
GOAT ISLAND



James Semple Kerr

PUBLICATION PREFACE

The Maritime Services Board of NSW has recently opened Goat Island to the public and tours of the island are conducted by the Board on a regular basis. At the same time the Board is developing a policy for the future use and conservation of the island. This report is the first stage of that programme and as it provides an interesting account of the development of the island, as well as identifying existing items of particular interest, the Board has decided to publish it in full.

L.A. MacDonald,
General Manager,
Maritime Services Board of NSW.

SECOND IMPRESSION

This second impression of the report has been jointly published by the Maritime Services Board of NSW and The National Trust of Australia (NSW). It is unchanged except for the cover and the title page. Corrections are listed inside the back cover.

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GOAT ISLAND

An investigation for the
Maritime Services Board of NSW

James Semple Kerr



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1.0 INTRODUCTION

The following extracts from the agreement between the author and the Maritime Services Board of NSW (1.1 to 1.4) explain the nature of the work and the conditions under which it was undertaken.

1.1 Work and method

'The consultant will analyse documentary and physical evidence to determine the nature and degree of the cultural significance of the place and of its individual elements. The method will be as set out in 'The Conservation Plan', National Trust of Australia (NSW), 3rd Imp., 1983, and will be in accord with the 'Guidelines to the Burra Charter : Cultural Significance' of Australia ICOMOS. The . . . Cockatoo Island report is an example of the approach to be adopted.'

1.2 Timing

'The consultant will commence work by 15 November 1984 and will prepare a provisional statement of significance by 17 December, 1984 on the understanding that it may be modified by subsequent investigation. A full draft of the text of the report will be presented by 15 February, 1985 and two weeks allowed for comment and suggestions by the Maritime Services Board. A final report will be delivered by 29 March, 1985.'

1.3 Copyright and publication

'Copyright of the report will remain with the consultant who agrees to its unrestricted use or publication by the MSB. The report is to be made available for publication by other organizations such as the National Trust for the purpose of dissemination of historical information and research. The draft report will be submitted to the MSB for review prior to publication to ensure that it does not contain any matter considered by the MSB to create a security risk. The report (will) contain no recommendations nor will it discuss any matters relating to the future development of, or conservation policy for, the island.'

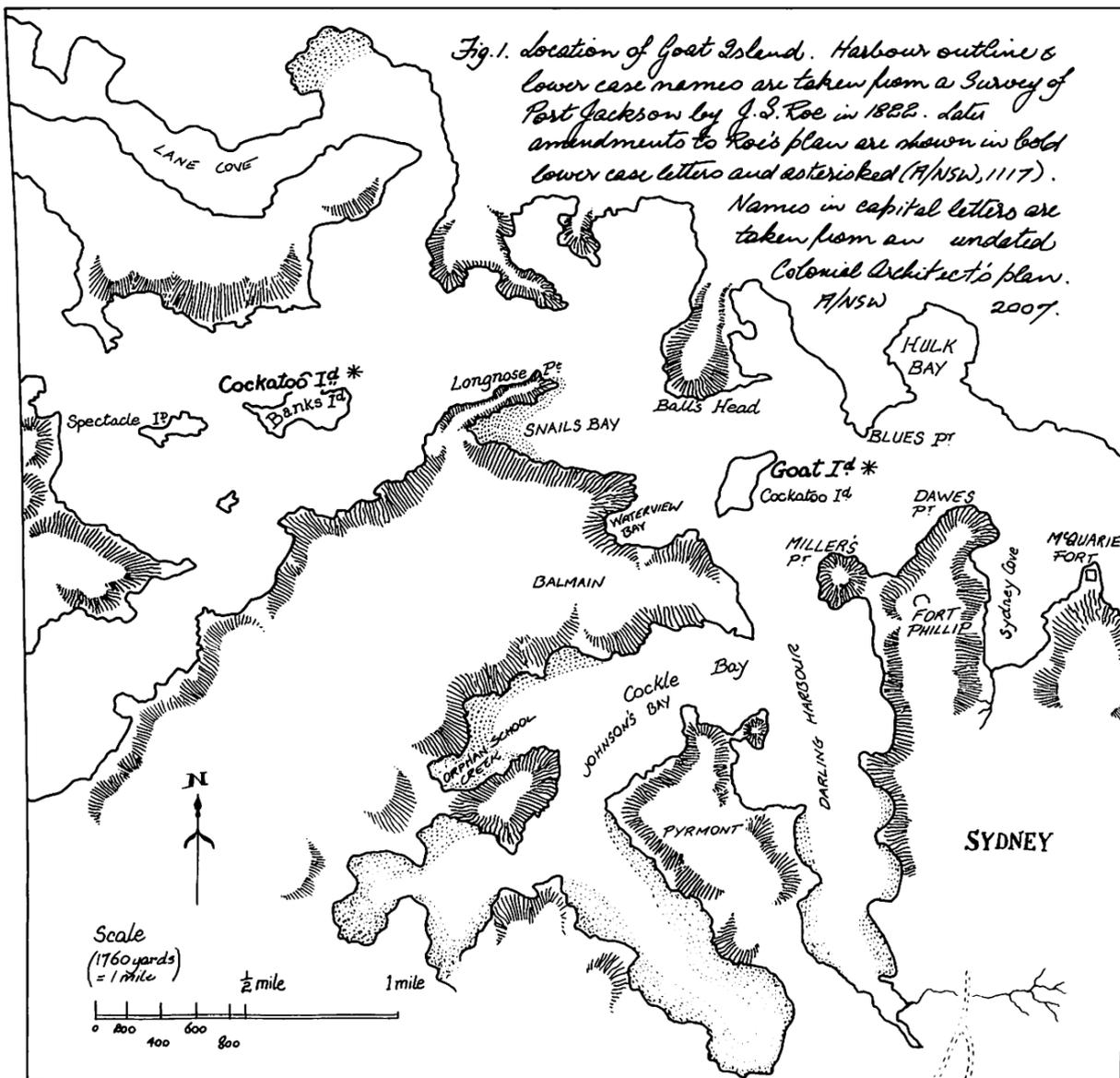
1.4 Acknowledgements

Both present and retired MSB staff provided information and a range of documentation. In particular Don Flecknoe made available all relevant plans held by the MSB as well as notes and photos of conservation work carried out on the barrack (museum) in 1978-79. Cathy Beadley and Michael Druce drew attention to material in the MSB library and Michael lent his personal notes on Goat Island. Nancy Herbison Evans made available the museum collection and provided the poster for Fig. 31. Colin Laurendet of Public Relations lent a number of negatives of the period 1923-1968 of parts of the island. Bert Lamb, Jack Fitzpatrick and Arnold Fleck recollected developments since World War II, and Peter Chapman outlined recent gardening and landscaping work. Finally, Don Flecknoe, Cathy Beadley, Nancy Herbison Evans and Steve Chapman commented on the draft.

The Mitchell Library gave permission for the reproduction of Fig. 33 and Jim Andrighetti of Reader Services joined the search for primary evidence on the elusive bacteriological station. Robert Muir's draft account of the history of Goat Island provided a useful check when this document was almost completed and Graham Wilson alerted me to an 1891 survey of the island at Victoria Barracks, a copy of which was made available by John Avigdor.

1.6 Problems

Time did not permit copies to be ordered from the Public Records Office in England of the originals of Figs. 5, 6 and 15 and, as the relevant Australian Joint Copying material was of too poor a quality to permit reproduction, it was necessary for them to be redrawn. The other difficulties arose from the loss of Goat Island material within the NSW State Archives since 1980.



2.0 DEVELOPMENT, 1826-1984

2.1 Early proposals, 1826-1832

A number of schemes both official and private were suggested for the use of Goat Island during the late 1820s. Following Governor Darling's visit to the hulk **Phoenix** in what is now Lavender Bay the Sydney Gazette reported:

'His Excellency then directed the barge to be rowed round Goat Island, where, it is said, there is some intention, at no distant day, of building a capacious dock. To this island it is considered that the filth (excrement not prisoners) from the hulk might be conveyed. His Excellency seemed quite enraptured with the view of the harbour and was pleased to express himself in terms of high admiration at the enchanting scenery . . .'*

SG, 15.2.1826.

Ibid.

By May 1826 Darling's intention to give the hulk prisoners full employment and thus to 'turn their exile to some good account'* was reflected in a proposal to place a naval arsenal on the island. It was to be on the west side of the island, where, sheltered from the southerly gales, there was 'a depth of water to lay the largest vessel in the navy close to the shore'. During construction the **Phoenix** hulk was to be moored off the island and the prisoners worked on shore.* Robert Howe, the editor of the Sydney Gazette, emphasised the need for the safe storage of gunpowder away from the town with an old story about a 'sable gent' (Aborigine) puffing on his pipe while sitting on a barrel of gunpowder on the Commissariat wharf.*

SG, 24.5.1826.

SG, 28.11.1827.

In 1828 Kemmis and Brown's application for a whaling establishment was refused on the grounds that it should be reserved for government use* - the primary reason being its defence potential. Along with Jack the Miller's Point it commanded the approaches to both the Parramatta River and Darling Harbour. Captain Laws, R.N., had also suggested that that island's south-west corner be used as a fixed point for swinging large vessels to enter the dockyard which was now proposed on the adjacent (Balmain) peninsula.* He added that it would also be a useful site for a naval hospital.

HRA.I.XVI.693.

Mitchell to CS,
30.10.1829,
A/NSW, 2/8017.5.

However it was as a quarry that Goat Island had its first official use. By May 1831 it had been opened under the direction of Captain Charles Wilson and his Department of Public Works. Wilson's quarry site was on the eastern point now terminated by the Water Police station building. On the opening of the quarry Perry, the deputy to the Surveyor General, Major Thomas Mitchell, objected to the site on the grounds that it was the most valuable point for the purpose of defence.* The Colonial Secretary's office lost his letter and in November an irritated and somewhat exaggerating Mitchell wrote:

Perry to CS,
25.5.1831,
A/NSW, 2/8017.5.

'Having been recently at Dawes Battery I was very much surprised to perceive that the point of Goat Island to which I alluded . . . as being most essential for purposes of defence, has been nearly all quarried away.*'

Mitchell to CS,
12.11.1831,
A/NSW, 2/8017.5.

Wilson's reply was that he was not privy to Mitchell's proposed line of defence and that, although he had joined Mitchell and Laws at Governor Darling's request to look at Goat Island and the

Wilson to CS,
6.1.1832, A/NSW,
2/8017.5.

neighbouring shore and to report thereon, Mitchell had reported direct to the Governor without acquainting Wilson of the contents. When tackled, Mitchell had simply observed that he had no instruction from His Excellency to make Wilson a party to its contents.* This was high-handed even for Mitchell, and no doubt reflected his opinion of Wilson.

Bearing Mitchell's comments in mind, the most likely site of the quarry is the excavated area south-west of the Cut in the vicinity of the Fire Brigade barrack. Whatever the location Wilson directed the quarrymen on the island to cease work. The directive was probably more due to the Governor's impending reduction of the Public Works Department than to Mitchell's letter.

2.2 An Imperial establishment - the construction of the magazine and barrack complex, 1833-1839

On the reduction of the Public Works Department, Bourke separated the military and convict projects from the colonial structures and placed them under the control of the Deputy Commissary General with funding from the Military Chest. Colonial structures were controlled by the new Colonial Architect, Ambrose Hallen, and funded from the Colonial Treasury. In order to assist the Commissary, Bourke formed a committee or Board of Works 'upon the Ordnance System'* and attached William Buchanan to it as Clerk of Works.* It was the Commissary, its advisory Board and Clerk of Works that would have been responsible for Bourke's next phase of activity on Goat Island, and would remain so until January 1836 when the Commanding Royal Engineer, Captain George Barney, took over after setting up a branch of Ordnance in the Colony.

CO 201.231,
f.112.
CO 201.248,
f.298.

Buchanan to
Barney, 15 and
31.7.1837, WO
55.852.

Stores issued for
Military &
Convict Works,
A/NSW, 4/417.

Ibid.

SH, 17.1.1833.
Quoted in
RAHSJ, 18.339.

RAHSJ, 18.339.

SG, 21.5.1833.

SG, 17.9.1833.

SG, 12.5.1835.
Quoted in MSB
typescript.

By the early 1830s there were increasing stores of gunpowder in the town for public works.* There was also a need for a central magazine for propellant material for the Navy and for the Garrison's carbines, muskets and 4, 6, 9, 12 and 24 pounders.* Not surprisingly the initial concentration of such material in the Commissariat caused Bourke to implement Darling's 1826 proposal for an arsenal or magazine on Goat Island. It was a sensible location as it was removed from the centre of population, yet reasonably convenient, accessible to large ships and still able to be made secure.

In January 1833 the Sydney Herald reported that the ironed gangs on the hulk *Phoenix* were landed on the island for the first time and had been set to work preparing the ground and a wharf for a gunpowder magazine complex.* The site was on the western side of the island and involved substantial quarrying to level the ground and to provide stone for construction. A few days later official notices appeared prohibiting the public from landing on the island under any pretence whatever '... now that the ironed gangs are employed there'.*

In May the Sydney Gazette reported that the wharf was already completed and, with its customary optimism, that the works were going on rapidly.* Bourke inspected progress in September and instructed that the foundations for the magazine be laid forthwith.* However it was not until May 1835 that the Gazette reported that the foundations of the edifices had been commenced.*

SG, 15.2.1834.
Quoted in MSB
typescript.

Booth, E.C.,
Australia
Illustrated,
London, 1876.
Dixson Q87/22.

A/NSW, 4/417.

This unusually slow progress should not have surprised contemporary commentators. First, the convicts, lacking the incentive schemes later introduced into convict works and with mobility handicapped by irons, had become adept at the 'government stroke'. That is, they did just sufficient work to escape most punishment. Second, a considerable quantity of quarried stone was cut for public buildings in the town.

In 1834, in order to eliminate the time-consuming and inefficient daily transport of convicts from the hulk to the island and back, three portable wooden houses surrounded by a stockade were erected on the island. The project was completed by a private contractor for 400 pounds* and the housing was used to accommodate a resident ironed gang devoted entirely to work on the island.

Saddler's inaccurate and unclear 1873 etching* of John Skinner Prout's 1841 or 42 drawing of the island suggests that the stockade may have been on the southern part of the south ridge of the island. However no reliance can be placed on a representation that also places a large, two storey, nine bay, break-front terrace on the southern shore purely for purposes of embellishment. Prout did not arrive in the Colony until December 1840 and as the stockade was abandoned and partially removed to Cockatoo Island the previous year, it would only have been the remains that Prout's lost original depicted. Because of the portable nature of the structures there is little chance of unambiguous archaeological evidence of their location surviving, although there may be post-holes from the stockade fence away from the rock platforms.

Saddler's etching also suggests the presence of a long building on the southern crown of the island. This was probably a temporary barrack for the military guard and supervising civil officers. See page 13.

Stores issued to the ironed gang on the island help to explain their life and routine. Between the first issue in September 1834 and the subsequent December the following replacement items were issued:*

- | | |
|--------------------------|-----------------------------------|
| Slops: | Kitchen equipment: |
| 18 jackets | 1 fork, flesh |
| 18 waistcoats | 1 Steelyard |
| 18 shirts, cotton | 1 cleaver, butcher's |
| 18 pr. trowsers | 1 ladle, iron, cook's |
| 18 caps | |
| 18 handkerchiefs | Equipment & materials: |
| 18 pr. shoes | 6 buckets, water |
| | 2 brushes, whitewash |
| Personal Hygiene: | 10 bushels lime |
| 3 razors | 3 axes, felling |
| 1 strap, razor | 6 lamps, street |
| 2 boxes, shaving | 2 irons, lamp |
| 2 brushes, shaving | 3 jacks, canons (sic) |
| 3 pr. sissors (sic) | 1 telescope |
| 3 combs, hair, common | |

Restraints:

20 pr. irons, leg
10 pr, handcuffs

Mess gear:

70 plates, tin
70 pots, pint, tin
60 kids, mess
30 dishes, tin
30 knives, meat, common
30 forks, meat, common
70 spoons

Stationery:

4 quires paper, foolscap
1 quire paper, blotting
50 quills
1 ruler, round
1 inkstand
6 pencils, black, lead
1 box wafers
1 piece India-rubber
1 knife, pen
1 powders, black, ink.

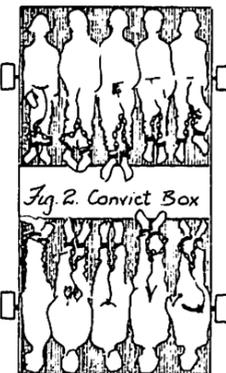
BPP Transport. 6:
1834 (614) 9.

A/NSW, 4/417.

NSW, LC, V&P,
1834-37, Part II,
p.405.

HRA I.XVII,
p.718.

Revd. Taylor's
Diary, ML,
FM3/168.



Bourke to
Aberdeen,
24.7.1835,
CO 201.246.

Backhouse
Letters, 4.27.

In addition the regulations required the issue of one blanket to each convict with an additional one between May 15 and August 15.* The only unusual item subsequently provided for the Goat Island gangs were 'overalls', which the Deputy Commissary General must have deemed necessary for quarrying work.*

A time-consuming aspect of the logistical support required for the hulk and Goat Island was the delivery of water from Sydney Town. For example, during six days in December, 1834, 16,800 gallons were delivered by cart and boat.* The water was stored, and probably delivered, in wooden casks.

In April 1835 Bourke appointed a schoolmaster for the convicts on Goat Island and the hulk. His responsibilities included the instruction of eight 'Aboriginal blacks' in the Christian religion, English language and culture.* They had been placed on the island after their sentences had been commuted from that of death and were employed in cutting stone. The Aborigines remained in chains and were kept separate from the other prisoners. According to a clergyman who visited the schoolmaster in the winter of 1836 they could read and write and answer any question in Watt's Catechism.*

About July 1835, following specific instruction from the Secretary of State for the Colonies, Lord Aberdeen, all convicts in irons on works and road gangs were divided into two classes:

- 1st Class - in irons under punishment following a secondary Colonial sentence;
- 2nd Class - transportees from England in irons with no secondary Colonial sentence.

The first class remained in irons but those in the second class which included 171 at the 'Stone Quarries on Goat Island' were released from irons. Those released were dressed in particoloured clothing to distinguish them from assigned convicts. Bourke reported that those removed from irons worked with greater alacrity.* It was not long before the novelty wore off.

The number of convicts employed on Goat Island increased erratically during 1835 and 1836. By the time of James Backhouse's visit in November 1836 the portable accommodation 'boxes' had increased from the initial three to a total of twelve. The 'boxes' housed approximately 200 ironed and unironed prisoners who were engaged in cutting stone and erecting the powder magazine.* The boxes

were of a type then in common use at stockades in N.S.W. and usually held 20 men to a box with 5 on each of 4 bed-boards or shelves (Fig. 2).*

Much of the competence of the stone selection and masonry work on the powder magazine must be attributed to the successive foremen and overseers on the island. Two had a substantial connection - Andrew Petrie and Walter Scott. Scott was Foreman of Works during the later period* and on the completion of construction early in 1839 he joined the Colonial Architect's office.* Little documentary evidence seems to have survived of his life.

Andrew Petrie was one of Lang's mechanics who arrived on the **Sterling Castle** in 1831.* He was already known in the Colony for his monumental work* before his appointment as overseer in 1833 or 1834. By August 1834 he was acting as Superintendent of Stockade as well as Overseer of Works.* In about December 1835 he was 'discharged for misconduct'.* Bearing in mind the humanitarian aspect of his nature, the 'misconduct' probably related to a failure to enforce proper discipline rather than to the common contemporary offences of malversation or peculation. Both the Colonial Architect* and the Commanding Royal Engineer sought to employ him and, in May 1836, he received a temporary appointment as Foreman of Works in the Royal Engineer Department.* His evident ability resulted in Barney placing him as Foreman of Works in charge of the Moreton Bay station in August 1837, and he was to become a distinguished Queensland pioneer.* Because of his technical competence and character, he must have made an important contribution to the magazine project during its formative and middle stages.

While quality control of the construction work on the island was competent, supervision of discipline was defective. The much quoted case of Charles Anderson* illustrated the objectionable vagaries which the system tolerated. The description quoted by the Honourable Mr. Justice Barry from **Meliora**, Vol.4, No.13 of 1861 states that Anderson was

' . . . sentenced to be chained to a rock for two years . . . He was fastened by his waist to the rock with a chain 26 feet long and with trumpet irons on his legs. A hollow scooped out of the rock large enough to admit his body, served for his bed, and his only shelter was a wooden lid perforated with holes, which was placed over him and locked in that position at night, being removed in the morning. He was fed by means of a pole with which the vessel containing his food was pushed towards him.

Several weeks had thus been passed . . . , when Sir Richard Bourke hearing of him repaired at once to the spot. He asked Anderson if he would work, but he answered he would not . . . His Excellency then sent him to Port Macquarie (sic) for life . . . '*

While the full account in **Meliora** is undoubtedly highly coloured and its original source is unknown, Barry rightly suggests that its events are substantially correct as a contemporary Sydney resident, Bishop Ullathorne, mentions the Anderson case in his 1866 work **On the Management of Criminals**, pp. 33-34.

See Kerr, J.S.,
Design for
Convicts, pp.63-
64, for an
account.

NSW Directory
for 1837, p.365.

CA Estab.
Returns, A/NSW,
4/7313.

SH, 3.9.1832.

Ibid.

ML, Governor's
despatches,
A1213, p.743.

Ibid., p.426.

CS to CA,
25.2.1836,
A/NSW, 4/3884.

CRE to IGF,
1.5.1836, WO
55.852, f.176.

For his later
career see
ADB.2.325.

See Barry, J.V.,
Maconochie,
OUP, Melbourne,
1958, p.121 et
seq.

VHM, Vol. 27,
No.2, 1957, pp.
9-11, quoted by
Barry.

What is of particular interest in 1985 is the survival of a couch (Fig. 3) axed roughly into a rock on the south or exposed side of the island, which a strong oral tradition associates with Anderson's punishment. It is 5ft. 3in. long with two substantial mortice holes in the bed platform and the remains of further fixing points in the fretting rock above. The circumstantial evidence for it being Anderson's actual couch is very strong.



