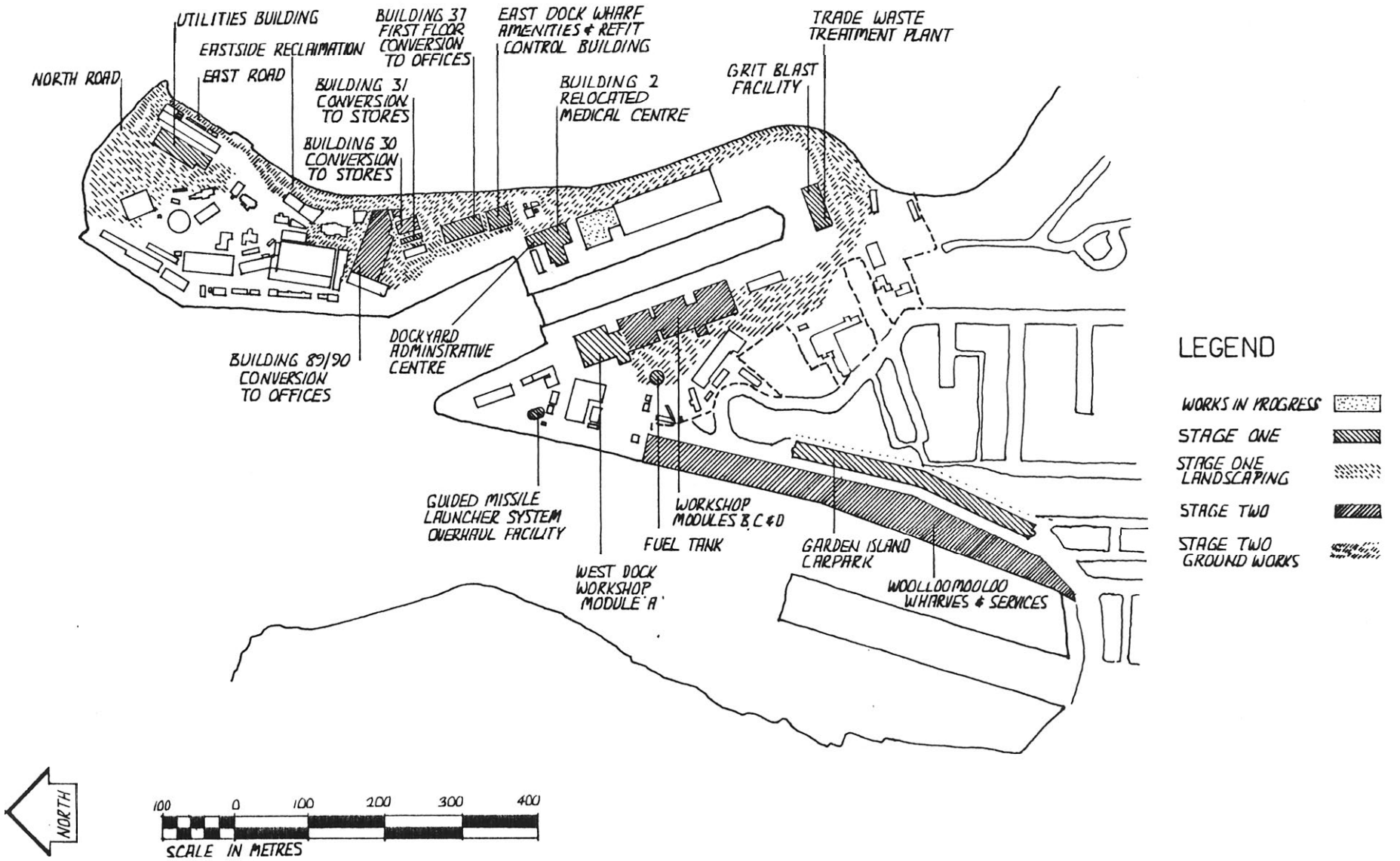


Figure 123 Site Plan Showing Modernisation Proposals

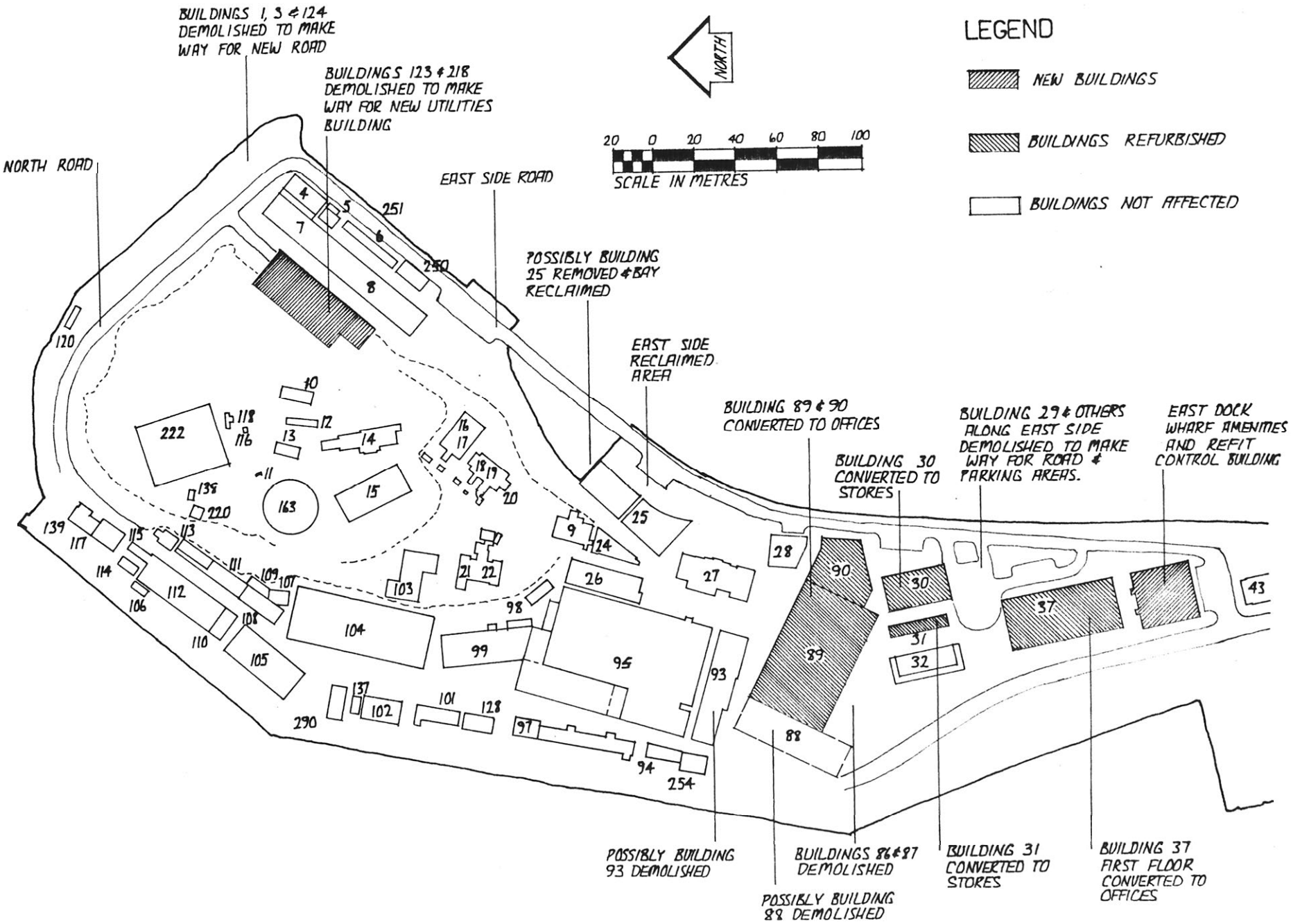


Figure 124 Modernisation Proposals in Precinct Area

7.4 SERVICING PROPOSALS

Two statements of a general nature made on services proposed within the precinct area are:

It is proposed to provide air conditioning plants operating a chilled water facility to new and existing office buildings.

New fuel tanks are proposed in the area of the existing tank. (The most recent and short term suggestion is to locate one new fuel tank west of the graving dock.)

7.5 COMMENTS MADE ON INDIVIDUAL BUILDINGS

All buildings were assessed for their architectural quality and long term proposals were suggested. However, the present situation is somewhat different from those recommended in 1979.

It was initially proposed to take a very academic approach to the Historic Buildings zone.[106] This included the removal of Buildings 28, 87, 93 and the western extension of Building 95 as they were seen as having poor and unappealing architecture which detracted from the visual appearance and enhancement of the area.

The proposed action relating to each building within the study area is outlined below.

7.5.1 Assessment of Buildings' Architectural Quality

Most buildings were categorized into one of three classes depending on their Architectural Quality. Some of the smaller buildings were not considered.

Class 1 High Architectural Quality - Buildings 7, 8, 27, 32, 37 and 89.

Class 2 Average or above average Architectural Quality visually acceptable or easily capable of being lifted to that standard - Buildings 16-22, 25 (part), 30, 31, 88, 95, 99.

Class 3 Little Architectural Quality, often visually unpleasant and with insensitive additions. Buildings 9, 24, 26, 28, 29, 87, 90, 93.

7.5.2 Future Use of Buildings

The future use of most buildings was suggested in the Modernisation Proposals. Most relate to the long term proposals.

Building 7 & 8 - to be continued as a light/medium duty workshop.

Building 9 - current usage retained.

Buildings 16-22 - current usage retained.

Building 24 - no comment made.

Building 25 - to be shifted from Garden Island. (A move is underway by the Department of Housing & Construction to have the building retained.)

Building 26 - to be used for painting, signwriting workshops, store and amenities.

Building 27 - current usage retained.

Building 28 - no comment made.

Building 29 - to be removed in later developments.

Building 30 - to be used as a RSF layapart store and ready use store.

Building 31 - to be converted into refitting ships' cooking facilities.

Building 32 - to be converted into refitting ships' cafeteria, ships' offices, duty watch sleeping accommodation and amenities.

Building 34 - to be removed.

Building 37 - existing function to be continued.

Building 86 - to be removed in developing the Island Centre area.

Building 87 - to be removed in developing Historic Buildings Zone.

Building 88 - some suggestions have been made to use this building as a medium duty workshop but, as it interferes with vehicular movement, current proposals are to demolish the building entirely.

Building 89 - the existing building has become unsuitable for modern

industrial activities because of inadequate ground floor headroom, inaccessibility for trucks and forklifts and restrictions on use by the existing layout. The building does not comply with current fire protection codes. Initial proposals for the building were that it was to be recycled as an Officer Recreation and Amenities Centre. Revised proposals are that it is to become an office building only.

Building 90 - current usage modified along with Building 89.

Building 93 - excessively congested. Proposed to relocate facilities and eventually demolish the building.

Building 95 - current use to be maintained although it requires rationalising and upgrading. The electrical substation function is to be relocated. Some thought has been given to keeping the cafeteria and using it as a light duty workshop.

Building 96 - to be removed in the long term.

Building 98 - to be removed in the long term.

Building 99 - proposed to use it as offices and amenities for the Fleet or Dockyard or, possibly, as a frontline workshop/store for ships at the cruiser wharf.

7.6 PRESENT SITUATION

Although certain long term proposals were outlined in the GIMPT Report, the current modernisation plans exclude any detailed work to Buildings 7, 8, 9, 16-22, 24, 26, 27, 28, 32, 88, 93, 95, 98 and 99. Some of these may be considered in longer term proposals.

Certain minor work will continue as ongoing maintenance but no major work has been budgeted for. However, section 8 of this study sets out guidelines for the conservation action which should be considered.

7.7 STAGE ONE PROPOSALS IN THE PRECINCT AREA

This includes work to Buildings 37 & 31 and the new East Dock Wharf Refit and Amenities Building.

The proposals were prepared by Architects Philip Cox and Partners.

The basic details from the report prepared for the Parliamentary Standing Committee on Public Works in May 1980 relating to Buildings 37 & 31 are set out below.

"Building No. 37, which is an historic building listed on the Register of the National Estate, is to be partially restored by the removal of the external staircases. The first floor is to be refurbished to provide temporary office space and an additional

small chapel and sacristy. New internal fire escape stairs are to constructed.

The exterior of the building is to be painted in colours of the 19th century.

Building No. 31, which is also an historic building listed on the Register of the National Estate, is to be restored externally and fitted out internally to provide store facilities such as cool room, provisions room and clothing store. The historic link-way between this building and Building 32 is to be restored.

Electrical services to Buildings No. 37 and 31 include new main switchboard, lighting, general power, telephone ducting and equipment power supply.

Mechanical services include a coolroom installation and full air conditioning to the Provision Store in Building No. 31 and mechanical exhaust to the new toilets in Building No. 37."

Figures 125 - 128 provide the basic details of these proposals.

7.8 COMMENTS ON STAGE ONE PROPOSALS

The Historic Buildings Nos. 31 and 37 are well handled and are sympathetically treated.

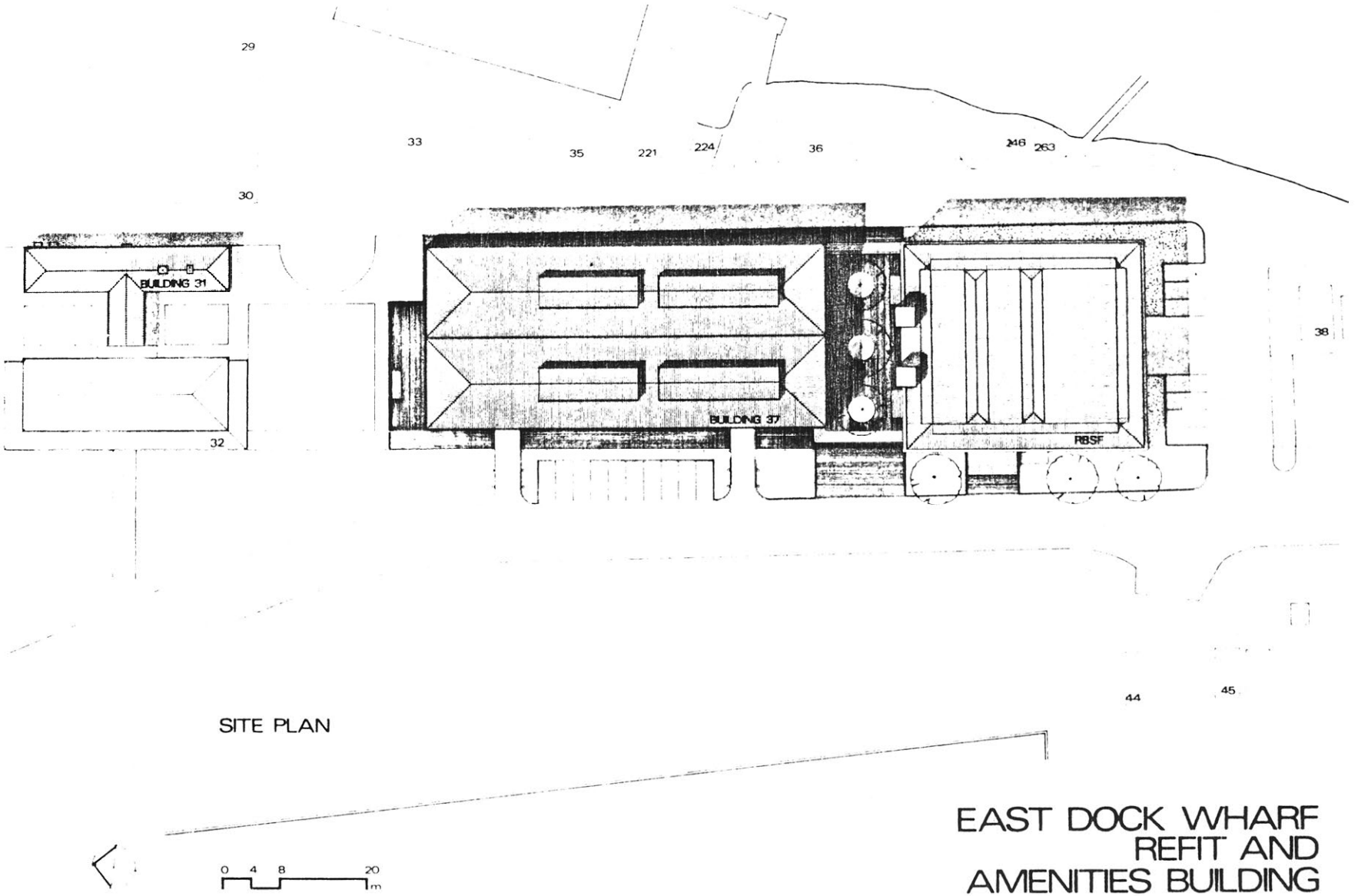
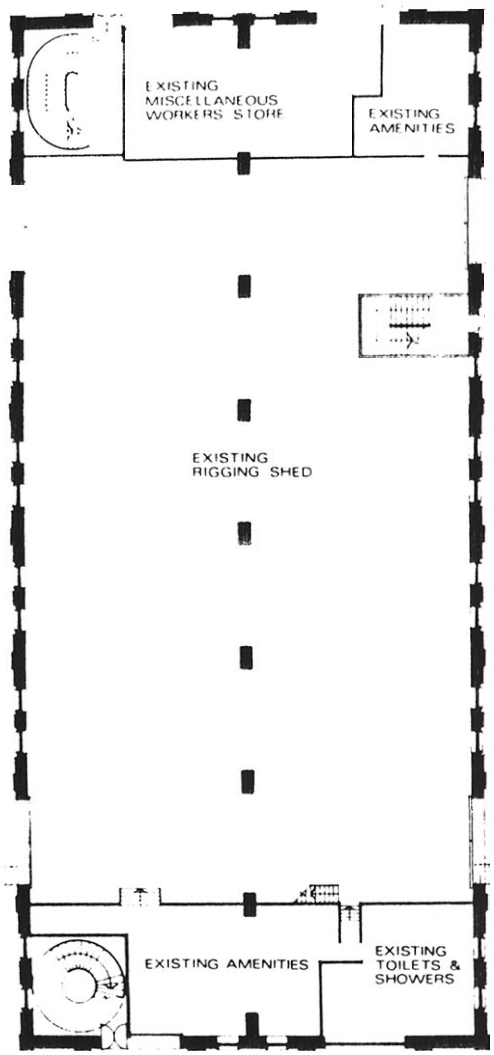
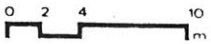
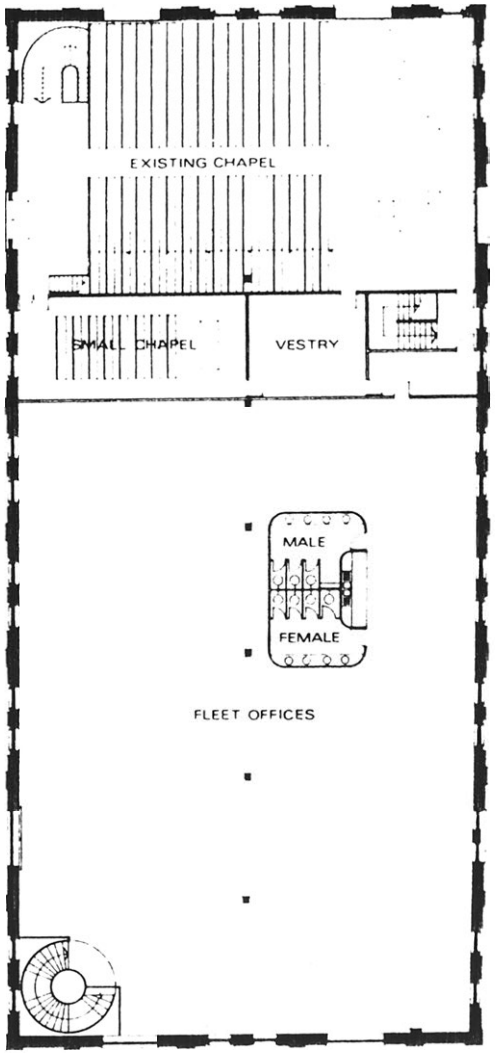


Figure 125 Site Plan for East Dock Wharf Building



GROUND FLOOR PLAN





FIRST FLOOR PLAN

ALTERATIONS : BUILDING 37

Figure 126 Plans of the Proposed Alterations to Building 37

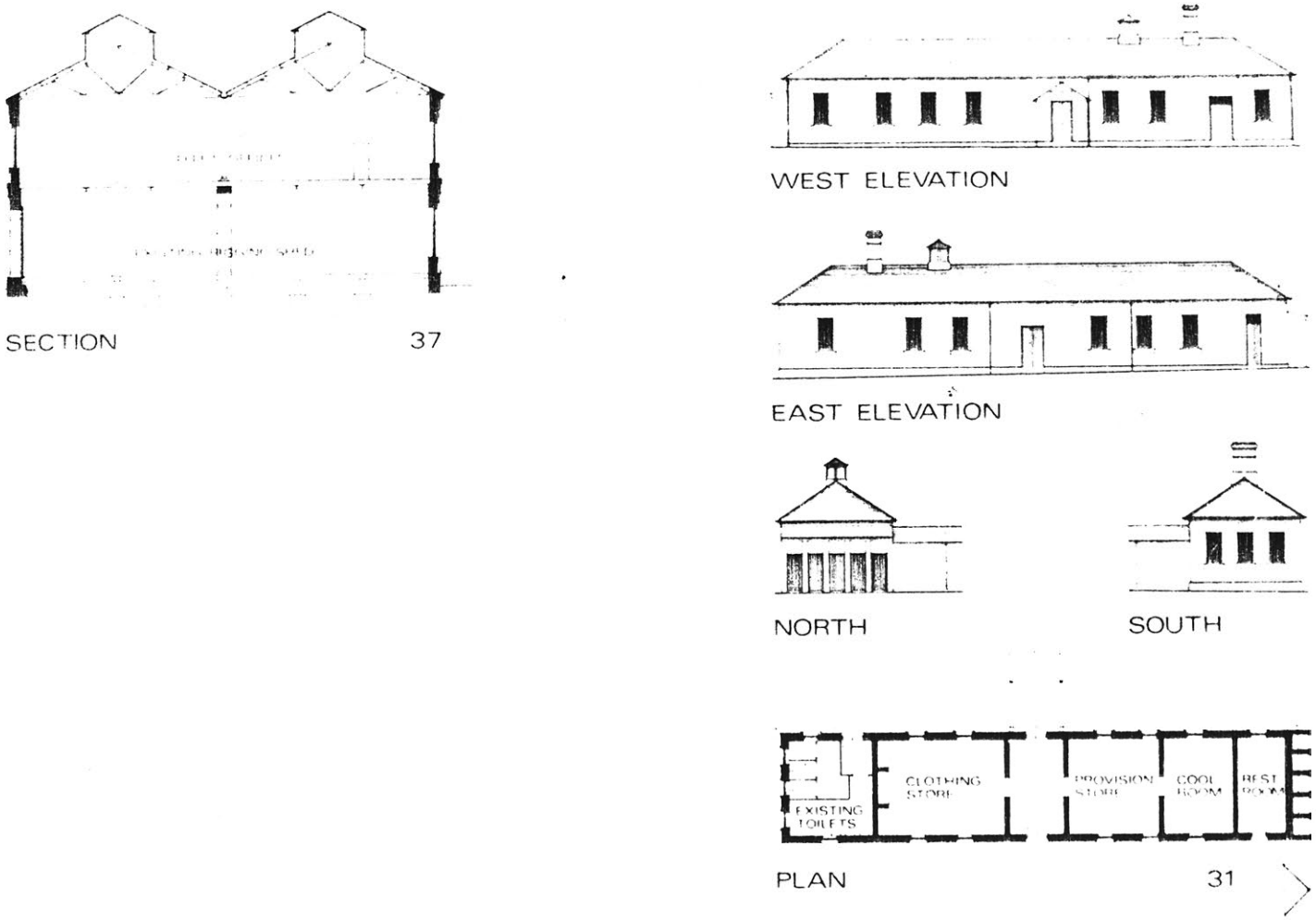


Figure 127 Proposed Alterations to Buildings 37 and 31

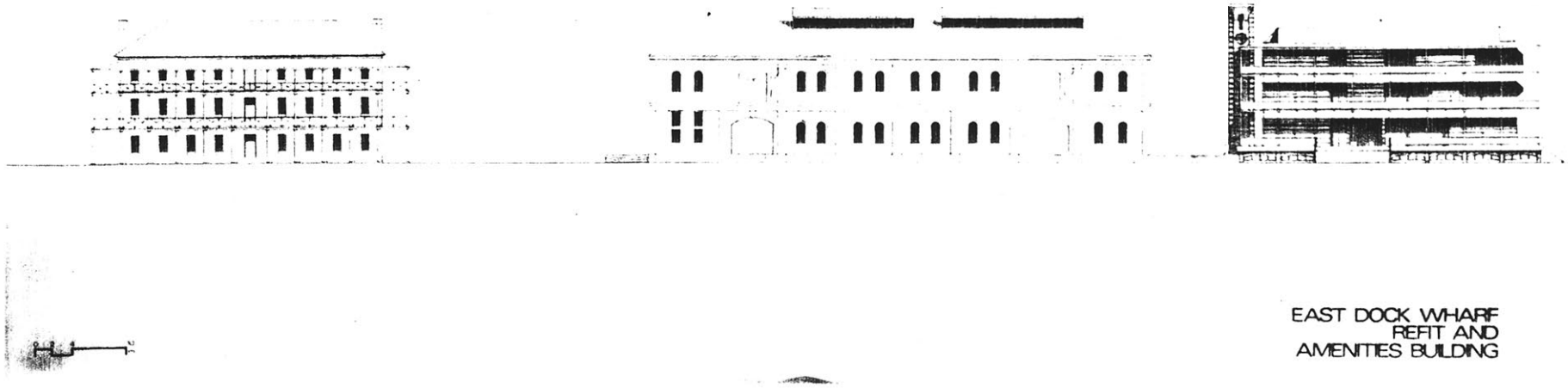


Figure 128 West Elevation of Buildings 32 and 37, and the New East Rock Wharf Building

General recommendations made elsewhere in this study should be considered in the final detailed treatment of the building (e.g. paint colours proposed).

The East Dock Wharf Refit and Amenities Building provide an appropriate link, in terms of scale, proportion and relationship, between the Historic Buildings and those buildings around the Captain Cook Graving Dock.

However, a few comments are made on the proposed building.

With its location and basic form it relates primarliy to the Barracks (No. 32) but the flat arched windows and polychrome brickwork relate more to the Naval Stores, Building 89. This mix of styles and relationships appears a little incongrous.

From coloured drawings seen, the predominant colour is red with trimmings in a lighter brick. Many of the other brick buildings on the Island are a light colour with red brick trimmings or sandstone dressings. A change in the proportional mix of colours in the new building could assist in the building's relationship to the Historic Buildings.

All in all the new building appears as an individual solution which works well.

SECTION 8

RECOMMENDATIONS AND CONSERVATION GUIDELINES

8.0 RECOMMENDATIONS & CONSERVATION GUIDELINES

8.1 INTRODUCTION

This section contains a number of recommendations relating to the conservation of the buildings in the Historic Precinct on Garden Island.

These recommendations are divided into three main areas. Firstly, those arising from the historical research undertaken for this study; secondly, conservation principles for the Precinct in general; and thirdly, specific criteria for conservation of the individual buildings in the Precinct. Where more than one recommendation is made then these are presented in order of priority.

All these culminate in a management plan for the conservation of this important group of buildings.

8.2 RECOMMENDATIONS STEMMING FROM HISTORICAL RESEARCH

Much of the existing documentation about Garden Island and the buildings on it was found to be inadequate and often inaccurate. The following recommendations arose from historical research undertaken for this study.