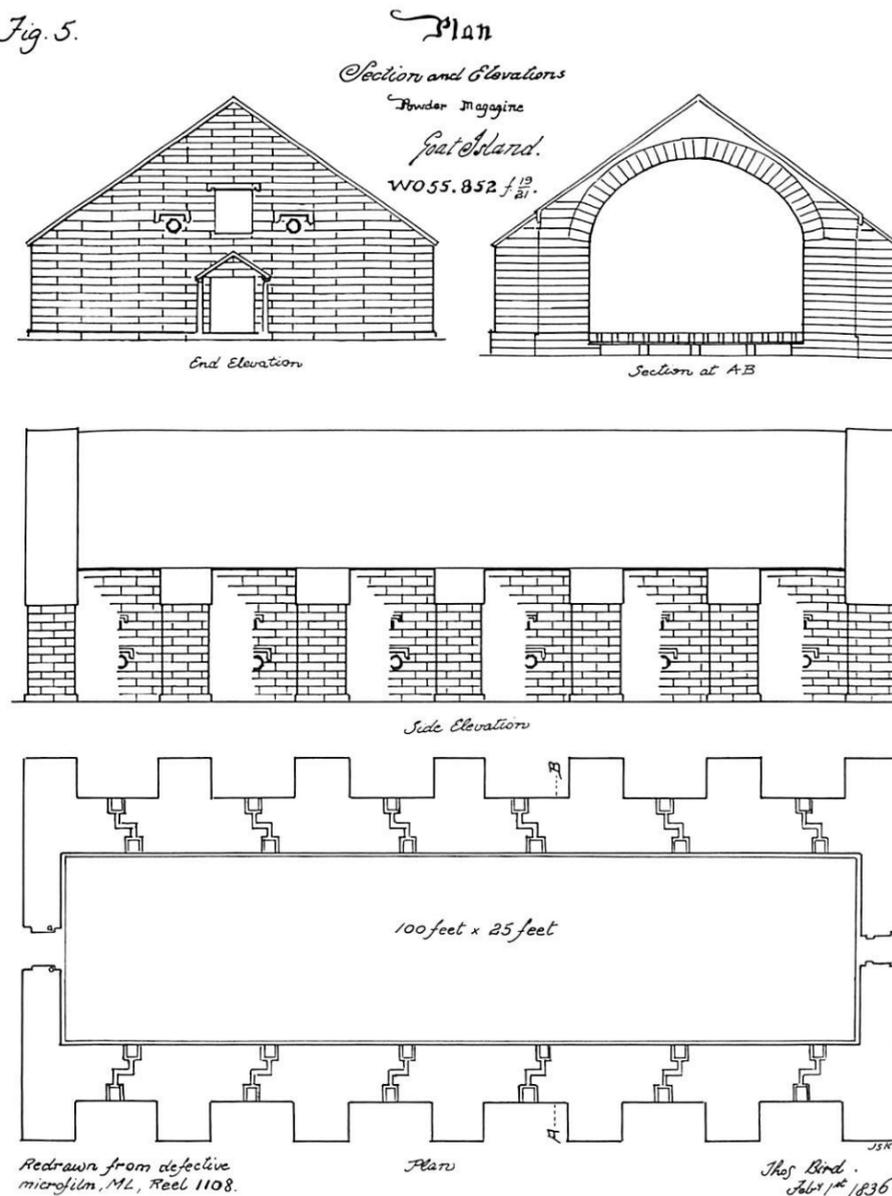
Fig. 3 The 5ft. 4in. Curator of the Goat Island Museum, demonstrates the use and scale of 'Anderson's couch'. J.S. Kerr Neg. 85.4.44.

A few yards to the east of Anderson's couch there is a lime kiln. No documentary evidence has been found to date it with precision. Its orientation over the water to the south-east ensured that the opening at its base (now covered by deposits) provided an accelerated updraft. This helped to reduce the combustible material to a minimum and to ensure that the shell was well burnt. Although small, primitive and partly cut out of living rock, its design is consistent with other lime kilns of penal establishments of the 1830s and 40s and it would be surprising if it was not built in the earliest construction period of the 1830s.



Fig. 4. The lime kiln from the east. 'Anderson's couch' is cut into the rock on the extreme left. J.S. Kerr Neg. 85.4.28.

Fig. 5.



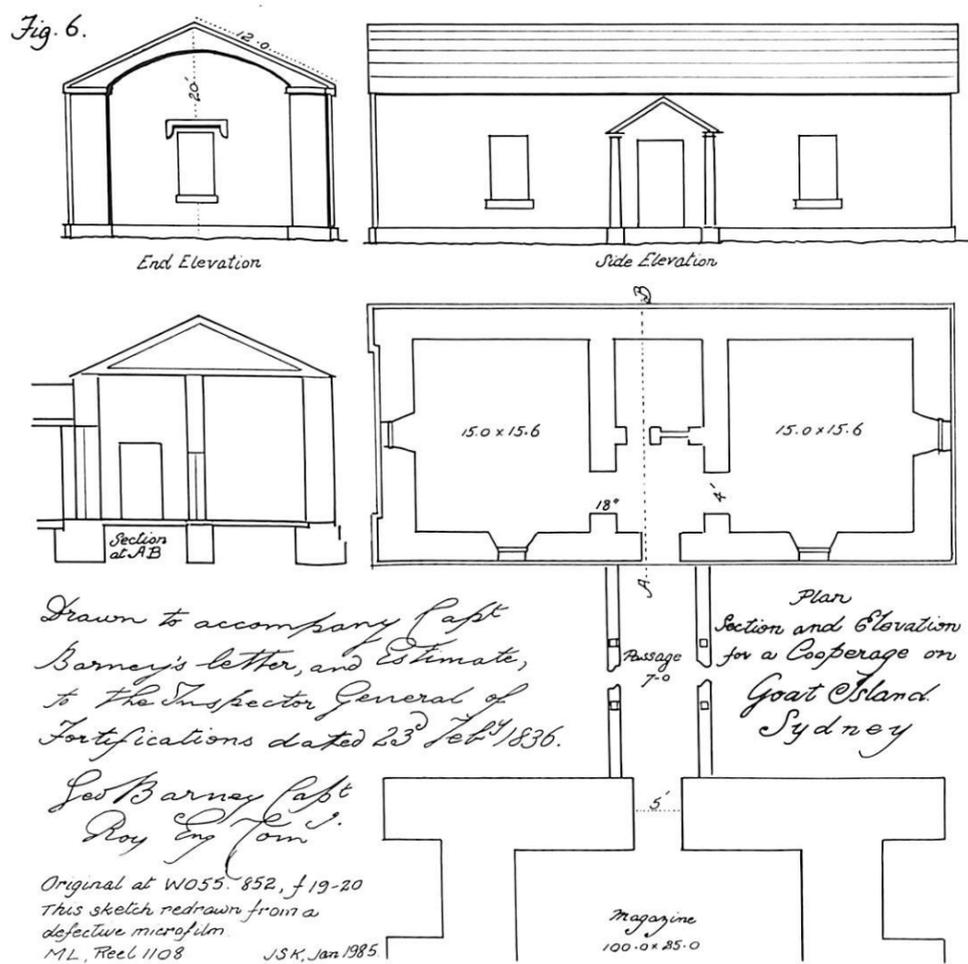
After the newly arrived Commanding Royal Engineer, George Barney, assumed responsibility for the construction of the magazine complex in January 1836, he instructed Thomas Bird to prepare plans of the buildings already underway (Figs. 5 and 6). The following month Barney reported to the Inspector General of Fortifications:

'I . . . transmit . . . a plan of the Magazine, Goat Island, for 3,000 barrels of powder now under construction by prisoners of the crown. The plan is defective, but the work is so far advanced as to (effect) its completion by the close of the year with the exception of covering the roof, for which purpose this Country does not afford any proper materials.*'

Barney then ordered 50 tons of Bangor Rag slate for the magazine and 26 tons for the cooperage and connecting passage at a cost, with freight, of 342 pounds.* He did not specify in what way the plan was

CRE to IGF,
24.2.1836, WO
55.852, p.13.

Ibid, p.15.



defective and the only functional variations between the completed work and Bird's plans was an increase in ventilation in the north gable of the magazine and in the gable walls of the cooperage (compare Figs. 5 to 7). It is probable that one defect was the small size of the cooperage interiors which provided only modest space for storage of materials and work.

The quarry in which the buildings were being constructed continued to produce high quality sandstone in substantial dimensions. The committee reporting on the erection of Darlinghurst Gaol proposed to lessen expense by

'... substituting flag-stones for the arched roofs of the cells, as first proposed. Flag-stones of sufficient size and thickness may form the ceiling of the basement cells and the flooring of the upper cells respectively. Flag-stones of this description 14 inches in thickness, and of any length and breadth, may be obtained in abundance from the Stone quarries on Goat Island... '*

In August 1836 as the walls of the magazine neared completion the Legislative Council passed 'an Act for better regulating the keeping and carriage of Gunpowder'.* Among other things this made the Officers of Ordnance responsible for the custody of gunpowder.

NSW, LC, V&P, 1824-37, Part II, p.548.

Ibid., pp.455-459.

By January 1839, the works were 'all completed' and the prisoners without work. Barney and the new Governor, George Gipps, considered various projects, including that of levelling and fortifying Garden Island.* However the gangs were finally moved to Cockatoo Island to erect an Imperial convict establishment and grain storage silos.*

The following September, the Sydney Gazette reported that a body of 27 prisoners with commuted sentences had arrived from Moreton Bay and been sent to Goat Island to commence new works. The Gazette continued:

'it is understood that the first operation to be carried on at that place is the construction of an extensive cooperage, and when that is completed further will be done... '*

If an 'extensive cooperage' was constructed in 1839 it was probably the stone shed set against the quarry face east of the original cooperage (Fig. 8). No other possible structure appears on the survey of 1842* and it is unlikely to have been removed by that date. Moreover the less refined character of the design of the shed sets it apart in time from the earlier carefully detailed magazine, cooperage and barrack buildings. Finally Bourke's 1836 tablet, added to the original cooperage during construction (Fig. 7) but not included on the 1836 elevation drawing (Fig. 6), confirms that it was in fact built at approximately that time and not in 1839.

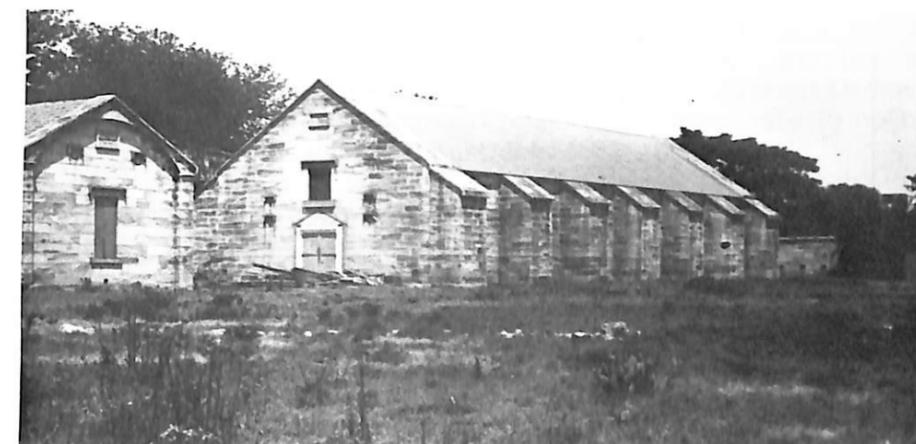


Fig. 7. Original cooperage and former Ordnance Magazine buildings. Photo 23.10.1923. MSB Neg. No.197.

After the construction of the new cooperage it is probable that the earlier building was converted for use as a laboratory. It was certainly so used by 1852.* The laboratory was where the cartridges, containing propellant powder, were made up for use by Her Majesty's Ships and the Garrison.

An accurate picture of the complex as completed during the 1830s can be obtained from a field note book used during a survey of the island in August 1842 (Fig. 8).* This survey formed the basis of the plan prepared when all of the island except the eastern tip was formally vested in the Ordnance by Deed of Grant on 20 January 1844.*

SG, 15.1.1839.

See Kerr, J.S., Cockatoo Is., NT of A (NSW), 1984, for an account of the work on the island.

SG, 7.9.1839, quoted in MSB typescript.

ML, B1441.

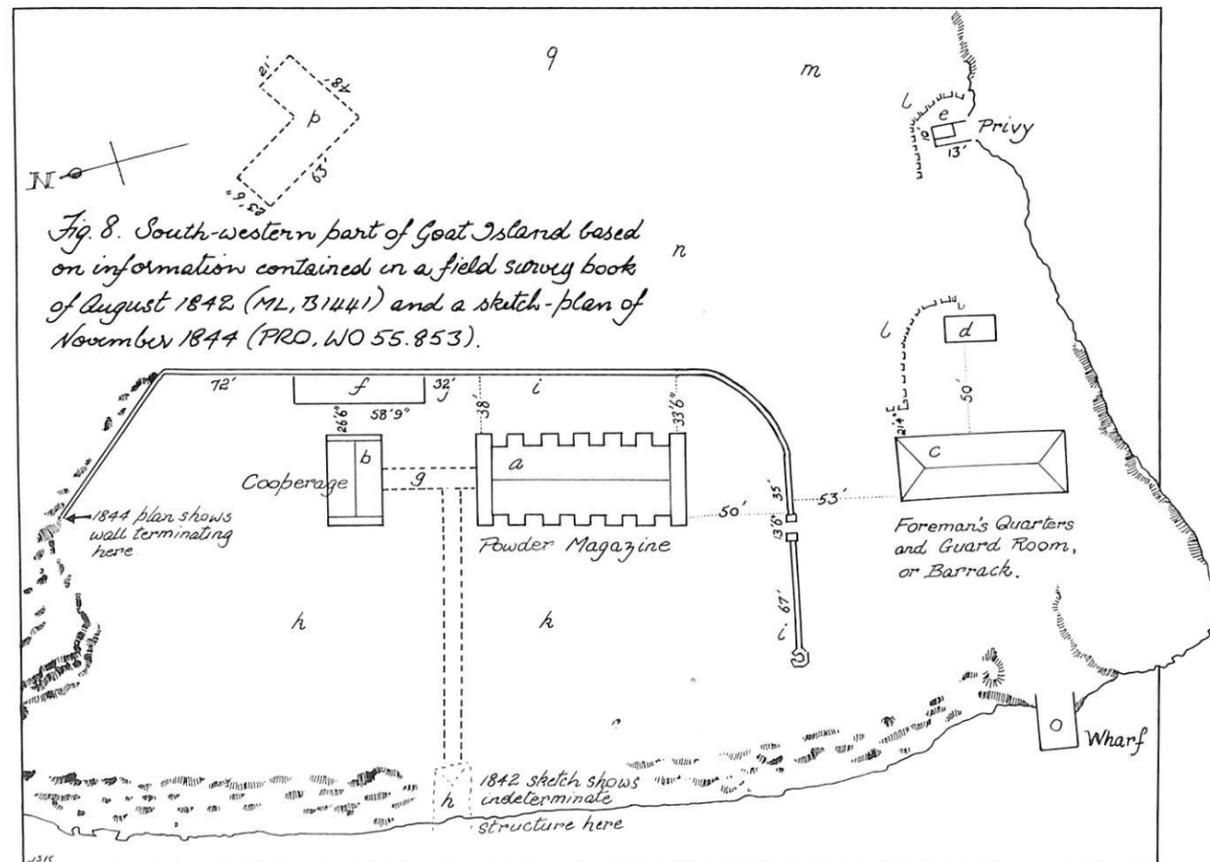
WO 55.856, p.559.

ML, B1441.

WO 55.853, p.555B.

Apart from the magazine (Fig. 8-a) and cooperage (Fig. 8-b) completed about 1837, and the barrack (Foreman's quarters and guard room, Fig. 8-c) with its kitchen (Fig. 8-d) and privy (Fig. 8-e), probably completed during 1838, the several other structures or features were:

- stone skillion shed against quarry face (Fig. 8-f);
- covered way linking original cooperage to magazine (Fig. 8-g);
- wharf for magazine complex (Fig. 8-h);
- stone wall to north, east and south of quarry with gate, loopholes and sentry post on the southern alignment (Fig. 8-i);
- well or tank below quarry face and south of the skillion shed or extended cooperage (Fig. 8-j);
- filled and levelled area between magazine complex and shore (Fig. 8-k);
- cuttings and or retaining walls above barrack kitchen and privy (Fig. 8-l);
- garden on terrace north east of barrack kitchen with part natural and part created retaining wall to the south (Fig. 8-m);
- water channels cut in the walling above.
- blacksmith's shop on slope south-east of the Ordnance Magazine (Fig. 8-n);



- stone wharf and inclined approach west of barracks (Fig. 8-o);
- large house on hill (temporary barrack?) east of quarry (Fig. 8-p);
- convict accommodation, removed progressively from early 1839 (located on Fig. 8 at q).

ML, B1441.

With the exception of the magazine wharf, the convict accommodation and probably the 'house on the hill', the fabric or evidence of all these items remain visible today. No documentary evidence survives to explain the use of the large house on the hill (Fig. 8-p). However as the 1842 surveyor described it as an 'old house at top of Goat Island',* it is clear that it was built early in the campaign. Moreover, as accommodation was provided for the convicts in 'boxes', and as contemporary custom demanded that a military guard be situated separate from, and overlooking, their charges, it is evident from the size of the structure that it must have been the military barrack and guard room, and would have remained in that use until the more decorative and permanent structure (Fig. 8-c) was erected in 1838. The new barrack was, of course, related to the protection of a powder magazine on an island on which no convicts were to be permitted and hence there was no necessity for it to be placed in a superior position.

One of the large rock outcrops which stud the island was cut and shaped to form part of the east wall of the presumed blacksmith's shop (Fig. 8-n and 9). Identification of the use of the site is based on the heavy scatter of hand forged iron artifacts in the vicinity. These were particularly evident after recent clearing and consequent erosion during heavy rain. Once the adjacent Ordnance Magazine was in use it would no longer have been safe to operate the forge, hence the remains must date from the 1830s.



Fig. 9. Rock cut and channelled to form part of the east wall of the presumed blacksmith's shop. J.S. Kerr Neg. 85.1.50.

2.3 A Colonial enclave - the water police station, 1835-1839

In October 1835 the Committee on Police and Gaols in its final report recommended that the water police boat stationed at Longnose Point be removed to Goat Island, provided that there was no objection by the Ordnance. The boat was manned and would continue to be manned by a 'Conductor' or 'Serjeant' and a crew of six convicts. Goat was a more central location for monitoring the harbour and, in addition, the Committee proposed to establish another boat on Pinchgut to apprehend convicts attempting to escape on ships.*

NSW, LC, V&P,
1824-37, Part II,
p.429.

Various proposals and negotiations occupied 1836 and finally, in January 1837, Barney on behalf of Ordnance

'proposed . . . to effect, with the labour of the second class-convicts - from 15 to 20 days, a separation by a wet ditch, between the extremity and main part of Goat Island, by which a station may be given to the Police on the piece of ground so cut off.*

CS to CA,
23.1.1837,
A/NSW, 2/8017.2.

This would create two distinct islands - one large, occupied by the Ordnance, and one small, occupied by the water police under the control of the Colonial Government. It was a comforting device for the preservation of territorial integrity and the boundary was subsequently reflected in a deed of grant to the Principal Officer of Ordnance in January 1844 (Fig. 10).*

WO 55.853,
f.555B.



Such cuts were a natural part of the work of fortification engineers (for example, Fort Macquarie) and in any case Barney's record suggests that he needed little excuse for recommending such a project. Barney's suggestion was accepted by the Governor. His Excellency then moved the Colonial Secretary to direct the Colonial Architect, Mortimer William Lewis, to prepare a design for a station building suitable to the 'situation'.*

CS to CA,
23.1.1837,
A/NSW, 2/8017.2.

Drawn to my
attention by
James Broadbent.

The 'situation', on a severed peninsula surrounded by the waters of the harbour, was unusually picturesque and an opportunity for embellishment not to be missed by a gentleman of Lewis' cultivated taste. He turned to his copy of London's **Encyclopaedia of Cottage, Farm and Villa Architecture** for inspiration and selected the cottage in Plate XIV* with its square plan, central chimney and four

identical sides, each with four round-arched openings. Even the interior plan, designed as a dwelling for a man and his wife with one servant and a grown up son or daughter, was only slightly adapted to accommodate a 'Conductor' or 'Constable', 6 crewmen and their captives. Compare Figs 11 and 12. As Lewis did not require 16

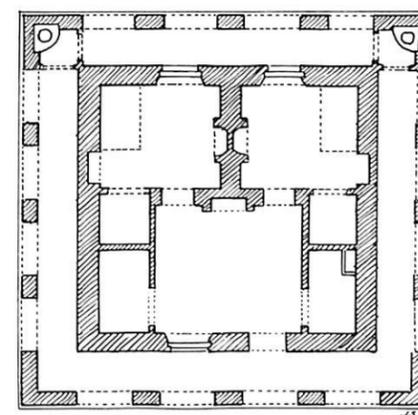


Fig. 11. Plan of a dwelling, redrawn from London's Cottage, Farm and Village Architecture, Plate 14

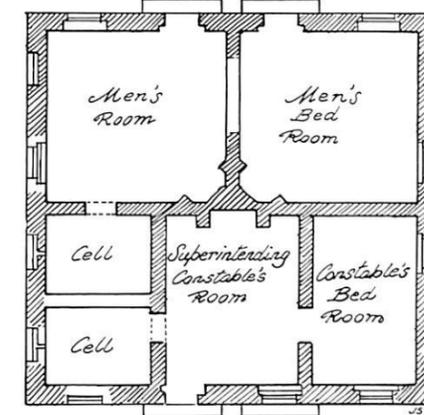


Fig. 12. Plan for the water Police stn, Goat Is. Redrawn from Lewis, Plans of Gaols, A/NSW, X 694. walls surviving in 1985 are hatched.

openings in his building, 6 of them were recessed blanks. However the two blanks beside the cells had ventilation slots pierced through them. It was typical of Lewis that he showed the blanks as fully glazed sashes on his elevation. After the fashion of the time it is even possible that he intended to paint representations of sash windows on the blank recesses of the building.



NSW, LC, V&P,
1824-37, II, p.565.

Fig. 13. Former water police station from the north. March 1984. J.S. Kerr Negative 84.5.23.

CS to CA,
30.5.1838,
A/NSW, 4/3884.

A sum of 750 pounds was placed on the supplementary estimates for 1837 for erecting the building* and tenders were finally invited in June 1838.*

2.4 Painful genesis of the Colonial Magazine, 1847-1854

The Ordnance or Queen's Magazine on Goat Island was intended for the storage of gunpowder which was the property of the British Government and, by arrangement, also that of the Colonial administration. There was however a third class - privately imported or merchant's powder. As a safety measure the Act **William IV, No. 7** of 1836 required all merchants' gunpowder to be deposited in Government care pending use. The Colonial administration arranged with the Board of Ordnance that such powder would also be stored in the Queen's Magazine on Goat Island. However the Board made clear that such storage was on sufferance and could continue only as long as it was convenient to the Board.*

BO letter,
10.7.1840, quoted
in ROO to CS,
20.1.1848, ML,
A1267-23, p.3664,
et seq.

By the end of 1846 the Respective Officers of Ordnance in Sydney (Fig. 14) had come to believe that the storage of merchants' powder was inconsistent with the efficient and safe conduct of the Queen's Magazine. First, because the great accumulation of such powder occupied a considerable portion of the magazine and the complexity of handling a range of powder types in individual holdings required each lot to be kept separate. This meant that there was no longer adequate room for the storage of Her Majesty's powder. Second, because of the defective state of the packaging of the Merchants' powder which did not conform to the standards for Ordnance storage, it had become a safety hazard.*

ROO to CA,
30.1.1847, ML,
A1267-23, p.3657

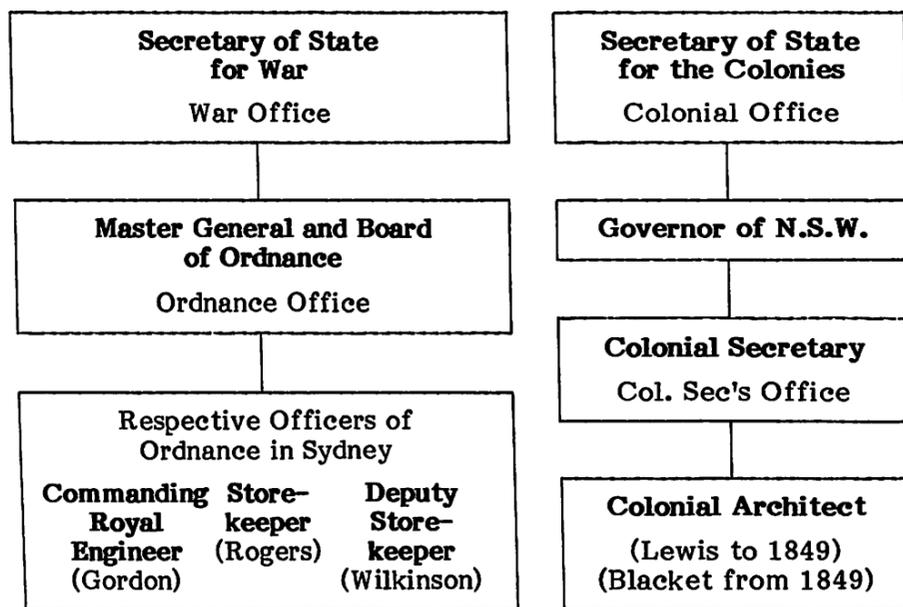


Fig 14. Simplified command structure of the Respective Officers of Ordnance and of the Colonial administration, 1847.

The situation had been exacerbated by the depression of the 1840s. Many merchants had failed to pay the storage rental and were uncontactable although the Colonial Government was still legally responsible for their powder's safe keeping. As a solution the administration proposed a 'Gunpowder Sales Bill' which would enable the

powder to be sold to recoup the rental. The Officers of Ordnance saw little merit in this as they feared that it might simply mean a continuation of deteriorating powder in the magazine, but under new ownership.

In January 1847 the Officers of Ordnance in Sydney requested the Colonial Architect to remove the merchants' powder at as early a period as may be found convenient.* The Colonial Secretary, Edward Deas Thomson, proposed the construction of a Colonial magazine and requested the Officers of Ordnance to state whether there was any objection by the Ordnance Department to relinquishing a part of Goat Island for the purpose.* To the Colonial administration it was a logical and economical option which would require a minimum of capital works and a sharing of landing and handling facilities, all of which could be protected by the existing military guard.

The Officers of Ordnance for their part feared the intrusion of so ill-disciplined and potentially expansive a cuckoo into their territory. They pointed out that they were not authorised to cede part of Goat Island without the sanction of the Board of Ordnance and observed that the formation of such an establishment unconnected with, and independent of, Ordnance would be both inconvenient and a threat to security.* Unlike the Colonial Secretary, who could usually obtain rapid decisions from the Governor in Sydney, the Officers of Ordnance were handicapped and made cautious by the extended lines of communication to the Ordnance in England. It could take up to six months to obtain a reply and the outcome could not be predicted with any certainty.

It was therefore with considerable relief that the Officers received, in November 1847, a reply to their January letter. It was succinct:

'I have the Board's command to signify to you their entire approval of the proceedings as reported in your letter.'*

Much emboldened, they enclosed a copy of the Board's letter with a request to the Colonial Secretary for

'the removal of the merchants' gunpowder to a Colonial magazine . . . until that object can be accomplished, that such other measures may in the meantime be taken as will relieve this Department from the inconvenience complained of . . .'

Deas Thomson was a competent and experienced public servant and proceeded to enlarge the time available for manoeuvre. He replied:

'His Excellency regrets that he has no place at present to which the powder in question could be **legally** removed but that the subject will be brought before the Legislative Council at the next session, with a view to carrying into effect the instructions of the Board of Ordnance.'*

CS to ROO,
10.12.1847, ML,
A1267-23, p.3664.

The Officers of Ordnance met and contemplated the dismal prospect of Colonial agreement attended by infinite possibilities for procrastination. They cast round for a catalyst and found it in the building itself. The following month they reported to Deas Thomson that the gunpowder storage racks were giving way because the joists and flooring were in a rapid state of decay and in need of immediate

ROO to CA,
30.1.1847, ML,
A1267-23, p.3657.

CS to ROO,
9.4.1847, ML,
A1267-23, p.3659.

ROO to CS,
14.4.1847, ML,
A1267-23, p.3662.

Byham to ROO,
16.6.1847, ML,
A1267-23, p.3663.

reconstruction. This would necessitate the removal of the powder. Of course the Queen's powder, being tight and secure in its containers, could be temporarily stored in adjacent buildings, but the insecurely packed merchants' powder could not. In any case there was insufficient room for it. The Officers hoped His Excellency would find some measure for relieving them of their difficulty.*

ROO to CS,
20.1.1848, ML,
A1267-23, p.3664.

Deas Thomson, irritated by the sudden development of this hitherto unremarked condition, was only too happy to oblige on behalf of His Excellency. With calculated impudence he observed that as they objected to surrender any part of the island they might instead have the Queen's Magazine itself made over to the Colony for merchants' powder. Another magazine could then be constructed elsewhere for Ordnance out of Colonial funds. It would be easier to find an Ordnance site as it would not matter if it was somewhat more distant. He then suggested Spectacle Island and requested they report on the matter.*

Deas Thomson to
ROO, 6.4.1848,
ML, A1267-23,
p.3667.

The Officers of Ordnance were stung by this declaration of hostility. They replied on the same day they received the letter explaining why the entire powder and ammunition and barrack complex on this island was necessary to Ordnance. They then finished:

'(We) regret that we cannot . . . coincide with the views entertained by the Government on the subject!'

ROO to CS,
10.4.1848, ML,
A1267-23, p.3669.

It had been an unproductive correspondence and in July 1848 Governor Fitzroy took the matter up with the Secretary of State for the Colonies, asking him to mediate with the Board of Ordnance to obtain permission to erect a Colonial magazine on Goat Island.* The Board finally assented in October the following year* and by May 1850 negotiations had reached the stage where the Colonial Secretary could direct the new Colonial Architect, Edmund Blacket, to prepare a plan and estimate for a merchants' gunpowder magazine. At the same time Blacket was requested to seek such information as may be required from the Officers of Ordnance.*

Fitzroy to Earl
Grey, 22.7.1848,
HRA I.XXVI,
p.531.

WO 55.856, p.559.

CS to CA,
11.5.1850,
A/NSW, 2/642B.

CS to CA,
12.11.1851,
A/NSW, 2/642B.

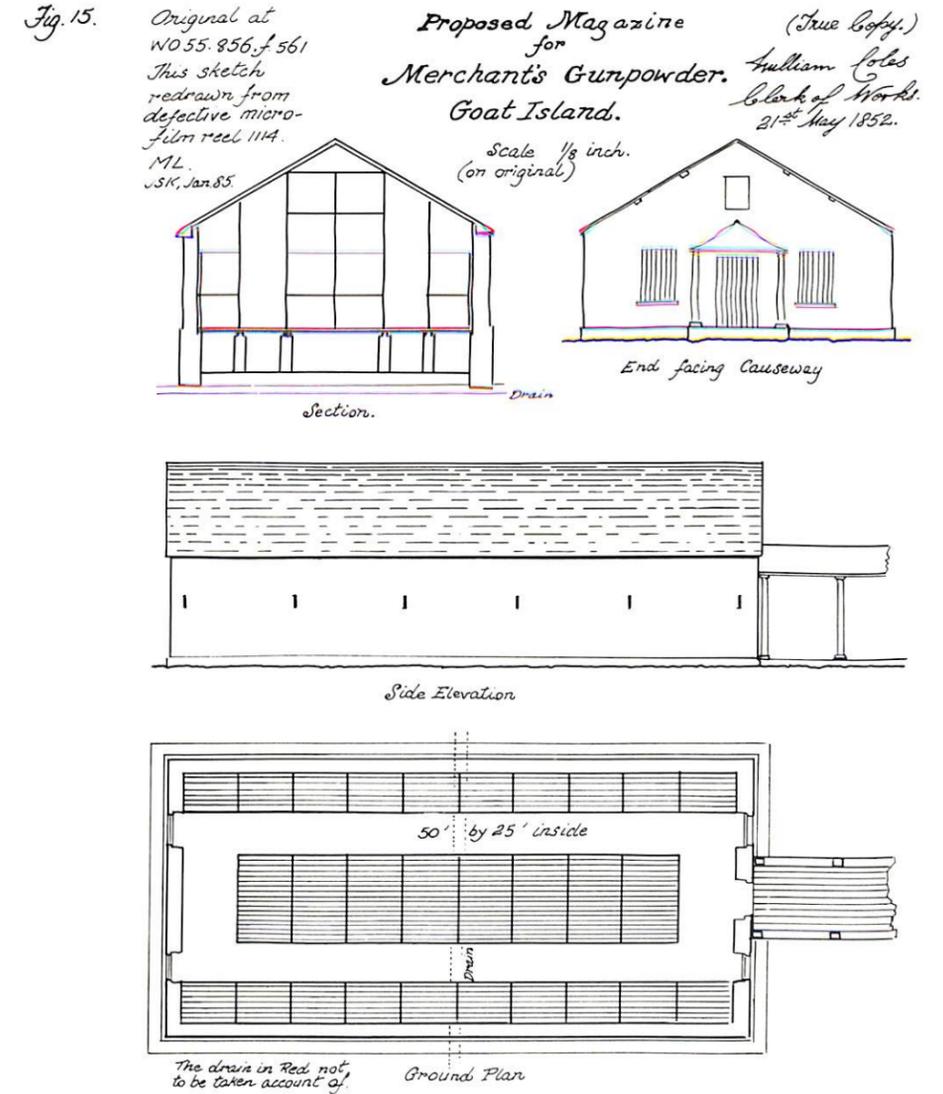
Correspondence,
A/NSW, 2/642B.

Blacket submitted his plan and estimate in July 1850 and a revision by November 1851.* In the design he had abandoned the expensive fireproof barrel vault of the Ordnance or 'Queen's' Magazine with its massive walls and buttresses and instead designed a thin-skinned structure with a light roof substantially supported by, and tied to, the interior racking system (Fig. 15). In addition he introduced conventional windows with shutters at the gable ends. Most of these features had been objected to by a conservative body of military opinion in the Colony* but the administration felt that, on balance, economy and speed of erection were more desirable.

Approved
schedule, A/NSW,
2/642B.

The magazine went to tender in March and April of 1852 and the contract for 817 pounds was awarded to Thomas Spence.* William Coles, Clerk of Works in the Royal Engineer's Office, Sydney, sent a copy of the plans and specifications to the Inspector General of Fortifications the following month. He explained:

'I thought it my duty . . . to put you in possession of the particulars regarding the construction of the New Magazine, more particularly as it does not agree with the principles generally adopted in the construction of Powder Magazines.'



Coles to IGF,
20.5.1852, WO
55.856, p.559 et
seq.

He pointed out that it was not arched and that, with its light wooden structured roof, it was susceptible to lightning strike and fire, and further that its location immediately north of the Laboratory and Ordnance Magazine made it a danger to the other buildings (Fig. 16).*

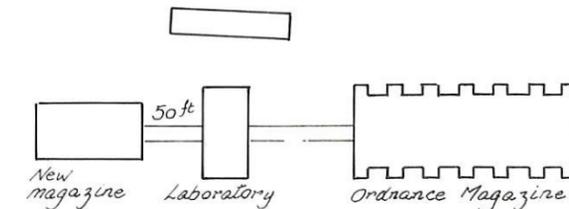


Fig. 16. Location of new magazine for merchant's gunpowder. Redrawn from sketch at WO 55.856 f. 559. Wm Coles to I.G. of F., 20.5.1852.

The Board of Ordnance had no desire to pursue lost causes in a distant colony and contented itself with having one of its officers reply:

'I am desired by the Board . . . (to advise you) that the Inspector General of Fortifications stated that it would have been very desirable that the magazine should have been made fire-proof by the roof being formed by . . . arches.'*

Butler to Deputy Storekeeper, 1.11.1852, A/NSW, 2/642B.

The Colonial Magazine nevertheless remained a sensitive issue with the Officers of Ordnance in the Colony. When in April or May 1853, Blacket reported that the magazine would be completed in about a month, Percival Wilkinson, the Deputy Storekeeper, Ordnance Office, advised the Colonial Secretary:

'I find on a visit to Goat Island this afternoon that the new magazine is far from in a nearly finished state. The floor is not laid - the bays (racks) are unfinished, the building is not roofed in, the doors not hung, the window frames not in and the covered way to the magazine only commenced.

(I) . . . regret that a building so inadequate, in capacity and arrangement, to the present (without reference to the future) wants of this rising Colony and of a construction of less solidity and apparent safety than a mere Regimental Magazine, should have been erected on Goat Island in such close proximity to the Queen's Magazine.'*

Wilkinson report, 16.5.1853, A/NSW, 2/642B.

CS to CA, 11.6.1853, A/NSW, 2/642B.

The delay made necessary the extension of the hire of Mr. Moses Joseph's brig **Cameo** as a temporary powder magazine and drew on Blacket's head a peremptory 'please explain' from the Colonial Secretary.* It was a difficult time for Blacket. He had inherited an awkward situation after the dismissal of the previous incumbent, Lewis, and contractual work had been made difficult by each rush to a new gold field. He had no particular expertise in the design of powder storage, very limited staff resources and may have been a little too compliant in accommodating the design of his proposed work to the cost structure envisaged by the Colonial Secretary. If so, he was now paying for it. It is not surprising that he was already looking for greener pastures and doing his best to ensure that he would become the architect for the new Sydney University complex.

CS to CA, 29.9.1853, A/NSW, 2/642B.

SMH, 2.11.1853.

CS to CA, 30.3.1854, A/NSW, 2/642B.

DS to CS, 26.5.1856, A/NSW, 2/642B.

Five months later, in September 1853, the new magazine was nearing completion, but as the Queen's Magazine was in need of 'extensive repairs' it was necessary to keep the **Cameo** in service.* The repairs involved renewing the floor and (an increase in?) ventilation* and were completed by contract in March 1854. The **Cameo** was relinquished in July.*

2.5 The Colonial Magazine extended, 1855-1859

Mining and public works created a heavy demand for powder during the second half of the 1850s and a shortage of secure storage space became a repeated theme. The problem was acute in May 1856 when Wilkinson requested the hire of another vessel and meantime asked for a tent to be pitched beside the Queen's Magazine for the temporary storage of powder.*

Robert Thomas Ford successfully tendered his brig **Lady Mary** as a 'temporary floating gunpowder magazine' for 300 pounds a year and she was in position off the island by July 1856.* A problem arose in May the following year when the decks leaked, spoiling the merchants' powder. Thoughts of suing Ford evaporated on receipt of tart advice from the Civil Crown Solicitor that there was nothing in Ford's contract requiring him to keep the ship tight, rather it was the duty of the servant of the Government in charge of the vessel.'*

Return of Magazines, 31.12.1856, A/NSW, 4/720.4.

Wm. Billyard's advice, A/NSW, 2/642B.

At the end of the year Wilkinson summarised the facilities associated with the island thus:

- . principal depot (Ordnance), completed 1838, bomb proof, good repair, capable of containing 3000 barrels;
- . merchants' gunpowder magazine, installed at expense of Colonial Government, constructed to hold 1500 barrels, rent paid to Treasury, under control of Governor General of NSW but in charge of War Department (in practice the Ordnance Storekeeper);
- . **Lady Mary**, moored off Goat Island to relieve permanent magazines;
- . barrack accommodation for an N.C.O. and 12 men, guard relieved fortnightly.*

Return of Magazines, 31.12.1856, A/NSW, 4/720.4.

Specifications, July 1856, A/NSW, 2/642B.

During the year (July 1856) yet another Colonial Architect, Alexander Dawson, had prepared plans and specifications for a second Colonial Magazine for merchants' gunpowder to be erected on the island. The specifications but not the plans survive. It was to be a free standing, thin-walled (18 inch), stone building with parapetted gables and an iron roof structure.* The proposed location for it is unknown.

The Colonial Architect was now for the first time under ministerial control - the Minister for Lands and Public Works in the Colonies' new elected Government. As far as Goat Island was concerned, it seemed to have little effect on either the quality of the planning process or the degree of procrastination as the Minister and his Department proceeded to cast round for ways of avoiding the inevitable - building more powder storage.

Buchanan to ST, 21.9.1857, A/NSW, 2/642B.

One solution, advanced the following year by the Colonial Storekeeper, John Buchanan, and others, was to utilise the small magazines attached to the existing works of defence - Fort Macquarie, Fort Denison, Dawes Battery and Kirribilli.* Barney, when consulted in September 1857, pointed out their inadequacies for the purpose and the fact that they could not be used without guards and further that any ammunition lodged in them should only be of the type needed for the defence of that fort. He supported the Colonial Storekeeper, and others, on the need for a new magazine away from Goat Island and suggested Spectacle Island.*

Barney to BC (?), 28.9.1857, A/NSW, 2/642B.

Meantime the import of gunpowder nearly matched the volume of interdepartmental correspondence and in October 1857 the situation in the magazines was as set out in the following table.

Table showing location and ownership of gunpowder in store, October 2, 1857. A/NSW, 2/642B.

Location:		Designed capacity in barrels	Barrels actually in store		
			Whole	Half	Quarter
Queen's	Colonial	3,000	3,415	1,490	1,683
	Lady Mary	1,500	397	497	3,437
	-	-	482	307	1,112
	Total		4,294	2,294	6,232
Ownership:	Imperial		402	135	1,473
	Colonial		3,772	1,501	1,243
	Private		120	658	3,516

Despite the evident problem, it was to be another 21 months before the Minister would make a decision.

During the interregnum, Dawson revised his plans and, in January 1859, he proposed to the Under Secretary that the additional powder storage be provided by '... erecting on each side of the present magazine and communicating with it, a building of the same dimensions and fitted to hold the same quantities of powder.'(Fig. 17)*

Dawson's letter was annotated, probably by the Under Secretary for Lands and Public Works:

'The proposed plan is, I understand, very defective... The store should be bomb proof and without windows. I was in hope that Captain... (oblit.) would, as he promised, furnish me with a good plan but the Colonial Architect will perhaps, as no other officer seems inspired to (help) the Government, prepare a proper plan.'

In an undated and unsigned manuscript headed **Observations in reference to the new Colonial Magazine** the Colonial Architect presented a justification of his proposal.*

1. The Colonial Architect does not submit this design as his own or one having his full concurrence, but only as an addition to the existing Magazine which was built on a plan approved by the Government of 1852 in preference to one made in strict accordance with Imperial Regulations.
2. In planning the proposed additions the character of the existing building was maintained.
3. The only new feature in the new additions is the iron roof which, although the principle is a new one and somewhat opposed to the custom until recently prevailing, is still in accordance with the opinions of scientific men of the present day, who entertain the opinion that an iron roof is the best form of lightning conductor possible to adopt, provided that proper arrangements are made for the discharge of the Electric current...
4. Arched magazines doubtless afford somewhat more security against lightning which is their principal if not only

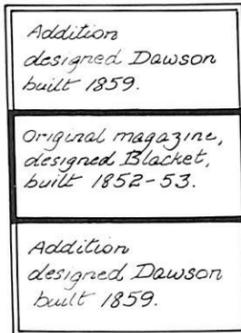


Fig. 17. Colonial Magazine extension.

CA to USL, 14.1.1859, A/NSW, 2/642B.

A/NSW, 2/642B.

advantage, but they are four-fold more costly, requiring walls and buttresses of enormous strength to resist the thrust of the arch.

5. Arched magazines are not generally bomb proof, except in works of Defence, where, in addition to the usual arch and secure position, they are invariably covered to a depth of 5 feet at least of earthwork, thereby rendering them bomb proof.

7. Windows to stone magazines are common and necessary as well for ventilation... as for light. Without light it would not be possible to select and issue the merchants' gunpowder, the packages of which can only be distinguished by the marks... (thereon).'

Despite representations that the additional storage should not be built on Goat Island and the critical (and unconstructive) comments on the design by 'Military and Naval Officers' the Government decided in June 1859 'that the new building shall be on Goat Island and that the plan of the Colonial Architect is to be adopted...'.* The Government's decision was doubtless influenced by the urgency of the need and the fact that tenders had already been called and received.

John Sellar's tender for 1,095 pounds, to be completed in four months, was accepted, and a bond executed on June 25, 1859.* Dawson reported that he had handed over the finished magazine (Fig. 18) to the Assistant Military Storekeeper in December 1859* and the **Lady Mary's** cargo was transferred the same month.

? to USL, 11.6.1859, A/NSW, 2/642B.

DLPW to CA, 21.6.1859, A/NSW, 2/642B.

CA to USL, 3.12.1859, A/NSW, 2/642B.

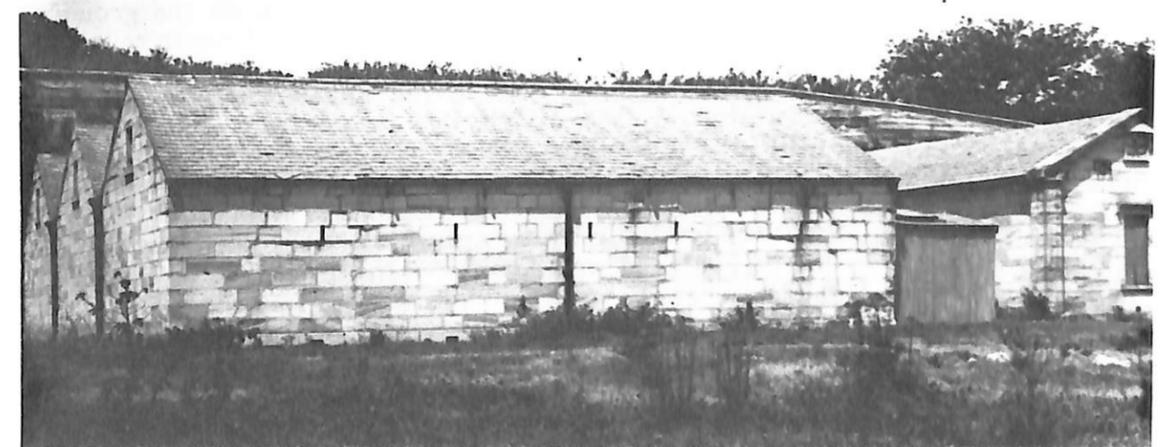


Fig. 18. Former Colonial Magazine before conversion to Shipwright's Shop. October 1923. MSB Negative 195.

Contract specifications, A/NSW, 2/642B.

SMSO to CA, 21.2.1873, A/NSW, 7/366.

Dawson's specifications and design were, as he claimed, very similar to Blacket's, the only exception being Dawson's persistence with his much distrusted corrugated galvanised iron roof cladding.* Edwin Colley, the Foreman of Works for the Colonial Architect, reported in 1873 that the galvanised iron had been removed from the roof and could be disposed of in odd jobs round the island.* It would have been at this time that a new roof truss system was introduced covering all three magazine chambers (Fig. 30).

2.6 Refining the system, 1860-1866

The new extensions had reduced, rather than solved, the powder storage problem on the island. In 1861 the Colonial Secretary was advised:

Weekes to Cowper, 24.4.1861, A/NSW, 7/366.

'The stocks of Gunpowder now in the Magazine at Goat Island exceeds 7,000 Barrels, equal to about one million pounds of Powder - quite sufficient to send half of Sydney to the other world . . . (The magazine is) crammed from floor to ceiling with hardly passage room.'

Midgley to Wilkinson, 28.5.1861, A/NSW, 2/642B.

Prudence dictated that, after 1860, all major developments in explosives storage would take place away from Goat Island - at Spectacle Island, Newington on the Parramatta River and subsequently at Middle Harbour. Any thoughts the Government may have entertained of backsliding from this policy of decentralization were arrested by the publicity attendant on the spectacular explosion of a small store of nitro-glycerine in Bridge Street, Sydney, in 1866.

Midgley to Wilkinson, 15.2.1861, A/NSW, 2/642B.

Ibid.

The 1860s on Goat Island were devoted to repairs, improvements and extension of facilities. The Foreman of Magazines, Midgley, waged a protracted battle with the Colonial Architect through the Military Storekeeper, Wilkinson, to have the floor of the soldiers' privy (Fig. 8) repaired, predicting dire consequences and injury should it collapse when any of the men were in situ.* Moreover so much of the weather-boarding was missing from the 'Urinary' that the men were exposed to the gaze of the (waterborn?) public.* William Coles, now the most senior Clerk of Works in the Colonial Architect's office, had deferred the work on the grounds that the privy was in such a bad state that it was not worth repairing.*

Musson to CA, 28.2.1862, A/NSW, 2/642B.

Coles manuscript, 13.7.1861, A/NSW, 2/642B.