8.2.1 National Trust of Australia (NSW) Register

The National Trust Register should be corrected and completed.

Many details about the buildings are inaccurate, insufficient or not provided. As this is frequently an initial starting point for people seeking information, it is imperative that the information be as accurate as possible.

The buildings listed specifically by the National Trust within the Precinct include almost all the nineteenth century buildings on the Island. The only ones excluded are Building 9, which has been substantially altered, Building 96, a very small building of minor individual significance and which contributed little to the whole and Building 100, a simple timber shed which is currently being demolished.

8.2.2 Australian Heritage Commission Register of the National Estate

(a) Information on the Register of the National Estate should be corrected and completed.

Many details on Garden Island and the buildings thereon are not provided. The Australian Heritage Commission is responsible for the conservation of places on the Register and should have accurate information.

(b) Place on the Register those buildings which were on the Interim Register but were objected to and thus were not included on the Final Register.

This includes:	Building 88	Battery Shed
	Buildings 16-20	Residences Group
	Buildings 21 & 22	Two Residences

The 'Two Residences' were part of the 'Residences Group' but should be separated as they are in different styles and were constructed several years apart. Buildings 21 & 22 are the oldest existing buildings on the Island and as such should be individually listed. (Refer section 8.5 of this report for the significance of these buildings and reasons why they should be placed on the Register.)

(c) The following Buildings should be listed individually on the Register of the National Estate.

Building 99	Factory
Building 25	Boat Shed
Building 98	Core Shop
Buildings 7 & 8	Fibreglass & Boatbuilding Workshop, Weapons' Equipment Store

(Refer to section 8.5 of this report for the significance of these buildings and reasons why they should be placed on the Register.)

(d) The following items of significance should be included on the Register of the National Estate.

Two incised rocks - the only extant evidence of the first settlers in Australia. (Refer Figure 4 and Appendix 1 for details.)

View of Buildings No. 37 and 32 from Woolloomooloo.

View of Building No. 37 from the east.

View of Building No. 27 from the east.

Views of Buildings Nos. 89, 27 and 95 from Office Square and Stores Lane.

The buildings mentioned are the main historical assets on the Island and the views mentioned have remained dominant, important and relatively unaltered since the early development of the Naval Base. The view of Building 95 from Stores Lane has suffered badly from the inclusion of Building 93. The possible removal of Building 93 is discussed further in section 8.5.19.

8.2.3 Other Points

(a) Signs located on the Buildings and in the Precinct area displaying historical information should be corrected and extended.

The practice of having signs on the buildings and other assets is to be commended as it brings a sense of history and pride to the employees on the Island and visitors to it. The recommended details for the signs is given in Appendix 8.

(b) As the use of some buildings has changed over the years and will continue to change in the future it is recommended that:

The Historic Buildings should be known by their original names.

(c) Key items of Engineering Heritage should be included on the National Trust Archaeological Register, the Register of the National Estate and the Australian Institute of Engineer's Register of Engineering Heritage.

Those items considered of most significance are:

(i) The mechanically operated clock in the tower of the Office Building (Building 27). This is one of the few fully mechanically operated, four faced clocks remaining in Sydney. The original mechanism is still operational and has been well maintained.

(ii) The water operated hydraulic Whips in the Naval Stores (Building 89) is one of the last water operated hydraulic hoisting apparatus remaining in Sydney.

(iii) The oil tank (Asset 163), constructed in 1916 is one of the first of its kind in Australia (possibly the very first).

8.3 GUIDELINES FOR CONSERVATION OF PRECINCT

8.3.1 Significance

The Precinct on Garden Island is significant because of several facts. (The significance of individual buildings is discussed in section 8.5.)

(a) It is an historic site having a history bound up with the growth of the Colony from its earliest time.

(b) It has played a major part in the development of the Royal Australian Navy.

(c) Most of the original naval station buildings remain thereby forming a unified group hardly surpassed in the world.

(d) The historic buildings remain important architectural reminders of British naval tradition translated in Australia.

8.3.2 General Philosophy

The most important issue here is that the integrity of the Island must not be compromised.

The Precinct is such a valuable and significant asset that the Australian Government should, through the Department of Defence (Navy), conserve it and exemplify what can be done with such an asset.

To maintain the Island's integrity certain objectives of the modernisation proposals are restated and emphasized:

(a) to minimize undesirable effects on the environment and maximize the aesthetic appearance on Garden Island;

(b) the character of the Historic Precinct is to be enhanced by the removal of ancillary temporary buildings and unsympathetic additions.

These are critical for the general philosophy for the conservation of individual buildings as well as the Precinct.

8.3.3 Major Recommendations

(a) Historic Buildings with the Precinct should be included in current proposals and undergo immediate consideration and upgrading.

It is alarming that the current Modernisation Proposals,

aimed at improving the efficiency of the dockyard and conserving its historic assets, are not proposing to execute any detailed work on many of the buildings. Buildings not included in current work include Nos.7 & 8, 9, 16-22, 27, 32, 88, 95, 98 and 99.

Most of these buildings are currently inefficient, but, even with an aim of rationalising functions within the dockyard, no allowance has been made for upgrading these facilities.

Some buildings at present house activities which are to be relocated but no real thought and, more importantly, no money has been allocated for considering the immediate future of these buildings.

In order to carry out this recommendation the following action is suggested:

(i) Adopt a management plan for the conservation of the Historic Buildings (one is suggested in section 8.6 of this report).

(ii) Obtain support in principle for the action proposed and agreement to a financial committment by the Government.

(iii) Prepare detailed proposals for the future use of the buildings in line with recommendations made in this report.

(iv) Obtain approval to execute the work proposed.

(v) Carry out the work.

It is clear that the money required to carry out work to conserve these assets would be small in comparison with the total cost of the work included in current Modernisation Proposals.

Work on these buildings would lead to a more efficient dockyard and an enhancement of the historic buildings, both considered important by the Modernisation Plannign Team.

Without the conservation work recommended, the public will have been shortchanged since the basic proposals were included in public documents (e.g. Environmental Impact Statement) in the preliminary planning stage and formed part of the adopted policy.

These public documents must not be used as a means to suggest that all due care will be exercised yet critical items end up being omitted.

(b) A regular inspection should be implemented and maintenance work executed quickly and sympathetically under expert guidance and control.

Maintenance is the means of preservation of these historic assets. Generally, buildings on Garden Island are quite well maintained but certain obvious work often takes some time to be executed and this leads to increased deterioration of the assets.

Examples of this are the rusting out of gutters and downpipes (Building 95 and 98), sections of gutters and downpipes are not replaced when they are damaged or removed (Building 99) and gutters become blocked and water enters the building (Building 90).

Another important aspect of this recommendation is that the work should be executed sympathetically. Usually this is done, but not always, and it must be emphasized to all tradesmen caring for these buildings.

Professional advice is required to ensure appropriate conservation of these buildings.

8.4 GENERAL PRINCIPLES FOR CONSERVATION ACTION

8.4.1 Buildings

Several general recommendations and guiding principles are set out before the buildings are considered individually.

The fabric of the buildings is generally sound but some rationalisation of the internal spaces will be required to meet the projected demands of the Navy.

These future demands need not conflict with the existing buildings

if handled with care and executed sympathetically.

The best means of conservation of this valuable asset is to ensure the effective use of the buildings concerned. The Island has been, and is to continue to be, used as a Naval Dockyard so the continued use of the buildings should be possible and economical.

Guiding Principles for Conservation are outlined below.

(a) All conservation action should be executed strictly in accordance with the guidelines set out by Australia ICOMOS in the 'Burra Charter'.

(b) Before any action occurs to any of the Historic Buildings a detailed record of the building must be made.

This report provides a study of the physical documentary and other evidence available, but should be followed up with a detailed photographic and measured study.

(c) Only the highest quality of professionals, experienced in conservation work, should be employed to carry out the detailed proposals for the Historic Buildings.

(d) Unsympathetic alterations should be removed and the buildings either restored to original details or sympathetically modified.

Part of the unsympathetic treatment mentioned is the general proliferation of services fixed to the face of the buildings. This should be removed or at least rationalized.

Very little reconstruction work to any of the Buildings is necessary.

Significant elements must be respected at all times and not be compromised especially any adaptation of use.

(e) Basic details for buildings should be consistent with, similar to and in sympathy with the original.

This applies particularly to gutters, downpipes and similar details which currently vary considerably on some buildings.

(f) A nineteenth century colour scheme should be adopted for the Buildings in the Precinct area.

Appendix 9 provides an analysis of existing paint samples and an investigation into the original colour schemes. From this an appropriate scheme is suggested in Appendix 10.

(g) Any air conditioning proposals of Historic Buildings to be exercised with extreme care.

This proposal must be questioned as the existing Office Buildings (Building 27 in particular) have performed satisfactorily for many years,

although not air conditioned.

The impact on the existing building and the energy usage are further questions to be carefully considered.

(h) A suitable maintenance program should be implemented and controlled.

This is discussed further in section 8.6 of this report.

8.4.2 Landscaping

Landscaping has always been appreciated as one of the assets of Garden Island. One of the planning criteria set by the Garden Island Modernisation Planning Team was to 'reinstate the natural vegetation and harbourside landscapes to the northern knoll.'

The proposal to reduce vehicular traffic to Office Square and develop it primarily for pedestrians is commended as this can assist in enhancing the Historic Buildings, provide a place for the display of some of the many artifacts on the Island and serve the needs of the users once Building 89 is converted to offices.

To enhance the Precinct and the buildings therein the following principles are set for the landscaping work.

(a) Landscaping must reinforce the Historic Buildings and maintain the

views considered important by the Australian Heritage Commission free of heavy tree planting and car parks.

(b) Landscape should be functional and simple to reinforce the utilitarian design of the dockyard and the Historic Buildings.

(c) Landscaping must not pose threats to the buildings.

This includes such things as falling paving away from buildings and keeping planting away from buildings. Water penetration of the building fabric could lead to rising damp problems as most buildings do not have damp proof courses.

(d) Paving materials, lighting, furniture must be sympathetic to the nineteenth century building.

(e) Trees and Shrubs should be native to the area.

(f) Remove Building 93.

This is discussed further in section 8.5.19 of this report.

8.4.3 Public Access to the Historic Precinct

One issue raised in the Environmental Impace Statement was public access to the Island.

At present access to the Island can be arranged by invitation, although public displays of various ships usually occur monthly.

With such an important asset, and one on the Register of the National Estate, a greater opportunity for the public to see the historic aspects of the dockyard should be permitted.

Security is important at Defence Establishments and poses certain constraints. However, these can be overcome and still permit the public to appreciate the dockyard's history and important buildings.

A recommended arrangement is:

On the regular public inspection days the public could be permitted to walk through parts of the old Island seeing many of the Historic Buildings and artifacts as well as the ships on display.

This should not be too difficult to arrange or police and could be treated as a worthwhile public relations exercise by the Navy.

8.5 INDIVIDUAL BUILDINGS

This section includes a statement of the significance of the individual buildings and recommends criteria for their individual conservation.

The Historic Buildings themselves are discussed in depth and some

comments are made on the other buildings in the Precinct area.

8.5.1 Building 7 & 8: Gun Mounting Store

(a) SIGNIFICANCE: This building is a fine example of early twentieth light industrial building of simple form and pleasing proportions. It is consistent with the utilitarian nature adopted with the original naval station and represents another phase in the development of the Island. It is one of the few buildings on the Island constructed from needs arising from Australia's participation in World War I.

(b) FUTURE USE: The continued use as a light/medium duty workshop is considered to be sympathetic with the building.

(c) MAINTENANCE WORK REQUIRED IMMEDIATELY: To prevent the deterioration of this building the following preservation work is urgently required.

(i) Repair smashed and broken windows.

(ii) Replace damaged downpipes.

(iii) Replace damaged barge capping.

(iv) Repaint all painted areas.

(v) Provide a cover flashing over gaps between gutters.

(d) CONSERVATION INITIATIVES RECOMMENDED:

(i) Remove unsympathetic additional and nearby buildings.

To incorporate the east side road in Stage Two of Modernisation, Buildings 1, 3 and 124 are to be removed. However, Buildings 4, 5, 6, 250, 251 and the timber store on the south (Building 208) are to remain. These buildings are an inharmonious mixture of style, size, shape and materials and conflict with Buildings 7 & 8 (see Figure 72). They also detract from what could become the principle view of Building 7 & 8 as it is difficult to appreciate the elevations from the narrow east road.

(ii) Remove external stairs on the east and west sides, incorporating internal stairs as necessary and restore the external fabric of the building.

(iii) Reinstate modified window openings on east side.

This refers to items 6.1.1 (g) and (i).

(iv) Reinstate circular timber ventilators to the gable ends.

(e) OTHER POINTS: Many of the minor changes are insignificant, but they are not encouraged and should not be perpetrated. These include small external doors, minor modifications to windows to incorporate louvres, casement windows and exhaust fans and additional small roof ventilators.

The sprinkler valve shed can remain as, in its present form, it can be easily removed and is a better solution than recessing the valves into one of the bays.

The internal modifications have not been very extensive, are able to be removed reasonably easily and do not greatly impair an appreciation of the original spaces.

8.5.2 Buildings 16-20: Residences Group

(a) SIGNIFICANCE: The residences in this group are very fine examples of Federation styled residences which have had a unique relationship with the industrial character of the Island.

(b) FUTURE USE: The current usage as residences is to be retained.

(c) CONSERVATION INITIATIVES RECOMMENDED:

(i) Remove the paint from the brickwork and sandstone.

This is occurring by natural processes and if left for longer periods will become more extensive and minimize the need for applied stripping solutions or abrasives. Without this a true appreciation of these buildings is not possible.

(ii) *Remove infill to balconies and restore the buildings.* This is particularly important on the eastern side which is in front of the buildings and principal view.

(iii) *Restore the timber detailing and finials to the gable ends.*

(iv) *Remove the northern extension to Building 18 and restore the building, or rebuild a sympathetic extension.* This extension is quite unsympathetic with the rest of the building.

(v) *Replace the timber fence to the Buildings (especially Building 16 & 17) with one similar to the original fence.*

(d) OTHER POINTS: The various outbuildings added to west of the residences are not dominant, can be removed easily and in many ways add to the character of the group of residences. These can be

retained without affecting the cultural significance of the place.

No comment has been made on the interiors as they have not been seen by the author. However, they should be conserved, in a unified manner, retaining nineteenth century detailing and materials: Within the basic fabric modernisation can occur if handled well.

8.5.3 Building 21 & 22: Two Residences

(a) SIGNIFICANCE: This building is the oldest building existing on the Island and, as with the Residences Group, has had a unique relationship with the industrial character of the Island. The residences are simply styled and provide an interesting link with the utilitarian approach to the design of the original naval station. As they originally housed overseers, they have played an important role in the development of the early naval base.

(b) FUTURE USE: The current usage as residences is to be continued.

(c) CONSERVATION INITIATIVES RECOMMENDED:

(i) Remove enclosures to the western verandahs.

Although rarely seen these conflict with each other and with the original house. They also prevent adequate natural light reaching the internal room.

Current uses of these rooms are as a small tight dining room in Residence 21 and a storage type room with a sloping floor in Residence 22. Therefore the loss of amenity is clearly insignificant.

(ii) Connect downpipes to the stormwater network.

(iii) The basic fabric of internal rooms (ceilings, cornices, skirtings, architraves, windows and doors) should be made consistent with details of the original building.

(iv) Replace the asbestos cement clad eastern walls with rendered masonry walls sympathetic to the original structure.

The original house would be inadequate to meet modern standards of space requirements, but the extensions that have occurred have not been in keeping with the original building.

(v) The picket fence should be replaced with one similar to original details.

(vi) The demolished chimney near the north east corner should be reconstructed.

(e) OTHER POINTS: It is extremely unfortunate that the current (October 1980) modernisation of Residence 22 is quite extensive while showing little concern for the continuation and maintenance of the original details. This building is significant and such action should not occur.

These residences have suffered from being faced west with the only entrance from the east. Modern garages and efforts to screen service rooms have greatly restricted the best appreciation of this building.

No simple answer is possible as this situation has been part of the history of the Residences. Lowering the garages to a minimum height could assist by reducing their scale to relate to the other outbuildings. Also, the removal of some of the screen walls to Residence 21 should be encouraged.

When the roof is next replaced, corrugated galvanised iron is recommended.

8.5.4 Building 25: Boat Shed

(a) SIGNIFICANCE: This building is a fine example of a timber Federation styled building which, because of its construction and details, illustrates the ingenuity and technology of the period very well.

It is the only building providing a direct link with the water as it is located on the shore of the original island.

(b) FUTURE USE: This has not been defined as the building is under threat of being removed or isolated from the water.

(c) CONSERVATION INITIATIVES RECOMMENDED:

(i) Retain the building and its link with the water.

The link to the water should not pose many problems since the proposed east side road can bridge a small bay serving the boat shed.

(ii) Restore the sill detailing to the north wall and replace smashed windows.

(iii) Remove the northern extension to the original building.

This extension is reasonably sound at the moment so this

recommendation should be a long term aim. The extension is showing signs of deterioration, conflicts in scale with the original structure's relationship to, or view from, the water.

(d) OTHER POINTS: The eastern extensions are in sympathy with the original building and should remain.
Any future use and adaptation should maintain a full exposure of the structure in the main area.
Assuming that its use as a boat shed will not continue, it could possibly be used to house one of the functions currently in Buildings 4, 5, 6, 250 or 251. These buildings are recommended for demolition (see section 8.5.1 (d) (i)).
The sprinkler valve shed can remain in its present form (refer similar situation for Building 7 & 8 in section 8.5.1(e)).

8.5.5 Building 27: Office Building

(a) SIGNIFICANCE: This building is a fine example of a small Victorian Office Building and its adaptation and extension to suit the growing needs of the Australian Navy. It has many fine details internally, including the stairs, main entrance,

stair hall, corridors and many individual doors. It also includes a finely detailed tower housing the original mechanically operated clock.

Furthermore, the building has remained the main administration centre for Garden Island, and was once the headquarters for the Royal Navy in the Pacific.

(b) FUTURE USE: The current usage as an office building is to be retained.

(c) MAINTENANCE WORK REQUIRED IMMEDIATELY: To prevent the deterioration of this building the following preservation work is urgently required.

(i) Replace damaged section of downpipe on west side.

(ii) Repair sandstone.

(iii) Provide a cover flashing over gaps between gutters.

(iv) Replace cracked glass.

(v) Repaint flag pole.

(d) <u>CONSERVATION INITIATIVES RECOMMENDED</u>

(i) Remove external stair on the south side and incorporate

a new stair internally.

This is to be located in the south west corner discharging through a doorway in the south side. Additional accommodation to cover the loss can be included within Building 89 proposals.

(ii) All details, including doors, in the corridor of the original building should match original details.

(e) OTHER POINTS: With the construction of the east side road the main approach to the Building 27 for visitors will be from the east and through the main entrance. This will enable a better appreciation of this important building than has been possible in the past.

8.5.6 Building 32: Barracks

(a) SIGNIFICANCE: This building is a classic example of colonial style of the second half of the nineteenth century. It is the centre building of a group of three important historic buildings (Nos. 37, 32 and 89) which commands an important and prominent position on the Island when viewed from the west.

(b) FUTURE USE: This building will possibly undergo conversion to include amenities, offices and sleeping accommodation. These uses can be a suitable adaptation if the initiatives outlined below are taken.

(c) MAINTENANCE WORK REQUIRED IMMEDIATELY: The gutter to the verandah requires refixing to ensure its effective use.

(d) CONSERVATION INITIATIVES RECOMMENDED:

(i) Restore the windows on the west side.

This involves removal of three doors. If additional external doors are required they should be restricted to the north and south elevations.

(ii) Restore the main central door on the ground floor.

(iii) Remove the bituminous fabric to the verandahs and replace the timbers as required.

During this work electrical conduits should be removed and concealed and lighting replaced. Also, diagonal bracing in the form of flat metal straps should be fixed into the plane of the flooring.

(iv) Restore the window on the first floor western end of the north side.

(v) Replace external doors as required to render them all similar to the original doors.

(vi) Remove the small sheds on the east side between Buildings 31 and 32 and landscape the area.

(e) OTHER POINTS: Due to a long history of the building being used as offices and subsequent internal alterations, it is not possible to restore the general spaces and expose the structure. However, any adaptation of use in the future should leave columns exposed, open up the areas as much as possible to give some feeling of the original space and maintain the original details for doors and skirtings.

There does not appear to be a better solution to providing toilets than the eastern side extension. Although not entirely in sympathy with the original Building 32, the addition is out of normal vision and does not greatly impair the significance of the building.

Building 32's association with Building 31 has long been

destroyed and will not be required in the future. Therefore, the restoration of the link to Building 31 is not considered important.

8.5.7 Building 88: Chain and Anchor Store

(a) SIGNIFICANCE: This building is a fine solid and simple building which is closely linked with Buildings 37, 95 and 99 in uniting the early architecture of the naval station. It is a pleasantly proportioned building with an interesting roof truss construction. Its significance has been overshadowed by the proximity of Building 89.

(b) FUTURE USE: This has not been defined in the Modernisation Proposals, but three options are being considered:-

(i) demolish the building entirely;

(ii) remove the southern part of the building so that the south end aligns with the south side of Building 89; or

(iii) retain the building adapting it for a new use.

As this issue is contentious it is discussed in some depth. Figure 129 gives of view of the building from the south west. The problem or question relating to Building 88 is 'does the

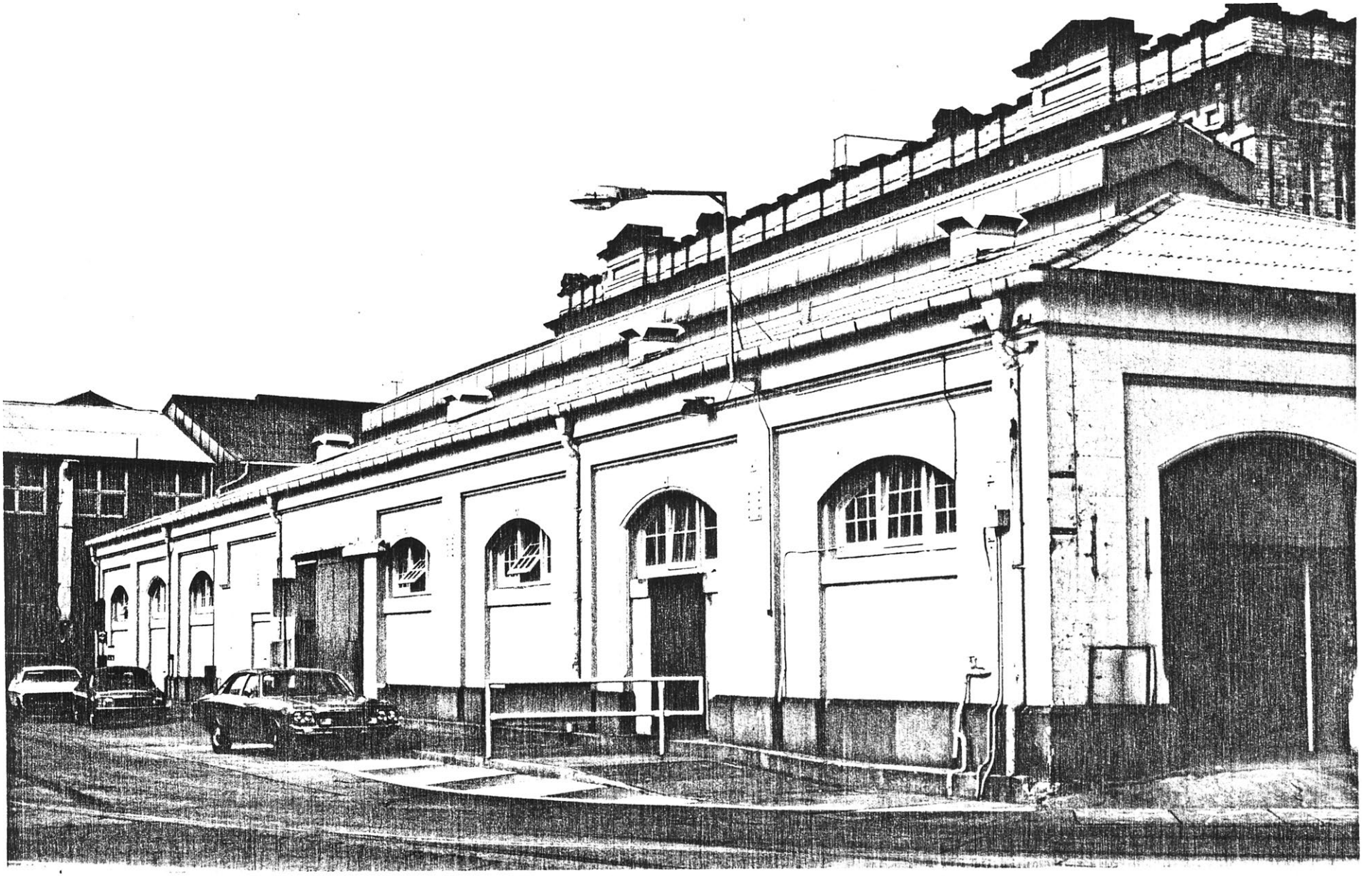


Figure 129 Building 88 from the South West

value of keeping this building in part or whole offset the loss of convenience and increased congestion of traffic movement around it?'

Option (ii) is least preferred as it destroys the proportions of the original building and still poses constraints on the traffic movement. It does not answer the real problem and is an unsatisfactory compromise.

Demolition of Building 88 has been suggested as it improves the traffic flow and maintains a full 21m road easement which is one of the Modernisation's design criteria; it maintains the full utilization of cruiser wharf and east dock wharf cranes; it enables full exposure and an enhancement of the more significant Building 89.

The retention of Building 88 is supported by the building's significance (see above); the fact that removal of Building 88 would expose a section of Building 89 which never has been exposed and has not been detailed the same as the remainder of Building 89; and the suggestion to restrict the travel of the east dock wharf crane and the construction of the road close

to Building 88 whereby the inconvenience caused to cranage and to traffic is minimized and is within tolerable and acceptable limits (refer Figure 130).

Based on the arguments given above retention of Building 88 is recommended.

To support this recommendation a suitable use for the building must be found.

One use is that it could become a store shed, either for general use or directly linked and providing an annex to Building 89. This link originally existed and could be restored.

Alternatively it could accommodate functions currently being carried out in either buildings around 7 & 8 or along the east side of the Island.

It could also provide public areas associated with increased public access discussed in section 8.4.3 of this report.

The building's location is ideal being at the beginning of most of the Historic Buildings. It could then be used to display items relating to the history of Garden Island, artifacts, Modernisation Proposals and other elements of Naval History.

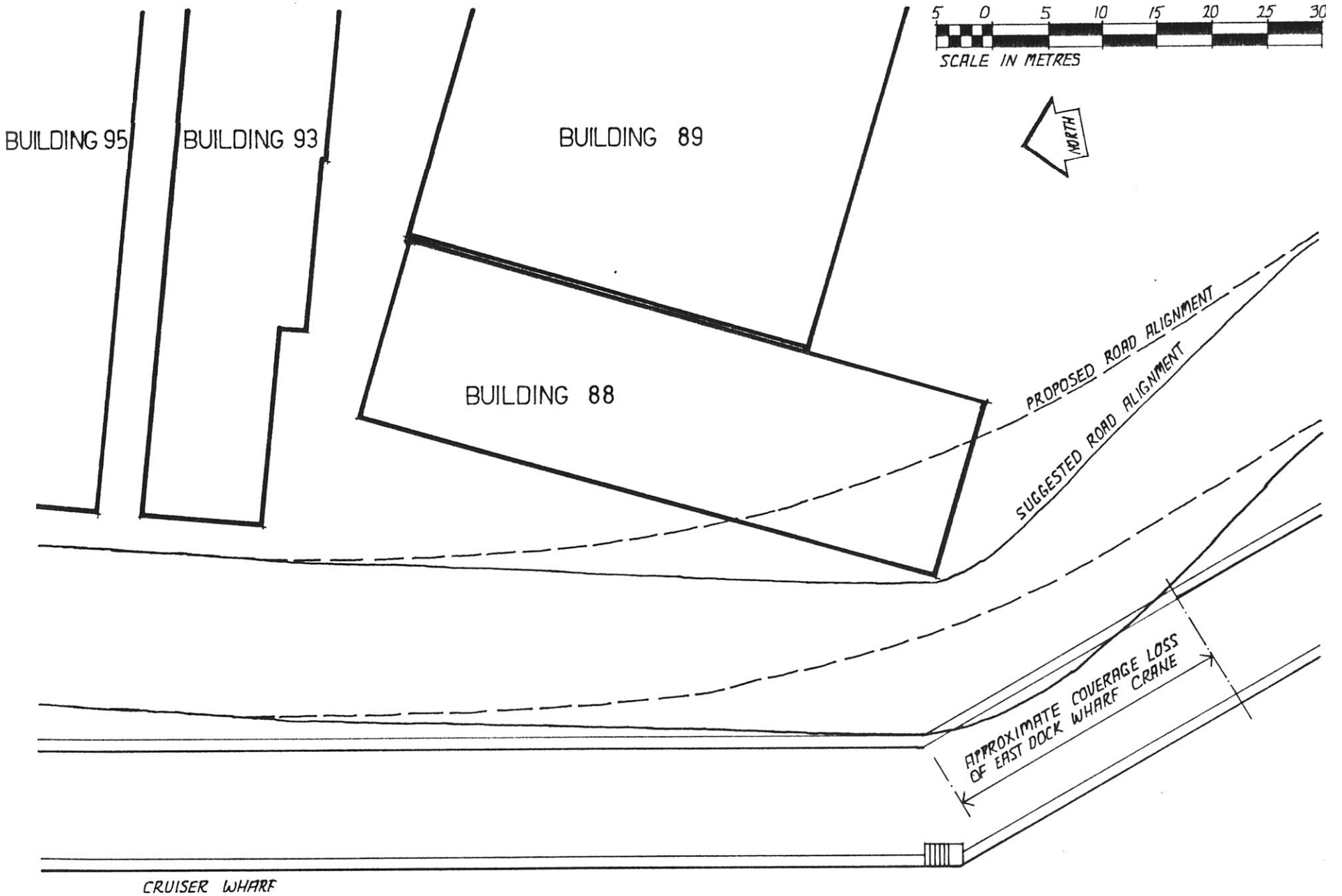


Figure 130 Suggested Planning around Building 88

(c) CONSERVATION INITIATIVES RECOMMENDED:

(i) Restore all bays incorporating windows and doors in the original locations.

Roller shutter doors fitted neatly internally and when rolled up to be completely out of view (as exists on the southern side) are considered acceptable.

(ii) Unless the travelling crane is essential to the handling of stores it should be removed.

(iii) Remove the ridge ventilator and restore the ridge detail.

(d) OTHER POINTS: When the roof is next replaced corrugated galvanised iron is recommended. Internal subdivision of the building should not be permitted.

8.5.8 Building 89: Naval Stores

(a) SIGNIFICANCE: This building is a particularly fine example of Victorian warehouse building which also exhibits a strong naval or nautical character. It provides an interesting contrast to the more classic historic buildings on the Island

which were built 3 - 7 years earlier.

This building is among the few Sydney Victorian warehouses which has continued to operate as such while its water operated hydraulic whips are among the last remaining in Sydney.

(b) FUTURE USE: This building and Building 90 are to be adapted for use as an office building. Provided the initiatives recommended below are executed this proposal is considered a suitable adaptation of use.

(c) MAINTENANCE WORK REQUIRED IMMEDIATELY: To prevent the deterioration of these buildings (89 & 90) the following preservation work is required urgently.

(i) Repair all deteriorated sandstone and implement measures to prevent further decay, e.g. lead cap cornices.

(ii) Replace the roof flashing on the north and south parapet walls improving on the existing detail.

(iii) Replace cracked glass in damaged rooflights.

(iv) Replace damaged roof ventilators to match existing.

(v) Repaint painted areas externally.

(vi) Repair and repaint the verandah roof to Building 90.

(vii) Clean up the roof and the box gutters to Building 90.

(d) CONSERVATION INITIATIVES RECOMMENDED:

(i) The problem of rising damp should be effectively treated.

The recommended method is to install subsoil drainage along the southern side, remove existing render on the inside of ground floor, incorporate a damp proof course in the wall above ground level and re-render the internal walls below the damp proof course with a special render to prevent ingress of moisture.

(ii) Downpipes should be permanently connected to stormwater pipes or a large sump should be provided at the base of each downpipe to hold excess water in downpours.

(iii) Remove excrescences fixed to roof and parapets.

(iv) Remove Building 87 and restore Building 89 in the affected area.

Building 87 is an unattractive building in a mixture of styles and materials. The exposed aggregate panels are quite different from any other buildings on the Island

and conflicts vividly with nearby buildings. It also greatly reduces any appreciation of the southern elevation of Building 89. Early demolition of Building 87 will assist in removal of paint on Building 89 by natural causes.

(v) Remove Building 86 and nearby steel carport.

Although 86 was part of the original naval station it is a small and insignificant building. Removal of both buildings will enhance the area.

(vi) Landscape Office Square to prevent the possibility of water entry into the lowest level of Building 89.

(e) BUILDING 89/90 AS AN OFFICE BUILDING:

The use of the Buildings 89 and 90 as an office building will involve the removal of ceiling linings, lifts, chainwire fences and internal partitions.

To ensure that the integrity of the significant elements are maintained the following recommendations or design constraints are made. These are illustrated in Figure 131.

(i) The existing doors, hydraulic whips and associated equipment should be retained and no additional windows provided.

The entire hydraulic system should be regularly serviced and maintained in operational condition.

(ii) The main structure should be retained and exposed with the major part of the area open planned.

(iii) A screed should be applied to the top of the existing timber floors.

This is necessary to even out the surface and it also assists in the fire/smoke separation of floors. The floors should be carpetted so that the the screed is not visible.

(iv) The main service core should take up a small section across the entire building and the main plant room spaces should be included in Building 90.

This will permit the incorporation of lifts, stairs, toilets in central locations and retain the bulk of the building unaltered. Services can feed directly from the main plant areas across the core and distribute into the new office areas. Services should be exposed in the general office areas and the lift motor rooms should not project above parapet level.

(v) *The structural problems associated with the light iron trusses should be overcome by fixing services to the underside of the trusses and tying the roof structure down into the service core.*

Selective ventilation mentioned in Appendix 7(c) will probably conflict with air conditioning. The service life of the building is evidence of a satisfactory performance even if the trusses do not comply with current wind codes.

(vi) *Sprinklers should be installed throughout.*

This together with the fire isolated stairs in the core, screed to the floors, fire doors between bays and the char factor of the timber structure should provide adequate fire protection.

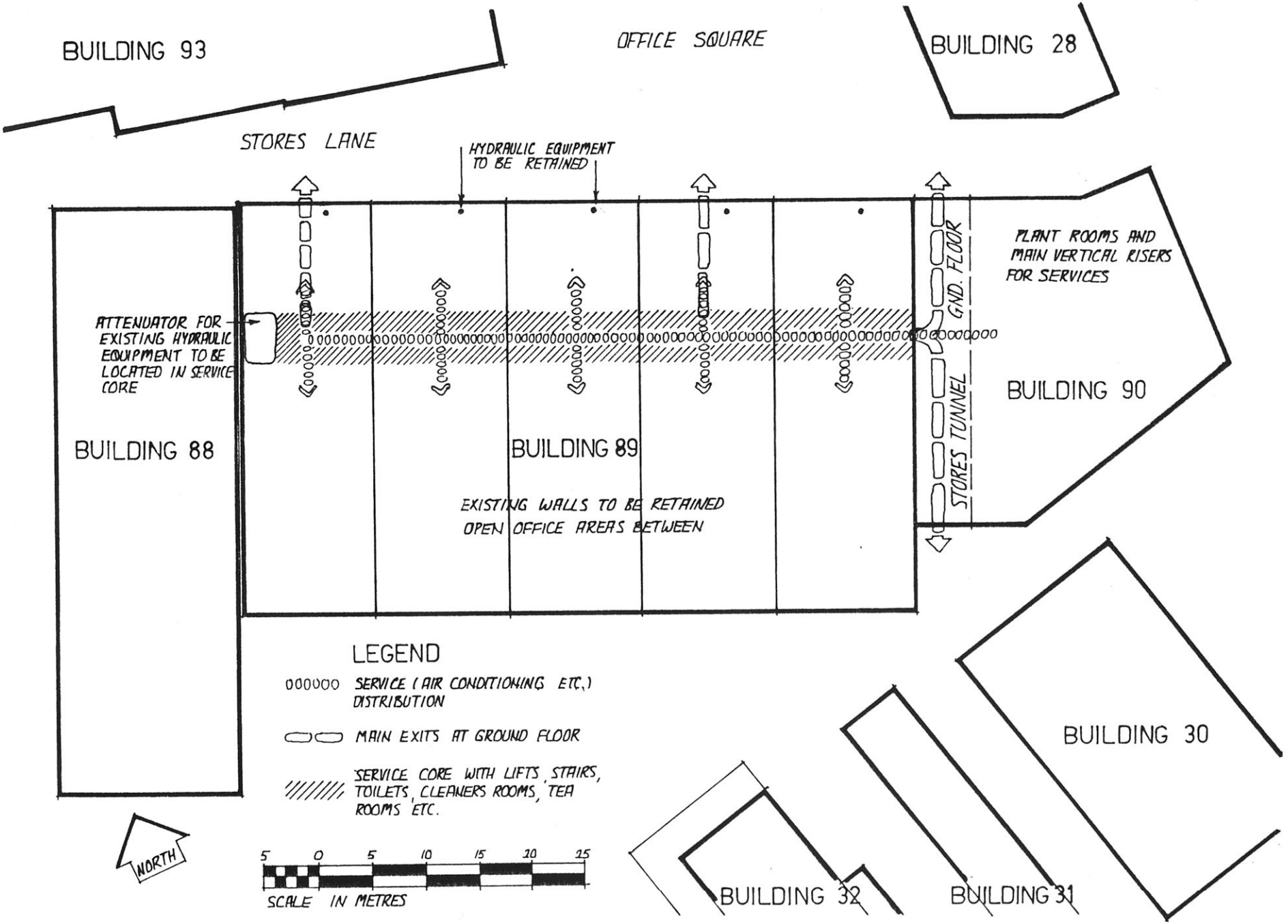


Figure 131 Suggested Plan of Building 89/90 as Offices

8.5.9 Building 95: Factory

(a) SIGNIFICANCE: This is a well proportioned and good example of an industrial warehouse type of building of the late nineteenth century. It was a major part of the original naval station and closely linked in style to the other original buildings. The existence of a heavy machine shop which has operated as such since last century is quite rare today.

(b) FUTURE USE: The current use is to be maintained although certain existing functions are to be removed.

(c) MAINTENANCE WORK REQUIRED IMMEDIATELY: To prevent further deterioration of this building the smashed and damaged windows must be repaired, the rusted and damaged downpipes replaced and the structural steelwork maintained.

(d) CONSERVATION INITIATIVES RECOMMENDED:

(i) Upgrade the eastern section of the Building including the removal of the external stairs.

This will involve a major refurbishing of this area and probably a complete internal refit of the southern half.

Stairs that are required should be incorporated internally. With certain existing functions to be relocated, rationalisation of the area should be possible.

(ii) Connect all downpipes directly to stormwater.

(iii) Restore amended openings and windows.

Any new openings required or existing ones retained must be in sympathy with the original building.

(iv) Remove Building 96 and restore building in the affected area.

(v) Remove structure enclosing the space between the base of the former chimney and Building 95.

If the remains of the brick chimney are sound it should be retained and could form part of the landscaped Office Square.

(vi) Remove the bridge links to Building 93.

(See also section 8.5.19 of this report.)

(e) OTHER POINTS: The major western extension, although unsympathetic with the original building, is a large solid building which

represents another phase of the Island's development and should be retained.

The replacement of the roof with corrugated galvanised iron should continue.

8.5.10 Building 98: Lime Store

(a) SIGNIFICANCE: This is a small well detailed building and a fine example of a small store in the Federation Style.

It is the best example of a small building, which formed an integral part of the original naval station, remaining.

(b) FUTURE USE: The long term proposal was to remove the building but current proposals are to retain it.

The building is sound and does not interfere with other Modernisation Proposals or influence the enhancement of any other areas or buildings. Its retention is recommended.

(c) MAINTENANCE WORK REQUIRED IMMEDIATELY: To prevent further deterioration of this building the smashed window must be repaired, the missing roof tile replaced and rusted gutters replaced.

(d) CONSERVATION INITIATIVES RECOMMENDED:

(i) Remove the extension to the south east, the paint on the south east elevation and restore the facade.

(ii) Remove the first floor link with Buildings 96 and 95.

(iii) Restore the north west elevation.

(iv) Alterations to the south west side should be reconstructed in sympathy with the building.

(e) OTHER POINTS: Depending on the future use proposed, installation of the first floor is seen as optional and not essential to maintenance of the building's significance.

8.5.11 Building 99: Spar Shed, Saw Mill and Dining Room

(a) SIGNIFICANCE: This well proportioned and fine example of a nineteenth century industrial building is closely linked with other buildings in uniting the early architecture of the Naval Station.

(b) FUTURE USE: The future use of the building is uncertain, but the possibilities include offices and amenities or workshop and store. The latter is recommended as it is more sympathetic to the building.

(c) MAINTENANCE WORK REQUIRED IMMEDIATELY: To prevent further deterioration of this building the missing section of gutter must be replaced, the leaking steam pipe repaired, the windows repainted, the damaged downpipes and gutters fixed.

(d) CONSERVATION INITIATIVES RECOMMENDED:

(i) Remove Building 136 and restore building in affected area.

(ii) Remove the galvanised iron shed on eastern side and restore the affected areas.

(iii) Remove the external stair and landing on the north and east sides and restore the affected areas.
Internal stairs at the northern end of the building will be required.

(e) OTHER POINTS: The change in the ground floor windows although

quite unsympathetic are at least consistent in detail and are considered tolerable.

The southern end (former saw mill) is now integrated into the extension to Building 95 and is effectively part of Building 95. This section should continue to be considered as associated with Building 95.

Further adaptation will provide the opportunity to rationalize the interior, opening it up as much as possible and incorporating stairs at the northern end.

8.5.12 Building 9: Additional Office Building

The current usage of this building is to be retained.

Although the building has been heavily compromised by additions it does not impair the enhancement of the area and should remain.

Continuance of maintenance work is all that is required to conserve the building.

8.5.13 Building 24: Naval Police Training/Dockyard Industrial Office

The current usage will probably be retained.

Urgent attention is required to treat the cracking brickwork.

Although the building is far from an outstanding piece of architecture,

its retention, while economically viable, is recommended. However, the building is considered not significant and could ultimately be removed.

8.5.14 Building 26: Office, Store and Amenities

The future of this building is to change slightly, but will remain similar to the current use.

It is a fine solid building and although out of character with Building 95 helps to define Office Square and should be retained.

Downpipes should be directly connected to stormwater.

8.5.15 Building 28: Store and MAS Office

This is a fine solid building and part of major developments during World War II. It relates well to the western extension of Building 27 and Building 90 and should be retained.

The sandstone in the parapet and the verandah require immediate maintenance work.

8.5.16 Building 29: Stores Wharf Amenity

This building is an awkardly shaped building which is to be removed

as part of the Modernisation Proposals. Its removal is supported.

8.5.17 Building 30: Store

This fine solid building is to continue as a store although modified internally.

The building does affect the visual appreciation of Building 89 from the south east and is sound stock well constructed and detailed so its retention is supported.

8.5.18 Buildings 31, 34 & 37

These three buildings form part of Stage One of the Modernisation Proposals and have been considered by consultants to the Department of Housing and Construction.

8.5.19 Building 93: Electrical Workshop

Long term proposals were to demolish the building, but current intentions are to keep it. However it is recommended that:

This building should be demolished as a part of Stage Two of the Modernisation.

To support this the following reasons are given.

(a) The building is currently excessively congested and does not operate effectively.

(b) The existing facilities within the building are to be relocated so the demand for the building will be greatly reduced.

(c) The building is a mixture of architectural styles and is an unattractive building.

(d) The building in inharmonious with adjacent buildings.

(e) The retention of the building restricts the development of the pedestrian area in Office Square. This is critical because there will be an increase in the number of people using the area once Building 89 is converted to an Office Building.

(f) Its removal will enable effective landscaping to the area and still maintain access for emergency vehicles.

(g) Its removal will enable the development of the important views of Buildings 89 and 95 from Office Square and Stores Lane, and greatly enhance these more significant buildings.

8.5.20 Building 123: FMP Store

This building is considered not significant and its removal to

permit the construction of a new Utilities Building is supported.

8.5.21 Building 127: Toilets

A very small building which relates well to Building 28. It is quite insignificant and its retention/demolition is unimportant.

8.5.22 West Side Buildings

The buildings along the west side of Building 95 and 99 (viz Buildings 101, 128, 97, 94 and 254) are currently to be retained.

This is quite inconsistent with basic proposals to upgrade vehicular circulation around the Island and to enhance the Historic Building Precinct. Figure 131 provides a view of the area from the north.

Removal of these buildings is recommended.

This is supported by the following reasons:

(i) Retention of the building greatly restricts traffic flow around the Island.

(ii) Retention of the building reduces the enhancement of the area.

(iii) Retention of the building restricts the effective servicing of Building 95 from the west.

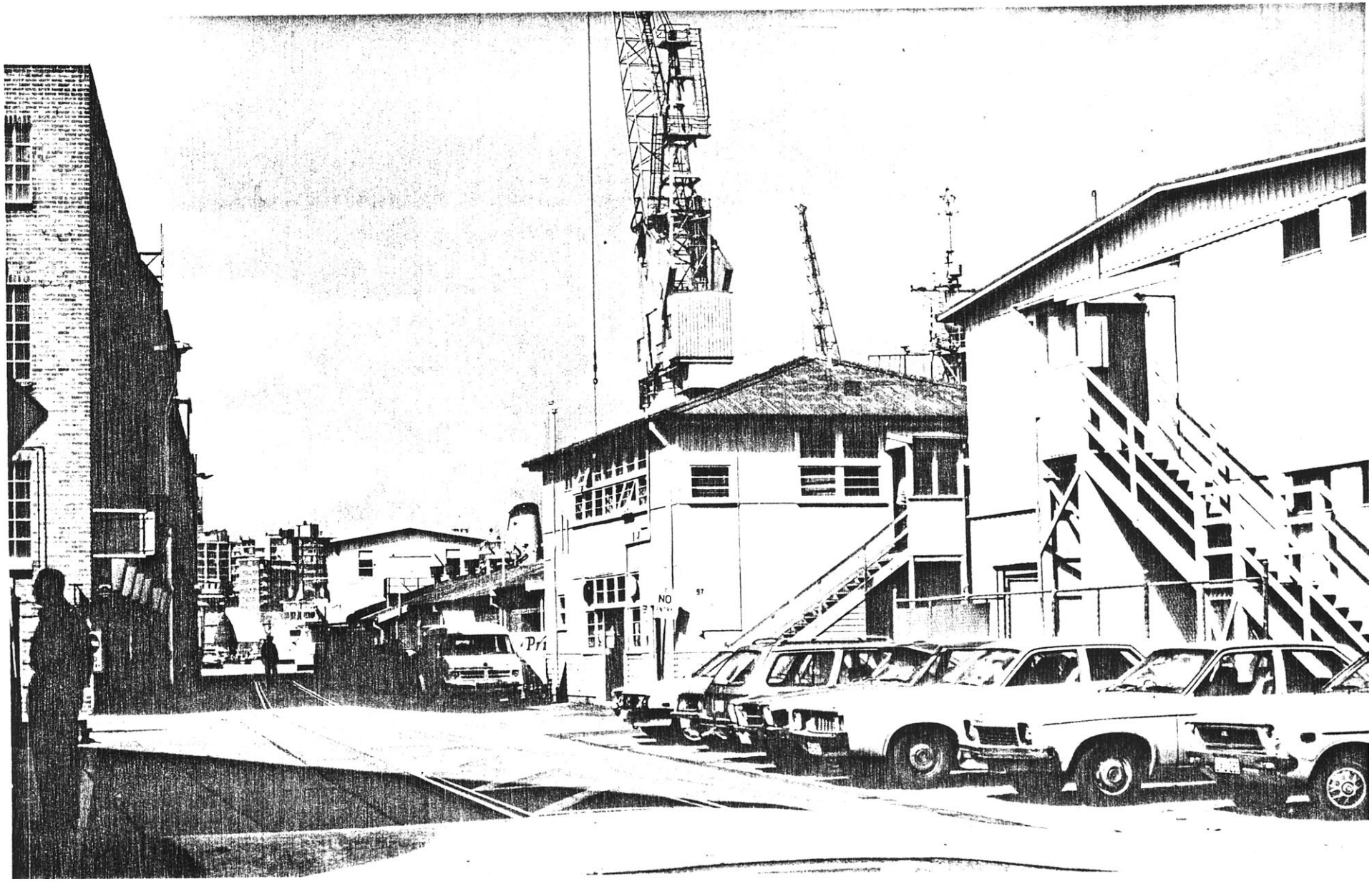


Figure 131 The West Side Buildings from the North

(iv) Removal of the building will enable landscaping of the area similar to that proposed in Stage Two for most of the Island.

If any of the functions, at present occupying any of the West Side Buildings, are required to remain in the area then Building 88 could be used.

8.6 A MANAGEMENT PLAN

The future management of these assets is an important aspect of their conservation.

The first step is to carry out the recommendations made earlier in section 8 of this report. Once these are done the conservation action will be one of mainly maintenance. However, even this must not affect the significance of the individual buildings or the Precinct.

The following guidelines are recommended:-

(a) Any maintenance work proposed in the immediate future, prior to implementation of recommendations made, must be consistent with recommendations stated in this report.

(b) An annual maintenance inspection must be carried out which encompasses all parts of the buildings.

Following this inspection, maintenance work required should be carried out. Replacement of damaged or defective elements must be executed with precisely the same materials as existing (this assumes earlier recommendations are carried out), or professional advice (suitably trained in conservation work) must be sought.

(c) *Regular repainting is required to all paintwork.*
Colours recommended in Appendix 10 or similar should be used.

(d) *Any alterations either internal or external must have professional advice prior to implementation.*
This is to ensure that the significance of these buildings is not compromised.

(e) *All new work and landscaping within the Precinct area, must be sympathetic to the Historic Buildings.*

(f) *An efficient and effective means of executing urgent maintenance work is required.*
This does not appear to be operational at the moment

and it is important in minimizing deterioration of these assets.

(g) *All organisations and personnel with an input to maintenance work on the Island must be informed as to the significance of the Precinct and the individual buildings.*
Without this awareness certain actions may occur which unknowingly and significantly affect this part of the National Estate. The process required to be followed should be defined and available to all personnel.

SECTION 9

CONCLUSIONS

9.0 CONCLUSIONS

The Modernisation of Garden Island at present underway is aimed at upgrading the naval base to serve the Navy for at least the next twenty five years.

Work to date has outlined some general attitudes towards the Historic Buildings on the Island but has not provided a detailed and overall conservation plan.

This study is a starting point for ensuring the conservation of the significant items on Garden Island Naval Dockyard.

The significance of this group of Historic Buildings lies principally in the fact that most of the original naval station's buildings remain, thereby forming a unified group of buildings hardly surpassed in the world.

Since this is such an important asset to Australia, policies toward its conservation should not be compromised.

Although general conservation principles were outlined in the Environmental Impact Statement and the Garden Island Modernisation Planning Team Proposals, they were based on an incomplete history of the Island and a poor history of the individual buildings.

Furthermore, current Modernisation Proposals involve no work to many of the Historic Buildings which is quite alarming and inconsistent with early proposals.

It is considered imperative that all the Historic Buildings be included in current modernisation schemes. This would not involve a disproportionate amount of money compared to the total Modernisation Proposals.

Many of the buildings within the Precinct area have undergone insensitive additions and unsympathetic maintenance. Conservation action for all buildings in the Precinct is long overdue.

Conservation action must include immediate action to prevent futher deterioration of the buildings. Also, longer term action to restore, adapt and preserve these buildings is essential.

Maintenance of the buildings has been quite good, but inconsistent at times. This has resulted in some less conspicuous areas deteriorating due to lack of attention. A regular maintenance programme is necessary and maintenance work must be consistent with overall long term proposals recommended in this report.

It is recommended that the detailed treatment of the buildings comply with the overall long term proposals recommended in this report

including compliance with the conservation guidelines set out in Australia ICOMOS's 'Burra Charter'.

For both maintenance work and major work advice from professionals experienced in conservation work is required.

Due to the importance of Garden Island as part of Australia's National Estate greater awareness and public access is recommended. Following the suggestions in section 8.4.3 of this report security should be able to be maintained.

In conclusion, it is recommended that the Australian Government, through the Department of Defence (Navy), and their principle agent, the Department of Housing and Construction, act now to ensure this magnificent and unique asset is conserved in the best possible way.

ACKNOWLEDGEMENTS

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Eric J. Martin

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LIST OF ABBREVIATIONS

A.A.N.S.W.	Archives Authority of New South Wales
A.H.C.	Australian Heritage Commission
D.D.N.	Department of Defence, Navy Office (located on Garden Island)
D.H. & C.	Department of Housing and Construction
E.I.S.	Environmental Impact Statement
G.I.M.P.T.	Garden Island Modernisation Planning Team
M.L.	Mitchell Library
M.S.B.	Maritime Services Board
N.T.	National Trust of Australia (N.S.W.)
P.W.D.	Public Works Department
R.N.	Royal Navy
S.P.F.	Small Picture File (refers to Mitchell Library records)
U.N.S.W.	University of New South Wales

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3. Cobley, J. Sydney Cove 1788 p 49 & p 57
   also stated in Bradley, W. A Voyage to NSW 1786 - 1792 p 80
4. Historical Records of New South Wales vol 2 p 399
5. Thompson, V.M. History of Garden Island 1788 - 1922 p 7
   also stated in "Garden Island Past and Present: Empire's Second Largest Naval Base", Evening News 24 August 1907
6. Cobley, J. op cit p 78
7. Collins, D. An Account of the English Colony in NSW vol 1 p 16
   also stated in Bradley, W. op cit p 85
8. Cobley, J. op cit p 122; also stated in Bradley, W. op cit p 101
9. Collins, D. op cit p 30 & p 51; also stated in Cobley, J. op cit p 137 and p 148
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26. Ibid vol 4 p188
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46. Thompson, V.W. op cit p 68
47. Australia. Department of Defence. Australian Naval History p 5
48. Australia. High Court. Record of Proceedings No. 15 of 1924... p 229
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50. Ibid p 228
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54. Thompson, V.W. op cit p 97
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66. Thompson, V.W. op cit p 123; also stated in Australia. High Court op cit p 279
67. Australia. High Court. op cit p 284-5

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70. Ibid p 143; also stated in Aust. High Court op cit p 289
71. Ibid p 140
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73. Aust. Department of Defence. Australian Naval History p 6
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85. Australian Archives, NSW Branch have full details in their records. Ref SP 217/1, SP217/2, Sp 217/3
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92. Aust. High Court. Record of Proc. No 15 of 1924...
93. O'Loughlin, J.F. James Barnet FRIBA - Last Colonial Architect in NSW 1865-1890
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APPENDIX 1 - DISCUSSION ON THE ROCK CARVINGS DATED 1788

This appendix discusses the origin and identification of the initials carved in the rocks.