Musson to CA, 22.4.1862, A/NSW, 2/642B.

Tender schedule, A/NSW, 2/642B.

Midgley finally got a handsome stone privy* on an adjacent site (Fig. 22). It was fitted into a contract for improved landing facilities for the magazines. The latter involved a new jetty, 44ft. long by 18 wide, and a covered way leading from the jetty to the magazine, 151ft. 4ins. in length by 9ft. wide (Fig. 22).* The contract for the work was given to Henry Posthumous Musson at the end of 1861 and was completed in April 1862.* Musson's successful tender price was 1037 pounds.* The following year a derrick was erected on the jetty and an extension of the 'shed at jetty' approved to provide additional store room.* The substantial change in levels between the jetty shed and the upper covered way or shed was facilitated by a wooden windlass.* An 1885 photo (Fig. 33) provides the best picture of the complex at the height of its development.

Requisition, J.B. Cole, c. April 1864, A/NSW, 2/642B.

Prescott Knight to SCO, 23.4.1870, A/NSW, 7/366.

J.F. Kemp letter, 24.1.1865, A/NSW, 2/642B.

Ibid.

By September 1864 the location of a laboratory for preparing cartridges between two large powder magazines was recognised as an unacceptable risk and the work suspended.* Coles recommended that the water police station at the other extremity of the island be fitted up for the purpose.* By January 1865 the water police had departed, it seems unwillingly, as the Inspector General of Police noted subsequently:

Ibid., notation: J.McC.

'The water police have been removed as ordered from Goat Island to the Barrack at Kirribilli Point, an objectionable arrangement as far as the Department is concerned.'

In March 1865 the Colonial Architect presented John Sharkey's estimates for conversion and its associated work (Fig. 21):

- . altering present water police station and fitting up as a laboratory; £ 155
- . a new cottage of two rooms as quarters for (laboratory) laborer; £ 335
- . a bridge across the cut wide enough for hand carts; £ 145
- . conversion of the present laboratory into an expense magazine (i.e. a magazine in which small stocks are kept for immediate issue). £ 190

£ 825

Ibid.

In a burst of uncharacteristic speed, the estimates were approved by the Under Secretary on 18 April,* tenders were called and the lowest tenderer, Sam Long, selected by the end of May.* As his tender was for 676 pounds, well under the estimate of the usually competent Sharkey, it was not surprising that authority for additional funds had to be obtained for Long to complete the work.*

Schedule and recommendation, 23.5.1865, A/NSW, 2/642B.

Midgley to Cole, 1.12.1865, A/NSW, 2/642B.

The work specified is of interest and worth quoting:

- 'Laboratory (former water police station)
 - 1 Office, - papering or coloring,
 - 2 Storerooms, - coloring Russian Blue or Stone Color,
 - 1 Work shop, - do ,
 - 1 Shifting room, - do ,
 - 2 Strong stools;

- Cottage (for laboratory laborer)
 - One or two Iron Tanks (water),
 - Privy, - 7 feet high by 5 feet square, Colonial Hard Wood, with two seats, with a screen 6 feet high by 6 feet broad (One Seat for Adults and one Seat for Children),
 - Fence, - Colonial Hardwood 6 feet High 350 feet long (3 rail, close paled with 2 ties of iron hoops)
 - One Cooking Stove
 - One Grate.*

Ibid.

Sharkey certificate, 21.9.1865, A/NSW, 2/642B.

Long completed the bridge over the cut in August 1865,* the new cottage in December* and the laboratory about January 1866. The cottage was immediately occupied, not by a 'laboratory laborer', but by a Serjeant of Artillery,* who would have brought substantial skill and experience to the job.

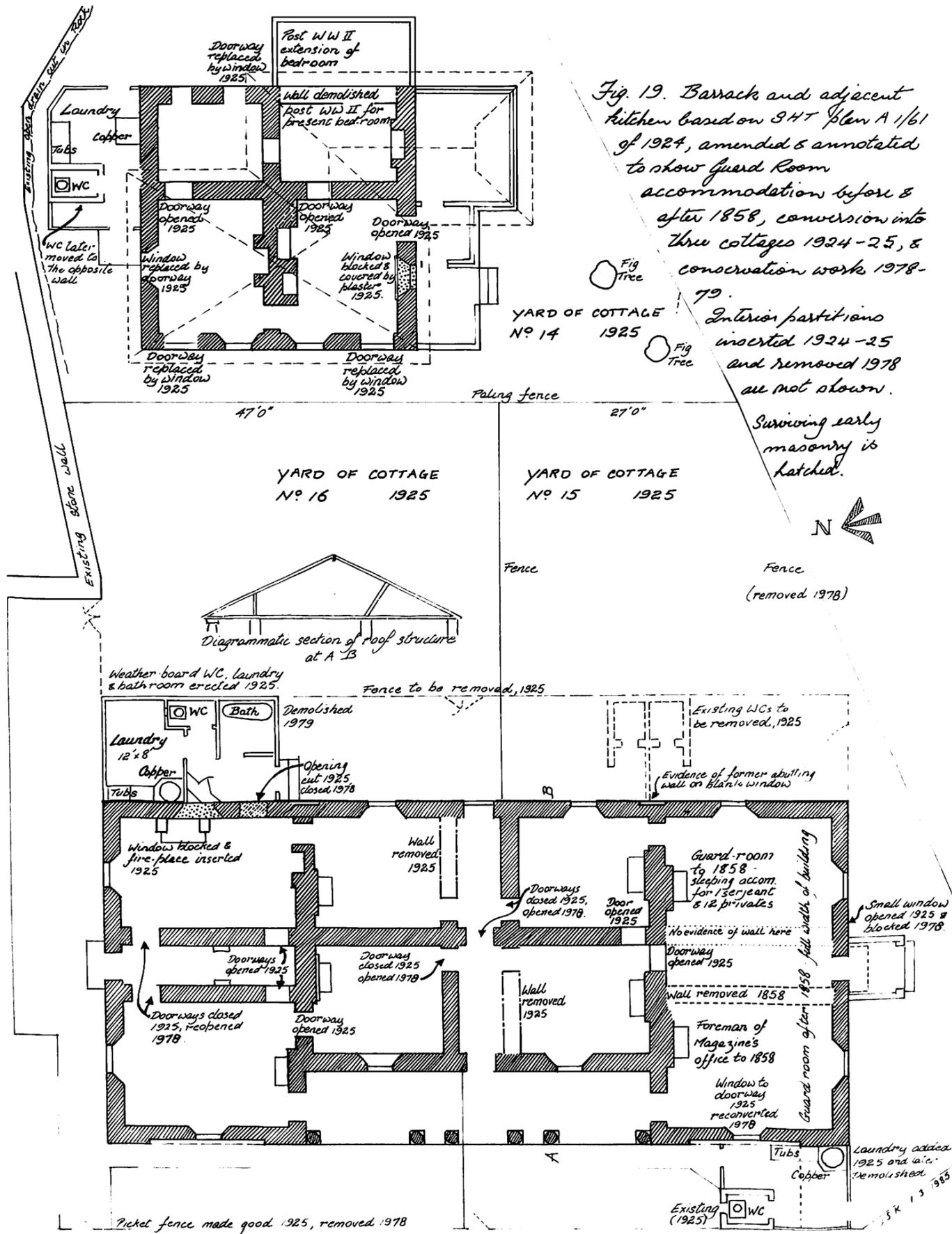
Midgley to Barnett, 15.12.1865, A/NSW, 2/642B.

The distance from the magazines to the laboratory was now considerable and all the materials had to be wheeled to and fro on hand trucks. The existing 25 year-old trucks were worn out by continuous use. The tender of W. Vaughan, builder, of Derwent St. Glebe was accepted in November 1865 to provide:

Ibid.

Midgley to Cole, 12.8.1865, A/NSW, 2/642B.

- . 2 four-wheel trucks - the brass wheels and other non-ferrous fittings being re-used from the old trucks;
- . 2 trays, wood, for raising and lowering the powder for storing and issuing.*



Finally in February 1866 an effort was required to excavate, fill and level the roadway between the magazine and the laboratory, particularly in the vicinity of the bridge over the cut. The maintenance of this road became a frequent chore as use and the elements eroded it rapidly and, as Midgley pointed out, it was desirable to avoid jolting the cartridges for heavy ordnance.*

2.7 Barrack accommodation, 1858-1868

Between 1858 and 1862 the barrack provided accommodation for a Foreman of Magazines, two labourers and a military guard of one serjeant and twelve privates.* Up to 1858 the Detachment had slept in a 'barrack room' at the south east corner of the building. Its dimensions were approximately 21ft. x 18 x 12 or 348 cubic feet for each of the 13 men. In June 1858, William Dick, the Surgeon of the 12th Regiment, pointed out that this was far below the requirements specified for military health.*

By about the end of the year the Colonial Architect had reported that the division wall between the soldiers' barrack room and the Foreman's office had been removed, converting the two rooms into one, making one large room which measured 35ft. x 18 x 11 high (Fig. 19). The Colonial Architect calculated that this enlargement and the fact that three of the thirteen men were always detached on guard, meant that the space had risen to 630 cubic feet per man. At the same time one of the external doors to the enlarged room was blocked and 'a small room formerly used as a cooperage' was given up by the Military Storekeeper as a 'Guard Room'.* This Guard room would have been an administrative focal point and armoury for those on duty and would have been located in buildings b or f on Fig. 8.

An analysis of requisitions for repairs,* combined with information obtained by Don Flecknoe during conservation work on the barrack in 1978-79,* suggests that, between 1858 and 1862, the Foreman of Magazines, Midgley, occupied the four central rooms and the labourers were accommodated in the two northern rooms. The evidence for the comparatively lavish spread of the Foreman of Magazines is that he still had 3 chimneys which required sweeping after he had relinquished his office in 1858.

Damp, then as now, was always a nuisance - either because of inadequate initial provision of drainage or because of a simple failure to keep drains free. In August 1862, William Hayward, the Major of Brigade, provided a classic army solution to damp in the recently occupied Guard room:

I have the honor by direction of the Lieutenant Colonel Commanding to request that you will be good enough to move the Honorable the Colonial Secretary to cause the Cook House at Goat Island to be converted into a Guard Room and the old Guard Room into a Cook House.

The old Guard Room is damp and the Guard therefore is mixed with the rest of the Detachment in the Barrack Room. The alteration above proposed would probably be more economical than the erection of a new Guard Room.*

Midgley to Cole, 5.2.1866, Midgley to Hunt, 16.11.1868, etc., A/NSW, 2/642B.

Untitled ms with letters June to October 1858, A/NSW, 2/642B.

Dick to CS, 23.6.1858, A/NSW, 2/642B.

Untitled ms with letters June to October 1858, A/NSW, 2/642B.

A/NSW, 2/642B.

Record of work, plan and album held by MSB.

MoB to CUSoW, 8.8.1862, A/NSW, 2/642B.

Cole to CA,
17.11.1862,
A/NSW, 2/642B.

Sharkey report,
18.12.1868,
A/NSW, 7/366.

The switch appears to have been carried out as in November the same year the Barrack Master requested the installation of arms racks and a 'Guard Bed'.* There is no evidence that the damp was tackled in the former location.

Because of the quantities and estimates specified it was most likely the Barrack building to which John Sharkey was referring when he wrote, in December 1868:*

'To remedy the damp I propose to cut a drain 3ft. deep by 2ft. clear around the walls and to the precipice at the water side to lay small drainpipes in the bottom, to ensure drainage, and to cover the open cutting with 6 inch pavement flagging joined in cement, the estimated cost will be about 215.8.0.'

The quantities involved were:

1,035ft. Rock guttering @ 9/- =	38.16.3
67 yards Rock excavation @ 7/6 =	25. 2.6
350ft. small drainpipes @ 6/- =	8.15.0
1370ft. 6" pavement @ 2/1 =	142.14.2'

Sharkey's estimates for labour were 12 quarryman days and 24 labourer days. Conservation work in 1978-79 revealed little evidence of such work and it is probable that it was not (or only partially) carried out.

The other recurrent maintenance problem of the 1860s concerned the occupation of the barrack by the Detachment. Window breakages were so frequent that the Colonial Architect might have been excused for supposing that troops lived in an alcoholic frenzy. However the incidence seems to have passed unremarked by officialdom and was simply attributed to storm damage. The Colonial Architect did not hasten to repair the damage until cooler weather brought serious protest. Less frequent defects included a worn door step in the barrack room which admitted rats as well as cold air and a large part of the lath and plaster ceiling which fell on the Overseer's personal effects.* The interiors were whitewashed regularly throughout the period.*

Wilkinson to CA,
24.4.1862,
Midgley to Cole,
8.1.1864, A/NSW,
2/642B.

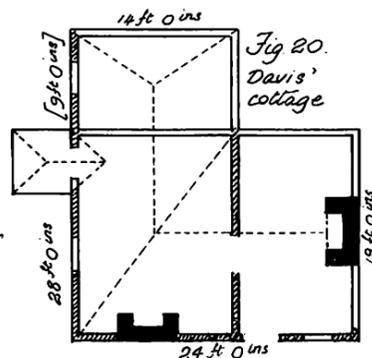
Requisitions,
A/NSW, 2/642B.

Purcell letter,
28.11.1865,
A/NSW, 2/642B.

ML, SVI/HAR/
MILP/1

ML, Z PX 38

In addition to the barrack there was a weatherboard cottage occupied by a Gunner (Davis) and the new cottage east of the Cut occupied by a Serjeant. Both belonged to the Royal Artillery. Sharkey did a thumbnail sketch of the plan of Davis' cottage and pencilled outer dimensions on it when estimating repairs in December 1865 (Fig. 20).*



The plan fits precisely a cottage approximately on the site of the tennis court and visible in an 1875 photo of Goat Island.* There is also a rough approximation of the same building in Rebecca Martens' 1857 pencil sketch of the island.* The sandstone footings (Fig. 34) which project in a north-westerly direction from under the western embankment of the tennis court appear to be the remains of Davis' cottage. It is likely that when the 'house on the hill' (temporary barrack) was demolished after 1842 its materials were used in the construction of Davis' cottage.

2.8 New blasting agents and the Russian Bear, 1868-1899

The comparatively slow burning gunpowders had long been used to propel Her Majesty's projectiles and as a not very efficient blasting agent. However the 1860s saw the introduction of a number of powerful new blasting preparations. Both gun-cotton and nitro-glycerine had been separately discovered in 1846, although it was twenty years before they were packaged as products which could be stored, transported and set with reasonable confidence.

In the case of nitro-glycerine it was achieved by mixing the liquid with various absorbent substances to give a range of blasting agents known commercially as dynamites. Both gun-cotton and nitro-glycerine were more susceptible to accidental explosion unless handled correctly and this led to the development of a less powerful agent based on nitro-glycerine and known as lithofracteur. It came to prominence during the Franco Prussian war of 1870.

As Spectacle Island had become an establishment housing propellant powders, shell and fuses, Goat Island was required to store all three - gun-cotton, dynamite and lithofracteur. This meant that new storage facilities had to be found as far from the existing magazines as possible.

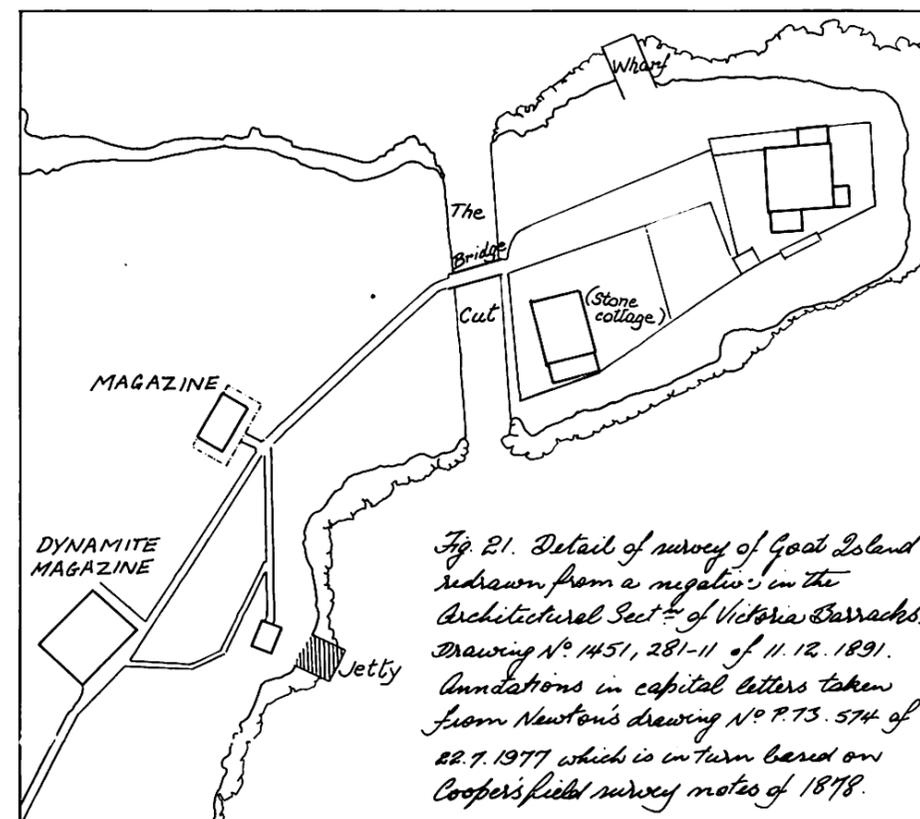


Fig 21. Detail of survey of Goat Island redrawn from a negative in the Architectural Sectⁿ of Victoria Barracks. Drawing N^o 1451, 281-11 of 11.12.1891. Annotations in capital letters taken from Newton's drawing N^o P.73.574 of 22.7.1977 which is in turn based on Cooper's field survey notes of 1878.

LA, V&P, 1875-6,
Vol.6, p.1012.

Lands Dept,
FB1725/1-49

By 1875 there was at least one wooden magazine with a galvanized iron roof south-west of the Cut.* Surveyor's field notes* show that by 1878 there were two magazines (Fig. 21) and it is probable that the jetty and shed on the adjacent shore were built at the same time.

LA, V&P, 1875-6, Vol.6, p.1037.

Ibid., p.1011.

Ibid., p.1044.

The new magazines were over 200 yards from the gunpowder storage area and the central ridge of rock on Goat Island effectively isolated the two sites. However, it meant that the laboratory could not remain in the nearby former water police station and by 1875* laboratory work had been returned to its earlier location between the Queen's and Colonial Gunpowder Magazines. Blanchard, the Assistant Ordnance Storekeeper, reported that, in any case, laboratory operations were now largely carried out on Spectacle Island and that such work on Goat was 'very trifling'.*

In May 1875 Paton, the Ordnance Storekeeper, advised the Storage of Gunpowder Board that stores (in tons and hundredweights) were as set out in the table below.*

	Quantities capable of being stored:		Quantities at present in store:		
	Tons	Cwt	Imperial	Colonial	Merchants
Lithofracteur	23	0	-	-	3.0
Gun-cotton	12	0	-	-	0.7
Dynamite	12	0	-	-	-
Gunpowder	300	0	50.0	37.0	61.0
Shell and fuse	5	0	2.10		

In November 1875 the Storage of Gunpowder Board, chaired by Gother Kerr Mann, made a number of recommendations prompted by the somewhat casual attitude to safety and security they found on the island.* These included the removal of merchants' powder from Goat Island and the construction of a separate magazine for it on the right bank of the Parramatta River (Newington); the clearance of the whole of the underbrush from the island and the removal of Gunner Davis' cottage east of the Queen's Magazine. Before the report was printed the brush was removed and the Colonial Architect was instructed to remove the cottage,* however the much-detested merchants' powder was still there ten years later.

From the 1870s to the 1890s there were a considerable number of additions, alterations and reconstructions as well as attempts to make the magazines and laboratory safer from lightning strike and fire. As little physical evidence survives from this period it is not useful to detail its complexities.

The event which had most effect was the removal of all Colonial Government stocks from Spectacle Island shortly before March 1885 to make way for its exclusive use as an Imperial Naval Store. This was associated with acute Imperial and Colonial apprehension at Russia's supposed intentions, which in turn resulted in a large Colonial order for ball, cartridges, fuses and tubes for the defence of the Colony.*

To accommodate the new stores and those transferred from Spectacle, the Queen's Magazine was used for small arms cartridge storage* and a 30ft. x 40ft. weatherboard store was constructed by December 1885 (Fig. 22).* Nothing now remains of the latter.

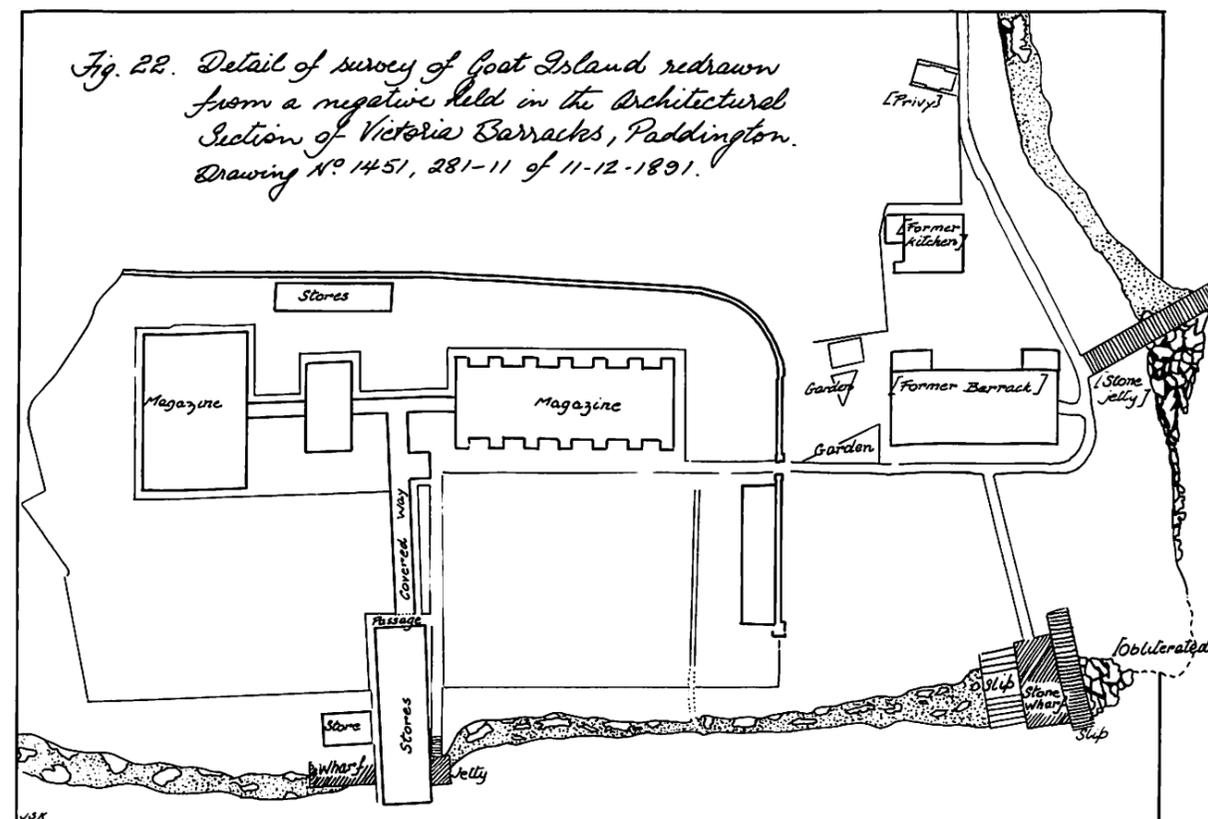
ML, Q328.91/S/Vol.3, p.12.

OS&BM to USFAT, 11.10.1875. ML, Q328.91/S/Vol.3.