EVIDENCE

1. Rock 1 'W.B. 1788'
   Rock 2 'I.R. 1788' and 'F.M. 1788'
2. Known occupants of Garden Island in 1788:
   - an officer and a party of men of *Sirius* sent to the Island;
   - James Coventry, James McNeal and -- Atwell;
   - various other parties.

STATEMENTS MADE

1. Thompson, V.W. - photographs p 240, text p 12 says that "it is not improbable that 'F.M.' is the Frederick Meredith who formerly belonged to the Sirius."
   Although Thompson discusses 'F.M.' and mentions that he has no idea who 'I.R.' was, he does not mention 'W.B.' at all. The reason for this omission is uncertain but it is possible that the northern hill was over-grown and the second rock concealed.
2. "It is possible that the initials are Frederick Meridith" by Navy, Army and Air Force Journal Vol No. 3, May 1932, p 18.
3. "As only one crewman of the Sirius had the initials F.M. it would appear that they belonged to Frederick Meridith" by the Sydney City Council in Garden Island - Action Plan No. 18, 1976, p 21 and also appearing in GIMPT, Garden Island Modernisation - Draft E.I.S. (1979)p 59.
4. "Believed to be Frederick Meridith a member of the crew of H.M.S. Sirius" on plaque fixed to the rock on Garden Island.

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3. Phillip, A. The Voyage of Governor Phillip to Botany Bay, London, 1789.

COMMENTARY

It is reasonable to assume that the intials and dates are correct due to the effort involved and the normal behaviour of people carving initials.

It cannot be assumed that any of the carvings were made by an officer or necessarily by men of the *Sirius*.

An officer went to the island initially and one would most probably have been in attendance at all times but that does not mean he carved his initials there.

It is most probable that convicts were employed to develop and work the garden in 1788. This is supported by the convict, Black Caesar, working the garden in later years.

It is probable that the people developing the garden in 1788 were men and not part of the female or child population present at Sydney Cove.

This means that it could have been any male who came with the first fleet. Records available give complete lists of convicts, but not a complete list of marines. Furthermore, from the three references used, details given are not always consistent.

Before going through detailed lists it is worth highlighting the evidence about Frederick Meridith. He did come out with the first fleet but on the *Scarborough*. Rumsay says he was 'a drummer' and Thomas says 'a steward'. With either of these qualifications the chances are that he was not involved in developing the garden on Garden Island.

The complete list of names that could fit these three sets of initials is given below.

Initials	Name	Rank	Ship	Thomas	Rumsay	Phillip
W.B.	William Baker	Sergeant		*	*	(Convicts only)
	Ball	3rd Mate	*Lady Penrhyn*	*	*	
	William Balmain	Surgeon	*Alexander*	*	*	
	Barrow	Midshipman	*Supply*		*	
	William Bason	Marine			*	
	Bateman	Lad			*	
	William Baxter	Marine Pte		*	*	
	William Bell	Convict	*Scarborough*	*	*	*
	William Blackhall	Convict	*Alexander*	*	*	*
	William Blunt	Convict	*Scarborough*	*	*	*
	William Boggis	Convict	*Scarborough*	*	*	*
	William Bond	Convict	*Charlotte*	*	*	*
	William Bones		*Alexander*		*	*
	William Bradbury	Convict	*Scarborough*	*	*	*
	William Bradley	1st Lieut	*Sirius*	*	*	
	Bray	Lieut			*	
	William Brewer	Convict	*Charlotte*	*	*	*
	William Brice	Convict	*Friendship*	*	*	*
	Walter Broady (Brody)	Blacksmith	*Sirius*	*	*	
	Brooks	Boatswain	*Sirius*	*	*	
	William Brough	Convict	*Alexander*		*	*
	William Broughton		*Charlotte*		*	
	William Brown	Convict	*Alexander*		*[1]	*
	William Brown	Convict	*Charlotte*		*	*
	William Browning	Marine Pte	*Friendship*		*	
	William Bruce	Cook	*Friendship*		*	
	William Bryant	Convict	*Scarborough/Charl.*[1]	*	*	*
	Bryant	Mate	*Sirius*	*		
	William Bull	Marine Pte		*		
	William Butler	Convict	*Scarborough*	*	*	*

[1]Information from different sources conflict.
*Indicates if person was mentioned in the text.

Initials	Name	Rank	Ship	Thomas	Rumsay	Phillip
F.M.	Francis McLean	Convict	*Alexander*	*	*	*
	Mason	Captain	*Prince of Wales*		*	
	Francis Mee	Marine Pte		*	*	
	Frederick Meredith	Drummer/ Steward[1]	*Scarborough*	*	*	
	Mrs Frances Minty				*	
	Morrison	Lieut	*Scarborough*		*	
I.R.	Reed	Carpenter	*Supply*	*		
	Isaac Rogers	Convict		*[2]	*	*
	Ms Isabella Rosson	Convict	*Lady Penrhyn*		*	*

[1]Information from different sources conflict.

[2]Reference indicates that the person died on the voyage to Australia.

ASSESSMENT

The 'W.B.' could have been a number of people. All that can be said with reasonable certainty is that the 'W' stands for 'William'.

The 'F.M.' is possibly 'Francis Mee' or 'Mr. Morrison'. It is considered that a captain and a drummer/steward would not be involved in developing a garden. Excluding the female and assuming 'Francis McLean' would sign his initials 'F. McL.', this leaves the other two.

It is also worth noting that Rumsay says that Francis Mee was employed in clearing Norfolk Island from 1789-90. So it is possible that he was doing similar work on Garden Island in 1788. The 'I.R.' is possibly Mr. Reed, or the convict Isaac Rogers, if he did not die on the way out.

CONCLUSIONS: Nothing definite can be stated, but the following identification is possible:-

'W.B.' - 'William' someone; 'F.M.' - 'Francis Mee' or 'Mr. Morrison'; 'I.R.' - 'Mr. Reed' or 'Isaac Rogers'.

APPENDIX 2 - TRANSCRIPTION OF THE TEXT ON BENT/OVENS TOMB

The inscriptions are difficult to read, but the following is what has been interpreted.

Bent/Ovens Tomb in St. Thomas' Cemetery, North Sydney, 1980

Side 1

Major Ovens was collicated for the Church but procured an Envoy in the 73 Regiment in 1808. Arrived in this Colony 1810 there he was appointed Engineer by Governor Macquarie, In 1811 he returned to England and Exchanged into the 74 reg. When in Spain he was dangerously wounded at the Battle of Vittoria and on his recovery was taken an extra-aid-de-camp to Major General Sir Tho. Brisbane on whose staff he continued the whole of the peninsula war. He accompanied his general to this colony in 1821 ...ution was Brigade Major Esquire and Private Secretary till the close of his (Sir Thomas) Gov on the 1st Dec 1825.

Side 2

Underneath be the Mortal remains of Br Major John Ovens 57 Reg. and of Saint Catherines County of Fermanagh Ireland Aged 57 years. A brave Soldier and Public Officer of tried and unblemished integrity. He died the 7th day of Dec and on a death bed far removed from home expressed a desire to be interred in the Tomb of his early Friend Judge Bent.

Top

Underneath are placed the remains of Ellis Bent Esqu. Judge Advocate of this Territory from the first of June 1810 to the 10th November 1815, when he departed this life in his 32nd year. His upright and impartial conduct caused him to be respected by all classes of persons in private life, no man possessed more than he did, those qualifications which adorned the gentlemen and bi ... . He endeared himself to all who had the experience of his acquaintance.

Brass Plaque

A box containing the skull of Lieutenant Bower R.N. is buried 1 foot in front of and 2½ feet deep from this spot. He was killed by the natives of Florida (Solomon Islands) 1st October 1880.

APPENDIX 3 - SUMMARY OF KEY DATES AND HISTORICAL EVENTS RELATING TO GARDEN ISLAND

1788	26 January	Captain Arthur Phillip landed in Sydney Cove.
	5 February	Island granted to *Sirius* to make a garden of.
	11 February	A party was sent to 'Garden Island' to prepare a garden.
1789		Evidence that the garden was productive.
1795-1799		Garden Island given to the *Supply*. Lieut. Braithwait's house built. A battery of two guns constructed.
1801	7 January	Garden Island appropriated for the use of the *Lady Nelson*.
1801-1803		Men of the *Porpoise* occupied Garden Island.
1805-1807		Garden Island used by the *Buffalo*.
1811	7 September	Public Notice that Garden Island was to be included as part of the Domain.
1825	22 September	Judge Advocate Ellis Bent's remains and Tomb shifted to Garden Island.
	December	Major John Ovens' remains interred in Bent's Tomb.
1856		NSW Government suggest Garden Island might be developed as a Naval Base.
1857		Garden Island reserved for the use of the Navy.
1858	12 July	Admiralty approved the construction of a cottage on Garden Island.
1859		Three buildings constructed.
1865	10 January	Part of Island dedicated to the Navy.
1866	5 June	Remainder of Island dedicated to the Navy.
1870's		Discussion re development of Garden Island as a Naval Base.
1877		Sail Making Shed constructed.
1883		Admiralty agreed to develop Garden Island as a Naval Base and money voted towards work.
1884		Southern Hill levelled.
1885		First buildings of the naval station commenced.
1886-1896		Construction work of many major works and the development as the main

		Navy Base for Australia.
1889	12 September	First building (other than cottages) handed over to the Navy.
1896	5 September	Garden Island Navy Base handed over to the Admiralty.
1901	1 March	With the Federation of Australian States, State Navies transferred to the Commonwealth.
1911	10 July	King George V granted the title 'Royal Australian Navy' to the Navy.
1913	1 July	Naval Establishments transferred to the Commonwealth. Some conjecture as to whether Garden Island was included, but the Commonwealth was at least granted the use of Garden Island.
1914-1918		World War I. Garden Island active in fitting and arming ships for war.
1919-1920		After the war, many merchant ships were reconditioned.
1923	October	A NSW Minister revoked the 1865/1866 Dedication of Garden Island.
1924-1929		Legal battles about the revocation of 1923 which ended up in the Privy Council. The effect of the decision was that the NSW Government was entitled to the possession of Garden Island.
1939-1945		World War II. Construction of Captain Cook Graving Dock. Island busy refitting ships for war time use.
1942	31 May	One of the two Japanese Midget Submarines which entered Sydney Harbour sank the *HMAS Kuttabul*, moored at Garden Island, resulting in loss of 19 lives.
1945	22 February	Commonwealth acquired Garden Island for £638,000.
	12 March	Captain Cook Graving Dock officially opened.
1977		Special team formed to look at redevelopment and modernisation of the Island.
1980		Approval given to proceed with modernisation proposals.

APPENDIX 4 - DRAWINGS AVAILABLE ON THE HISTORIC BUILDINGS

A list of drawings available for each building is set out below. Most drawings are from the Department of Housing and Construction and their records numbers are given. Where the drawings are found only from other sources these are notated.

The dates mentioned refer to the date which the drawing was prepared, signed or the date on which the drawing was registered with the Department of Housing and Construction.

Building 7 & 8

W1076 (FA92/B13)	Gun Mounting Shop - General Details	(1914)
W1077 (FA92/B12)	Gun Mounting Shop - Details	(1914)
(Not obtained)	Gun Mounting Shop - Rearrangement	(1943)

Building 9

-	Additional Office Building (Avail. Navy Records)	(1894)

Buildings 16-22

-	Two Houses for Assistant Storekeeper & Warrant Officer (Buildings 16 & 17, avail. from Navy Records)	(1893)
-	Two Houses for Storehousemen (Buildings 18-20, avail. from Navy Records)	(1893)
- (FA94/B2)	General Manager's Residence (Building 17)	-
DEF 18593	Additions to Residences (Buildings 18-20)	(11/2/36)
DEF 42846	As Existing Plans	(27/6/46)
DEF 42847	Alterations to Residences	(27/6/46)
DEF 43102	As Existing Plans	(11/9/46)

Building 25

Five sheets of Measured Drawings of southern section (by Boland Ryder in November 1978) are available from U. N.S.W. Library.

DEF 13266 (A)	Northern Section of Boat Shed - boat loft & slipway plan	(31/9/27)
DEF 13266 (B)	" " " " " - elevations & sections	(2/4/27)
DEF 13834 (A)	" " " " " - loft plan, slipway plan, section	(10/10/27)

Building 25 cont.

DEF 13834 (B)	Northern Section of Boat Shed - elevations & sections	(10/10/27)
NE 3344	Boat Repair Shed Amenities Mezzanine Floor Plan	(25/8/54)
NS 2499	Boat Shed - strengthening of first floor	(7/12/54)
NS 2500	Boat Shed - trusses supporting mezzanine floor	(7/12/54)

Building 27

-	Office Building - Plan, elevations, sections (avail. from Navy Records)	(1893)
-	" " - Section through tower (avail. from Navy Records)	(1893)
MIL 11.106	Additions to Administration Block, North end - Plans, elevations	(16/4/24)
DEF 18334	Alterations to Office Building, South End - plans	(13/11/35)
DEF 18335	" " " " " " - elevations, sections	(13/11/35)
DEF 18336	" " " " " " - elevations, details	(13/11/35)
NE 4788	Alterations to Main Office - ground and first floor plan	(26/6/58)

Building 30

DEF 12566 (D)	Oil Store	(4/3/27)
DEF 12566 (E)	Oil Store - steelwork	"
DEF 12566 (F)	Oil Store	"
DEF 12566 (H)	Oil Store	"
DEF 13621 (A)	Oil Store - erection	(11/8/27)
DEF 13621 (B)	Oil Store - "	"
DEF 13621 (C)	Oil Store - site plan	"
DEF 13621 (D)	Oil Store - erection	"

Building 32

-	Barracks - plan, elevations, sections	(1886)
NA 2185 C	" - ground floor plan	(22/7/49)
NA 2186 D	" - first floor plan	"
NA 2187 D	" - second floor plan	"
NA 2188 D	" - sections	"
NS 60/37 D	Additions to Registry Office	(1960)
NS 67/145/B	Security Vault	(1967)
NS 69/532/C	Strengthening of Floor for Compactus	(1969)

Building 37

NS 65/599	Rigging Shed and Sail Loft - sections and elevations	(1885)
NS 65/600	" " " " " - Plan	(1885)
NS 68/435	" " " " " - Detail of Iron roof, columns and girders	(1886)
DEF 36883	Extensions to Rigging Shed - Plan and sections	(17/11/43)
DEF 44478	Alterations to Rigging Shed	(20/1/48)
NS 68/327/C	Structural Investigation for proposed Mezzanine Floor	(1968)
NS 68/673	New Mezzanine steel marking plan	(1968)
NS 68/778/D	New Mezzanine Floor - Concrete slab details	(1968)

Building 88

-	Chain & Anchor Store - Plan, elevations & sections (Avail. from Navy Records)	(1888)
NA 60/821/C	Battery Shop: Extension of Facilities Stages 1 & 3	(1960)

Building 89

BSG/14/1	Naval Stores - North, south and East elevations	(1892)
BSG/14/4 (also BSG/14/6)	" " - Sections	(1892)
MIL 3313	" " - Plan showing position of hydraulic hoisting machinery	(1892)
-	" " - Details of Gates and Railing to Lift Openings (avail from Navy Records)	(1892)
NS 69/79 B	" " - Details of Staircase	(1892)
- (FA92/B36)	Additional Victualling Store - elevation	(1904-5)
- (FA92/B77)	" " " - plan, details	(1904-5)
DEF 38177	Naval Stores - existing plan	(28/4/44)
DEF 43783	Victualling Store, P.O. Extension - Site plan, plans, sections	

Building 90

DEF 21031	Extensions to Naval Store - Plans	(5/10/38)
DEF 21032	" " " " - Plans	"
DEF 21033	" " " " - Sections	"
DEF 21034	" " " " - Elevations	"
DEF 21037	" " " " - Foundation steel	"
DEF 21038	" " " " - Steel in foundation	"

Building 90 cont.

DEF 21039	Extensions to Naval Store - Steel Marking Plan	(5/10/38)
DEF 21040	" " " " - Steel in foundation	"
DEF 21041	" " " " - Steel and concrete plan	"
DEF 21061	" " " " - R.C. details	(13/10/38)
DEF 21103	" " " " - Stair details	(28/10/38)
DEF 21451	" " " " - Pier and window openings	(27/2/39)
DEF 21560	" " " " - Stanchion layout	(18/4/39)
DEF 21577	" " " " - Column details	(27/4/39)
DEF 21594	" " " " - Parapet details	(2/5/39)
DEF 21713	" " " " - Footings	(6/6/39)
DEF 21746	" " " " - Steel details	(19/6/39)
DEF 22082	" " " " - Concrete slab detail	(6/10/39)
DEF 22138	" " " " - Rain water head	(20/9/39)
DEF 22212	" " " " - Door details	(18/10/39)

Building 93

175 (FA94/B31)	Proposed Electrical Workshop	(28/2/16)
DEF 12592 (a)	Electrical Workshop - plan, elevation, details	(5/6/25)
DEF 12592 (B)	" "	"
DEF 30151	Electrical Workshop Extensions - steel details	(13/5/42)
DEF 30152	" " " - timber truss details	"
DEF 30153	" " " - steel layout	"
DEF 30154	" " " - R.C. footing details	"
DEF 30156	" " " - R.C. footing details	"
DEF 30507	" " " - Roof truss, plumbers shop	-
DEF 30890	" " " - R.C. footing details	(25/6/42)
DEF 30962	" " " - R.C. footing details	(2/7/42)
DEF 32467	" " West End Extensions - plans	(22/9/42)
DEF 33367	" " Extensions - general arrangement	-
DEF 36377	Alterations to Old Electrical Workshop - R.C. details	(17/9/43)
DEF 38105	Electrical Workshop West End Extensions - site plan	(19/4/44)
DEF 38459	" " " " "	(10/1/42)
DEF 40923	" " " " " - R.C. details	(10/4/45)
DEF 40924	" " " " " - Steel details	"
DEF 41179	" " " " " - foundation details	(15/5/45)

Building 95

- (FA94/B23)	Factory & Workshop - Elevations and sections	(1888)
MIL 4.870	New Engineers Fitting Shop - Plan, elevations and sections	(10/4/15)
DEF 27846	Extensions of Main Factory Block - Plan	(21/11/41)
DEF 28459	" " " " " - Plans	(1942)
DEF 33367 (A)	" " " " " - Ground Floor Plan	(1943)
DEF 33367 (B)	" " " " " - First Floor Plan	(1943)
DEF 35347	" " " " " - Sections	(9/6/43)
DEF 35350	" " " " " - Plan	"
DEF 35351	" " " " " - Ground Floor Plan	"
DEF 35502	" " " " " - Mezzanine Floor Plan	-
DEF 35820	" " " " " - External column details	(22/7/43)
DEF 35821	" " " " " - " " "	"
DEF 35822	" " " " " - Pile foundations	"
DEF 35823	" " " " " - Foundation beams	"
DEF 35826	" " " " " - Column details	"
DEF 35851	" " " " " - Mezzanine Floor Plan	(27/7/43)
DEF 35852	" " " " " - First floor plan	"
DEF 35853	" " " " " - Elevations & sections	"
DEF 35854	" " " " " - Sections	(4/8/43)
DEF 36089	" " " " " - South Wall Foundation Plan	(18/8/43)
DEF 36274	" " " " " - Mezzanine Floor Plan	(6/9/43
DEF 36275	" " " " " - Mezzanine sections	"
DEF 36276	" " " " " - " "	"
DEF 36277	" " " " " - Mezzanine beam details	"
DEF 36335	" " " " " - Stair details	(10/9/43)
DEF 36357	" " " " " - " "	(15/9/43)
DEF 36361	" " " " " - Footing details	"
DEF 36362	" " " " " - First floor R.C. slab Layout	(16/9/43)
DEF 36363	" " " " " - 1st Floor RC slab layout	"
DEF 36413	" " " " " - Stair details	(22/9/43)
DEF 36502	" " " " " - Mezzanine floor	(1/10/43)
DEF 36667	" " " " " - Kitchen Layout	(19/10/43)
DEF 36703	" " " " " - Stair details	(25/10/43)
DEF 36814	" " " " " - Stair details	(9/11/43)
DEF 36831	" " " " " - Alterations to panel C	(11/11/43)
DEF 36982	" " " " " - Stair details	(1/12/43)

Building 95 cont.

DEF 36983	Extensions of Main Factory Block	- First floor beams	(1/12/43)
DEF 37132	" " " " "	- First floor plan	(22/12/43)
DEF 37138	" " " " "	- Roof details	(23/12/43)
DEF 37139	" " " " "	- Details of roof	"
DEF 37140	" " " " "	- Extra foundation beam	-
DEF 37356	" " " " "	- Foundation beam details	(20/1/44)
DEF 37399	" " " " "	- North column details	(26/1/44)
DEF 37447	" " " " "	- Lift machine room	(1/2/44)
DEF 37463	" " " " "	- Column details	(3/2/44)
DEF 37735	" " " " "	- Mezzanine floor details	(1/3/44)
DEF 37736	" " " " "	- Beam details	"
DEF 37737	" " " " "	- " "	"
DEF 37978	" " " " "	- Stair details	-
DEF 38001	" " " " "	- Stair Details	
DEF 38426	" " " " "	- Block details of beam	(6/6/44)
DEF 38448	" " " " "	- Roof details	(8/5/44)
DEF 38996	" " " " "	- Main cafeteria & amenities	
DEF 39177	" " " " "	- " " " "	
DEF 39764	" " " " "	- " " " "	
DEF 44552	" " " " "	- Alterations to Cafeteria	

Building 99

-	Spar Shed and Dining Room	- Plan, elevation, section	(1888)
- (FA96/B41)	" " " " "	- Alteration	(1896)

Other Buildings

213	Alterations to Wireless Station		(17/10/16)
(Not obtained)	W.T. & Signalling Mast		No date
Naval 11996 (A)	Proposed Signalling Station	- site plan and elevation	(9/3/25)
Naval 11996 (b)	" " "		"
-	Oil Tank site plan		(23/9/15)

Site Plans

These came from a number of sources. The list below includes all the site plans found to the 1950's with the source specified in brief (refer Bibliography for precise details of references).

Site Plans cont.

1857	Site plan available from the Mitchell Library - NSW Parliament. Legislative Assembly. Accounts and papers of the Legislative Assembly Proceedings 1858-1895.
1864	Part plan showing area applied for on behalf of the Admiralty - from Thompson, V.W. History of Garden Island 1788-1922.
1874	Proposed Development Plan prepared by J.T.E. Gowland - available from Mitchell Library.
1884	Plan showing proposed extens of reclaimation. Refer D. H. & C. microfilm record file FA93/B43.
1889	Plan showing early proposals for further development of Island - from Department of Defence (Navy) records.
1889	A Hydrographic Plan which also shows existing and proposed work - from DH&C GIMPT.
1894	Plan prepared for the general arrangement for Electrical Lighting - from DH&C records.
1895	Hydrographic plan which also shows layout of buildings. Available from Hydrographic Department, Ministry of Defence, England.
1901	Site plan (date confusing as it has also been signed 31/5/13) from DDN records.
1912	Plan - sketch only (does not include Building 98, although built earlier) - from Thompson, V.W., History of Garden Island 1788-1922.
1914	Site plan - from DH&C records (drawing No. 41).
1923	Site plan - from DDN records.
c1920-25	Site plan showing proposed hydraulic works from DH&C microfilm record file FA94/T23.
1926	Site plan - from DDN records.
1944	Eight Survey plans of entire Island - from DH&C records (drawings Nos. 1NT3271-3278).
1951	Site plan of Island - DH&C drawing Number NA 4619 A.

Later drawings are not included but many site plans have been drawn especially during the development of modernisation proposals.

APPENDIX 5 - THE DISMISSAL OF JAMES BARNET AND THE ROYAL COMMISSION ON DEFENCE WORKS

The 1880's saw widespread inquiries into Government spending on Public Works with numerous Royal Commissions, Select Committees and special enquiries.

In 1886 Mr. M.J. Lyne, Minister of Works set up a Board of Enquiry to examine the organisation, staffing and function of the Department of Works with particular reference to the Railways Department and the Colonial Architect's Office. Before the Board had completed its task, enquiries were terminated. However, in its final report it had expressed dissatisfaction with the function and control exercised by the office and expressed an opinion that the public interest would be best served by inviting Architects to compete for the design of public buildings. It also suggested that the position of Colonial Architect should be abolished and a Supervising Architect appointed in lieu.

This appears to be one factor leading to Barnet's dismissal. The other one relates specifically to Defence Works and Lieutenant Colonel Felician Rolan De Wolski, R.E.

De Wolski was appointed in England to command submarine mining defences and construction of defence work. On arrival in Sydney (c1887) he found himself in command of the Submarine Mining Forces but not defence works. De Wolski's recommendation that he be gazetted as 'Commanding Engineer' conflicted with Barnet's attitude on Defence Work. He also believed changes should be made to streamline procedures for defence works and was critical of the Colonial Architect's Office work.

On 16th July, 1889 a Military Barracks Branch was established with De Wolski as director. This was to be responsible for the execution and maintenance of Defence Works. Barnet reluctantly handed over all relevant documents to the director after being instructed to do so by the Minister.

A report by De Wolski went to the Legislative Council on 24th July, 1889 critical of Barnet's defence work.[1] It was mainly related to work at Bare Island, but did include other

jobs as well, but not Garden Island.

These events led to the dismissal of Barnet on 30th June, 1890 and the abolition of the Office of Colonial Architect.

Applications were called for the new office of Supervising Architect at a salary of £800 p.a., but none of the candidates were considered acceptable. Two officers (Messrs Rumsey and Spencer) acted as commissioners for one month during which W.L. Vernon was approached and negotiations took place. On 1st August, 1890 Vernon was appointed as Government Architect at the same salary as the Colonial Architect (i.e. £1160 p.a.), but the duties of the office were reduced by the establishment of a Military Works Branch under De Wolski.

On 17th September, 1890 the Australian Star had the following to say about the recent events.

> "The haste with which the decision was arrived at, the urgency with which the decision was effected, and the ill considered and immature character of the proposals for reorganising the service created a feeling of dissatisfaction if not acual distrust."

On 14th July, 1890 the Royal Commission on Defence was appointed.[2] It consisted of C.W. Darley,[3] W.W. Wardell and G.A. Mansfield.

Its terms of reference were to make a diligent and thorough examination of all contracts associated with the fortification of Bare Island, Port Jackson and Newcastle as well as the Victorian Barracks and to pay particular attention to the manner in which the work had been executed, and supervision exercised, by the Colonial Architect.

The concluding remarks of the Commission were that while satisfied that Mr. Barnet was guilty of culpable neglect of duty, the Commissioners were not unmindful of his former position and the large number of public buildings for which he had been responsible.

It recommended that "a commensurate censure be recorded on the late Colonial Architect ... and that further steps be taken by the Government as may mark the gravity of the case which in our opinion is fully established against him."

Barnet's reaction to this was bitter. His letter of 6th July 1892[4] mentioned that before he was dismissed he had been informed that De Wolski had said that he would not rest till he obtained the removal of Barnet from the services of the Government. He then goes on to mention the Royal Commission and says,

"Mr. Barling, Under Secretary for Public Works informed me as to who were to be the members of the Royal Commission. I expressed my surprise when I saw that Mr. Darley was to be one of them for under the Department over which he presides, very bad work had been executed in the concrete foundations by day labour which had cost of £1000 to remedy. (This work was on Garden Island).

I remarked that the commission appointed would be controlled by Lt. Col De Wolski and the report would be his, signed by the Royal Commissioners. The strong bias and vindictive feeling against myself shown in the questions and report justify my predictions. I am confounded and astonished and crushed to despair to think that at the end of a successful career I should be betrayed and handed over to my enemies to be cruelly and spitefully dealt with and unjustly censured for the default of others, not even having seen the evidence or the report and having had no opportunity nor having been called upon to reply before censure was passed, the right of a thief in the dock."

Although Garden Island was not directly involved in this Royal Commission and the following legal cases[5] it was one of the Defence Works under the control of the Colonial Architect's Department. Work on Garden Island was handed over to the Harbours and Rivers Branch after Barnet's dismissal because the Government was not entirely happy with the administration of the work.

Footnotes

[1]"Charge against the Colonial Architect's Department", Sydney Morning Herald, 25th July, 1889.

[2]NSW Parliament. Legislative Council Report of the Royal Commission on Defence Works 1891/2.

[3]Cecil W. Darley: Engineer-in-Chief, Harbours and Rivers;
William W. Wardell: eminent architect of the time;
George A. Mansfield: an architect.

[4]O'Loughlin, J.F. James Barnet FRIBA - Last Colonial Architect in NSW 1865-1890.
Also in Barnet's Personal Papers in the Mitchell Library.

[5]"Law Reports", Sydney Morning Herald, 7th June - 7th July, 1892.

APPENDIX 6 - SOME OF THE WORKS BY JAMES BARNET

169 Post and Telegraph Offices
130 Court Houses
155 Police Stations
110 Lock Ups
20 Light Houses

12 Gun Batteries and Barracks
41 Gun Mountings
19 Magazines
16 Shell Rooms

Main Works

G.P.O. Sydney 1866-1874.
Garden Palace 1879 (burnt down in 1882).
Medical School, Sydney University, commenced 1885.
Colonial Secretary's Office, Bridge St. 1878-1880.
Museum Extensions, College St., 1864-1868.
Customs House, Circular Quay, 1884-1885.
Public Library, Macquarie St.
Lands Department Building, Bridge St. 1876-1890 (in two stages).
Additions to Darlinghurst Gaol and Court House commenced 1866.
Callan Park Hospital 1879-1881.
Bathurst Gaol 1884, Court House, Telegraph Office.
Goulburn Court House 1884, Telegraph Office
Macquarie Light House 1880-1883.
George St. North Police Station 1882.
Naval Station, Garden Island.

APPENDIX 7 - STRUCTURAL REPORTS OF BUILDINGS

This appendix includes structural reports on some of the Historic Buildings on Garden Island. These were prepared by the Department of Housing and Construction by Trevor Valaire.

The Buildings assessed are:

(a) Building 32;
(b) Building 37;
(c) Building 89;
(d) Building 95 and 99;
(e) Building 95 - Western Extension.

They are reproduced here in the form that they were prepared, although as shown in other sections of this study certain historical information in incorrect.

(a) BUILDING 32: STRUCTURAL ASSESSMENT by Trevor Valaire

Asset No 32 - Registry and Offices
Previously: Barracks Building
Approximate Date of Construction 1887 .

1.0 DESCRIPTION

This building is a 3 storey stone clad structure with full length verandah and balconies along the western face at each floor.

The overall plan dimensions of the building are approximately 26 m x 9.6 m.

The floors are divided into two equal areas by a stairwell and landing cell located across the centre of the building.

The ground floor is of timber plank and joist construction laid across sleeper walls.

The suspended floors are timber plank and joists supported by rolled steel joists and cast iron columns.

The roof consists of timber trusses, beams and rafters carrying slates.

The whole structure would, in all probability, be founded on sandstone, as this stratum is at quite a high level at this location.

2. GENERAL CONDITION

This building is generally in quite good condition, the only deterioration being noted in the timbers of the balconies which are showing signs of weathering though not serious.

3. STRUCTURAL DOCUMENTATION

Documentation of this building is limited to the original drawing No. N.S. 65/598 and three drawings for recent alterations. These are:

Drawing No.	Title
N.S. 60/37/D	Additions to Registry Office
N.S. 67/145/B	Security Vault
N.S. 69/532/C	Strengthening of Floor for compactus

The dimensions of floor members and cast-iron columns were determined by field measurement, the wall thickness of the columns measured by means of ultra-sonic gauging.

The roof members are relatively inaccessible and forthe purpose of this report, a cursory analysis was undertaken from dimensions scaled off the original drawings.

This cursory analysis showed that the roof structure has a very large factor of safety and that field measurement of these members would seem unnecessary.

4. STRUCTURAL ELEMENTS

4.1 ROOF STRUCTURE

A cursory analysis of the roof structure revealed that the roof structure has a capacity approximately 3 times that required.

This analysis was made using member sizes scaled from original drawings and assuming timber of stress grade F11.0.

In view of the large factor of safety resulting from this analysis, site measurement of these members, which would be a difficult task, is unnecessary.

4.2 SUSPENDED FLOORS

4.2.1 INTERNAL FLOORS

The live load capacity of the internal floors is controlled by the capacity of the floor joists and is equal to 5.0KPa.

The live load capacity of the steel joists is approximately 8.0 KPa.

4.2.2 INTERNAL COLUMNS

First to Second Floors

The cast iron columns have a live load capacity of 12.5KPa expressed as uniformly distributed load (U.D.L.) on the second floor.

4.2.3 GROUND TO FIRST FLOOR

These columns have an immense capacity which could never be fully utilised in any foreseeable usage of this building.

This would result in a live load capacity expressed as a U.D.L. of 48KPa on the first floor, this figure being virtually meaningless as the floor capacity is governed by the capacity of the timber joists.

It would appear that the original selection of the proportions of the cast-iron columns was from consideration of aesthetics and manufacturing limitations rather than those of structural efficiency.

4.3 BALCONIES

4.3.1 FLOORS

The live load capacity of the balcony is limited by the timber floor joists and is equal to 4.0KPa.

4.3.2 COLUMNS

As is the case with the internal columns, the balcony columns have not been designed for structural efficiency and their capacities are immense when compared with the likely maximum floor loadings.

One point of concern with the balcony structure is the virtual lack of lateral bracing of the flooring system.

There is virtually nothing except the close fit and friction between the floor boards stopping the outside edges of the balconies moving relative to western wall thus inclining the columns leading to a collapse.

Even though this structure has withstood the test of time it would seem wise to install some diagonal bracing within the plane of the flooring.

5. WALLS

The walls of this building are sandstone 480mm thick from the ground level to the first floor then reducing to 385mm from the first floor to the roof level.

The walls are capable of withstanding the once in fifty year wind loading for exposure category one without the assistance of diaphragm action from the suspended floors. Thus portions of these floors may be removed without jeopodising wall stability.

6. FOUNDATIONS

The original drawings show that this building is founded on high level strip footings. Calculations show that the average bearing stress exerted on these foundations is 85KPa.

Foundation records show that rock in this area is at a very high level and in all probability the building would be founded on this stratum. This being the case the foundations are very lightly loaded.

7. POSSIBILITY OF ALTERATIONS

Since this building has a historic classification there is little likelihood of being extended.

The internal floors may be freely altered without detriment to the stability of the structure as a whole.

8. CONCLUSIONS

This building is in excellent condition and with the exception of the balcony flooring, structurally very sound.

(b) BUILDING 37: STRUCTURAL ASSESSMENT by Trevor Valaire

Asset No 37 Riggers Workshop & Dockyard Chapel
Previously: Rigging House and Sail Loft
Approximate Date of Construction - 1886

1. DESCRIPTION

This building is a two storey brick clad structure of approximate plan dimensions 24.5m x 54.2m.

The roof consists of cladding with timber lining carried on timber purlins and steel tension tie trusses.

The two rows of trusses are supported on the exterior brick walls and have a common support in the form of a rolled steel section on the centreline supported by cast ironcolumns.

The first floor consists of timber planking and joists supported on a grillage of fabricated "I" section secondary beams and Box section primary beams.

The primary beams span between the external walls and an arched wall along the centreline of the building.

The ground floor consists of timber planking and joists supported on sleeper walls.

The Dockyard Chapel occupies the norhern part of the first floor. Within this area a column has been removed and the steel joist carrying the roof trusses overhas been strengthened by the addition of trussing under this member.

A Mezzanine floor has been added to the eastern half of the remainder of the first floor and the southern portion of the western side. The construction of this mezzanine floor is of timber planking and joist supported on Universal section beams. These beams are supported by the external walls and secondary beams and columns on the centreline of the building which are in turn supported by the central wall at the first level.

2. GENERAL CONDITION

The structure of this building appears to be in very good condition requiring no significant maintenance apart from routine painting.

3. STRUCTURAL DOCUMENTATION

The structural documentation so far located consists of only the following drawings:

Drawing No.	Title
NS 65/599	Elevations - Original Building
NS 65/600	Plans of Ground and Upper Floor - Original Building
NS 68/327/C/2	Structural Investigation for Proposed Mezzanine Floor
NS 68/435	Detail of Iron Roof Columns and Girders for Rigging House - Original Building
NS 68/778/D	New Mezzanine Floor Concrete Slabs and Details
NS 68/673	Marking Plan

The original drawings contain most of the relevant general information. This was supplemented by site measurement in order to carry out this structural assessment.

No calculations of particular significance have been found to this building.

4. STRUCTURAL ELEMENTS

4.1 ROOF

4.1.1 PURLINS

The purlins, consisting of 76mm x 51mm hardwood at 360mm centres are capable of withstanding a uniformly distributed load of 0.72KPa which is just in excess of 0.6KPa dead plus live load required.

4.1.2 Roof Trusses

The capacity of the roof trusses acting against vertically downward loading is controlled by the upper chord member of the end main trusses which is capable of withstanding a U.D.L. of

2.83KPa which is well in excess of the 1.15KPa required.

These trusses are required by the current wind loading code to resist nett upward loading. These trusses however are composed of a configuration of compression members and round steel tie rods which will only support downward loads and offer little resistance to nett uplift.

Nett upwards loading is resisted purely by the upper chord acting as a tensioned inverted catenery which would apply upward and large horizontal loads on the supporting brick walls tending to over turn them. This will be discussed later in the section on walls.

4.1.3 Support Beam

The 254mm x 127mm support Beam which carries the roof trusses along the centreline of the building is capable of carrying an equivalent roof loading of 1.22KPa which is just in excess of the 1.15KPa loading required.

4.2 COLUMNS

The cast iron columns supporting the roof structure have capacities vastly in excess of that required.

Quite obviously these have been proportioned for architectural and manufacturing considerations rather than for structural efficiency.

4.3 MEZZANINE FLOOR

The Mezzanine floor which is located along the eastern half of the building above the first level floor was constructed in approximately 1968/69 and is of an unusual construction.

The floor is of timber planking and joist construction supported by very heavy universal column beams.

The timber joists have a live load capacity of 6.7KPa.

The steel frame on theother hand has a live load capacity of approximately 14KPa.

The floor is presently used for light industry such as canvas processing.

As this floor is of recent design and construction it would appear that it was intended for some other heavy usage which hasn't been implemented.

4.4 FIRST LEVEL FLOOR

The capacity of the first level floor is generally controlled by both the timber floor joists and the secondary, fabricated "I" section steel joists and is equal to 5KPa.

The secondary beams have longer spans in the northern and southern bays and consequently have a lesser live load capacity of 4.0KPa.

The primary box section beams have a live load capacity vastly in excess of the remainder of the floor.

4.5 GROUND LEVEL FLOOR

The structure of this floor was inaccessible but historical drawings indicate that it consists of timber joists laid across sleeper walls and having the same spans as the first level floor.

It would seem reasonable to assume that the joists are the same size and spacing as those on the first level and that this floor has also a live load capacity of 5.0KPa.

4.6 WALLS

Wall stability in this structure is interdependent on the action of the roof trusses.

The walls are dependent on the first level floor diaphragm action to maintain their stability.

The combination of design wind pressure on the wall together with the overturning action of the roof trusses under uplift is shown by calculation to be capable of overturning the eastern and western walls.

The fact that these walls have survived the test of time would indicate one of two

possibilities:

(1) The building hasn't experienced the design wind load,

or (2) The code wind loading provisions are too conservative.

The stability of both the walls and trusses may be most economically improved with the provision of ridge vents.

A policy decision must be made regarding these and other similar roof trusses on historic buildings on the Island whether to accept their record of service as being sufficient to justify their being left as they are or to modify them such that they do comply with current design codes.

5. FOUNDATIONS

The rock stratum in the vicinity of this building is within 3.0m of the ground surface and in all probability the building is founded on this stratum.

The original drawings show this building to be founded on strip footings and calculations based on scaled dimensions show the maximum bearing pressure to be 260KPa which is quite low and could be sustained on the medium clay above the rock.

It would appear that regardless of which stratum the building is founded on it has an adequate foundation capacity.

6. POSSIBILITY FOR EXTENSIONS AND ALTERATIONS

It is unlikely that this building, because of its historic significance will be extended neither vertically nor horizontally.

The two floors at present have generous head heights being 5.2m and 4.9m respectively. It would be possible to install an additional floor by lowering the existing first level floor and installing a new floor above it.

It is also possible to extend the Mezzanine floor but this would result in a third floor with limited head height.

(c) BUILDING 89: STRUCTURAL ASSESSMENT by Trevor Valaire

Asset No 89 Main Naval Stores Building
Approximate Date of Construction 1893

1. DESCRIPTION

The Naval Stores building is a brickwalled four storey structure founded on high level footings. The overall plan dimensions are 38.4m by 36.6m.

The external walls are 915mm thick solid brick and the internal partitioning walls are 558mm thick solid brick with engaged piers of overall dimensions 762mm deep by 915mm wide.

The 3 suspended floors consist of 32mm thick hardwood flooring laid across 290mm by 65mm hardwood joists at 400mm centres spanning 3720 mm. These joists are supported on 12' x6' x3/4" R.S.J.'s which land onto tubular cast iron columns.

The columns vary in outside diameter being:

305 ø	between	levels	1 to 2
285 ø	"	"	2 to 3
265 ø	"	"	3 to 4

The wall thickness of the columns vary even within any given column.

An investigation to determine the wall thicknesses of the various columns was carried out by drilling through one column on each floor at two locations and this revealed wall thicknesses varying between 25mm and 41mm with 28mm being a reasonable basis for assessment.

The roof structure consists of A/C cladding carried by timber purlins on steel roof trusses.

The roof trusses bear on the end and internal dividing walls.

2. GENERAL CONDITION

There is evidence of severe weathering of the sandstone copings and lintels on the exterior of this structure. It is doubtful that this has any significant affect on its structural integrity and represents mainly cosmetic damage and also the falling debris a potential hazard

to pedestrians near the building.

The timbers inside the building appear to be well preserved with little evidence of splitting and cracking and no evidence of rotting etc. The existing paint protection to the timber has deteriorated badly and requires scraping and re-painting fairly urgently if the floor system is to be preserved.

Generally the internal structure is in quite good condition requiring little maintenance other than painting.

3. STRUCTURAL DOCUMENTATION

The only structural documentation available for this building is one of the original drawings No. NS/763 which shows a full plan, a part section and a part elevation.

The flooring and roof truss member sizes were determined by field measurement.

4. STRUCTURAL ELEMENTS

4.1 Roof Trusses

The roof trusses consist of 110mm x 110mm x 12mm. Tee section top chords, 70mm x 12mm. The section diagonal compression member, 27mm dia., 23mm dia., and 17mm., vertical tension ties and a 32mm dia bottom Chord. With his configuration of compression members and tension tie members the trusses can only withstand vertically downward loads with an appreciable degree of stiffness.

The residual load capacity of the trusses against vertical downward loading is 0.95 KPa, the critical member being the top chord. This check doesn't include the capacity of connections which should be analysed when definite proposals for the building's future become evident.

These trusses do not however comply with the current wind loading code AS 1170 Pt2 - 1973 in that the trusses have very little stiffness against nett uplift under whose action no stiffening is provided by the web and chord members. The uplift can only be resisted by the upper chord members which are both anchored into the masonry walls by means of two 20mm dia.bolts at each end.

The nett uplift force acting on the trusses at the design wind pressure, i.e. the difference between wind uplift and the roof dead weight is 1.31 KPa - 0.65 kPa = 0.66 kPa.

There are basically four alternative courses of action available if it is considered necessary for these trusses within historic buildings to comply with the present day code requirements. These are:

(a) Increase the Dead Weight of the cladding and lining to yield zero nett uplift under the design of wind.

(b) Provide tensioned tie down cables or rods, preloaded to simulate the effect of (a)

(c) Modify the aerodynamic properties of the building. This can be done by means of selective ventilation which ensures that there is a nett suction wind pressure within the building regardless of wind direction. (This technique is presently being employed in buildings designed to withstand cyclonic loading conditions.)

(d) Complete or partial replacement of the roof structure.

(e) Combinations of the above alternatives.

Alternative C would seem to be potentially the least costly and least disruptive both structurally and aesthetically of those outlined.

Trusses of a similar nature are used in several other historic buildings within the complex and the means of maintaining the stability of the roofing structures will have to be decided upon in the context of the future occupation and usage which will determine which of the foregoing solutions or combinations of these is most appropriate and economical.

A search is being made of meteorological records to determine the loading history of the building which may perhaps show that these roof trusses have performed satisfactorily under the design wind and may justifiably be left in their present state.

4.2 Walls

The walls of this building are very thick by today's standards and coupled with reinforcing effect of the floors acting as diaphragms form an immensely strong structure.

Some of the proposals for the modification of this building may involve the removal of certain portions of internal floors and walls and the wall stability may require checking in this context.

4.3 Floor System

The load capacity of the floor is very high, calculations show this to be in the order of 15kPa and being controlled by the capacity of the timber joists.

It is highly unlikely that this loading will ever be required in any future usage.

The timber planked floor system renders the building unsuitable for wheeled mechanical material stacking equipment. Before forklift trucks or similar vehicles can be used an additional wheel load distributing surfacing would need to be installed.

4.4 Columns

A cursory analysis of the cast iron columns indicates that their capacity exceeds the total floor capacity.

In view of this building's historic classification it is highly unlikely that it would be extended vertically, nor horizontally for that matter, and it would seem that the columns have sufficient capacity for any future application of the present structural configuration.

4.5 Foundations

Information conveyed by Mr. Vishnu Panday of Technical Services Division reveals that the rock strata is very high over the whole of the plan area of this building and it is considered that this structure would be founded directly on rock.

The building then would obviously have a foundation capacity well in excess of any likely loading from the structure in its present state of development.

5. PROVISION FOR FUTURE EXTENSION

There are no obvious indications of provision for future extension being built into this structure.

6. POSSIBILITY OF ALTERATIONS AND/OR ADDITIONS

This building is of historic value and for this reason it is highly unlikely that there will be any additions made to it either vertically or horizontally though both are possible.

It is however likely that alterations to the internal structure may be made to render the spaces suitable for such amenities as gymnasia, squash courts etc. This would necessitate the removal of some floors to provide two floor head room.

The level 4 floor and columns can most easily be removed. If this was done within the 3 internal bays then no work other than the removal of the flooring and columns need be done.

The end walls rely to some degree on the diaphragm effect of the floors to maintain their stability.

If these end bay floors were removed some stiffening of the walls may be required depending on the configuration of floors.

The removal of floors below level 4 would require the installation of beams approximately 12 metres long if a column free space is required or possibly the welding together of 2 lengths of the existing cast-iron columns if the present close column grid posed no problems architecturally. A thorough metallurgical investigation into the cast-iron material properties would be necessary to predict its performance as a long column and to determine its suitability for welding.

7. MAJOR STRUCTURAL CONSTRAINTS

The floors columns and walls are very strong and are suitable for high static loading.

The floors, being of timber construction and thus light weight aren't suitable for

heavy wheeled traffic such as forklift trucks. A load distributing surfacing would need to be added to the existing planking to prevent the failure of individual weak planks.

The limited head room, 3.0m on level 1 and 3.66m on levels 2, 3 and 4 would restrict the use of forklift trucks and mechanised stacking equipment.

The sructure in its present form has practically no fire resistance under Ordinance 70 regulations. Virtually all ofthe potential future uses of this structure would require it to achieve a fire rating in excess of one hour.

The cast iron columns and steel beams could be treated with a sprayed insulation such as Ceramospray etc or be concrete encased. The flooring could be lined on the underside with insulation. If the building is to have any significant personnel occupation then sprinkler systems and fire stairs will need to be installed.

Similar historic buildings, viz Argyle Bond Store, have been given dispensations regarding their compliance with fire regulations in view of their historic significance and the impact that full compliance would have had on their appearance.

Submissions should be made to the Board of Fire Commissioners, when concrete proposals have been developed, in order to minimise the amount of alteration and fire treatment to the structure as full compliance with ordinance 70 would prove to be a very expensive exercise.

(d) BUILDING 95 and 99: STRUCTURAL ASSESSMENT by Trevor Valaire

Asset Nos 95	Main Factory Building
99	Old Weapons Workshop

This building has been constructed in three parts. The original structure which comprises most of the factory area and the building now known as No 99 were constructed in approximately 1892.

It appears that very shortly after this, an extension was made on the eastern side of the original building in a similar form of construction.

A reinforced concrete extension was built on the western side of the original building in approximately 1944.

For the purpose of this report these 3 portions will be referred to as parts1, 2 and 3. Parts 1 and 2, including Bldg 99 will be considered together while part 3, being a much more recent structure of entirely different construction will be considered separately.

1. DESCRIPTION BUILDING 95 PART 1

Building 95 Part 1 consists primarily of a main Hall of internal dimensions 61m x 24.4m. To the south of the hall are two Rooms 12m x. 12.8m, adjacent to the northern end of the eastern wall is the foundry of internal dimensions 24m x 12.2m.

All walls are of brickwork 914mm thick founded on rock.

Pairs of cast-iron columns supporting the central rials of 2 gantry cranes run down the centre of the main hall and from the top of these single columns run to the roof level to provide central support for the roof trusses.

The roof consists of 3 rows of 12.2m span roof trusses.

The floor of the main workshop is of hardwood block construction while that of the foundry is natural earth.

1.1 DESCRIPTION - BUILDING 95 PART 2

This portion of Building 95 consists of an extension along the eastern side of the original building between the foundry and the southernmost part of the original building.

The external walls of the extension are of 915mm solid brick while the internal partition walls are 610mm thick solid brickwork.

The extension is of two storeys, the floor of the upper storey being of timber planking and joists supported on steel beams.

The roof of Part 2 is identical to that used for the original building.

1.2 DESCRIPTION - BUILDING 99

Building 99 is a northern annex of Building 95 and formed part of the original structure.

The building is of two storeys of approximate plan dimensions 14.2m x 40m.

2. GENERAL CONDITION

BUILDINGS 95 PTS 1& 2 and BUILDING 99

These buildings are generally structurally sound.

There seems to have been little recent maintenance work carried out on these buildings, this is most evident in the degree of surface rusting on the roof trusses particularly above the pattern store.

Cleaning and painting is urgently required to these trusses in order to prevent further deterioration.

3. STRUCTURAL DOCUMENTATION 95 PTS. 1 & 2 & 99

Structural Documentation for these buildings consists of a few original drawings showing plans of the buildings and details of roof trusses.

Floor member sizes and roof truss member sizes were determined by field measurement.

Much of the floor structure beneath the pattern shop and upper level office is concealed and could not be readily measured.

4. STRUCTURAL ELEMENTS

4.1 ROOFS

The roof trusses consist of rolled steel Tee section compression members and round wrought steel tension members.

The purlins are 76mm x 76mm Hardwood members at 915mm centres.

The capacity of the roof trusses to withstand vertical downward laoding is controlled by the lower chord and equals 3.2 KPa which is more than adequate.

The timber purlins are capable of withstanding a uniformly distributed loading of 0.93KPa which is adequate to support live loads and the cladding dead load.

These tension tie roof trusses are unable to resist the nett uplift wind forces which would normally be applied to lightweight roofs.

The roof to this structure is however provided with quite substantial ridge vents, which, under wind loading conditions, would have the effect of equalising internal and external air pressures hence reducing uplift forces and in all probability this roof wouldn't experience a nett uplift.

The S.A.A. Loading Code AS 1170 Pt. 2 requires that the lower chord be capable of sustaining a load of 1.3 Ka in any position. The tension tie bottom chord of these trusses is incapable of carrying this load and in this respect these trusses don't comply with current standards.

4.2 WALLS

The external walls of these buildings are generally 762mm thick with engaged piers which project on both sides to a total width of 915mm.

The walls are capable of withstanding the once in fifty year wind loading for terrain category 1 and do not rely on partition walls nor floors for their stability.

4.3 SUSPENDED FLOORS

4.3.1 BUILDING 95 PARTS 1 & 2

The only suspended floors of this building which could readily be measured was the floor to the pattern store, all others being concealed by ceilings.

Live Load capacity of pattern store floor = 10.0KPa.

The capacity of this floor is governed by both the capacity of the timber floor joists and the flexural capacity of the main transverse steel beam.

4.3.2 BUILDING 99

The live load capacity of the suspended floor in this building is governed by the flexural capacity of the timber floor joists and is equal to 5.0KPa.

5. CRANEAGE

5.1 MAIN FACTORY, BUILDING 95

The original building was designed to carry 2 gantry cranes in the main hall, one to 15 tonnes capacity and one of 30 tonnes capacity. The crane gantry beams weren't measured because of the hazards of weight, exposed electrical power lines and the continual operation of the cranes.

Analysis of the crane support structure is considered unnecessary in view of the reduction of craneage from 45 tonnes to 10 tonnes.

Should the crane capacity be upgraded to its previous capacity then a detailed analysis would be necessary.

5.2 FOUNDRY AND BUILDING 99

The gantry cranes in both these locations are supported on structures which are vertically independent of the building structure and thus may readily be altered with little effect on on the building.

6. FOUNDATIONS

The walls and columns of these buildings are founded on sandstone and obviously have capacity far in excess of the imposed loading.

7. POSSIBILITY OF ALTERATIONS AND ADDITIONS

This building is in a very congested area of the Garden Island complex making horizontal extension virtually impossible.

Indications at present are that the building will continue in its present function and that it is highly unlikely that vertical extension will ever be required.

The building does however occupy a location of excellent foundation conditions capable of accepting very high loads with low cost foundations.

8. CONCLUSIONS

These buildings are structurally adequate in their present function but require maintenance of the structural steelwork.

The roof trusses in these buildings, by virtue of their having substantial ridge vents are probably not beset by the potential uplift instability of similar roof trusses in other historic buildings on the Island.

(e) BUILDING 95: WESTERN EXTENSION - STRUCTURAL ASSESSMENT by Trevor Valaire

Asset No. 95 Part 3 Extension to Main Factory Building
Approximate Date of Construction - 1944

1. DESCRIPTION

This building is an extension of the original building 95 along its western side.

The plan dimensions of the building are approximately 12.1m x 83.1m.

The building is generally a 3 storey reinforced concrete frame clad in brickwork. The Coppersmiths Workshop occupies a two storey space at the northern end of the building with its gantry crane supported on reinforced concrete columns.

The roof to this structure is corrugated asbestos cement supported by composite, rolled steel angle trusses.

2. GENERAL CONDITION

This building is in excellent condition structurally showing no evidence of deterioration.

3. STRUCTURAL DOCUMENTATION

3.1 DRAWINGS

A virtually complete set of structural drawings are kept on microfilm with DH&C Plan Records Section at Australia Square.