Meldon to OS&BM, 18.5.1885, A/NSW, 7/367.

Meldon to OS&BM, 18.5.1885, A/NSW, 7/367.

Ibid. Dec. 1885, A/NSW, 7/367.



2.9 The plague, 1900

In January 1900 the bubonic plague finally reached Sydney. It was caused by a bacillus in the blood of diseased rats being transmitted by fleas to humans. Between January and August 1900, 103 people died and it had a dramatic impact on public opinion and on the responsiveness of Government to take short and long term counter measures - measures which would normally have been an unacceptable intrusion of private rights and enterprise.

Actions involved the progressive gazettal of 'infected' areas and their 'cleansing' by large gangs of men. Where considered necessary, structures likely to harbour rats were demolished. These tended to be in or near the Port of Sydney. In addition Government or Local Government rat catching teams were responsible for killing well in excess of 100,000 rats between April and October.

A number of recent writers have pointed out Goat Island's use as a bacteriological station during the plague outbreak. The most reliable and circumstantial account was presented by the late P.R. Stephenson in Stephenson and Kennedy's **Sydney Harbour**, page 170.

'During the outbreak of plague at Sydney in 1900, the explosives were hastily removed from Goat Island . . . All the buildings were vacated, including the Water Police station, and the island was put into emergency use as a bacteriology station

under control of the NSW Department of Health. The arsenal was equipped as a laboratory for the preparation of serums and for the testing and diagnosis of plague infection. The residential quarters were occupied by the laboratory superintendents and staff.'

In the time available I have been unable to locate primary evidence to substantiate this generally accepted and highly probable story which, if correct, would add an interesting association to the history and significance of the island.

Goat Island was a logical choice for such a station. It was convenient to the area of worst rat infestation and was at the same time physically isolated. The station would have been set up by the Chief Medical Officer of the Health Department, John Ashburton Thompson, and investigation would have been under the control of the Principal Assistant Medical Officer and Microbiologist, Frank Tidswell. Tidswell's work was to be important in establishing an existing hypothesis that fleas were the agent of transmission of the bacillus from rats to humans.

2.10 The Sydney Harbour Trust depot, 1901-1914

In 1900 there was an urgent and publicly recognised need for an authority with substantial powers and resources to control and reconstruct the port of Sydney. To this end the Government passed the Sydney Harbour Trust Bill in October 1900 and it was assented to in February 1901.*

SHT, AR, 1901.

The Gazette of 30 January 1900, No.88, had announced the vesting of all of Goat Island west of the Cut in the 'Governor' of NSW. The whole of the island was in turn vested in the Sydney Harbour Trust Commissioners under the **Sydney Harbour Trust Act No.1** of 1901. However it was the opinion of the Attorney General of the newly formed Commonwealth, Alfred Deakin, that the 3 acres 0 roods and 33 perches of the magazine and barrack complex were Commonwealth territory, properly transferred in accord with the **Transferred Property List** and vested in the Commonwealth under Part 1 of Section 85 of the **Commonwealth of Australia Constitution Act, 63 & 64 Victoria**, c12. A further, but minor, complication was the Mayor of Balmain's belief that the island had been promised as a Recreation Reserve by the NSW Government.*

Telegraph, 8 and 9.1.1902.

In 1901, however, the Commissioners' attention was directed to the efficient start of a very large undertaking. Dredging was one activity given to the Trust. The plant transferred from the Department of Public Works included the tugs **Dawn, Achilles, Dayspring, Scylla, Aurora** and **Octopus**; the ladder dredges **Sydney** and **Charon**; the grab dredges **Pi** and **Chi**; the rock excavator **Poseidon** and the launch **Europe**.* The Trust decided to use Goat as a depot and, by March 1902, a wharf, coal-store and workshop were well advanced on the north shore east of the Cut.*

SHT, AR, 1901.

Ibid.

Once the facilities were established it was also the intention of the Trust to station the shortly-to-be-delivered firefighting tug **Pluvius** at the depot under constant steam. As a result quarters were required on the island for the Captain and crew and would need to be

SHT, AR, 1901.

SHT, AR, 1902.

connected to the city by telephone.* Because of the congestion at Circular Quay the Trust proposed to form a jetty to the west of the Cut with 'pipes and appliances for supplying the various water boats with water'.* The last project of the early development was a house (Fig. 23) for the Harbour Master, Captain Charles Bird, as it had been found impossible to obtain a suitable house at Dawes Point.

SMH, 9.7.1903.

SHT, AR, 1907-08.

All, except possibly the fresh water service wharf, were completed by 1903 and were the responsibility of the Engineer in Chief, H.D. Walsh. The only problem concerned the substantial workshop (Fig. 25), built beside the wharf east of the Cut and fitted out by January 1903. It was considered necessary because work done on Cockatoo Island was 'too costly' but on completion the Commissioners decided, presumably under Government pressure, that all work would in fact go to Cockatoo.* The water service wharf was certainly functioning by early 1906 and by June 1908 it had been enlarged and a 20,000 gallon tank constructed (Fig. 25-o).*

As the plague was a major factor in the creation of the Trust, the Commissioners and staff remained conscious of the need for an unpolluted harbour and foreshore which would give a minimum of sustenance to foraging rats. It therefore kept two scavenging boats constantly employed and all objectionable flotsam and putrifying matter was taken to Goat Island to be burnt. The following table of retrievals from the harbour illustrates both the scope of the problem and the nature of the work.*

SHT, AR, 1902 & 1904.

	9 Months 1901-02		9 Months 1904	
Rats	2,524	3,517	Hares	5
Cats	1,068	1,033	Kangaroos	3
Milton Cats		1	Rabbits	1,620
Dogs	1,260	2,189	Bags of Chaff	48
Bags of Meat	283	393	Bales of Straw	8
Bags of Fish	305	301	Flying Foxes	3
Fowls	1,467	1,652	Sharks	2
Parrots	25	9	Monkeys	-
Sheep	23	20	Stingarees	-
Pigs	14	29	Wallabies	-
Bullocks	1		Lambs	-
Calves	9	13	Horses	-
Goats	9	9	Eels	-
				7
				200
				15
				57
				1
				1
				3
				8
				8
				1
				5

During the five years before the first World War extensions and new work were carried out as a direct response to the need for additional berthing and to accommodate the necessary facilities and men. About the beginning of 1909 the Trust's Glebe Point depot was closed and plant, gear and materials were transferred to Goat. To receive them 102ft. of wharf and a 60ft. x 30ft. shed were constructed.*

SHT, AR, 1908-09.

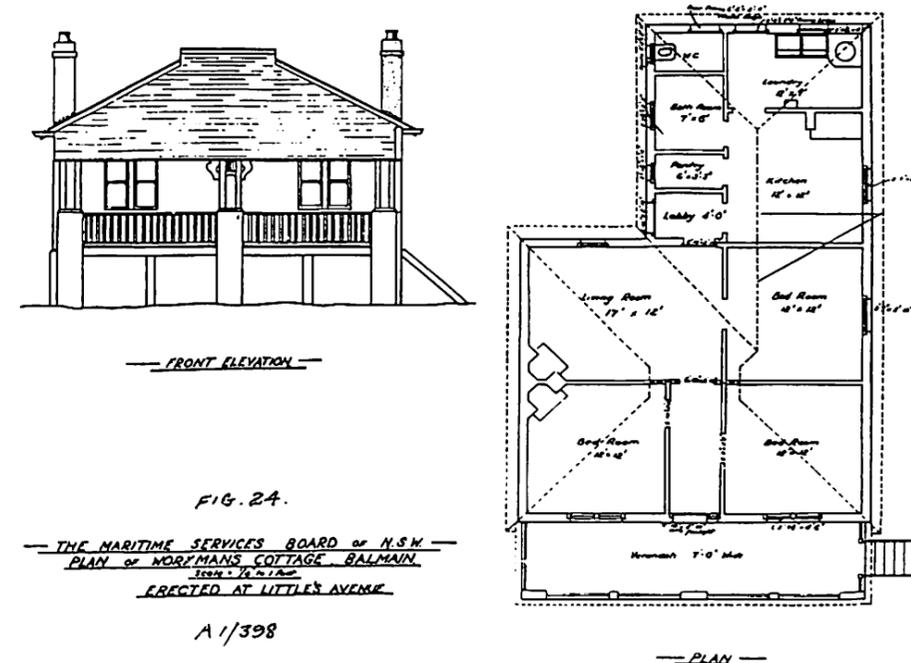
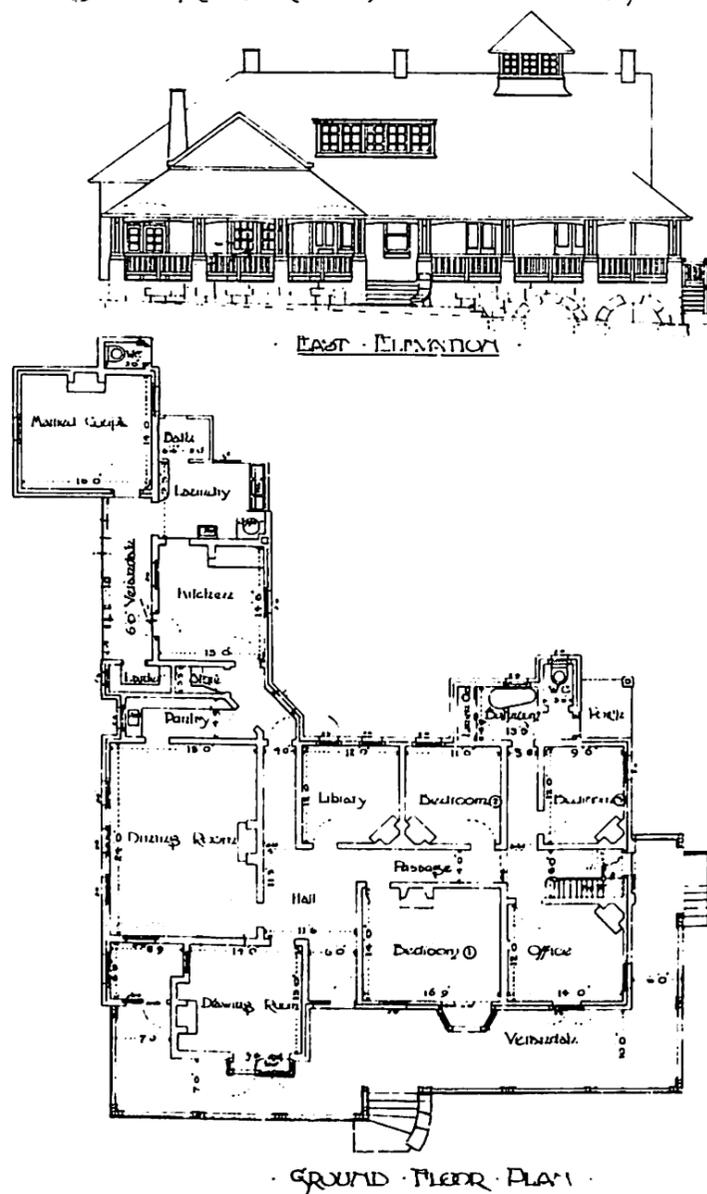
SHT, AR, 1906-07 & 1911-12.

The **Pluvius** was joined by a second firefloat **Powerful** before 1907 and **Hydra** about 1912.* In 1911, on the south side of the Cut, a rough 275ft. long jetty was constructed for the new dredge **Triton**

Fig. 23. HARBOUR-MASTERS' RESIDENCE

SYDNEY HARBOUR TRUST 1902

A1/14



The Harbour Master's residence was, and still is, a large single storey building in the Federation style (Fig. 23). Materials are brick and tile on a sandstone base with fine exterior carpentry and interior joinery, plasterwork and marble fireplaces. In addition to attic bedrooms in the roof, it has a square lantern lookout to enable the Harbour Master to obtain a panoramic view of the surrounding port. From its deep set front verandah it has most spectacular views of the harbour and city. Although its size proved an embarrassment, the somewhat awkward proposal for conversion into two dwellings in 1919 does not appear to have been carried out. Since 1968 it has been left unoccupied and has been subjected to theft and arson by persons who were fortunately both lazy and incompetent. It is a fine example of its period.

The Fire Brigade crew were quartered immediately south of, and virtually under, the coal bins and their personal effects were regularly penetrated by coal dust. In October 1909 they addressed a letter to the Engineer-in-Chief seeking the removal of their quarters elsewhere on the island.* Finally, between April and November 1912, a new brick barrack (Fig. 25-11) was built for them west of the former water police station. It accommodated 14 men. The 1865 stone cottage between the barrack and the Cut became their mess room.*

In March 1916 the Trust commenced building three brick and tile cottages for married members of the Fire Brigade crew (Figs 25-2, 25-3 and 25-4).* They were a standard Trust design and two similar cottages had been built the previous year at Balmain.* When erected on the island the stairs were placed in front as the tight boundaries did not leave room for a side entry as shown on the plan (Fig. 24). It was evident that the woodwork was pre-cut elsewhere as the plates at the side of the verandah still bear the mortices intended to receive the stringers for the stairs.* The exteriors and much of the interiors of the cottages are substantially intact today.

SHT, AR, 1909-10.

SHT, AR, 1912-13.

SMH, 9.7.1903, MSB cutting book.

SHT, AR, EIC Report, 1903. Survey of 1905, A/NSW, Plan 495.

and for other plant.* Both 'wharf' and 'jetty' were constructed of secondhand material. Early in 1913 a new steam lighter **Sampson** and the tug **Delilah** were added together with further rock excavating plant.*

2.11 Trust residential accommodation, 1901-1924

In July, 1903 the Premier referred to the completion of four 'dwellings' on the island at a cost of 3,127 pounds.* They were the Harbour Master's residence (Fig. 25-1), the Fire Brigade quarters just east of the Cut and two weather-board and tile cottages for married men (Figs 25-6 and 25-7).* All except the Harbour Master's residence were demolished by the 1970s.

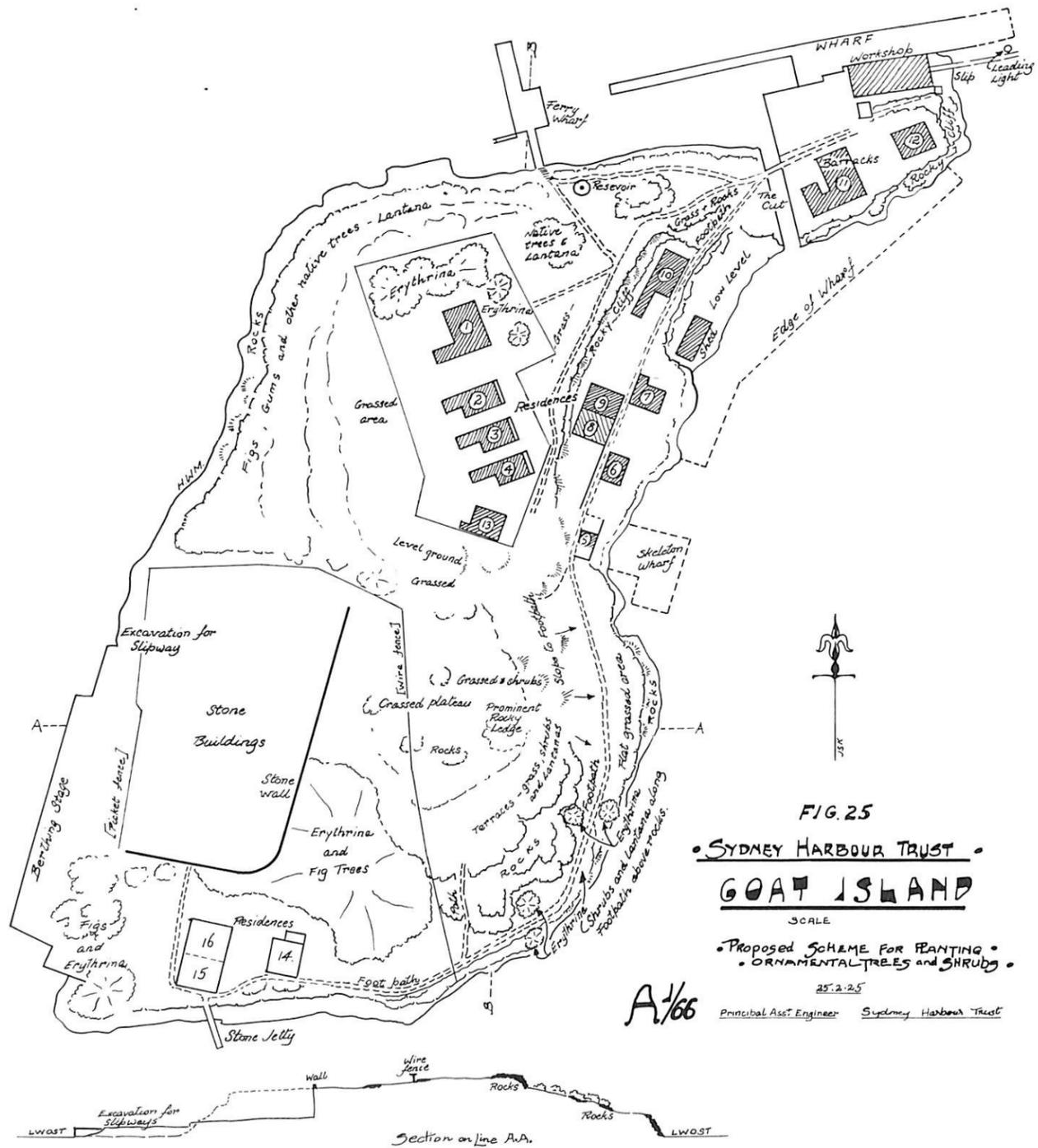
A/NSW, 19/10492.

SHT, AR, 1912-13.

SHT, AR, 1915-16.

Annotation, SHT Plan A1/21.

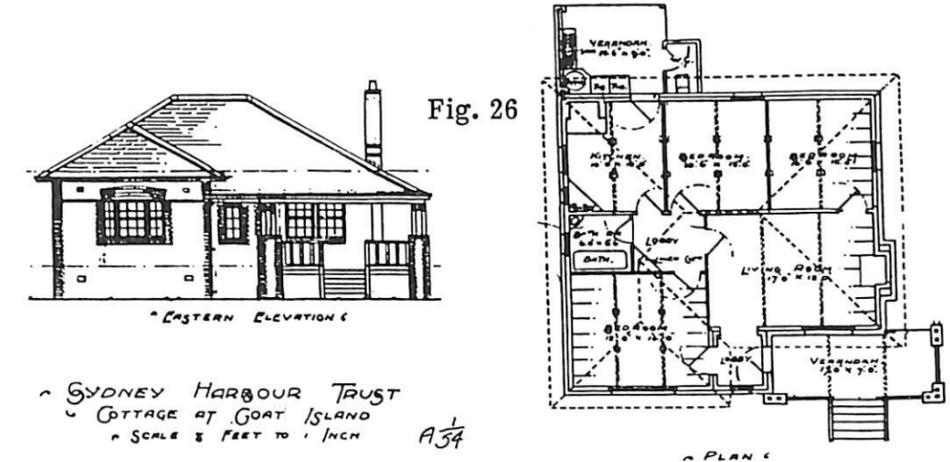
Inspection, Dec. 1984.



SHT corres.,
A/NSW,
19/10492.

SHT, AR, 1914-
15, MSB corres.,
A/NSW,
19/10492.

Earlier, and after some indecision, the Trust had resolved to reconstruct J.S. Kerr's cottage (Fig. 25-10) and Kerr vacated it for that purpose in March 1913.* In its previous use it was an ammunition shed (Fig. 21). Also about 1913, and certainly before June 1915, a weather-board and tile cottage (Fig. 25-5) and a similarly constructed duplex (Figs 25-8 and 25-9), had been built.* This new cottage and duplex were similar in style and adjacent to those constructed in 1903 (Figs 25-6 and 25-7) and were also demolished by the 1970s.



SHT, AR, 1922-
23, SHT Plan No.
A1/54.

The last cottage to be built on the island was completed in 1922* and is the southernmost of the row remaining on the ridge (Fig. 25-13). Where its three 1916 neighbours to the north have traditional late nineteenth century plans and a flavour of Art nouveau, this new cottage is unmistakably a suburban villa of the 1920s, standing four-square and planned compactly round a central space (Fig. 26).

SHT, Plan No.
A1/54.

Now that the Commonwealth was no longer in possession of the rest of the island, it was the Trust's intention to continue residential development south along the central ridge of the island.* In fact, no further cottage accommodation was built on the island and any proposals were hampered, first by the depression of the 1930s and then by the war.



Fig. 27 Barrack building in 1974 as reconfigured in 1924-25 into two dwellings. J.S. Kerr. Negative 74.30.

SHT, Plan No.
A1/61.

Record of work
held by Don
Flecknoe, MSB.

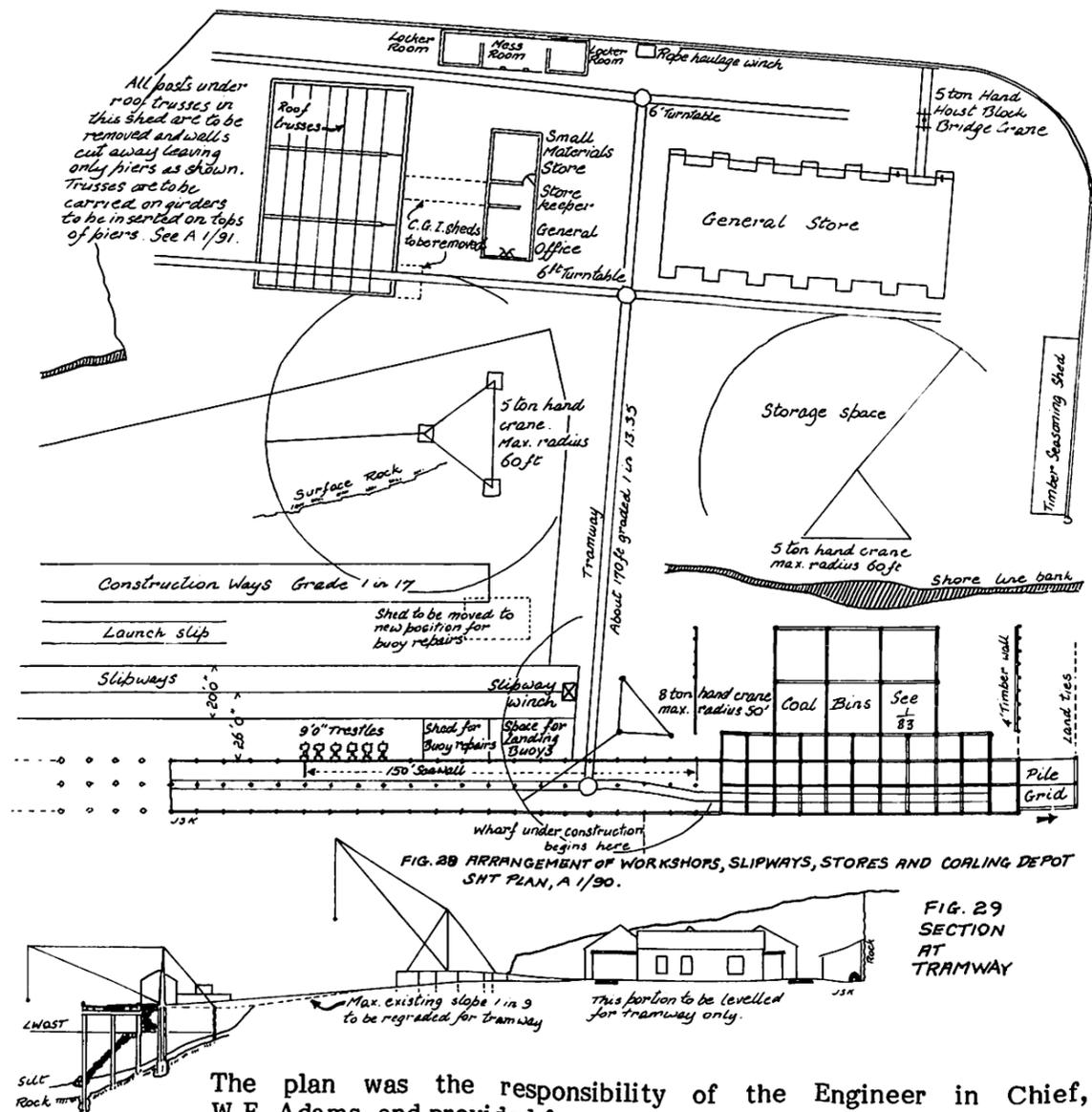
The only other domestic work of the 1920s concerned alterations and additions to the former barrack and cook house buildings which were now described as cottage Nos. 14 (former cook house) and 15 and 16 (former barrack). The alterations involved the removal of several original interior walls (Fig. 19) and the addition of laundry, bath and WC facilities to each 'cottage' unit. The work was probably carried out in the second half of 1924.* All of the additions to the barrack made at this time were subsequently removed in 1978.*

2.12 Trust Shipyard Development, 1925-1931

In 1925 the Sydney Harbour Trust reported:

'The establishment of a satisfactory depot for the repair of the Trust's vessels and floating plant has been contemplated for a considerable period, and the surrender by the Commonwealth of that portion of the island which had been in its occupation has paved the way for the establishment of such a depot for the centralisation of the work on the western side of the island. A start has been made on the preparation of the site for the new slipways.*

SHT, AR, 1924-25.