3.2 CALCULATIONS

The calculations for this building were filed in calculation Folder 'C' folios 1 to 156 but of these, only folios 1 to 3 are still contained in the folder.

These missing calculations contain most of the detail design of the structure.

4. LOAD CAPACITIES

4.1 FLOORS & COLUMNS

The Live Load capacity of Cafeteria and Mezzanine floors is 5.0PKa.

4.2 CRANES

The present craneage in the Coppersmiths Shop consists of one 1½ Tonne and one ½ Tonne gantry crane running on common tracks.

The loads from these cranes coupled with 5.0KPa live loading and the cafeteria above utilises the full load capacity of the columns.

(Note: The cafeteria fulfills a multipurpose role and is subject to loading in excess of the code requirement of 2 KPa live loading for restaurants. It would seem unwise to rate the floor of the cafeteria for any less than say 4.0PKa or perhaps even 5.0PKa in order to uprate the crane capacity.)

4.3 ROOF

Analysis of the roof trusses shows that they have a vertical downwards total live load capacity of 2.0KPa which is totally adequate to sustain dead and live loads applied in this direction.

The S.A.A. Wind Loading Code requires these trusses to withstand a total uplift force of 1.20KPa. With an estimated dead loading of 0.2KPa this results in a nett uplift of 1.0KPa.

The roof trusses in their present form have no lateral bracing to the bottom chord and consequently the slenderness of this member is too high to resist the compression forces resulting from uplift.

These trusses can readily be made to comply with current wind load Code provisions with the addition of lateral bracing to the bottom chord.

4.4 FOUNDATIONS

This structure is founded on 305mm square reinforced concrete piles driven to rock.

The maximum end bearing stress exerted by these piles on the sandstone is 1950KPa which is considered to be a reasonable upper limit of bearing stress for this foundation arrangement.

4.5 WIND LOADING

Wind loading of this building is primarily resisted by brick infill panels acting as shear walls.

Care should be taken in future modification of this building to ensure that critical brick panels aren't removed without full consideration of thebuildings stability against wind loading.

5. POSSIBLE FUTURE ADDITIONS AND ALTERATIONS

It is highly unlikely that horizontal extension of this building will be considered due to the congestion of surrounding buildings.

The capacities of both the columns and the piled foundations are at present being fully utilised leaving no margin for vertical extension.

In view of spectacular view commanded by the cafeteria area of this building a highly probable alteration would be the removal of the upper panel of brickwork on the western face and its replacement with a facade with large glass areas.

This could readily be done with a light weight steel structure to support the existing steel trusses along this face.

APPENDIX 8 - SUGGESTED SIGNS FOR HISTORICAL ASSETS

There exists at present a number of painted signs on many of the historical assets on Garden Island. The idea is to be commended as it gives the workers and visitors to the Island some insight to the history and significance of the assets.

However, a number of the signs are incorrect and should be rectified.

Furthermore, as the use of some buildings has changed over the years and will change in the future it is recommended that the assets be known by their original names. This will help to reinforce their historical significance.

Details of the existing signs and the recommended ones are set out in the table below.

Building No.	Existing Statement	Recommended Statement
7 & 8		Gun Mounting Store Completed 1920 Classified by the National Trust
9		Additional Office Building Completed 1896 Altered 1928 and c 1940
16 - 20		Residences Group Completed 1895 Classified by the National Trust

(The words "on the Register of the National Estate" and "Classified by the National Trust" should be in smaller lettering than the rest of the details. As the building's status changes these signs should also be changed).

Building No.	Existing Statement	Recommended Statement
21 & 22	Residences for Overseers Completed in 1888	Two Residences Completed in 1886 Classified by the National Trust The Oldest Existing Building on the Island
25	BoatShed - This Building was brought out from England prefabricated in 1888	Boatshed Completed 1896 on the site of an earlier Boatshed A prefabricated building Classified by the National Trust
27	Main Office Building Completed 1892 Clock Tower was added in 1894	Office Building Completed 1895, extended 1924, 1936 & c1940 Clock is the original mechanical one On the Register of the National Estate Classified by the National Trust
31		Kitchen Completed 1888 On the Register of the National Estate Classified by the National Trust

Building No.	Existing Statement	Recommended Statement
32	Barracks Building completed in 1888. Lower two floors were designed to accommodate Royal Marine Garrison on Garden Island. The Second Floor was added as a Hospital.	Barracks Completed in 1888. Lower two floors were designed to accommodate the Royal Marine Garrison on Garden Island. The top floor consisted of Barracks for Warrant Officers and a Hospital. On the Register of the National Estate Classified by the National Trust
37	Rigging Shed and Sail Loft Built in 1887. Lower level used for Manufacture of Ropework and Flag Factory. First floor is Sail Loft and Dockyard Church.	Rigging House and Chapel Completed in 1887 Part of first floor converted to Dockyard Church in 1902 On the Register of the National Estate Classified by the National Trust
88	Battery Shed Completed in 1894 as a Paint and Oil Store. Now used for Charging Submarine Batteries	Anchor and Chain Store Completed in 1891 Classified by the National Trust
89	Naval Stores completed in1893 This building held all stores required for a warship	Naval Stores Completed 1894. Still retains the original water operated hydraulic Whips. On the Register of the National Estate Classified by the National Trust

Building No.	Existing Statement	Recommended Statement
95	Original Machinery Shop of the Dockyard 1890	Engineers Shop completed 1891 Third Bay added 1892 and Building renamed Factory. On the Register of the National Estate Classified by the National Trust
98		Lime Store Workshops Completed 1895 Classified by the National Trust
99		Spar Shed, Saw Mill & Dining Room Completed 1891 Classified by the National Trust
Asset No 163		Oil Tank Completed 1916 First of its kind in Australia
On wall of 95	A Ship's Garden was constructed on this site in 1788. The first crop grown in the Colony was harvested later that year.	A Ship's Garden was cultivated on this site from 11th February, 1788. The first crop was harvested later that year.

Building No.	Existing Statement	Recommended Statement
North end of Island	Site of Garden Island Stables	Site of Garden Island Stables from the 1920's
North end of Island	These rails circled Garden Island in 1894. They were used for a Mobile Steam Crane and Horse drawn trucks.	These rails formed part of the Island network. They were used by a Mobile Steam Crane and Horse Drawn Trucks
Tennis Courts	Tennis Courts built in 1880 by the Royal Marine Garrison of Garden Island	Tennis Courts Constructed 1895
Rock Carvings	The three sets of initials on these rocks were carved by seamen of HMS Sirius in 1788. Bronze Plaque "Probably the oldest marks extant of white settlement in Australia. Initials FM & IR with date 1788. FM believed to be Frederick Meridith a member of the crew of HMS Sirius, IR not known."	The Three sets of initials on these rocks were probably carved by men developing the Island as a Garden in 1788. "Probably the oldest marks extant of white settlement in Australia. Initials FM & IR with date 1788. Authors cannot be ascertained accurately."
Swimming Baths		Site of the original swimming baths constructed in 1888 and filled in in 1980.

APPENDIX 9 - ANALYSIS OF PAINT SAMPLES AND ORIGINAL COLOUR SCHEMES

This appendix provides details of a microscopic examination of samples of paint taken from most of the Historic Buildings on Garden Island.

Information from this analysis is used to determine a future colour scheme as part of conservation guidelines recommended in section 8. A suggested colour scheme is given in Appendix 10.

Method Adopted

(a) Samples of paint were collected from various places on the Historic Buildings. These samples were taken from locations where the paint was crazed and the paint easy to remove. Every endeavour was made to obtain a sample that went back to the substrate.

(b) Samples were set in a clear polyester casting embedding resin.

(c) The embedded sample was cut in half and one section sanded down to a smooth finish.

(d) The prepared samples were examined with a microscope (20x) to determine individual layers and the colour of each.
Standard colour charts BS 2660:1955 and BS 4800:1972 were used to define the colour of the samples. These charts permitted a comparison of colours under the microscope.

(e) The best colour match was obtained for each layer and the Standard's reference number and the Munsell Reference number recorded.

Points to Note

With this type of analysis there are several important points to consider.

(a) The individual layers are often very thin which makes interpretation of the colour difficult.

(b) The colour match is made by visual assessment and often colours from Standard Charts do not match precisely.

(c) Weathering of paint and painting over can affect colours.

(d) Areas from which the sample was taken may have been stripped back at some time which means that the base colour may not be the original nineteenth century colour. This is especially possible with the thinner samples with fewer layers.

(e) Many of the colours recorded would have been undercoats. Which layer was an undercoat and which a topcoat is often impossible to determine.

(f) Colours from Standards, meant to be identical, sometimes appear marginally different. This also influences the interpretation of the colour of a particular layer.

Analysis of Samples

The reference numbers for the samples refer to order of collection. Samples have been retained by the author and are available for further analysis.

The record of each sample is set out in the following way.

Building No.

Sample No.
Location from where sample was taken

Munsell Ref No BS4800:1972 Ref no
for all references containing
letters i.e. A, B, C
or
BS2660:1955 Ref no
for all references of numbers only

The top coat is specified first and each layer under recorded until the base coat, which is recorded last.

Building 7 & 8

Sample 25
Timber window Sill
East Side

N8.5	00A01
2.5YR7/6	2.031
5GY9/1	12B15
N8.5	00A01
5Y6/0.5	10A07
2.5YR4.5/2	2.029
7.5YR7/2	2.027
10YR9.25/1	08B15

Building 25

Sample 35
Door North Wall

2.5PB2/4	7.086
5Y9.25	10B15
7.5B3/4	18C39
5Y9.25/1	10B15
2.5YR7/6	2.031
10YR9/2	08C31
5YR8/4	2.030
10YR9/2	08C31
7.5R3/4	1.018
Dark Band	
7.5R3/4	1.018
7.5YR8/4	06C33
5G3/4	14C39
5Y8/2	10B17
Dark Band	
5Y8/2	10B17
5G2/2	6.068
8.75YR4/2	08B25

Building 22

Sample 31
South Wall Kitchen

N8.5	00A01
5PB8/2	8.087
5Y9.25/1	10B15
5GY9/1	12B15
10YR9.25/1	08B15
10YR9/2	08C31
5Y9/2	10C31
N8.5	00A01
2x10YR9/6	3.041
7.5YR8/4	06C33
5YR6/3	2.028
7.5YR7/2	2.027
7.5R3/4	1.018
10YR6/2	3.036
5YR8/4	2.030
10YR6/2	3.036
5YR8/4	2.030
10YR9/6	3.041

Building 25

Sample 21
North Wall

N8.5	00A01	
N7	00A05	
5Y8/08	10A03	
5GY9/1	12B15	
7.5YR8.5/4	2.026	
5YR1.5/4	3.039	
7.5YR7/2	2.027	
5YR1.5/4	3.039	
2.5GY2/2	12B29	Patchy
N8.5	00A01)	Mixed
N7	00A05)	

Building 22

Sample 32
South Wall Toilet

N8.5	00A01
5PB8/2	8.087
2.5YR7/6	2.031
N7	00A05
N8.5	00A01
10YR9.25/1	08B15
10YR8/2	3.035
5Y9.25/1	10B15
5Y8.5/4	10C33
5Y8/0.5	10A03
2x10YR9/6	3.041
7.5YR8/4	06C33
5YR6/3	2.028
7.5YR7/2	2.027
10R4/2	04B25
5YR8/4	2.030
10YR6/2	3.036
10YR8/2	3.035
5YR8/4	2.030

Building 25

Sample 36
Window North Wall

N7	00A05
White	
N7	00A05
10GY5/2	6.067
2.5G6/2	6.066
7.5YR8/4	06C33
7.5R3/4	1.018

Building 99
Sample 4
Bay Wall East Side

5B8/1	18B17
5PB8/2	8.087
Red Lead	
7.5YR7/2	2.027
2x7.5YR7/2	2.027
5YR8/4	2.030

Building 32
Sample 15
North Side Column

N8.5	00A01
N8.5	00A01
N8.5	00A01
5GY9/1	12B15
5Y9/2	10C31
5GY9/1	12B15
8.75YR2/2	08B29
5Y6/0.5	10A07
7.5R3/4	1.018
5YR6/3	2.028
2x2.5YR4.5/2	2.029
5YR6/3	2.028
7.5R3/4	1.018

Building 31
Sample 17
West Wall

N8.5	00A01
2x5Y6/0.5	10A07
N7	00A05
5Y6/0.5	10A07
5Y9.25/1	10B15
5B6/1	18B21
Silver/Metallic	
5Y8/0.5	10A03
Silver/Metallic	
7.5PB6/0.5	8.089
10YR7/6	08C35
10YR6.5/	3.043
10YR7/6	08C35
3x2.5YR4.5/2	2.029
2.5YR7/6	2.031
2.5YR4.5/2	2.029
2.5YR7/6	2.031
7.5YR7/2	2.027
5YR6/3	2.028
10YR7/6	08C35
5YR6/3	2.028
5YR8/4	2.030

Building 32
Sample 18
Balustrade North side

N8.5	00A01
N8.5	00A01
N8.5	00A01
5GY9/1	12B15
5Y9/2	10C31
5Y8/0.5	10A03

Building 31
Sample 19
Rendered Sill E Side

N8.5	00A01
5Y6/0.5	10A07
5B6/1	18B21
10YR9/2	08C31
5B6/1	18B21
5Y8/0.5	10A03
5G7/1	7.076
7.5YR8/4	06C33
7.5R3/4	1.018
8.75YR4/2	08B25
7.5R3/4	1.018
10YR6/2	3.036
2.5YR4.5/2	2.029
5YR6/3	2.028
2.5YR7/6	2.031
5YR6/3	2.028

Building 32
Sample 13
East Wall

N8.5	00A01
5Y8/2	10B17
2.5GY8/2	12B17
8.75YR6/2	08B21
2.5YR5/5	2.032
5YR6/3	2.028
2.5YR5/5	2.032
5YR6/3	2.028
5YR8/4	2.030
7.5YR7/2	2.027
Red Lead	

Building 31
Sample 20
Rendered Sill S Side

N8.5	00A01
10YR9.25/1	08B15
7.5YR7/2	2.027
N7	00A05
5Y6/0.5	10A07
5Y8/2	10B17
7.5B7.3	18C35
7.5R3/4	1.018
8.75YR4/2	08B25
7.5R3/4	1.018
10YR6/2	3.036
2.5YR4.5/2	2.029
2x5YR6/3	2.028
2.5YR4.5/2	2.029
2.5YR7/6	2.031
2.5YR4.5/2	2.029
5YR6/3	2.028
2.5YR4.5/2	2.029
5YR6/3	2.028
2x2.5YR4.5/2	2.029
5YR6/3	2.028

Building 32
Sample 14
Timber window west side

N8.5	00A01
5Y9/2	10C31
N7	00A05
N8.5	00A01
5Y9/2	10C31
N8.5	00A01
5Y9/2	10C31

Building 37
Sample 11
Rendered Sill S Side

5Y8/0.5	10A03
2x5Y9.25/1	10B15
8.75YR6/2	08B2 (Part)
7.5R6/10	1.022
5Y8/2	10B17
N7	00A05
5YR8/4	2.030
8.75Yr8/2	08B17
N7	00A05
7.5R3/4	1.018
7.5YR8.5/4	2.026
5YR8/4	2.030
7.5YR7/2	2.027

Building 37
Sample 28
Pilaster N Side

5Y8/0.5	10A03
2x5Y9.25/1	10B15
5YR8/4	2.030
N8.5	00A01
N7	00A05
5YR8/4	2.030
5Y8/2	10B17
2.5GY8/2	12B17

Building 37
Sample 10
Window Recess N Side

5Y8/0.5	10A03
5Y9.25/1	10B15
N8.5	00A01
2.5YR5/5	2.032
N7	00A05
7.5YR8.5/4	2.026
N7	00A05
5YR6/3	2.028
5YR8/4	2.030

Building 37
Sample 8
Bay Wall North Side

5Y8/0.5	10A03
2x5Y8/2	10B17
N8.5	00A01
Red Lead	

Building 37
Sample 30
Pilaster E Side (midway)

5B8/1	18B17
2z5Y9.25/1	10B15
7.5YR8.5/4	2.026
N8.5	00A01
7.5YR7/2	2.027
2.5YR4.5/2	2.029
7.5YR7/2	
Red Lead	

Building 88
Sample 5
Bay Wall S Side

2x5B8/1	18B17
5B6/1	18B21
N7	00A05
2x10YR9.25/1	08B15
5GY9/1	12B15
10YR9.25/1	08B15
10YR9/2	08C31
5Y6/2	10B21
N8.5	00A01
5Y6/2	10B21
2.5YR5/5	2.032
2x8.75YR6/2	08B21
Red Lead	

Building 37
Sample 9
Timber Window W Side

5Y8/0.5	10A03
5Y9.25/1	10B15
N7	00A05
Red Lead	

Building 37
Sample 29
Pilaster E Side (N End)

5B8/1	18B17
2x5Y9.25/1	10B15
8.75YR6/2	08B21
Red Lead	
N8.5	00A01
N7	00A05

Building 88
Sample 24
Pilaster N Side

5B8/1	18B17
5B6/1	18B12
N7	00A05
10YR9.25/1	08B15
3x8.75YR8/2	08B17
5Y8/2	10B17
7.5YR7/2	2.027
10YR7/6	08C35
Dark Band	
8.75YR6/2	08B21
Dark Band	
2.5YR5/5	2.032
8.75YR6/2	08B21
7.5R3/4	1.018
8.75YR6/2	08B21
Red Lead	

Building 37
Sample 7
Pilaster E Side (S End)

5Y8/0.5	10A03
2x5Y8/2	10B17
N8.5	00A01
Red Lead	

Building 37
Sample 12
Door East Side

5PB2/4	7.086
7.5B7/3	18C35
5YR8/4	2.030
7.5B3/4	7.085
10YR9/2	08C31
5Y9/2	10C31
Red Lead	

Building 88
Sample 37
Pilaster S Side

5B8/1	18B17
N7	00A05
5Y8/0.5	10A03
5Y9.25/1	10B15
2xN8.5	00A01
5GY9/1	12B15
7.5YR8/4	06C33
7.5YR3.5/4	3.045
5Y8/2	10B17
5YR6/3	2.028
2.5YR5/5	2.032
7.5YR7/2	2.027
7.5YR8.5/4	2.026
2.5YR7/6	2.031

Building 88
Sample 23
Door West Side

7.5B3/4	18C39
N8.5	00A01
Cont Dark Band	
8.75YR4/2	08B25
5Y8/0.5	10A03
5GY9/1	12B15

Building 95
Sample 16
Bay Wall E Side

N8.5	00A01
N7	00A05
5Y9.25/1	10B15
N7	00A05
5Y9.25/1	10B15
5YR6/3	2.028
7.5YR7/2	2.027
5Y8/2	10B17
5YR1.5/4	3.039
10YR9/6	3.041
5Y9.25/1	10B15
N8.5	00A01
3x5Y9.25/1	10B15

Building 99
Sample 3
Timber Window W Side

N8.5	00A01
10R8/2	04B17
5Y9.25/1	10B15
2.5YR7/6	2.031
N8.5	00A01
5Y6/0.5	10A07
5GY9/1	12B15
5Y6/0.5	10A07
5Y8/0.5	10A03

Building 89
Sample 22
Timber Window N Side

N8.5	00A01
2.5YR7/6	2.031
5Y6/0.5	10A07
5Y9.25/1	10B15
5Y7/2	4.048
2.5Y9/3	3.040
5Y8/0.5	10A03

Building 95
Sample 6
Pilaster S Side

5B8/1	18B17
N7	00A05
5Y9.25/1	10B15
7.5YR7/2	2.027
N7	00A05
10YR7/6	08C35
10YR8/2	3.035
5Y6/0.5	10A07
Dark Band	
2x5YR6/3	2.028
2.5YR5/5	2.032
5Y7/2	4.048
Red Lead	

Building 99
Sample 2
Pilaster W Side

N8.5	00A01
5GY9/1	12B15
10YR9/2	08C31
7.5R3/4	1.018
5YR6/3	2.028
5YR8/4	2.030
7.5YR7/2	2.027
Red Lead	

Building 95
Sample 34
Bay Wall East Side

2x5B8/1	18B17
7.5R8/4	04C33
White	5Y8/2
5Y9.25/1	10B15
7.5YR7/2	2.027
5GY9/1	12B15
2x5YR6/3	2.028
2.5YR4.5/2	2.029
5YR6/3	2.028
2.5YR4.5/2	2.029
5YR6/3	2.028
8.75YR8/2	08B17
Red Lead	

Building 95
Sample 26
Bay Wall E Side

N8.5	00A01
N7	00A05
5Y9.25/1	10B15
5Y8/0.5	10A03

Building 99
Sample 1
Pilaster E Side

N7	00A05
5B6/1	18B21
5Y8/2	10B17
10YR7/6	08C35
2x7.5YR7/2	2.027
2.5YR5/5	2.032
5YR8/4	2.030
7.5R3/4	1.018
Red Lead Sand Intermix	
2x5YR8/4	2.030

Building 95
Sample 33
Timber Window E Side

N8.5	00A01
5Y8/0.5	10A03
10B17	
5GY9/1	12B15
5YR1.5/4	3.039
10YR9.25/1	08B15
10R4/2	04B25
2.5Y9/3	3.040
10YR9/2	08C31
8.75YR2/2	08B29
7.5YR3.5/4	3.045
5G2/2	6.068
5Y9/2	10C31
Thin Dark Band	
5Y9/2	10C31
5G2/2	6.068
10GY5/2	6.067
2.5GY6/2	5.060
5G2/2	6.068

Building 99
Sample 27
Pilaster E Side

N8.5	00A01
5PB8/2	8.087
2.5YR7/6	2.031
8.75YR8/2	08B17
5Y8/2	10B17
7.5YR8/4	06C33
2.5Y8/4	3.042
10YR8/2	3.035
2.5YR5/5	2.035
7.5YR8.5/4	2.026
2.5YR5/5	2.035

APPENDIX 10 - A SUGGESTED COLOUR SCHEME

Introduction

The information provided in Appendix 9 gives a colour range used throughout the life of various Historic Buildings on Garden Island.

It can be concluded that stone colours predominated in the nineteenth century colour schemes and that about mid way through the life of the buildings (estimated at 1940's) a major change came and the colours became greys and whites.

Throughout the history of Garden Island the overall colour scheme has been fairly uniform with minor variations from one building to another.

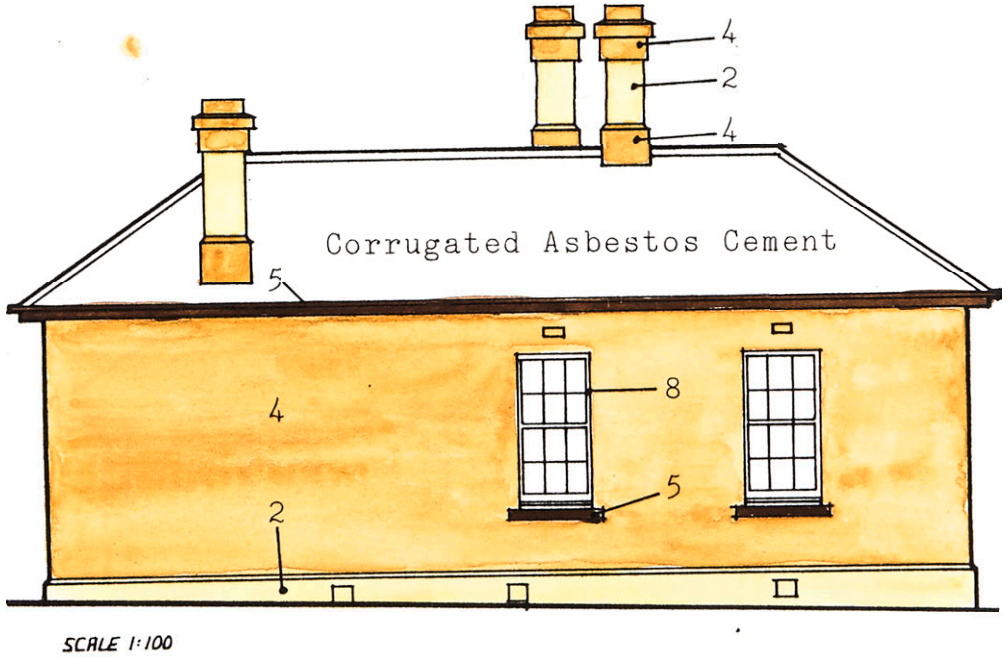
A study of early photographs is also essential to assist in resolving tonings of colours used.

From the microscopic analysis and the study of early photographs a colour range and individual colour schemes have been suggested.

The buildings which are totally painted are individually illustrated on the following pages. The colour scheme for the three buildings which only have small areas painted are specified below.

Building 7 & 8	All painted areas - white
Building 27	All painted areas - Brunswick Green
Building 89	All painted areas - Golden Tan.