The plan was the responsibility of the Engineer in Chief, W.E. Adams, and provided for:

- a) a 770ft. wharf on piles, the southern end of which would support coal bins;
- b) a 135ft. undecked berthing grid continuing the line of the wharf to the south and tied back to the sea wall;

- c) a main slipway, launch slip and construction way;
- d) a 5 ton hand crane with a maximum radius of 60ft. between the construction way and the shipwrights' shed;
- e) another 5 ton 60ft. radius hand crane in a storage area;
- f) an 8 ton hand crane with a 50ft. radius adjacent to the wharf and slipway;
- g) a rail system with turntables and a rope haulage winch to drag trucks up the 1:13 incline from the wharf;
- h) use of the skillion shed against the southern stone boundary wall for timber seasoning and WCs;
- i) use of the Queen's Magazine as a general store;
- j) a 5 ton hand hoist gantry crane between the former Queen's Magazine and the quarry cliff;
- k) conversion of the former expense magazine to a small materials store, storekeeper's office and general office;
- l) recycling of the Colonial Magazine as a Shipwright's shed;
- m) use of the stone skillion shed under the cliff as a mess area and locker rooms.*

SHT Plan Nos A1/90 and A1/91.

SHT, AR, 1925-26.

SHT, AR, 1926-27.

SHT, AR, 1927-28.

SHT, AR, 1928-29.

Ibid.

SHT Plan No. A1/157.

The disposition of these elements is set out in Figs. 28 and 29.

The 770ft. x 20ft. broadside wharf was completed during 1926* and by the middle of 1927 the coal bins had been erected, the tramways completed and conversion of the Colonial Magazine to a Shipwright's workshop effected.* The following year electric current was made available for use in the workshops and for lighting on the island* and before June 1929 the two 5 ton and one 8 ton cranes had been installed.* A single slipway for the Trust's launches was completed at the same time.* Finally in 1930 or 1931 the space between the former Queen's Magazine and the cliff was roofed at a height of 20ft. and a gantry crane installed.*

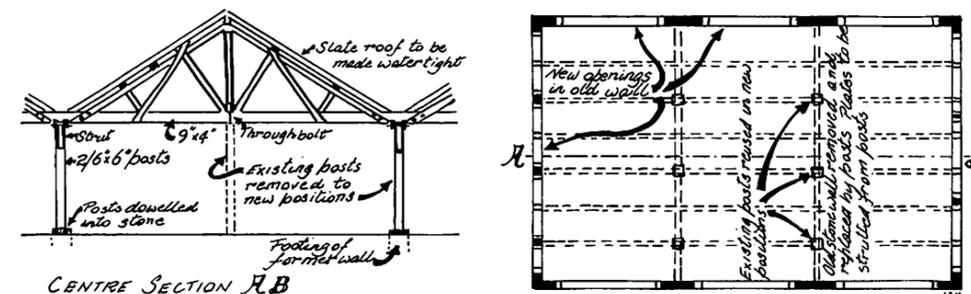


Fig. 30. Conversion of Colonial Magazine to Shipwright's Shop. Based on S.H.T. Plan A 1/91 of December 1925.

The 'conversion' of the Colonial Magazine to a Shipwright's shop involved drastic treatment and was designed to provide a maximum area of flexibly usable space. All walls were cut away leaving only 8 stone piers at the corners of the 3 chambers. The trusses were strengthened (see Fig. 30) and the 6 x 6 posts supporting the centre of each truss removed to support instead the plates which were formerly supported by the internal masonry walls. The story can be

read from the existing fabric and is confirmed by the proposed work set out on Trust Plan No. A1/91. In addition the covered way linking the building to the new store and office was removed.

SHT, AR, 1928-29.

Ibid.

Although Trust resources devoted to the island in the 1920s were concentrated on the development of the shipyard, other capital works included the construction of a 350ft. x 20ft. grid wharf on the eastern side of the island as further berthing for the Trust's vessels and floating plant (Fig. 35).* In addition in 1931 or 1932 a 6 inch water main was laid from Balmain to Goat to replace the one originally put down about 1897.*

2.13 Maritime Services Board, 1936-1984

MSB, AR, 1935-36.

On 1st January, 1936, following the passing of the **Maritime Services Act, 1935**, the Maritime Services Board replaced the Sydney Harbour Trust. Unlike the old Trust the Board was responsible for the whole State, not just the Port of Sydney, and for the first time formal representation was given to shipping and mercantile interests.*

The early years of the depression had forced the Trust to abandon its capital works programme. It was only during its last full year of existence, 1934-35, that it was able to resume token construction work. The Maritime Services Board received more the following year but had greater responsibilities. The relevant figures are:

Year	Authority	Expenditure from Loan Votes
1934-35	SHT	18,167
1935-36	SHT/MSB	45,008
1936-37	MSB	53,068

SHT & MSB, AR, 1934-37.

This level of funding continued until the war years and little was done on Goat Island.*

MSB, AR, 1937-38.

One diverting interlude was the conversion of the lighter **Bramble** to a resemblance of His Majesty's Brig **Supply** for the sesqui-centenary celebrations in 1938.* **Bramble** was built in 1877 and, after 35 years as a light ship stationed on the Sow and Pigs, it was sold in 1912 as a lighter. The entire work was carried out on Goat Island.

The war brought with it a greater sense of unity and purpose and, at managerial level, a conscious attention to morale. The 1941-42 Board Report noted:

'Goat Island is the headquarters of the Board's Fire Brigade and the members of the Brigade, numbering 26 men, live on the Island, also the families of several married members. The residents are deprived, to some extent, of the usual amenities available to those living on the mainland and, in order to foster the community spirit and provide for the entertainment of the residents, particularly the younger members, a recreation hall, which will accommodate 250 persons, has been erected on the Island. The residents have formed a social club and the hall has proved a decided acquisition to the social life of the Island, as it is now possible to organize entertainments on a scale

which was not practicable in the past owing to the absence of adequate facilities.*

MSB, AR, 1941-42.

MSB Plan A1/353.

MSB Plan A1/357.

Ibid.

Info. Arnold Fleck.

A preliminary design for the 50ft. x 30ft. hall was prepared in May 1941 by the Supervising Architect, W.H. Withers.* It was a handsome wooden structure with carefully detailed Doric porches and a bell-cast profile on the enlarged base weatherboard.* By July a navigational beacon tower had been added to the design of the south-east gable* and the whole structure was opened on 13th December, 1941 in the presence of 2,000 people.*

Former staff members recall with affection the popular Saturday night hops when visitors came from the 'mainland' and for over a decade Goat Island was a popular centre of social activity. The author recalls a resident of Balmain claiming, in 1959, to have been conceived beside the lime kiln on the island at that time. Bert Lamb remembers the Secretary, Mrs. Fleck, armed with a broom, pressing back into the hall those who dallied outside.

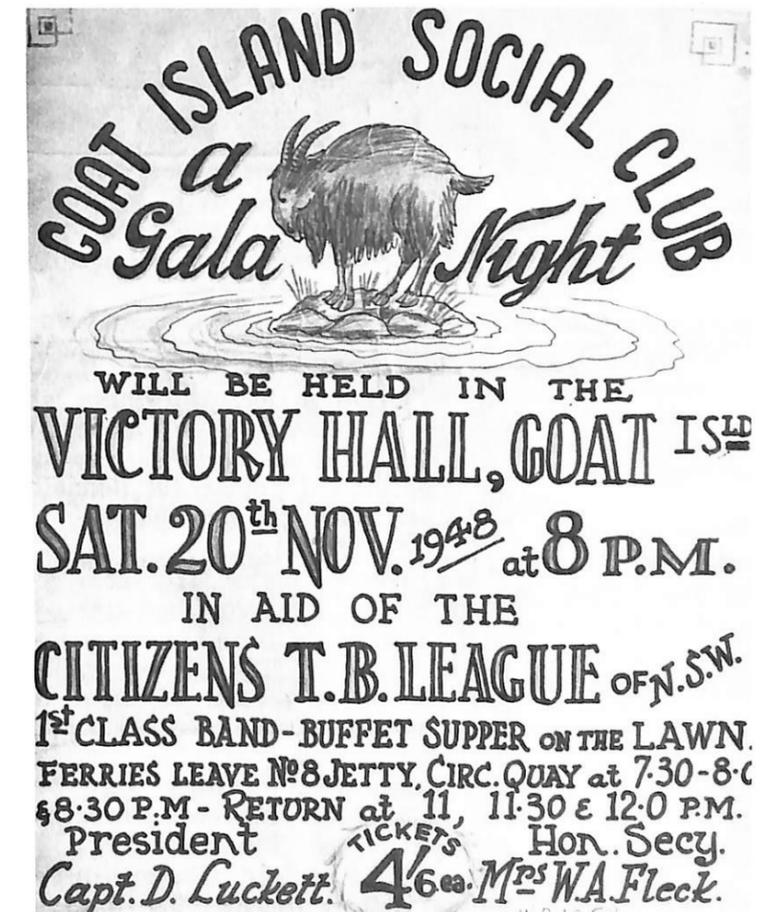


Fig. 31. Poster Goat Is. Museum.

MSB, AR, 1941-42.

Other amenities completed in 1941 included a shark-proof swimming bath with an area of 5,000 square feet, immediately north of the Cut.* The tennis court (Fig. 35) had been laid down earlier - probably about 1937. After two fires and at least one rebuilding the hall was demolished in the late 1960s, but the footings and associated paths remain to this day as evidence of a vanished and unusual episode of Goat Island life.

MSB Plan A1/376.

In September 1943 the same Supervising Architect designed the transformer house on the south-west corner of the island (Fig. 35).* He adopted the segmental arch, label mould and other design details of the adjacent 1838 barracks building. It remains today a rare example of architectural 'good manners' on the island.

MSB, AR, 1947-48.

MSB, AR, 1946-47.

MSB, AR, 1947-48.

MSB Plan No. A1/447.

The 1940s and 1950s were a time of renewed construction on the island related to wharf, storage and particularly shipyard facilities. A tabulation of the work is set out in Appendix 4. By 1948 three slipways were available - the largest with a 150 ton capacity,* a 120ft. x 35ft. ship building shed and fitters' shop had been built at the head of the westernmost slips (Fig. 34), new coal hoppers were constructed at the north end of the broadside wharf (Fig. 34)* and a 256ft. x 70ft. shipwrights' shop (Fig. 34) was almost completed* to replace the inconvenient and inadequate facility in the former Colonial Magazine. The new shipwrights' shop was a ten-bay, saw tooth, fabricated steel structure running parallel to, and straddling, the western shoreline. The designing engineer chose to make extensive use of reinforced concrete sheet piling to solve the problems involved.*

By 1948 the Board's fleet totalled 144 and comprised:

- | | |
|-----------------|------------------------|
| 1 pilot steamer | 1 water boat |
| 7 dredges | 2 steam lighters |
| 8 tugs | 59 scows and skiffs |
| 24 launches | 33 units of floating |
| 9 barges | plant for construction |
| 1 rock breaker | and diving operations |

As the great majority of these were wooden vessels considerable repair and reconstruction was required in the shipyard in addition to new construction work.* New work over the next five years included the 75ft. diesel tug **Bennelong** intended for firefighting duty and a series of 36ft. launches.*

MSB, AR, 1947-48.

MSB, AR, 1950-54.

MSB, AR, 1959-60.

There were no major structures erected in the shipyard during the 1950s but by 1960 work had started on a new 500 ton slipway which would enable the Board to service all except its largest and heaviest floating plant.* The slip was built on a footing of large concrete pedestal boxes several of which can still be seen dumped on the shoreline east of the lower parts of the slip (Fig. 34).

MSB Neg. No. A9146 of 31.1.1963.

Info. in this para. from Jack Fitzpatrick and Don Flecknoe.

MSB, AR, 1963-64.

In January 1963 footings were poured (Fig. 34)* for a tall, long radius, 10 ton, cantilever tower crane to service the slipways and adjacent areas. The crane (Fig. 32) was built by William Arrol and Co. Ltd of Parkhead, Glasgow in 1924 and had been in use at Mort's Balmain Dock during the intervening years. It was partially dismantled and transported in sections to Goat by the floating Titan crane. It is an oral tradition on the island that the winch drum for the 500 ton slip was originally designed and used for cable control during the building of the Sydney Harbour Bridge.* It is capable of having been so employed. The slip, winch and crane were in service by 1964.*



Fig. 32 Slipways in January 1985. From left to right: 500 ton slip, cantilever tower crane, 150 ton slip and boat shed slip. J.S. Kerr. Negative 85.2.86.

Info. from Jack Fitzpatrick.

Other items of interest include an early hand crane from Campbell's Wharf re-erected at the northern end of the former Ordnance Magazine about 1954, the headline winch off the bucket dredge **Coolooli** and an old railway boiler which had been converted for use as an air receiver at the No.10 Depot, Rozelle Bay and is now used as a receptacle for waste oil.* Both the latter are fixed to the northern end of the broadside wharf at the shipyard.

New erections near the Cut included an office for the Superintendent, Dredging and Floating Plant, north-east of the former water police station and new barrack quarters for the single Fire Brigade men, built 1960-62. See Fig. 35. It was the third barrack constructed for the purpose since the turn of the century.

3.0 ELEMENTS AND ASPECTS

3.1 A note on pre-history

The National Parks and Wildlife Service of NSW advise that no Goat Island sites are listed on its Register of Aboriginal Sites.

Goat Island would have been visited by people fishing and shellfish gathering. However if there was any evidence of occupation or regular use it is likely to have been destroyed or obscured by over 150 years of European development. The area under the rocks of the north-west escarpment probably retains the most potential. It is sheltered, beside the water and the least disturbed. If evidence, such as middens or implements of marine origin, does exist, it is at once protected and made visually inaccessible by an accretion of domestic garbage, obsolete consumer durables and builders' debris which have been dumped over the cliff. This in turn is overlaid by dense vegetation.

A casual inspection of accessible rock platforms on top of the island and rock faces round the escarpment has not revealed obvious evidence. A series of about 8 semicircular section grooves cut in the north-west face of a rock platform (Fig. 35-r) is consistent with the marks of a wide diameter drill and subsequent weathering. A possible purpose is the removal of a small section of rock to give easier access up the hill, although the close spacing of the grooves suggests an inexperienced or deliberately labour intensive operation.

Laila Haglund in her Quarantine Station draft report of 1984 notes that the Port Jackson area was occupied by people speaking the Guringai language. Stone tools appear to have been uncommon, at least during the contact period and implements were more likely to have included shell, bone, tooth, spine and hardwood.

No professional assessment of the island is known to have been carried out.

3.2 Landscape and vegetation, 1826-1985

This section is based directly on a report prepared by Chris Pratten, Environment Director, National Trust of Australia (NSW) following a survey of Goat Island in January 1985 made in association with Doug Benson, an ecologist from the National Herbarium, Royal Botanic Gardens. Much of the report is quoted verbatim.

The vegetation on the island in 1826 would have approximated to that of the adjacent islands and foreshores. Doug Benson has prepared the following list of native plants noted in 1985 which he thought to be remnants (or a re-establishment) of the original vegetation.

Original native plants growing on Goat Island, 15.1.1985.

FERNS

ASPLENIACEAE
Asplenium flabellifolium
CYATHEACEAE
Cyathea australis
DENNSTAEDTIACEAE
Histiopteris incisa
Pteridium esculentum
GLEICHENIACEAE
Gleichenia dicarpa
OSMUNDACEAE
Todea barbara

DICOTYLEDONS

APIACEAE
Platysace lanceolata
ASTERACEAE
Cassinia cunninghamii
BIGNONIACEAE
Pandorea pandorana
CAMPANULACEAE
Wahlenbergia gracilis
CASUARINACEAE
Casuarina glauca
CRASSULACEAE
Crassula sieberana
DILLENIACEAE
Hibbertia scandens
ELAEOCARPACEAE
Elaeocarpus reticulatus
EPACRIDACEAE
Monotoca elliptica
EUPHORBIACEAE
Glochidium ferdinandi
FABACEAE
Faboideae
Hardenbergia violacea
Kennedia rubicunda
Mimosoideae
Acacia binervia
A. falcata
A. longifolia
A. suaveolens
A. ulicifolia

A. terminalis
GERANIACEAE
Pelargonium australe
LOBELIACEAE
Lobelia alata
MORACEAE
Ficus rubiginosa
MYRTACEAE
Angophora costata
Eucalyptus botryoides
Kunzea ambigua
OLEACEAE
Notolaea longifolia
PITTOPOACEAE
Pittosporum undulatum
PROTEACEAE
Banksia integrifolia
RUBIACEAE
Opercularia aspera
RUTACEAE
Boronia ledifolia (1 plant)
SAPINDACEAE
Dodonaea triquetra
THYMELAEACEAE
Pimelea linifolia
VERBENACEAE
Clerodendrum tomentosum

MONOCOTYLEDONS

COMMELINACEAE
Commelina cyanea
CYPERACEAE
Holoschoenus nodosus
DIANELLACEAE
Dianella revoluta
LOMANDRACEAE
Lomandra filiformis
Lomandra longifolia
POACEAE
Dichelachne crinata
Eragrostis brownii

Given the extensive clearing of the island throughout much of its history as a penal, explosives and maritime establishment there are a surprising number of native plants still occurring on the island. Remnant patches of such vegetation still occur in three principal areas:

- along the north and north-west edge of the island below the cliff line (dominant species - Figs, Angophora and Casuarina), Figs 34-26 and 34-31.

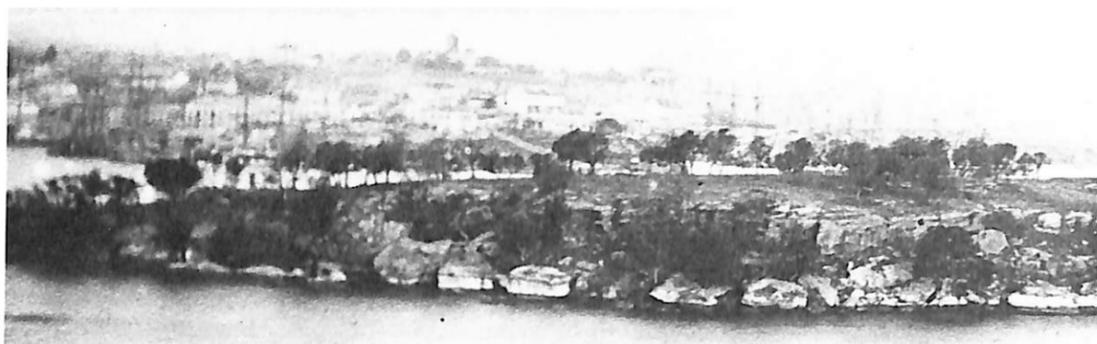


Fig. 33. Goat Island from Ball's Head, 1885.

- on the western cliff top immediately north of the Magazine Precinct (dominant species - *Banksia* and *Kunzea*), Fig. 34-25.
- amidst rock outcrops on the eastern side of the island (various small species), Figs. 34-13 and 34-18.

Two specimens of coast banksia (*Banksia integrifolia*, Fig. 34-9) growing on the central crest of the island could well be survivors of root stock which has remained on the same site since the land was first cleared. This species has that capacity and the trunks and roots of the two individuals indicate a considerable age. Maintenance of populations of some remnant naturally occurring species (e.g. *Acacia suaveolens*) appear to have been assisted by occasional burning of some areas of the island as part of a 'clean up' programme.

Work during the 1830s had the most dramatic impact on the island. Quarrying and cutting of rock took place near the eastern promontory and to a major extent to the south-west. Section AA of Fig. 25 indicates the scale of the latter. Also the vegetation would have been substantially removed, at least from the southern half of the island. It was the normal practice in contemporary penal establishments to keep as broad a sterile zone as possible open to visual inspection and, if necessary, to musket fire. In addition firewood would have been taken for cooking, the lime kiln and in the winter for warming the civil and military personnel on the island.

Once the magazines were in use for gunpowder storage the risk of fire made it necessary to keep the island clear of underbrush. It is probable that the work was only erratically performed until the recommendations of the Storage of Gunpowder Board were implemented in 1875. A photo of 1885 (Fig. 33) emphasises just how rigorously the island south of the east-west path on Fig. 34 was kept clear. North of the path mature trees were allowed to remain but all underbrush removed. Clearance would have been maintained by hand as the risk from travelling sparks from controlled burn-offs was unacceptable. It is possible that the work was assisted by sheep and goats, although there is no supporting documentary evidence.

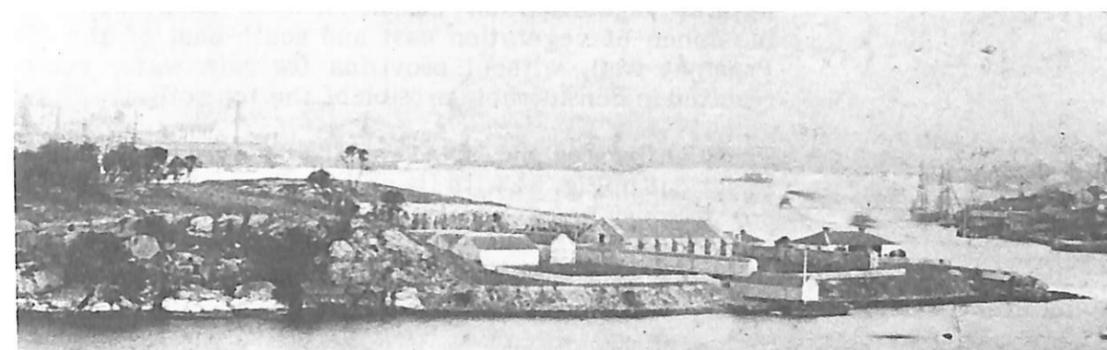


Fig. 33 (cont'd). W.A. Gullick photo. Mitchell Library: Q981/G.

During the first quarter of the twentieth century most of the trees on the northern half of the island were removed to make way for housing and introduced species (Fig. 25). There are now three broad categories of introduced plantings on the island - before about 1930, 1930-1980 and after 1980.