APPROXIMATE MUNSELL REFERENCE	COLOUR	COMMON NAME
2.5 Y 9/4		1. LIGHT STONE
2.5 Y 9/6		2. BUFF
10 YR 8/8		3. DEEP BUFF
7.5 YR 6/8		4. GOLDEN TAN
7.5 YR 4/4		5. MIDDLE BROWN
2.5 YR 4/2		6. DARK RED/BROWN
10 GY 6/8		7. BRUNSWICK GREEN
WHITE		8. WHITE



ORIGINAL NORTH ELEVATION

KEY

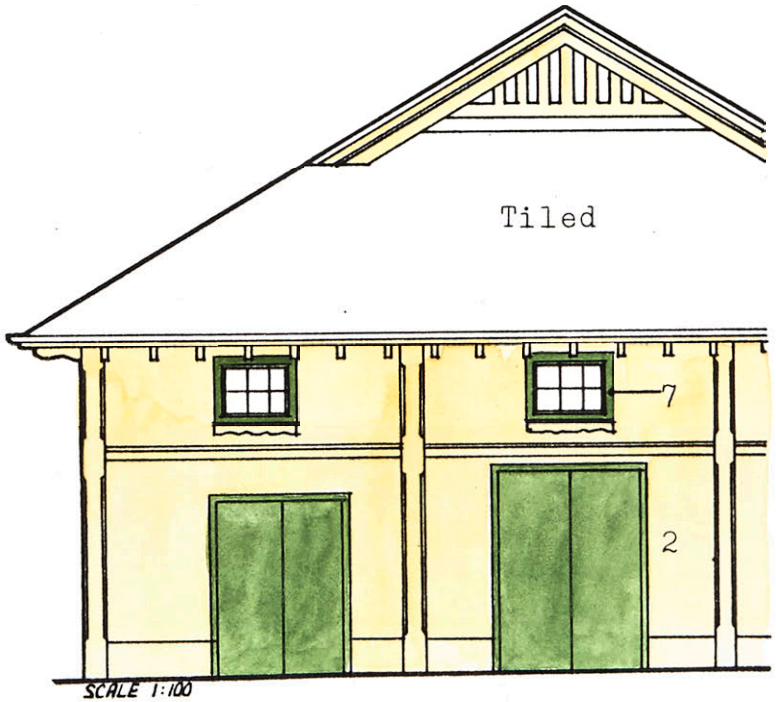
2. BUFF
4. GOLDEN TAN
5. MIDDLE BROWN
8. WHITE

SUGGESTED COLOUR SCHEME FOR BUILDING 21 & 22: TWO RESIDENCES

KEY

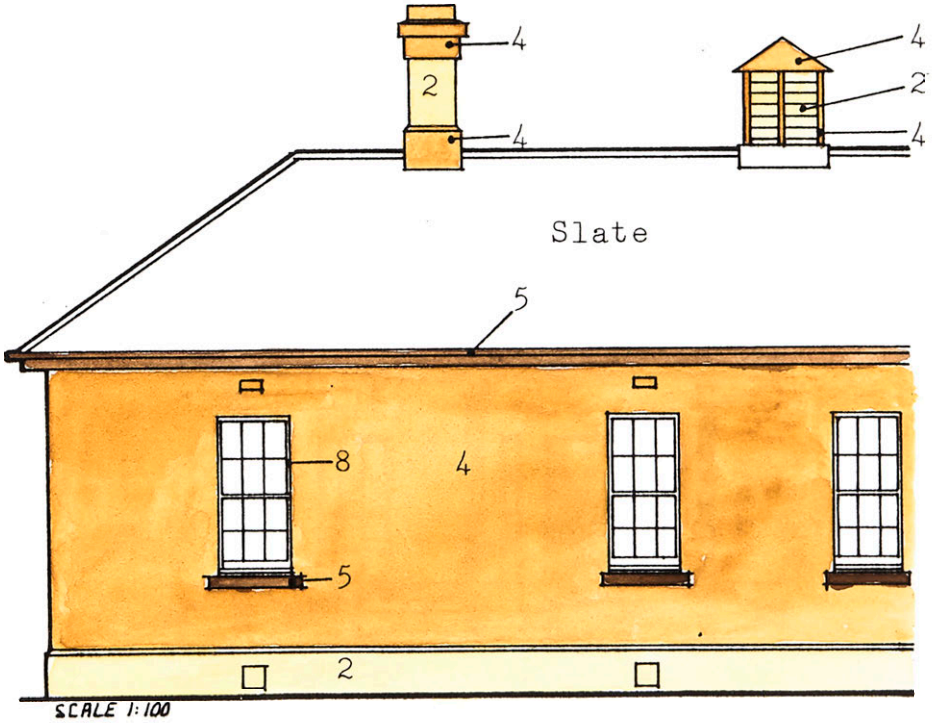
2. BUFF

7. BRUNSWICK GREEN



PART OF SOUTH ELEVATION

SUGGESTED COLOUR SCHEME FOR BUILDING 25: BOAT SHED

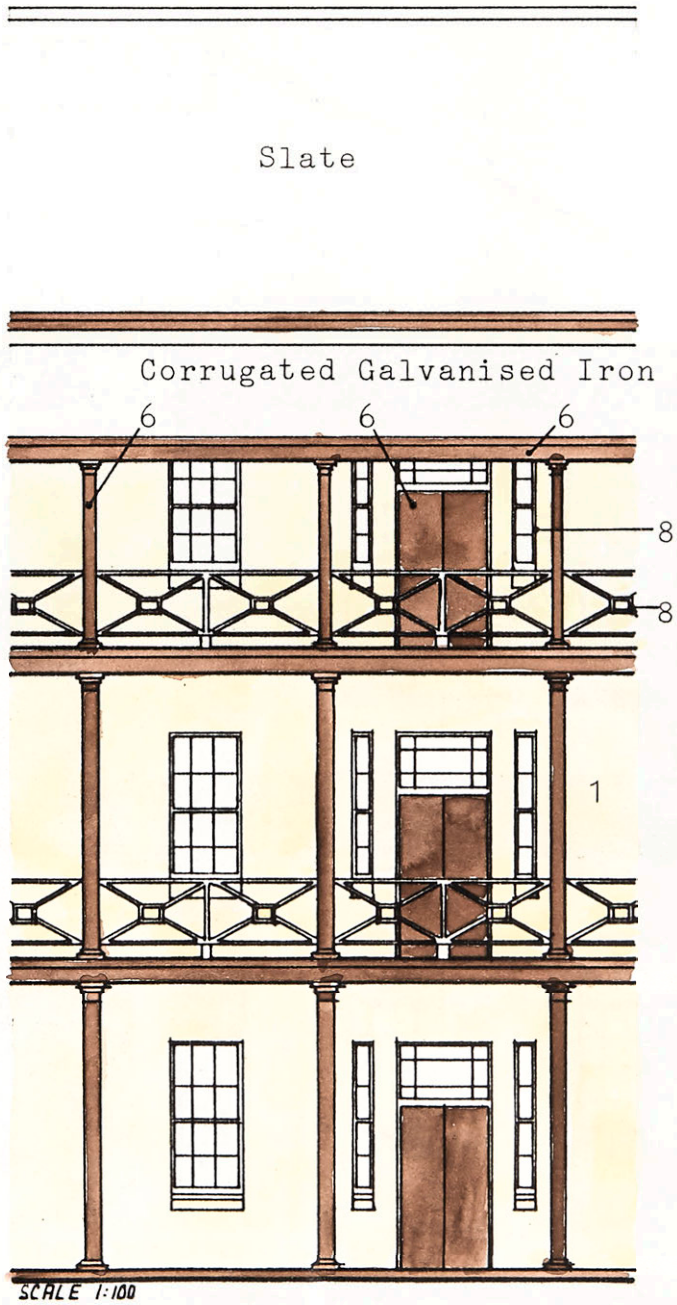


PART OF EAST ELEVATION

KEY

2. BUFF
4. GOLDEN TAN
5. MIDDLE BROWN
8. WHITE

SUGGESTED COLOUR SCHEME FOR BUILDING 31: KITCHEN



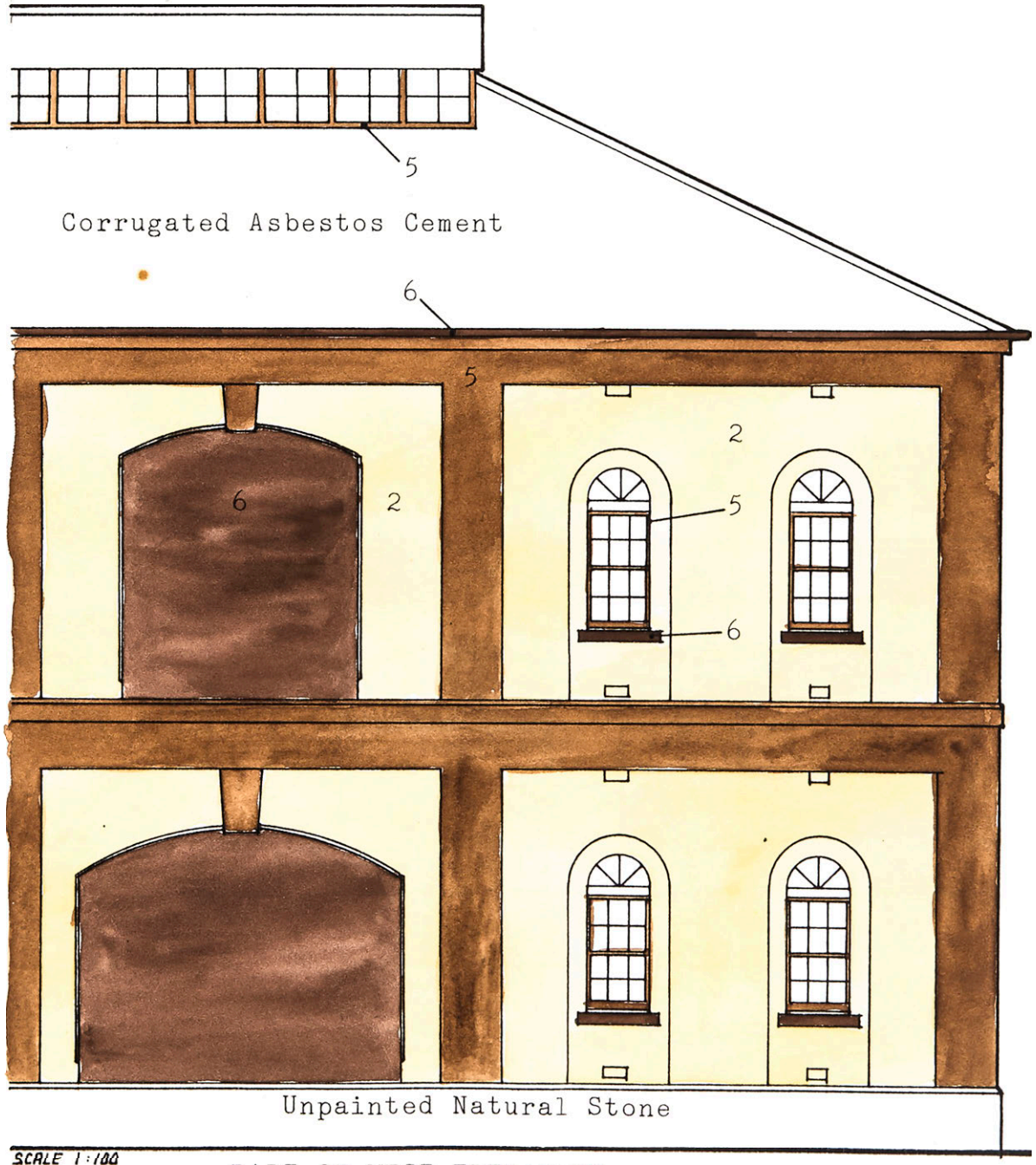
PART OF WEST ELEVATION

KEY

1. LIGHT STONE
6. DARK RED/BROWN
8. WHITE

Window Sills on the other Elevations to be painted Dark Red/Brown,

SUGGESTED COLOUR SCHEME FOR BUILDING 32: BARRACKS



PART OF WEST ELEVATION

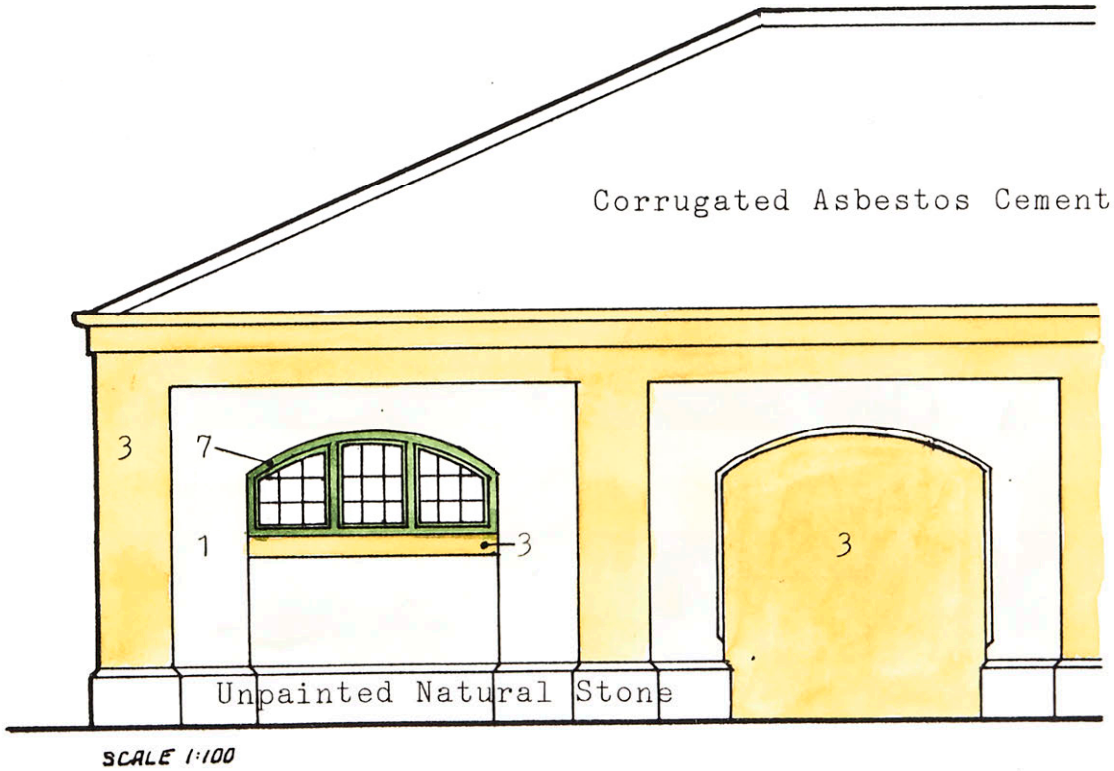
KEY

2. BUFF
5. MIDDLE BROWN
6. DARK RED/BROWN

SUGGESTED COLOUR SCHEME FOR
BUILDING 37
RIGGING SHED & CHAPEL

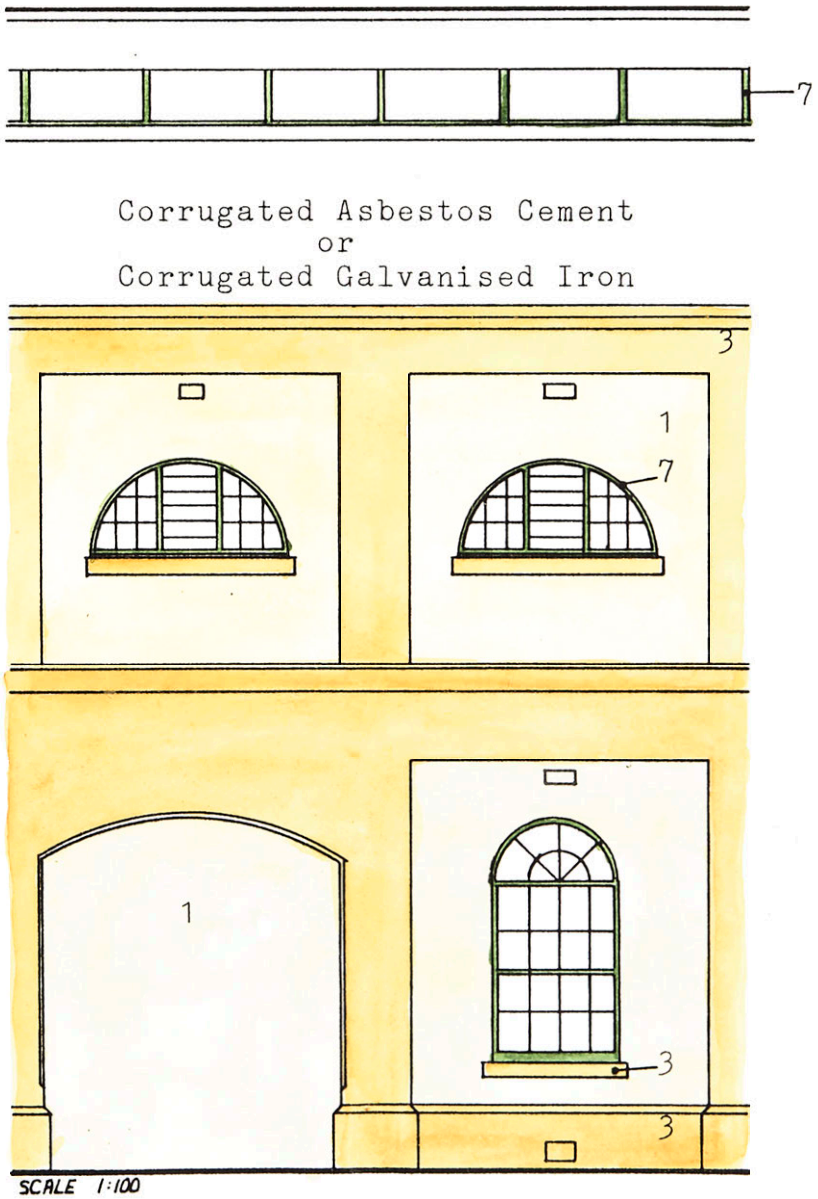
KEY

1. LIGHT STONE
3. DEEP BUFF
7. BRUNSWICK GREEN



PART OF WEST ELEVATION

SUGGESTED COLOUR SCHEME FOR BUILDING 88: CHAIN & ANCHOR STORE

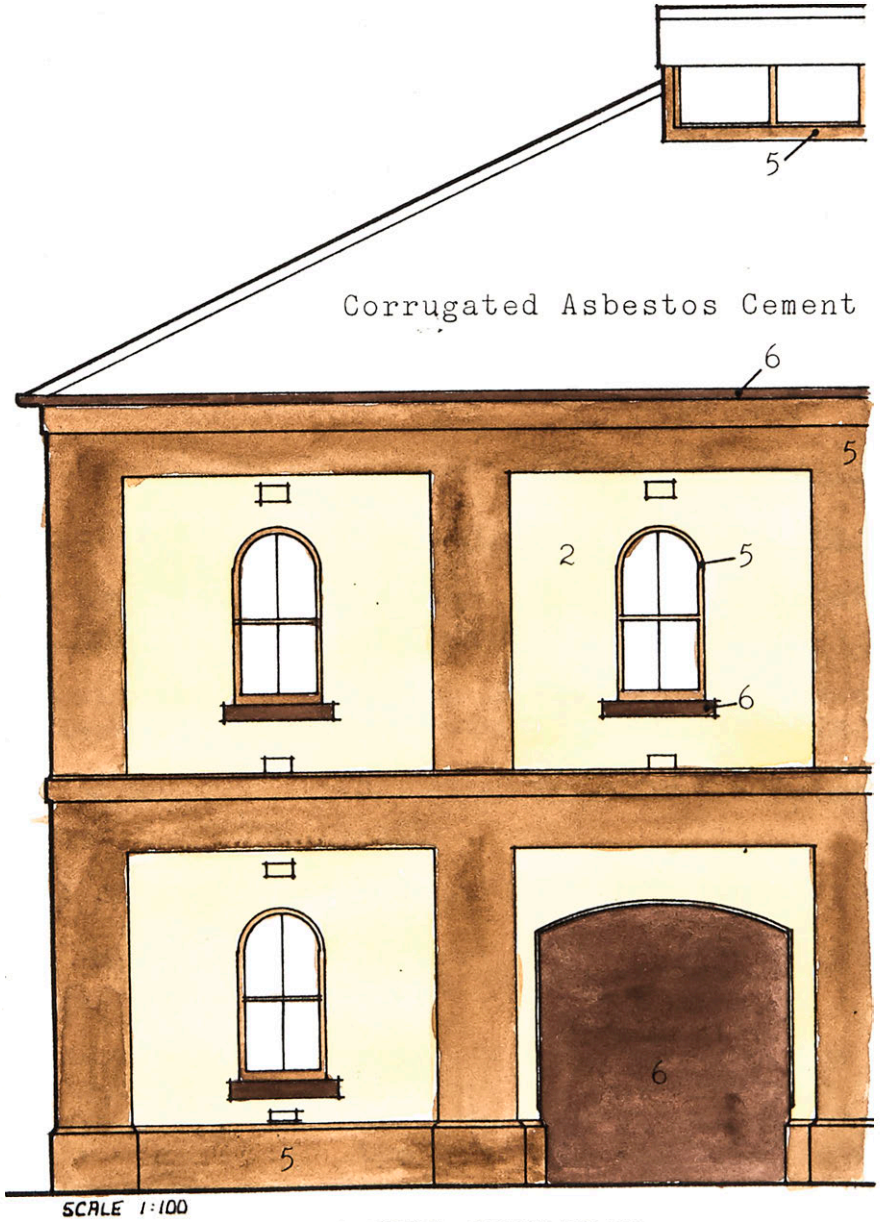


PART OF EAST ELEVATION

KEY

1. LIGHT STONE
3. DEEP BUFF
7. BRUNSWICK GREEN

SUGGESTED COLOUR SCHEME FOR BUILDING 95: FACTORY



PART OF WEST ELEVATION

KEY

2. BUFF
5. MIDDLE BROWN
6. DARK RED/BROWN

SUGGESTED COLOUR SCHEME FOR
BUILDING 99
SPAR SHED, SAW MILL & DINING ROOM

H.M.A. NAVAL DOCKYARD, GARDEN ISLAND - AN ANNOTATED BIBLIOGRAPHY

Aarons, F. "Forgotten Graves on Garden Island - Boongarie and Judge Bent", Sunday News, 22nd June, 1924.

This article relates briefly some isolated incidents in the history of Garden Island and mentions a number of persons buried on Garden Island. Details inaccurate in several places.

"Admiral's Memorandum", Sydney Morning Herald, 4th July, 1913.

Very brief statement by Admiral King-Hall at the time of the handing over of the Navy Establishments to the Royal Australian Navy, by the Admiralty.

Australia. Department of Defence. Australian Naval History, A.G.P.S., Canberra, 1977.

A summarized form of An Outline of Australian Naval History (see below).

Australia. Department of Defence. Navy Public Relations Section. Facts and Figures on H.M.A. Naval Dockyard Garden Island, (n.p.), 1977.

This outlines briefly some facts and figures on Garden Island including an outline management structure and manpower resources of the Dockyard in 1977.

Australia. Department of Defence. Navy Public Relations Section. Functions of H.M.A. Naval Dockyard - Garden Island, (n.p.), 1977.

A leaflet setting out details of the functions of the Naval Dockyard in 1977.

Australia. Department of Defence. Navy Public Relations Section. Summary of History of Garden Island, (n.p.), 1978, PR3/78.

This provides a two page brief outline of the history of Garden Island from 1788 to 1977. It is good for a brief outline, but contains one error. The date of commencement of development of the Naval Station should in fact read 1886 instead of 1866 as mentioned in this reference. The National Trust Register contains the same error which possibly came from the same source.

Australia. Department of Defence. Navy Public Relations Section. Welcome to Your Dockyard, Sydney, 1970, 1978.

This newspaper is presented to new employees on Garden Island and provides an illustrated guide to the history of Garden Island and the development of it to the 1970's. A useful reference for a general overview of history and activities on the Island to 1979.

Australia. Department of Defence. An Outline of Australian Naval History, A.G.P.S., Canberra, 1976.

This illustrated booklet provides an excellent short history of the Royal Australian Navy. Its direct relevance to the development and work on Garden Island is limited, but good for background information on the Navy.

Australia. Department of Home Affairs. Heritage Commission, File 1/12/036/0369, (n.p.)

The useful information from this file includes:

(a) an evaluation and report on some of the historic buildings on Garden Island;

(b) a history of Garden Island from1787 to 1977. This appears as if it has been taken from the reference "Garden Island 1788 to 1932", Navy, Army and Air Force Journal, vol 1 no 2, April, 1932 to vol1 no 8, October, 1932 with additional information to cover the period from 1932 to 1977. A good history of the Island.

(c) Several other references to information on the Register of the National Estate.

Australia. Department of Housing & Construction. Garden Island NSW Modernisation Stage 1, (n.p.) May 1980.

A statement of evidence and supporting drawings that were presented to the Parliamentary Standing Committee on Public Works, for the Stage One Proposals of the Modernisation.

Australia. High Court. Commonwealth Law Reports, ed. A.H. Hayball, Law Book Co. Melbourne.

Vol 38 (1926-27) p 74-130. This gives a transcript of the Full Bench of the High Court considering the case referred to it by Justice Starke. It confirms the NSW Government's entitlement to Garden Island. Very little use as all the details used in arriving at their decision are included in the earlier transcripts.

Vol 42 (1928-30) p 69-80. An account of the Privy Council Hearing of January 1929 endorsing the above decision.

Australia. High Court. Record of Proceedings, No. 15 of 1924, State of N.S.W. vs The Commonwealth of Australia, Sydney, 1926.

This is an account of the hearing before Justice Starke relating to the ownership of Garden Island. The main value of these proceedings lies in the wealth of records which are included in various attachments. These records include letters relating to the transfer of Garden Island to the Navy in lieu of Port Macquarie in 1857 and every other important aspect to 1924. It contains many references to the buildings on Garden Island, but these were taken primarily from the Public Works Departmental records.

Australian Association for Maritime History, Newsletter No. 2, April, 1980.

This provides a commentary on Mr. Lew Lind's article published in Ports of New South Wales, September, 1979, entitled "Garden Island - More Than Just a Naval Base", and discusses the accuracy of the details provided about the cannons on Garden Island.

Australian Photographs, (n.p.), (n.d.), (Mitchell Lib Ref. Q980.1/A)

A set of undated photographs compiled into one album, this contains a good photograph of Garden Island before the southern hill was levelled. Date most probably in the 1870's.

Baglin, D. and Y. Austin, Sandstone Sydney. Rigby, Sydney, 1976, p 131.

A very brief mention of fortifications of Garden Island in 1800.

Baglin, D. and P. Moffit, The Australian Verandah. Ure Smith, Sydney, 1976, p 118.

Contains little more than a few notes about the Barracks Building and Garden Island in general.

Balfour, A., Portsmouth. Studio Vista, London, 1970.

A review of the significant buildings in Portsmouth and the surrounding area. It has a good coverage of the 170 buildings, including 28 from the Dockyard constructed between the seventeenth century and 1904 and one from 1965.
It is the best book found covering any architectural work in the Dockyard at Portsmouth and reveals very little similarity with those buildings on Garden Island.

Balint, E., Building Heritage: A Brief History of Building. Sydney, 1979.

This book provides a brief outline of building, techniques and technology at various ages. It is useful for placing a building under consideration in context with the developments at a particular time.

Barnard, M., A History of Australia. Australian Classics Edition, Angus and Robertson, Sydney, 1976, pp. 54, 452, 472, 473.

A good short history of Australia which covers briefly the naming of Garden Island and the development of the Australian Navy.

Barnet, James, "Architectural Work in Sydney, New South Wales 1788 - 1899", The Journal of R.I.B.A., third series, vol 6, no 17, 1899, pp 508-518.

This article gives an account of the state of architecture in Sydney in the 1890's. It provides no information on works on Garden Island, but does give some insight into Barnet's attitude to architecture of the time.

Barnet, James, Corresondence re repairs to Tombs and Vaults on Garden Island, 1864, held in the Archives Austhority of N.S.W. (Box no 2 - 642A).

A primary source providing information on the request to repair the tomb and vault and to execute the work.

Barnet, James, Personal Papers held in Mitchell Library, Sydney (Ref ML MSS 726).

These contain various notes and reports, including some correspondence with related notes and papers, his Clerk of Works diary relating to work at Sydney University and his diary of 1885. Except for his diaries and a couple of letters, the collection consists of extracts from Public Works Departmental reports. A primary source of limited use.

Bethel, W.E., "When Harbour Beauty was in Jeopardy - Garden Island Lost to People", Sydney Sun, 23rd April, 1938.

Provides a brief history of Garden Island to 1890.

Barrington, George, Account of a Voyage to NSW in1803. London, 1810, p 472.

A primary source that contains only one paragraph relating to Garden Island and one

drawing. It gives a description of Garden Island as it was in 1803. The drawing is an excellent one as it is theonly evidence which shows the first substantial dwelling on the Island (Braithwait's House).

Birch, A. and D.S. Macmillan (eds.), The Sydney Scene 1788-1960. Melbourne University Press, 1962, pp 380-383.

Within this book is a useful bibliography of references relating to various aspects of Sydney history, some of which are useful for information on Garden Island.

Bradley, William, A Voyage to N.S.W. 1786-1972. Reproduction in facsimile by Trustees of the Public Library of N.S.W. in association with Ure Smith, Sydney, 1969.

Contains several references to incidents relating to Garden Island in the years 1788-1791.

Brady, E.J., Sydney Harbour. Sydney, 1903.

This describes a journey up Sydney Harbour with some illustrated references to the stage of development of Garden Island in 1903.

"Bungaree", Australian Dictionary of Biography, 1788-1850. vol1, Melb. Uni. Press, 1966

A brief outline of the life of Bungaree, (sometimes spelt Boongaree or Bonngaree).

"Charge against Colonial Architect's Department", Sydney Morning Herald, 25th July, 1889.

The charge was laid by Colonel De Wolski and charges the Colonial Architect's Department with an incorrect method of mounting of gun emplacements around Port Jackson. None of these guns was on Garden Island.

Churchill, J., "The Tower Building at Garden Island", R.A.N. Social & Sporting Magazine, Sept/Oct, 1974, p 16, 17.

A fairly detailed account, illustrated, of the office building on Garden Island. It is useful for a description of the building and its history, but the information in respect of the cost of the building is incorrect.

Clune, F., Saga of Sydney. Halstead Press, Sydney, 1961, p 41.

A very brief description of the naming of Garden Island and the naval history associated with the Island. Contains photographs of the Island, one in 1887 and one in 1961.

Cobley, J., Sydney Cove 1788. Hodder and Stoughton Ltd., London, 1962.

This is in effect a republication of original material and may be considered a primary source. It gives a very detailed account of activities associated with the colony including Garden Island in 1788. Contains log entries, legal and other historical records of the period. An excellent collection of original material including references to Garden Island some of which are not covered in other sources.

Collins, David, An Account of the English Colony in N.S.W. vol 1 1798, vol 2 1802. Australiana Facsimile Edition No 76, produced by Libraries Board of South Australia, Adelaide, 1971.

As Judge Advocate of the Colony, Collins has recorded many aspects of the history of the Colony including a number of events relating to Garden Island from 1788-1799. A primary source of value for the history of the Island during this period.

"The Colonial Architect, long and worthy career - the comtemplated Government Reforms," The Australian Star, 17th September, 1890.

This article discusses Barnet's dismissal and the proposed reorganisation of the Colonial Architect's Department.

"Commodore Goodenough", Australian Dictionary of Biography 1851 - 1890, vol 4, Melbourne University Press, 1966, p 263.

A brief account of his life.

Cross, Bob, "Sydney under Seige", Ports of New South Wales, Vol 1, no 1, June 1978, pp 9 - 12.

Contains nothing more than a brief description of the Japanese submarine attack on Sydney.

"Death of Boongarie", Sydney Gazette, 27th November, 1830.

This article tells of the death of Boongarie on Garden Island and proposals to inter him at Rose Bay.

Dixson, Sir William, "Garden Island, Port Jackson - Duel Fought", Royal Australian Historical Society Journal and Proceedings, vol 27, part 3, 1941, p 244.

This article retells an item from the Monitor of 2nd April, 1828 concerning a duel being fought on Garden Island.

"Domestic Intelligence", Monitor, 2nd April, 1828.

An account of a duel fought on Garden Island.

"Domestic Intelligence - Fortifications", Sydney Herald, 14th January, 1839.

A small article advising that preparations were being made to level the Island.

Dunabin, T., "In Garden Island's Garden", Sydney Telegraph, 21st November, 1933.

An article providing a brief history of isolated incidents relating to Garden Island. Also contains an aerial photograph of the Island in 1933.

Dymocks, W., Views of Sydney and New South Wales with Panorama of Port Jackson. Dymocks Book Arcade, Sydney, 1899.

This contains two pictures of Garden Island but they show very little with respect to the development of the Island at the time. Text includes a few general references to isolated incidents in its history.

"Ellis Bent", Australian Dictionary of Biography, 1788 - 1850, vol 1, Melbourne University Press, 1966.

A brief outline of the life of Ellis Bent.

Emanuel, G., Sydney Harbour Sketchbook. Rigby, Sydney, 1976, p 24.

A very brief illustrated outline of the history of Garden Island. Provides no information that cannot be found in most other sources.

"Figureheads at Garden Island - Satisfying Curiosity", Daily Telegraph, 29th August, 1925.

Provides a brief illustrated history of the figureheads on Garden Island.

Forde, J.M., Album of Newspaper Illustrations, vol 5 p 111, (n.p.), (n.d.) (Mitchell Library Ref Q990.1/F).

This contains a picture of Garden Island in August 1904 and mentions the southern half of Garden Island as being almost completely covered with buildings and as being used as a Naval Base.

Foster, A.G., "The Sandhills - An Historic Cemetery", Royal Australian Historical Society Journal and Proceedings, vol 5, part 2, 1919, p 170.

The fact that there were graves on the Island in the late 1820's is mentioned.

Fowell, Mansfield, Jarvis and Maclurcan P/L, Customs House Sydney, (n.p.) Historical Report prepared by the Architects for the Department of Housing and Construction, 1980.

A brief account of the history of James Barnet is included. Provides no information which cannot be obtained from most other sources.

Freame, W., "Garden Island and its Past", Sunday News, 19th September, 1926.

Provides a brief history of Garden Island and mentions the 1926 High Court decision that the Island remainswith N.S.W.

Freeland, M., Architecture in Australia - A History. Pelican, Melbourne, 1968.

A well written outline History of Architecture in Australia which provided a background to the era of the Garden Island development. It also very briefly mentions James Barnet and some of his work.

Frost, L. Royal Photographic Albumof Australia. (n.p.), (n.d.), (Mitchell Library Ref Q981.1/F)

Contains two photographs, one of Garden Island in the distance and one good photograph of Garden Island before the southern hill was levelled (c1877).

"Funeral of Captain Logan", Sydney Gazette, 25th November, 1830.

This article tells of the burial service of Captain Logan.

"Garden Island", Sydney Morning Herald, 11th February, 1907.

A few comments about the Navy and Garden Island including a list of the Captains in Charge between 1891 and 1907. A few interesting comments on Garden Island of 1907.

"Garden Island", A photograph from the Daily Telegraph, 27th May, 1911.

This photograph is taken from Mrs. Macquarie's Chair and shows Garden Island. Very few

details with respect to the buildings on the Island at that stage are perceivable.

"Garden Island", Royal Australian Navy Social and Sporting Magazine, vol 20, no 3, April, 1972.

A good account of the history of the people and the ships associated with the naval stores on Garden Island since its construction as a major naval base in the 1890's. It does not contain very much information on the Stores Building itself.

"Garden Island", The Australian Encyclopedia, vol 4, The Grolier Society of Australia, Sydney, 1977.

A very brief description of the history of Garden Island.

"Garden Island 1788 - 1932", Navy, Army and Air Force Journal, vol 1, no 2, April, 1932 to vol 1, no 8, October, 1932.

A very detailed and analytical account of the history of Garden Island and the Royal Australian Navy from 1769 to 1932. It seems to have been based primarily on the work of V.W. Thompson, but is in a more succinct form. A few minor errors have occurred in the rewriting. One of the best and most detailed accounts of the history of Garden Island, but contains little information about architectural works.

"Garden Island - Early Associations - Historical Reminiscences", Sydney Morning Herald, 4th July, 1913.

Written at the time of the Admiralty's handing over of the Navy Establishments to the Royal Australian Navy, this article mentions some incidents in the history of Garden Island.

Garden Island Modernisation Planning Team (GIMPT), Garden Island Modernisation Project, Sydney, 1977.

A small public relations pamphlet explaining what the Garden Island Modernisation Proposals are and how the community could participate in the preliminary planning.

Garden Island Modernisation Planning Team, Garden Island (N.S.W.) Modernisation - Draft and Final Environmental Impact Statement, A.G.P.S., Canberra, 1979.

This gives a detailed assessment of the impact of the proposed modernisation scheme which includes a small section on the Historic Buildings and artifacts. It also covers the history of Garden Island.

Garden Island Modernisation Planning Team, Garden Island Modernisation Study Report, Vols 1 -10, May, 1979. (n.p.) Report for the Department of Defence.

The preparation of ten volumes was assisted by various consultants to the team and covered the following areas:

Vol 1 Executive Summary; Vol 2 Study Summary Report; Vol 3 Urban Planning & Transport; Vol 4 Architectural Planning & Controls; Vol 5 Engineering Services; Vol 6 Maritime and Structural Engineering Planning; Vol 7 Industrial Engineering; Vol 8 Economics Evaluation; Vol 9 Details of Functional Requirements; Vol 10 Asset Report and Future Usage.

These reports are an assessment of the existing conditions, projected demands and basic guidelines proposed for future development of the Island.
They cover the area in some detail and provide a good basis from which Modernisation Proposals can grow.

"Garden Island Naval Depot - A Gigantic Undertaking", Daily Telegraph, 24th April, 1889.

A reasonably detailed account of the development of Garden Island as a major naval base to 1889 and an indication of the proposed development. It provides few details on the individual buildings.

"Garden Island Past and Present: Empire's Second Largest Naval Base", Evening News, 24th August, 1907.

A brief account of the history of Garden Island including the development of it as a major Naval Base between 1886 and 1896. Data not always correct but it does contain several interesting comments on Garden Island in 1907.

"Garden Island - Start of a New Regime", Evening News, 2nd July, 1913.

Relates to the transfer of Naval Establishments from the Admiralty to the R.A.N.

"Garden Island - What of the Future - Links with the Past", Daily Telegraph, 15th May, 1923.

Provides a very brief history and refers to discussions about the ownership of Garden Island.

"Government Order No. 39 Colonial Secretary's Office, Sydney 8th June, 1829", Sydney Gazette, 9th June, 1829.

Following the declaration that Garden Island formed part of the Domain in 1811, there was no reference in this article that it was still included as public land.

"Government Public Notice", Sydney Gazette, 17th October, 1812.

In specifying the whole of the Domain, Garden Island is not included although in a notice in 1811 it was.

"Governor Bligh and Colonel Johnston", Sydney Gazette, 3rd May, 1826.

A mention that Garden Island was once a receptacle for the sick.

Gowland, J.T.E., Plan of Garden Island, 1874. (Mitchell Library Ref F981.11/G)

A large (51½" x 25½") plan of Garden Island in 1874 containing sections and plans, but no contours. It also shows location of and sketch plans for proposedimprovements which included a Boat House and Stores.

Grant, James, The Narrative of a Voyage of Discovery Performed in His Majesty's Vessel 'The Lady Nelson', of sixty tons Burthen, with Sliding Keels, in the years 1800, 1801, and 1802, to New South Wales. T. Egerton, London, 1803. pp 81, 87.

A brief account of Grant taking over the use of Garden Island and Dr. Brandt's authorisation to reside there in Grant's absence.

Heaton, J.H., Australian Dictionary of Dates and Men of the Time. George Robertson, Sydney, 1879.

Contains a brief history to 1879 of James Barnet and references to other people associated with the early history of Garden Island including Boongarie, Ellis Bent, Captain Logan and Major Ovens. The information is incorrect in several places.

Henderson, C.W.T., "Origin of some Sydney Harbour Place Names", Port of Sydney, vol 9, no 2, September, 1965, p 58.

This article provides nothing more than a statement on how Garden Island got its name.

Herman, M., The Architecture of Victorian Sydney. 2nd ed. Angus & Robertson, Sydney, 1964.

A brief description of architecture at the time when Garden Island buildings were constructed. Contains useful background information.

Historical Records of Australia. Ed. F. Watson. Series I, vols i-xxvi (1788-1848): Governors' Dispatches to and from England. Published by the Library Committee of the Commonwealth Parliament.

A primary source providing several references to Garden Island including:

Vol ii, 1797-1800, p 668 gives a return of guns and a state of batteries at Sydney on October 1st, 1800.

Vol iii, 1801-1802, pp 46, 184 advises that Garden Island was appropriated to the 'Lady Nelson' and gives a state of the batteries and return of ordinance at Port Jackson, 21st August, 1801.

Vol ix, 1816-1818, pp 317, 864 includes correspondence between Justice Bent and Governor Macquarie of 15th February, 1817 and a notice of the death of Justice Bent's brother Ellis Bent and the transfer of his remains to Garden Island.

Historical Records of New South Wales. Various editors. Vols i-vii (1762-1811).

This is a primary source.

Vol ii pp 399, 694 covers Sirius log book records between 1788 and 1789.

Vol iv pp 152, 198, 288, 496 covers the fortifications on Garden Island in 1800.

Vol vi pp 169ff includes the letter from ex Governor King to Governor Bligh on 20th August, 1806 which gives an account of the history of Garden Island to that time.

Vol vii p 585 covers the Government and General Notice of 7th September, 1811 which defines Garden Island as being part of the Domain.

"Historical Relics on Garden Island - Romance of Early Australia", Sydney Morning Herald, 15th March, 1930.

An illustrated brief history of relics on Garden Island.

"History of Garden Island", Royal Australia Historical Society Misc Notes File, (n.d.), (n.p.)

A brief outline of the key details of thehistory of Garden Island from 1788 to 1896.

Houison, J.R.S. "Excursion - Garden Island", Royal Aust. Hist. Soc. Journal & Proc. vol 23 part 5, 1938, pp 390, 391.

A brief mention of some aspects of the early history of Garden Island taken from Historical Records of NSW.

Hyslop, R., Australian Naval Administration 1900 - 1939. Hawthorn Press, Melbourne, 1973.

The book is mainly a study in public administration written from a Navy Office point of view. It does however briefly mention Garden Island's early development and the relationship between Garden Island and Cockatoo Island.

"Islands in Sydney Harbour - Garden Island", Port of Sydney, April, 1952, p 224

This article contains a detailed account ofthe history of Garden Island from 1788 to 1952, including a number of historic photographs and other illustrations. It is a useful starting point for research.

"Islands of Sydney - Now there are Nine," Sydney Morning Herald, 5th July, 1941.

Provides information on the naming of Garden Island and its inclusion as part of the Domain in 1811.

Johnston, D.L., James Barnet - Colonial Architect 1865 - 1890. (n.p.) 1966. Thesis (B. ARch (Hons)). University of N.S.W.

A brief account of the life of James Barnet and a more detailed account of nine of his major works, of which Garden Island is not one. It falls short in the description of Barnet's later life as the Colonial Architect.

Keesing, N., Garden Island People. Wentworth Books, Sydney, 1975.

An interesting story of Garden Island people written by one of the office staff who worked in Canary Cottage during W.W. 2, but containing few historic facts. Mainly fiction.

Kelly, M. (ed), Nineteenth Century Sydney - Essays in Urban History. Sydney University Press, 1978.

Useful for its selected bibliography which is partly annotated.

Kenny, T., Potts Point - Originally Paddy's Point. J.C. Trenear, Sydney, 1975, p 42.

Contains an 1871 map of the Parish of Alexandria County of Cumberland which includes a small map of Garden Island.

"Lady of the Isle - Dull Life for Modern Maiden", Sydney Sun, 14th January, 1922.

Provides an illustrated history of the figurehead 'Lady of the Isle'.

"Law Reports", Sydney Morning Herald, 7th June, 1892 - 7th July, 1892.

This provides a detailed account of the Supreme Court hearing of the case of the Attorney-General v McLeod who was the contractor for the Bare Island work. It is a follow up from the Royal Commission into Defence Work of 1890. No information on Garden Island work.

Lind, L.J., "Garden Island - More than Just a Naval Base", Ports of New South Wales, vol 2, no 6, September 1979, pp 27-33.

This is a reproduction under a different title of Mr. Lind's article "Old World Charm on Sydney's Shores" published in Triad No. 14, Winter 1979. (See below).

Lind, L.J., "Old World Charm on Sydney's Shores", Triad, no 14, Winter 1979.

A fairly detailed account of Garden Island covering the history of the Island, buildings and relics. Historical data is inaccurate in several places.

Macdougall, D.G., "Some Treasures on Garden Island", The Home, April 1933, pp 24, 28-30, 58.

A short article on the Chapel and the Ships' Figureheads including their history and some photographs from 1933.

McDonald, D., "James Johnstone Barnet (1827-1904)", Australian Dictionary of Biography: Vol 3 1851-1890. Melbourne University Press, 1966, pp 100-102.

A good brief description of the life of James Barnet, and some of his main work.

McDonald, D., "James Barnet - Colonial Architect 1865-1890", Royal Aust Hist Soc J & Proc, vol 55, part 2, October 1968, pp 124-140.

An accurate and detailed account of the life of James Barnet including an appendix of main buildings constructed under his control as Colonial Architect.

McDonald, D.J., Personal papers held at National Library, Canberra.

These papers contain quite a deal of information relating to the life of James Barnet but very little about his involvement with Garden Island work. The papers relate to Mr. McDonald's published works mentioned above.

McGuanne, J.P., "Bennelong Point and Port Macquarie", Royal Aust Hist Soc J & Proc. vol 1, part 1-12, 1905, pp 135 & 138.

An account of the fortification of Garden Island in 1800 and the death of Major Ovens taken from the Historical Records of Australia.

McGuanne, J.P., "Old Government House, Sydney", Royal Aust Hist Soc J & Proc. vol 1, parts 1-12 1905, pp 12 & 78.

A very brief mention of two aspects in the history of Garden Island - one the dedication of the Island in the 1860's and secondly some information from the Sydney Gazette, 13th May, 1826 where it mentionsthat Garden Island had been a receptale of the sick.

McKee, H., Recording Historic Buildings. Prepared for U.S. Department of the Interior, National Park Service. Washington, 1970.

An excellent book on the many aspects of recording historic buildings giving precise details for all relevant items.

McLaurin, M.D., "Our Harbour Islands", Australian Coal, Shipping, Steel and the Harbour, December 1, 1920, pp 18, 40.

Gives a brief account of the history of Garden Island up to 1865. Useful for the information on the dedication of Garden Island as a Naval Depot in 1865. Other historical data that it presents is available in primary sources (Hist Rec NSW and Hist Rec of Aust).

Marshall, J., "Islands of Sydney Harbour, II", Nat Trust of Aust (NSW) Junior Group Activities Brochure, no 411, 6th May, 1979.

This provides a short history of Garden Island from 1788 to 1918 and relies on a number of references for its information. These references are included elsewhere in this bibliography so the article provides no original information.

Millin, B., "Origin of Names in Port Jackson", Royal Aust Hist Soc J & Proc. vol 31, part 6, 1945, p 335.

This article gives the aboriginal name for Garden Island and a brief account of isolated elements in the history of Garden Island.

Mourot, Susanne., This Was Sydney - A Pictorial History from 1788 to the Present Time. Ure Smith, Sydney, 1969, pp 54, 126.

Page 54 gives a map of Port Jackson and the city of Sydney which shows three buildings on the Island in 1865. Page 126 gives a panorama of Sydney Harbour in 1848 with Garden Island in the distance.

National Trust of Australia (NSW). Register Listing for Garden Island Precinct, approved 1976, amended 1978.

A very brief description of the history of Garden Island and a number of the buildings. Unfortunately, there is no information provided on some buildings and errors in information provided on others.

"The Naval Station, Garden Island", Sydney Morning Herald, 7th December, 1885.

Quite a long article explaining the situation with the proposed development at the end of 1885. Details of levelling the southern hill, reclamation work and the buildings proposed are given. The best source found which explains the early development of the Naval Station.

Nemo, "Garden Island - An Old Time Disagreement", Sydney Morning Herald, 11th February, 1929

Tells that the Privy Council confirmed the High Court decision that Garden Island remains with NSW and gives an outline of the events leading to the disagreement.

New South Wales. Gazettes. 1864-1900.

These provide detailed accounts of the calling of tenders and the notice of tenders accepted which include a very brief statement of the work involved and the name of the contractor to whom the contract was let. The only primary source available for this information. It also provides official notification relating to the decision to provide Garden Island for the use of the Navy in 1865 and 1866.

New South Wales. Parliament. Legislative Assembly. Accounts and Papers of the Legislative Proceedings 1858 to 1895.

Various Legislative Assembly reports and other letters relating to four stages in the history of Garden Island.

1858 - proposals for the transfer of Garden Island to the Imperial authorities for use as a Naval depot in lieu of Port Macquarie.

1866 - the dedication of Garden Island for the use of the Navy.

1889 - the development of Garden Island as a major Naval Depot.

1894 - 95 - the occupation of Garden Island on the completion of the buildings and services for the Naval Base.

A good primary source and papers associated with these four aspects in the history of Garden Island. Contains a couple of Plans of Garden Island in the 19th Century which are quite useful.

New South Wales. Parliament. Legislative Assembly. Second Session, 1883. Naval Depot (further correspondence respecting).

A primary source which printed several letters relating to the allocation of funds and the proposal to develop Garden Island as a major Naval Base.

New South Wales. Parliament. Legislative Council. Report of the Royal Commission on Defence Works. Journal 1891/2 Part 1, pp 571 ff.

The Royal Commission did not include direct reference to any works on Garden Island. It is however useful in providing information in respect of Barnet's later life as Colonial Architect.

New South Wales. Public Works Department. Annual Reports from 1888-1902.

These reports provide a detailed account of the works on Garden Island, when they commenced, when they finished and money spent on each item annually. However, from 1892 all works are grouped under the one heading so that it is not possible to differientiate between one building and another. Each year's report provides, nevertheless, a statement as to the progress of work in the previous 12 months. A primary source providing the most detailed information in respect of the construction phase of the buildings on Garden Island.

New South Wales. Public Works Department. Statistical Register, 1864, 1885 to 1889.

This register provides details of money spent on works on Garden Island. In 1864 repairs to the Tomb of Judge Bent and Major Ovens and from 1885 to 1889 on individual buildings, when commenced, when finished and money spent annually. From 1888 details are incorporated with other works under the heading of Naval Stations, Port Jackson and work on Garden Island cannot be separated.

New South Wales. Sydney Harbour Trust. The Port of Sydney, NSW. Official handbook published by the Sydney Harbour Trust Commissioners, Sydney, 1919.

Includes the wharves and jetties proposed to be constructed at this time which gives a map of Garden Island with a layout of the buildings on the Island. The details in respect of Garden Island are, however, as they stood about 1900.

O'Grady, Desmond, "Sydney Harbour Islands", Walkabout, vol 29, March 1963, pp 20-22.

A very brief mention of Garden Island in this article.

O'Loughlin, J.F., James Barnet FRIBA - Last Colonial Architect in NSW 1865-1890. (n.p.), 1968 Thesis (History Research). University of NSW.

A good and detailed overview of the life of James Barnet and his work whilst Colonial Architect.

Park, R., The Companion Guide to Sydney. Collins, Sydney, 1973. p 165-6.

A brief two page article on Garden Island which mentions several aspects of the history of Garden Island. It provides more details than most on King Bungaree who died on the Island in 1830. An interesting comment on the Island in 1973 is made.

Phillip, Arthur, The Voyage of Governor Phillip to Botany Bay. London, 1789.

This is a primary source which provides an account of Governor Phillip's voyage and includes a complete list of convicts brought to the colony in 1788.

"The Romance of Garden Island", Daily Telegraph, 3rd September, 1926.

A full page illustrated article on the history of Garden Island.

Rumsay, H.J., The Pioneers of Sydney Cove. Sunny Book Press, Sydney, 1937.

This provides a list of people who came with the First Fleet with their rank and the ship that they came out on. It is not a complete list but includes those found in other references.

Russell, E., New South Wales Illustrated - Views of F.C. Terry c1862. Fine Arts Press, Sydney, 1978, p 18, 19.

Provides no more than a description of the naming of the Island and a sketch from Rose Bay with Garden Island in the middle distance drawn in 1862.

Sands Sydney and Suburban Directory for years 1885 - 1896. John Sands, Sydney, 1893-1896.

Useful in this report to clarify positions in the NSW Public Service and the Navy of persons associated with work on Garden Island.

Shaw, J., The Protection of Sydney Harbour Foreshores. (n.p.) 1966. Thesis (Arch. Dip 4). University of NSW, p 18.

A brief mention of the problems of Navy integrating requirements into any logical scheme of the protection of the Sydney Harbour Foreshores.

Shelley, G., Sydney Harbour: A Visual Conspectus. (n.p.) 1970. Thesis (B. Arch). University of NSW.

A brief mention of Garden Island and the prominence of it on Sydney Harbour.

Sriber, C. & U. White, Sydney Harbour Sketchbook. Rigby, Sydney, 1968, p 21.

This mentions the naming of the Island and gives a reasonably detailed description of the Japanese submarine attack on Sydney. Illustrated.

Stephenson, P.R., History and Description of Sydney Harbour. Rigby, Adelaide, 1966.

A fairly detailed account of the origin of Garden Island, the development of the naval wharves and workshops and the extending of the peninsular. Provides details on these aspects in greater depth than most other sources.

"Story of Garden Island from Vegetable Plot to Victualling Yard", Sunday Mirror, 7th April, 1922.

A brief account of some aspects of the history of Garden Island.

"Sydney - Cenotaph", Sydney Gazette, 27th October, 1821.

Tells of the proposal of Governor Macquarie to raise money by public subscription to erect a cenotaph on Garden Island.

Sydney. City Council. Garden Island - Action Plan No. 18. Prepared and published by the Council of the City of Sydney, 1976.

A very brief description of the origin of Garden Island. It provides an illustrated and detailed commentary on the main historic buildings and historic elements on the Island. However, some of the historic details are incorrect. This report was prepared to help justify the argument against retaining the Naval Base at Garden Island and is appropriately biased to this end.

"Sydney Past and Present", from unknown newspaper of August 1904. (Mitchell Library Newspaper Cuttings Ref Q991/Nvol 3, pp 28-30).

Provides a brief account of the history of Garden Island and some comments on the Island of 1904.

"Sydney", Sydney Gazette, 10th April, 1803.

Relates to an incident involving plundering of the gardens at Garden Island by a number of aboriginals.

Tanner, H. and P. Cox, Restoring Old Australian Houses and Buildings - An Architectural Guide. McMillan, Melbourne, 1975.

A very useful guideline book which briefly covers the many facets of conservation work.

Thomas, B., The First Fleet. (A chart prepared from various references from the Mitchell Library on persons, equipment and stock etc. which came with the First Fleet), Sydney, 1976.

A succinct chart on those people who came with the First Fleet. It does not include everyone, only those found in the references mentioned.

Thompson, V.W., History of Garden Island 1788-1922. (Unpublished and rare book. The only known copies available are with the Royal Australian Historical Society and the Public Relations Director, of the Royal Australian Navy, Garden Island.)

This work, written by the Navy Chaplain on Garden Island in the 1920's gives an extremely detailed and well documented account of the history of Garden Island from 1788-1922. It brings together most of the primary source material available and gives an analytical commentary on a rge number of references to Garden Island during this period. It also goes into a detailed account of the history of the Royal Australian Navy and a number of people associated with Garden Island.
However, it does not provide many details on individual buildings. It also includes descriptions of a large number of letters and other papers relating to Garden Island from 1850 to 1890. It also includes some documents and details up to 1926. The most detailed account of the History of Garden Island available.

Tyrrell, J.R., Australian Aboriginal Place Names and their Meanings. Simmon Ltd., Sydney, 1933.

Gives a definition of the aboriginal name for Garden Island 'Booroowang'.

"View of Sydney from Garden Island", a picture in Sydney News, 23rd June, 1855.

A sketch which shows Ellis Bent's Tomb in the foreground before Major Ovens' memorial was added c 1825.

Wagner, C., Biloela to Boambilly. Oswald Ziegler Publications, Sydney, 1971, pp 32-41.

This gives an illustrated outline of the history of Garden Island including a number of the relics remaining from colonial days. It is more detailed and more accurate than most other sources.

Walker, F., "Garden Island - Some Historical Facts", The Maritime Services Board of NSW Officers' Journal, vol xiv, no 2, July 1938.

This briefly outlines the history of Garden Island from 1788 - 1900.

Watson, J.H., "Early Fortifications of Port Jackson", Royal Aust Hist Soc J & Proc, vol 3, part 8, 1916, pp 391, 491.

This specifies the extent of the Garden Island fortifications in 1800 which are recorded in the Historical Records of Australia.

Watson, J.H., "Origin of Place Names - Port Jackson", Royal Aust Hist Soc J & Proc. vol 4, part 7, 1918, pp 365, 379, 452.

This explains the naming of Garden Island and gives a few isolated examples of its history to 1811 which were taken from Historical Records of NSW.

Wiseman, William, Correspondence re Defence of Port Jackson, 1864, held in Archives Authority (Box no 4-6263).

Contains proposals to fit Garden Island with Captain Coles Cupolas along with several other installations in Sydney Harbour. A primary source but as the work was never contracted or executed is of little use.

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