A 1932 photo in the island museum shows no significant trees or shrubs in the centre of the island. However, mature Figs and Coral Trees are evident at the southern end and the 1925 proposal for plantings (Fig. 25) clearly represents existing mature plantings as well as proposals. The species remaining from early twentieth century planting are two Figs (*Ficus macrophylla* and *F. rubiginosa*), the Coral Tree (*Erythrina x. sykesii*) and the Canary Island Date Palm (*Phoenix canariensis*). The latter species, of which only four specimens remain on the island, is typical of the period of Federation architecture and would probably have been planted about the time of construction of the Harbour Master's residence.

A common species used after about 1930 was the Brush Box (*Lophostemon confertus*). This species appears to have been mainly planted over the centre of the island and is now regenerating from self-sown seedlings, possibly assisted by occasional burning off. Other species planted during this period include the Western Australian Red Flowering Gum (*Eucalyptus ficifolia*), Lillipilli (*Acmena smithii*), Jacaranda and Kaffir Plum (*Harpephyllum caffrum*). Most of the beds of ornamental shrubs (both native and exotic) on the north eastern slopes of the island (Fig. 34-38) have been developed within the last five years.

During the last two or three years, plantings have been introduced into former open areas. Many of these plantings have been made up of fashionable native species and include *Grevillea*, *Acacia*, *Eucalyptus*, *Westringia* and *Banksia* (Fig. 34-14, 34-16, 34-29 and 34-39).

A number of plant species could assume 'weed' proportions in the natural vegetation on the northern or western edge of the island. These include lantana, small-leafed privet, introduced olive, ochna, cassia, white cedar and kikuyu grass. In addition rubbish continues to be dumped over the rock faces into the

natural vegetation on the north-west escarpment. Recent clearance of vegetation east and south-east of the Magazine Precinct wall, without provision for rain water run-off, has resulted in considerable erosion of the top soil.

The plantings on the island in January 1985 are approximately as set out in Fig. 34 with its accompanying key.

Key to Fig. 34 Identification of plantings on Goat Island, January 1985. Prepared by Pratten and Benson.

- 1. *Ficus macrophylla*
- 2. *Erythrina x. sykesii*
- 3.* *Ficus rubiginosa*
- 4. *Lophostemon confertus*
- 5. *Phoenix canariensis*
- 6. *Harpephyllum caffrum*
- 7. *Eucalyptus ficifolia*
- 8 * *Angophora costata*
- 9.* *Banksia integrifolia*
- 10. *Eucalyptus sp.*
- 11.* *Acacia suaveolens*
- 12. *Acacia saligna*
- 13.* Remnant natural vegetation (*Boronia ledifolia*, *Cassinia cunninghamii*, *Monotoca elliptica*, *Kennedia rubicunda*)
- 14. New plantings (*Eucalyptus botryoides*, *E. cladocalyx*, *Casuarina sp.*)
- 15. *Phytolacca dioica*
- 16. New plantings (*Grevillea rosmarinifolia*, *G. banksii*, *Casuarina glauca*, *Callistemon sp.*, *Melia azedarach var. australasica*, *Acacia saligna*, *Banksia ericifolia*, *Westringia fruticosa*)
- 17. Mixed shrubs (*Acmena*, *Cestrum*, *Olea*, *Oleander*)
- 18.* Remnant natural vegetation (*Pimelea linifolia*, *Lomandra longifolia*, *Acacia suaveolens*, *Opercularia aspera*, *Kennedia rubicunda*, *Acacia terminalis*, *Banksia integrifolia*)
- 19.* *Acacia binervia*
- 20. *Acacia longifolia*
- 21. *Acacia podalyriifolia*
- 22. Mixed plantings (*Lophostemon confertus*, *Eucalyptus ficifolia*, *Ficus rubiginosa* underplanted with *Oleander* and *Acacia*)
- 23.* *Acacia ulicifolia*
- 24. Mixed planted Acacias
- 25.* Remnant natural vegetation (*Banksia integrifolia*, *Kunzea ambigua*, *Pimelia linifolia*, *Pittosporum undulatum*, *Hibbertia scandens*, *Acacia ulicifolia*, *Acacia longifolia*, *Platysace lanceolata*, *Dianella revoluta*, *Kennedia rubicunda*, *Pteridium esculentum*, *Gleichenia dicarpa*)
- 26.* Remnant natural vegetation (*Ficus rubiginosa*, *Angophora costata*, *Casuarina glauca*, *Elaeocarpus reticulatus*, *Pittosporum undulatum*, *Pandorea pandorana*, *Commelina cyanea*)
- 27. *Olea africana*
- 28. *Pinus sp.*
- 29. Recent young mixed plantings (*Eucalyptus*, *Grevillea*)
- 30.* *Clerodendrum tomentosum*
- 31.* Remnant natural vegetation (*Ficus rubiginosa*, *Banksia integrifolia*, *Eucalyptus botryoides*, *Pittosporum undulatum*, *Glochidion ferdinandi*, *Todea barbara*)
- 32.* Remnant natural vegetation (*Acacia falcata*, *Dodonaea triquetra*, *Notolaea longifolia*)
- 33. *Jacaranda*
- 34.* *Acacia falcata*
- 35. Figs, lantana
- 36. *Eucalyptus sp.*
- 37. *Acmena sp.*
- 38. Beds of mixed ornamentals (exotic and Australian)
- 39. Mixed plantings (mainly Australian natives)

*Species natural to Goat Island.

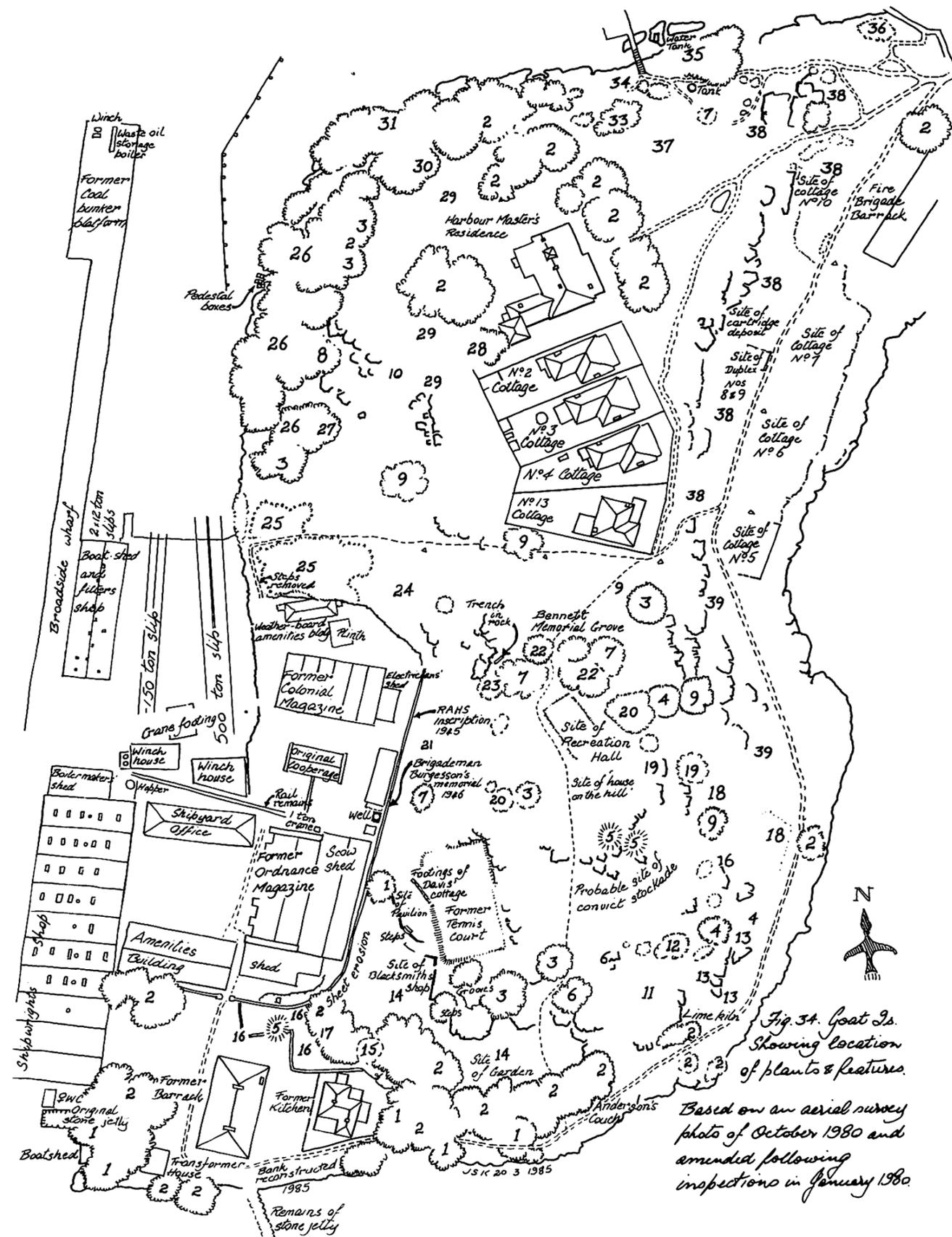


Fig. 34. Goat Is. Showing location of plants & features. Based on an aerial survey photo of October 1980 and amended following inspections in January 1985.

4.0 BASIS OF ASSESSMENT

- 4.1 The method adopted for the assessment of the various components of Goat Island is based on material prepared for the second edition of The Conservation Plan.
- 4.2 Following this method components are assessed under the headings:
- a) ability to demonstrate the past and present through physical evidence
 - b) formal or aesthetic qualities
 - c) associational links.
- 4.3 The components in a) may provide evidence of philosophy, custom, taste, design, usage, processes, techniques, materials or events. This first level of assessment deals largely with the nature of significance.
- 4.4 The second level depends on the assessor's contextual and comparative knowledge of the subject and period. It is concerned with determining how early, seminal, intact, fine, rare or climactic an example may be. It may even be that the component is one of a group the totality of which is more important than the sum of its individual parts.
- 4.5 Formal or aesthetic qualities b) are assessed under the conventional headings of scale, form, materials, textures, spaces, views and relationships. Although visual assessment is of primary importance, non-visual sensory qualities may be included. Wind or water produced sounds or cultivated scents, as in a garden for the blind, are examples.
- 4.6 In assessing the components on Goat Island in terms of 4.2 a) and b), qualities which may be recovered by conservation action in accord with the Burra Charter have been given some weight. This means that the assessed heritage value (tabulation, Section 5.3) reflects a balance between the present physical fabric and relationships and the potential qualities which may now be obscured.
- 4.7 Associational links for which there is surviving physical evidence (for example Anderson's couch, page 7) is logically dealt with under the heading 'ability to demonstrate' (4.2(a)). However to make the tabulation of assessments in 5.3 more illuminating, an additional column headed 'Associational Values' has been included which roughly assesses all associational links whether physical evidence is known to survive or not. In exceptional cases there may never have been physical evidence of the link. This need not prevent the association being significant although there does not appear to be a strong example on Goat Island.
- 4.8 Because of its usefulness in determining policy for the future development and conservation of the island, values have been placed on the significance of the various components set out in 5.3.

5.0 ASSESSMENT

5.1 General statement of significance

The existing structures, remains and plantings on Goat Island demonstrate its functions and development over a period of 150 years. Significant and evocative evidence survives of:

- . Ordnance and Colonial explosives storage, auxilliary facilities, guard accommodation and connecting paths from 1836 to the 1870s;
- . penal discipline during the 1830s (Anderson's Couch);
- . Water Police surveillance of Port Jackson from 1838 to 1865 (Water Police station);
- . Colonial and Imperial attitudes to territorial protection and associated works of demarcation or symbolic defence (walling, Cut and Colonial Magazine);
- . quarrying in the 1830s;
- . residential and barrack accommodation since 1902;
- . dredge and fire service facilities from 1902;
- . small ship building and repair since the 1920s.

The architectural qualities of the early stone buildings on the island are remarkable and rare. In particular, the Ordnance or Queen's Magazine with its 100ft. x 25ft. barrel vault, massive buttressing and carefully detailed ventilation system, is the finest and earliest large powder magazine in Australia.

The Queen's Magazine's powerful qualities are complemented by the unusual design of the contemporary stone cooperage, barrack buildings and perimeter walling, and on the eastern point by a stone Water Police station, built to a design that was chosen for its picturesque qualities and was thereby both odd for its function and unique in New South Wales.

The significance of the Magazine and Barrack Precincts is enhanced by the use of sandstone and slate as the dominant materials and by the competence of the original stone selection, cutting, carving and laying.

The Harbour Master's residence is a fine example of Federation architecture in a near intact condition and is supported by a group of brick and tile cottages of 1916 and 1922 that are typical, reasonably intact and useful examples of their class and time.

Four aspects of the Goat Island landscape are of significance:

- . The open landscape on the southern ridge which has its origin in the necessity for fire protection east of the Magazine complex;
- . the remnant native vegetation on the north-west escarpment and on a part of the eastern slope;

- the large trees beside the Harbour Master's residence contemporary with, and typical of, the period of Federation architecture;
- the spectacular views from the ridge of the island including the Harbour Master's residence and from the eastern and southern parts of the shoreline path.

The structures, facilities and landscape of the island reflect the work of a range of interesting figures or groups. These include Royal, Civil and Marine Engineers and Colonial, Trust and Board Architects. Their association with the island may be traced through the index.

Because of the changing use of the island and the number of vanished structures, services and facilities since the 1830s, the island is a potential European archaeological resource of some significance. Those areas which remain relatively undisturbed may contain data of significance to both anthropologists and the Aboriginal community.

5.2 Explanation of tabulation of assessments of significance

For the purpose of assessing the significance of the various elements of the island, the tabulation in 5.3 has been divided into seven areas (Fig. 35). Each area heading is followed by a brief general assessment of the character and location of the area. Finally, there are headings which deal with items common to the whole island.

The scale of values chosen for assessing the degree of significance is as follows:

- 4 = exceptional significance;
- 3 = considerable significance;
- 2 = some significance;
- 1 = slight significance;
- = not relevant or not assessed;
- int = intrusive element;
- neg = impairs heritage value.

These values are scaled at a national level. That is, 4, 3 and to some extent 2, correspond roughly to the threshold for inclusion on the Register of the National Estate and for a National Trust **classified** listing.

Although this scale combines some flexibility with reasonable simplicity and although the assessments are based on the evidence presented in Sections 2 and 3, there is necessarily an arbitrary element in assigning such values. The conclusions should, therefore, be regarded as an informed and useful aid to the next stage of conservation planning rather than as an absolute pronouncement of value.

The tabulation also serves as a place index. This makes it possible to check rapidly all information on a particular object of interest.

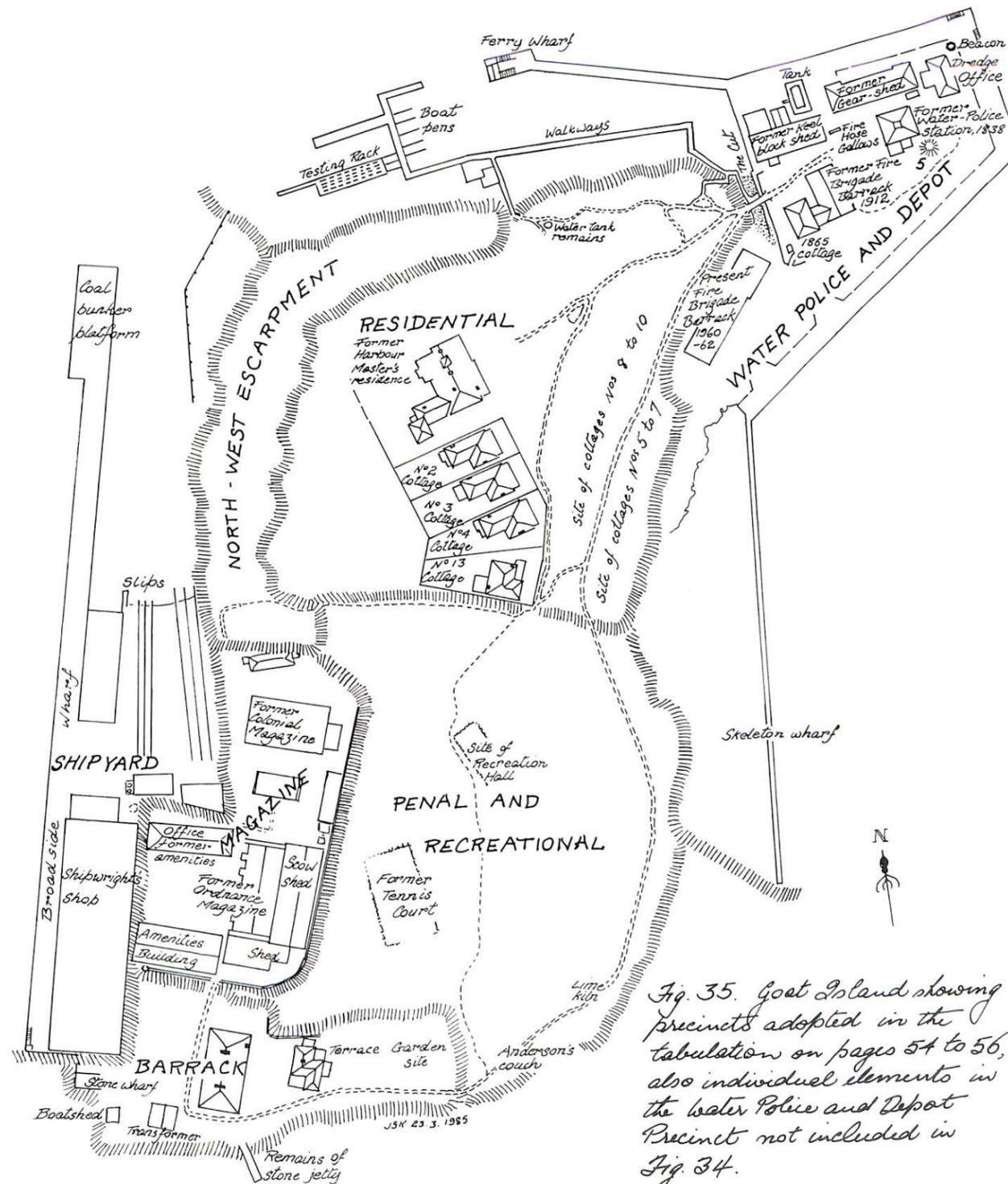


Fig. 35. Goat Island showing precincts adopted in the tabulation on pages 54 to 56, also individual elements in the Water Police and Depot Precinct not included in Fig. 34.

5.3 Tabulation of assessments of the significance of elements and place index

Page numbers are shown in light face and Fig. numbers in bold face.

MAGAZINE PRECINCT

The magazine precinct is tightly enclosed within the quarry and is bounded on the north, east and south by the quarry cliff and or stone wall. It is now bounded on the west by the shipyard buildings. The quarry, walling and major sandstone structures date from the first phase of development, 1833-1839. The precinct contains the grandest early powder magazine in the Australian Colonies.

- Quarry face, quarry floor and remains of wide apron between Queen's Magazine and pre-1924 shoreline, 4, 5, 10, 12, 8, 22, 33, 34.
- Eastern and southern perimeter stone wall with capping, portal, sentry box, musket holes and graffiti, 12, 8, 34.
- Former Ordnance or Queen's Magazine, built 1835-1838, including all stone, slate and surviving woodwork such as doors and shutters, 7, 9, 5, 10, 7, 12, 8, 16-21, 24, 30, 39, 33, 34.
- Original cooperage building, contemporary with Queen's Magazine, 9, 10, 6, 11, 7, 12, 8, 24, 25, 30, 39, 33.
- Stone skillion shed against quarry face built 1839 as extended cooperage, 11, 12, 8, 22, 39, 34.
- Well, 12, 8, 34.
- Former Colonial Magazine including surviving stonework of 1852-53 and 1859, and roof trusses of the early 1870s, 18, 19, 15, 16, 20-24, 39, 30, 40, 42, 34.
- C.g.i. cladding of the 1925 conversion of the above.
- C.g.i. lean-to against eastern wall of former Colonial Magazine, now Electrician's shed, 34.
- Hand crane from Campbell's Wharf at northern end of former Queen's Magazine, 43, 34.
- Scow shed and gantry crane between former Queen's Magazine and quarry face, 39, 34, cover photo.
- C.g.i. skillion gear shed butted against south gable of former Queen's Magazine, 34.
- Incinerator against stone wall south of former Queen's Magazine.
- Remains of tramway system built to service shipyard stores in 1926-27, 28, 39, 34.
- Line of former ramp and later covered way to jetty, 28, 39, 34.
- Remains of path and steps from northern end of precinct to the eastern part of the island, 34.
- Weatherboard amenities building, 34.
- Slab floor from demolished men's mess room between the former Colonial Magazine and the weatherboard amenities building, 34.
- Brick shipyard office, formerly amenities block, 34.
- Two storey amenities block, built 1963, 34, cover photo.

BARRACK PRECINCT

The barrack precinct is situated on the south-west corner of the island between the southern perimeter of the magazine precinct and the shore. The barrack contained quarters for civil officers and a military guard. It, together with the kitchen and garden to the east, and stone wharf to the west, were all a part of the first campaign from 1833 to 1839.

- Former barrack, now museum, built about 1836-38, including stonework, roof structure, slate cladding and evidence of removed original elements, 12, 8, 13, 21, 27, 28, 19, 37, 27, 34.
- Former kitchen of barrack, now cottage, including early stonework, roof structure, slate cladding and evidence of early elements, 12, 8, 19, 22, 34.
- Additions to former barrack kitchen, now cottage, 19.
- Ashlar retaining wall north-east of former barrack and north of former kitchen, 12, 8, 19, 22, 34.
- Drain cut in rock at base of retaining wall, 19.
- Site of stone privies erected 1861-62 and adjacent cut back rock, 24, 22.
- Garden terrace, completed by 1839, with natural rock walls supplemented by large pieces of cut rock, 12, 8, 34.
- Channels cut in rock to direct rainwater runoff, 12.
- Recent plantings on garden terrace, 34.
- Transformer house, about 1943, 42, 34.
- Mature plantings of Fig (*Ficus macrophylla*) and Coral (*Erythrina x. Sykesii*), 47, 34.
- Stone wharf with steps built before 1842 and probably by May 1833 - in which case it is the earliest surviving structure on the island, 4, 13, 8, 22, 34.
- Access ramp to the wharf and flanking dry-stone retaining walls.
- Three door brick boatshed, 34.
- Remains of stone jetty south of the barrack, 22, 34.

SHIPYARD PRECINCT

This precinct resulted from the development of shipyard facilities between the magazine complex and the western shore after 1925. Its structures are mostly unremarkable but its continued tradition of wooden shipbuilding and ship repair is of considerable value to both Goat Island and the Port of Sydney.

- Broadside wharf on piles built 1926 and now decked with concrete (coal bunker platform at northern end), 38, 28, 29, 34, cover photo.
- Boatbuilding or shipwrights' shop, built 1947-49, and consisting of machine shop, boatbuilders' shop, timber mill and timber store, 42, 34.
- 2 12-ton slips, 42, 32, 34.
- Boat shed and fitters' shop at head of 12-ton slips, built 1945-46, 42, 32, 34.
- 150-ton slip, 42, 32, 34.

	Demonstrative ability	Formal or aesthetic quality	Associational value	Archaeological potential	Assessed heritage value
3	-	3	-	-	3
4	3	3	-	-	4
4	4	4	-	-	4
3	3	4	-	-	4
3	2	3	?	?	3
3	-	3	3	3	3
2	2	3	-	-	3
2	1	1	-	-	1-2
1	int	1	-	-	neg
2-3	-	3	-	-	3
2	int	1	-	-	1
1	int	1	-	-	neg
1	-	1	-	-	1
2	-	2	-	-	2
2	-	3	-	-	2
1	-	2	-	-	2
1	1-2	1	-	-	1
1	-	1	-	-	1
1	1	1	-	-	1
1	int	1	-	-	neg
3	3	3	-	-	3
2	2	3	-	-	3
1	int	1	-	-	neg
3	2	3	-	-	3
3	-	3	-	-	3
2	-	2	?	?	2
3	2	3	-	-	3
3	-	3	-	-	3
int	-	int	-	-	neg
2	2	1	-	-	2
1-2	3	-	-	-	2
3	2	4	-	-	3
2-3	2	2	-	-	2-3
1	1	1	-	-	1
2-3	2	2	-	-	2-3
1	1	1	-	-	1
1-2	1	1	-	-	1-2
1	1	1	-	-	1
1	1	1	-	-	1
1	1	1	-	-	1

5.3 Tabulation of assessments of the significance of elements and place index (cont'd)

SHIPYARD PRECINCT (cont'd)

- Winch house and compressor room at head of 150-ton slip, built by 1949, 32, 34.
- 500-ton slip, 42, 32, 34.
- Winch house at head of 500-ton slip, 32, 34.
- Winch drum for 500-ton slip, 42.
- Boilermaker's c.g.i. shed, 34.
- Sawdust hopper and incinerator, 34.
- Generator shed of c.g.i.
- 10-ton cantilever tower crane from Mort's Dock, fabricated Glasgow 1924, 42, 32, 34.
- Remains of rail system, 39, 28, 34.

PENAL AND RECREATIONAL PRECINCT

This precinct covers the island south of the central east-west path, but excludes the Magazine, Barrack and Shipyard Precincts to the south-west. It was the probable site of penal accommodation during the 1830s and visible evidence remains of contemporary use along the southern escarpment. Throughout the rest of the nineteenth century the area was kept clear of vegetation because of the fire hazard to the magazines. During the twentieth century conscious planting and some natural regeneration resulted in a pleasant park-like landscape with scattered trees on the crown, native vegetation on the eastern slope and large scale trees to the south. The centre of the precinct contains the evidence of recreational facilities of the 1930s and 1940s.

- Probable site of convict stockade, 5, 6, 2, 7, 13, 8, 34.
- Site of 1830s 'house on the hill' (temporary barrack), 5, 13, 8, 34.
- Site and remains of Gunner Davis' cottage, 28, 20, 30, 34.
- Anderson's couch, 7, 8, 3, 34.
- Limekiln, 8, 4, 34.
- Evidence of early building (blacksmith's shop) cut in rock south-west of tennis court, 12, 8, 13, 9, 34.
- Grooves or drill holes and steps cut in rock south of tennis court, 44, 34.
- North-south path up southern escarpment, 34.
- Remains of tennis court and dry stone retaining walls, 41, 34.
- Site of tennis pavilion west of tennis court and remains of steps cut in rock south-west of pavilion, 34.
- Shallow trench cut in rock platform, 34.
- Site and remains of recreation hall on crown of ridge, 40-41, 31, 34.
- East-west path across centre of island, 34.
- Natural vegetation on eastern slopes, 45-46, 34.
- Open landscape with scattered trees on top of ridge, 46-47, 33, 34.

NORTH-WEST ESCARPMENT

This inaccessible and comparatively undisturbed strip contains a substantial part of the remnant native vegetation on the island. It also has a potential for deposits of both Aboriginal and European cultural significance - at present obscured by recent dumping of rubbish and by exotic 'weeds'.

- Potential deposits at base of cliff, 44.
- Remnant native vegetation below and on escarpment, 45-46, 34.
- Remnant or re-established native vegetation on and above escarpment just north of the Magazine Precinct, 45-46, 34.

RESIDENTIAL PRECINCT

This precinct covers the island north of the east-west path, west of the Cut and above the escarpment. It remained undeveloped throughout the nineteenth century (except for the storage of blasting agents and small arms ammunition on the eastern escarpment) but was mostly kept clear of underbrush. During the twentieth century it became the site for new housing with magnificent views.

- The former Harbour Master's residence, including all original brick, tile, terracotta, stucco, plaster, marble, joinery, stained glass and brass and iron fittings, 33, 34, 23, 35, 25.
- Three brick and tile cottages built in 1916, 35, 24, 25.
- Terraced sites of three cottages and a duplex including associated excavation and stone work, 34, 36, 25.
- Site of former cottage, originally ammunition shed, 29, 21, 36, 25.
- Brick and tile cottage of 1922, 37 25, 26.
- Ornamental shrubs and gardens between the former Harbour Master's residence and the Cut, 47, 34.
- Open landscape with scattered trees and with large scale trees round former Harbour Master's residence, 47, 34.

	Demonstrative ability	Formal or aesthetic quality	Associational value	Archaeological potential	Assessed heritage value
1	1	1	-	-	1
?	1	1	-	-	1
1	1	1	-	-	1
1-2	-	2?	-	-	2?
1	1	1	-	-	1
1	1	1	-	-	1
1	1	1	-	-	1
3	-	2	-	-	2
2	-	2	-	-	2
-	-	2	2	2	2
-	-	2	2	2	2
4	-	4	-	-	4
3	-	3	2	2	3
2	-	3	2	2	2-3
2?	-	?	1	1	2
1-2	1-2	2	-	-	1-2
1-2	-	2	1	1	1-2
1-2	-	2	1	1	1
?	-	?	-	-	?
2	2	3	2	2	2-3
2	-	2	-	-	2
3	2	3	-	-	3
2	3	2	-	-	2-3
3	3	3	-	-	3
2	2	1-2	-	-	2
1	1-2	2	1-2	1-2	1-2
1	1-2	2	2	2	1-2
2	2	1-2	-	-	2
1	1-2	1	-	-	1
3	3	3	-	-	3

5.3 Tabulation of assessments of the significance of elements and place index (cont'd)

WATER POLICE AND DEPOT PRECINCT

This precinct covers the waterfront facilities for the dredge service, fire brigade and floating plant at the eastern end of the island. It includes the earliest quarry site on the island and the Colonial Architect's 1838 water police station. The severed snout of land east of the Cut has remained under continuous Colonial or State ownership during its successive use as a police station, laboratory, residence, barrack and depot.

	Demonstrative ability	Formal or aesthetic quality	Associational value	Archaeological potential	Assessed heritage value
Quarry of 1831 on the eastern part of the island (location uncertain), 3, 4.	?	-	3	-	3
Barney's Cut separating the former Water Police station from the island, 14, 10, 32.	3	-	3	-	3
Former Water Police station of 1838, 14, 15, 10-13, 24, 25, 21, 30.	3	3	3	-	3
Additions to original Water Police station fabric.	int	int	-	-	neg
Stone cottage east of the Cut built 1865, 13, 25, 28.	2	2	2	-	2-3
Bridge over the Cut built 1865 and rebuilt subsequently, 25, 21.	2	1	3	-	2-3
Brick Fire Brigade barrack built 1912, 13, 35, 25.	2	2	2	-	2
Broadside wharfage on piles north, east and south of the former Water Police station and constructed, extended and reconstructed progressively since 1902 and finally decked with concrete, 13, 33-34, cover photo.	1	1	1	-	1
Remains of wharf under fill behind northern broadside wharf (no visible evidence), 21.	-	-	?	?	?
Skeleton wharf east of island built about 1928, 40, 35, cover photo.	1	1	1	-	1
Galvanized iron shed designed as workshop for keel blocks in 1943, 35.	1	1	1	-	1
Diagonal jetty, ferry and launch landing steps and shed, north-west of the Cut, 35, cover photo.	1	1	1	-	1
Weatherboard and galvanized iron store immediately north of the former Water Police station. Designed as Gear shed in 1946, 13, 35.	1	1	1	-	1
Walkway on piles, amenities room, boat pens and testing rack built progressively since 1946, 35, cover photo.	1	1	1	-	1
Beacon light north-east of Dredge office built about 1949, 13, 35.	2	2	1	-	2
Fire hose gallows north west of former Water Police station, 13.	2	1	1	-	2
Stone retaining wall east and south of the former Water Police station.	1-2	2	1	-	2
Dredge office of weatherboard and fibro cement built 1952, 13, 43, 35.	1	1	1	-	1
Steel water tank on brick base, 34.	1	1	1	-	1
Fire Brigade barracks of concrete and wood built 1960-62, 43, 35.	1	1	1	-	1
Remains of 20,000 gallon reservoir built 1908, 33, 34.	2	-	2	-	2

PATHS

Path from Magazine Precinct to former laboratory (originally Water Police station) via the southern and eastern shore, 25, 27, 34, 35, cover photo.	3	3	3	-	3
East west path across centre of island, 34, cover photo.	1	2	2	-	2
North-south path from path on southern shore to the east-west path, 34, cover photo.	1	2	2	-	2
The Cut bridge to the Harbour Master's residence, 34, cover photo.	1	2	2	-	2
The Cut bridge to the former water wharf in the centre of the northern escarpment, 34.	1	2	2	-	2
The Cut bridge to cottages 2, 3, 4 and 13 and on the east-west path, 34, cover photo.	1	2	2	-	2

EQUIPMENT AND ARTIFACTS (not already tabulated)

Dripstone, collar section, set in concrete between the Harbour Master's residence and the Cut bridge.	2	-	2	-	2
Dripstone, nose section, in Goat Island Museum.	2	-	2	-	2
Dumbell shaped shot (for destroying rigging?), anchored in concrete beside dripstone collar.	2	-	2	-	2
Coin hoard, supposed to have been found near lime kiln, Goat Island Museum.	-	-	-	-	-
Scatter of hand forged iron artifacts in vicinity of presumed blacksmith's shop, 13, 34.	-	-	-	3	?
Deposit of a substantial quantity of long case rifle cartridges dumped at the base of the rocks immediately behind the structure titled 'Dynamite Magazine' in Fig. 21, 34.	2	-	2	2	2
Dump of concrete pedestal boxes on the north-west shoreline left over from the construction of the footings of the 500 ton slipway, 42, 34.	1	-	1	1	1

INSCRIPTIONS

These trees were planted by Captain G.D. Williams in memory of Mrs. B.L. Bennett, first treasurer of the Goat Island Social Club who departed this life 19.9.1941, 34.

Nearby poplar trees planted by President of Royal Historical Society Mr. Guy Blaxland and his daughter Jane on 23.11.1945, 34.

In memory of Brigademan John A. Burgessson died Goat Island Nov 20 1946 whose ashes lie neath nearby gum tree, 34.

APPENDIX 1 - List of plans and illustrations used

Fig.	Subject	Date	Source
	Cover Aerial photo of Goat Island from the north.	Oct. 1981	Aerovision Neg. 010881-33c. Reproduced by permission of MSB.
1.	Location of Goat Island. Redrawn composite map.	1822 & c.1840	A/NSW Plan Nos 1117 & 2007.
2.	Plan of sleeping accommodation on upper shelf of mobile box.	1984	J.S. Kerr, Design for Convicts, Fig. 90.
3.	The 5ft. 4in. Curator of the Goat Island Museum demonstrates the use and scale of 'Anderson's couch'.	Feb. 1985	J.S. Kerr, 85.4.44.
4.	The lime kiln from the east. 'Anderson's couch' is cut into the rock on the extreme left.	Feb. 1985	J.S. Kerr, 85.4.28.
5.	Ordnance (Queen's) Powder Magazine. Plan, section and elevations redrawn from defective microfilm at the Mitchell Library.	1.2.1836	ML Reel 1108, but original in PRO at WO55.852, f19-21.
6.	Cooperage. Plan, section and elevations redrawn from defective microfilm in the Mitchell Library.	Feb. 1836	Ibid.
7.	Original cooperage and former Ordnance Magazine buildings before commencement of shipyard construction.	23.10.1923	MSB Neg. No. 197.
8.	South-western part of Goat Island. Composite plan.	6.8.1842 1.11.1844	ML field survey book B1441. PRO, WO55.853, p.555B.
9.	Rock cut and channelled to form part of the east wall of the presumed blacksmith's shop.	Jan. 1985	J.S. Kerr, 85.1.50.
10.	Tracing of sketch of Goat Island to accompany the Commanding Royal Engineer's Report.	8.11.1844	PRO, WO55.853, p.555B.
11.	Plan of a dwelling, redrawn.	1830s	Loudon, Cottage, Farm & Village Architecture, Plate 14.
12.	Plan for the Water Police station, Goat Island. Redrawn from a plan prepared by W.H. Fernyhough under Mortimer Lewis' supervision.	1838	Lewis, Plans of Goals, A/NSW, X694.
13.	Former Water Police station from the north.	March 1984	J.S. Kerr, 84.5.23.
14.	Simplified command structure of the Respective Officers of Ordnance and of the Colonial administration, 1847.	-	CS Special Bundles and War Office files.
15.	William Coles' copy of the proposed magazine for merchants' powder, Goat Island. Redrawn from defective microfilm.	21.5.1852	ML Reel 1114, but original at WO55.856, f.561.
16.	Sketch showing location of magazine for merchants' powder. Redrawn.	20.5.1852	WO55.856, f.559.
17.	Sketch showing Colonial Magazine additions designed by Dawson in 1859.	Feb. 1985	Based on info. in A/NSW, 2/642B.
18.	Former Colonial Magazine before conversion to Shipwright's Shop.	23.10.1923	MSB Negative No.195.
19.	Composite plan of barrack and adjacent kitchen showing major changes.	-	SHT Plan A 1/61 with amendments
20.	Sketch plan of Gunner Davis' cottage. Based on Sharkey's annotated sketch of 1865 and an 1875 photo of Goat Island.	Feb. 1985	Plan: A/NSW, 2/642B Photo: ML, SVI/HAR/MILP/1
21.	Redrawn detail of a survey showing explosives magazines at the east end of Goat Island.	11.12.1891	Victoria Barrack Architectural Section. Drawing No.1451, 281-114 1891 and Cooper's field survey notes of 1878 as presented in MSB Plan No. P.73.574 of 1977.
22.	Redrawn detail of a survey showing south-west corner of Goat Island.	11.12.1981	Victoria Barracks. Drawing No. 1451, 281-114.
23.	Plan and elevation of the Harbour Master's Residence signed HVV, W.E. Adams and H.D. Walsh.	Aug. 1902	SHT Plan, A 1/14.
24.	Plan and elevation of a workman's cottage, Balmain, c.1915 but redrawn by BMC in 1944.	c.1915 Redrawn 1944	MSB Plan, A 1/398.
25.	Plan of Goat Island showing existing plantings and proposed scheme for planting ornamental trees and shrubs. Redrawn. Signed W.E. Adams, EIC.	Feb. 1925	SHT Plan A 1/66.
26.	Plan and elevation of a cottage at Goat Island. Signed W.E. Adams, EIC.	Dec. 1921	SHT Plan A 1/54.
27.	Barrack building in 1974 as reconfigured in 1924-25 into two dwellings.	1974	J.S. Kerr, 74.30.
28.	Proposed arrangement of workshops, slipways, stores and coaling depot on Goat Island. Signed W.E. Adams, EIC.	Nov. 1925	SHT Plan, A 1/90.
29.	Section of above.	Nov. 1925	SHT Plan, A 1/90.
30.	Plan and part of a section showing the proposed conversion of the Colonial Magazine to a Shipwright's Shop. Signed W.E. Adams, EIC.	Dec. 1925	SHT Plan, A 1/91.
31.	Poster, Goat Island Social Club, Gala Night.	20.11.1948	Goat Island Museum.
32.	Slipways, Goat Island.	Jan. 1985	J.S. Kerr, 85.2.86.
33.	Goat Island from Ball's Head.	1885	W.A. Gullick, photo, ML, Q981/G.
34.	Goat Island showing location of plants (Pratten and Benson) and features (Kerr).	Jan. 1985	Aerial survey Oct. 1980, amended following inspections, Jan. 1985.
35.	Goat Island showing precincts, dredge depot and wharfage.	Nov. 1984	As above.

APPENDIX 2 - Abbreviations of sources and references

ADB	Australian Dictionary of Biography	MoB	Major of Brigade
A/NSW	Archives Office of NSW	MSB	Maritime Services Board of NSW
AR	Annual report	OS&BM	Ordnance Storekeeper and Barrack Master
BPP	British Parliamentary Papers (Irish University Press)	RAHSJ	Royal Australian Historical Society Journal
CA	Colonial Architect	ROO	Respective Officers of Ordnance
c.g.i.	Corrugated galvanized iron	SG	Sydney Gazette
CO	Colonial Office	SH	Sydney Herald
CoW	Clerk of Works	SHT	Sydney Harbour Trust
CRE	Commanding Royal Engineer	SMH	Sydney Morning Herald
CS	Colonial Secretary	SMSO	Superintendent, Military Stores Office
CUSoW	Chief Under Secretary, Works	SO	Storekeeper, Ordnance
DLPW	Department of Lands & Public Works	ST	Secretary to the Treasury
DSO	Deputy Storekeeper, Ordnance	USFAT	Under Secretary for Finance and Trade
EB	Encyclopaedia Britannica	USL	Under Secretary for Lands
EIC	Engineer in Chief	USLPW	Under Secretary for Lands and Public Works
FoM	Foreman of Magazines	USPW	Under Secretary for Public Works
FoW	Foreman of Works	V&P	Votes and Proceedings
HRA	Historic Records of Australia	WO	War Office
IGF	Inspector General of Fortifications		
LA	Legislative Assembly		
ML	Mitchell Library		

APPENDIX 3 - Published sources

- Barry, John Vincent, Alexander Maconochie, OUP, Melbourne, 1958 (on Charles Anderson).
- Booth, E.C., Australia Illustrated, Virtue and Co., London, c.1870 (for early view of Goat Island).
- Dowd, B.T., Goat Island - Its Early History, MSB Officers' Journal, September 1, 1938, pp.13-16.
- Kerr, James Semple, Design for Convicts, Library of Australian History in association with the National Trust of Australia (NSW) and the Australian Society for Historical Archaeology, Sydney, 1984.
- Loudon, J.C., Cottage, Farm and Villa Architecture, Frederick Warne & Co., n.d. but 1830s.
- Maritime Services Board of NSW Annual Reports 1835-82.
- NSW Votes and Proceedings, 1824-37, Part 2, Reports from the Committee on Police and Gaols, 1935.
- Stephenson, P.R. and Kennedy, Brian, Sydney Harbour, Reed, Sydney, 2nd Ed. 1980.
- The Sydney Harbour Trust Commissioner's Reports, 1901-1935.

APPENDIX 4 - Chronological table of works by the Maritime Services Board on Goat Island, 1.1.1936 to 31.12.1984.

Work	Known dates	Present state	Plan reference
Recreation Hall and WCs.	Designed May 1941.	Demolished.	A1/353.
Tower added to the hall design.	Designed July 1941, hall and tower completed by Dec. 1941.	Demolished.	A1/353.
Septic tank for Rec. Hall.	Designed May 1941.	Extant.	A1/354.
Swimming baths north of Cut.	Designed May 1941.	Demolished.	A1/354.
C.G.I. Gear store butted against south gable of former Queen's Magazine.	Designed Nov. 1942.	Extant.	A1/365.
Workshop for keel blocks, north-east of the Cut.	Designed July 1943.	Extant.	A1/371.
Transformer house, south-west of 1838 barracks.	Designed Aug. 1943.	Extant.	A1/376.
Triple door boat shed, south-west corner of island.	Designed Sept. 1943.	Extant.	A1/389.
Demolition of water service wharf of 1906 or 6 and of later additions.	Probably early 1945.	-	A1/401.
Jetty extension and ferry and launch landing steps north-west of Cut.	Designed 1944.	Extant.	A1/401.
Jetty and launch pens, north-west by west of Cut.	Designed June 1945.	Extant.	A1/404.
Shipbuilding shed and fitters' shop at head of slips.	Designed June 1945, commenced July 1945, completed mid 1946.	Extant.	A1/405.
Coal bins or bunkers at north end of Broadside Wharf.	Designed 1945, completed Nov. 1946.	Demolished.	A1/406.
Gear shed north of former Water Police station.	Designed Dec. 1945, completed by June 1946.	Extant.	A1/418.
Men's mess and Lady Hopetoun gear rooms on boat pen jetty.	Superstructure designed Dec. 1945, foundations designed Feb. 1946.	Extant, and added to later.	A1/417, A1/427.
Maritime radio control station masts.	Completed Feb. 1946.	Removed.	-
Clump dolphins to protect coal bins.	Designed Feb. 1946, completed 1946.	Extant.	A1/428.
Compressor house, at head of 150 ton slipway.	Designed Oct. 1946, completed by 1949.	Extant.	A1/451.
Septic tank for 100 man shipbuilding yard beside brick amenities block.	Designed Oct. 1946.	-	A1/452.
Shipwrights' shed, machine shop and timber store.	Designed Nov. 1946, completed by June 1949.	Extant.	A1/(oblit.), A1/(oblit.), A1/447
Amenity block for shipwrights and fitters.	Designed Nov. 1947, amended June 1948.	Extant, now office.	A1/491
Beacon light, north-east of Dredge Office.	Designed May 1949.	Extant.	A1/(oblit.)
Building for watchmen, shipwright foreman and timekeepers on site of future winch house for 500 ton slip.	Designed Nov. 1951, amended subsequently.	Demolished.	A1/646, A1/657.
Offices for Superintendent of Dredging and Floating Plant, north-east of former Water Police station.	Designed July 1952.	Extant.	A1/668.
Septic tank to accommodate 12 persons. Office of Superintendent of Dredging and Floating Plant.	Designed May 1953.	-	A1/322 (sic).
500 ton slipway.	Under construction 1960, completed by June 1965.	Extant.	-
Fire Brigade Barracks for single men, south-west of Cut.	Built 1960-62.	Extant.	-
10 ton hammerhead crane transferred from Mort's Dock. Fabricated by Wm. Annol & Co. Ltd in 1924.	Footings poured Jan. 1963, crane in service 1964.	Extant.	-
Small shop for boiler makers.	Built 1962-63.	Extant.	-
Large amenities block.	Commenced 1963.	Extant.	-
Shipyard wharf and jetty redecked in concrete.	Completed by June 1969.	Extant.	-

APPENDIX 5 - Select index of persons

See Appendix 2 for abbreviations.

Adams, W.E., EIC, SHT, 38.
 Anderson, Charles, convict, 7, 8.
 Thompson, J. Ashburton, Chief Medical Officer, Health Department, 32.
 Backhouse, James, Quaker missionary, 6.
 Barney, George W., CRE, 1836-43, 4, 7, 9, 11, 14, 21.
 Bird, Charles, Harbour Master, 33.
 Bird, Thomas, architect and surveyor, 9, 10.
 Blacket, Edmund Thomas, CA, 16, 18, 20, 23.
 Blanchard, J.T., Assistant OS&BM, 1875, 30.
 Bourke, Richard, Governor of NSW, 1831-1837, 4, 6, 7, 11.
 Buchanan, John, Colonial Storekeeper, 21.
 Buchanan, William, CoW to the Board of Works, 1832-34, 4.
 Coles, William, CoW, RE Establishment, subsequently CoW in CA's office, 18, 19, 24.
 Colley, Edwin, FoW, CA's office, 23.
 Darling, Ralph, Governor of NSW, 3, 4.
 Davis, Gunner, Royal Artillery, 28, 30.
 Dawson, Alexander, CA, 21, 22, 23.
 Dick, William, Surgeon, 12th Reg't, 27.
 Fitzroy, Charles Augustus, Governor General 1846-55, 18.
 Fleck, Mrs. W.A., Secretary, Goat Island Social Club, 41.
 Ford, Robert Thomas, owner of the brig Lady Mary, 21.
 Gipps, George, Governor of NSW, 1838-45 4, 11.
 Gordon, James, CRE, from 1843, 16.
 Hallen, Ambrose, CA, 1832-34.
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APPENDIX 6 - Index of Themes

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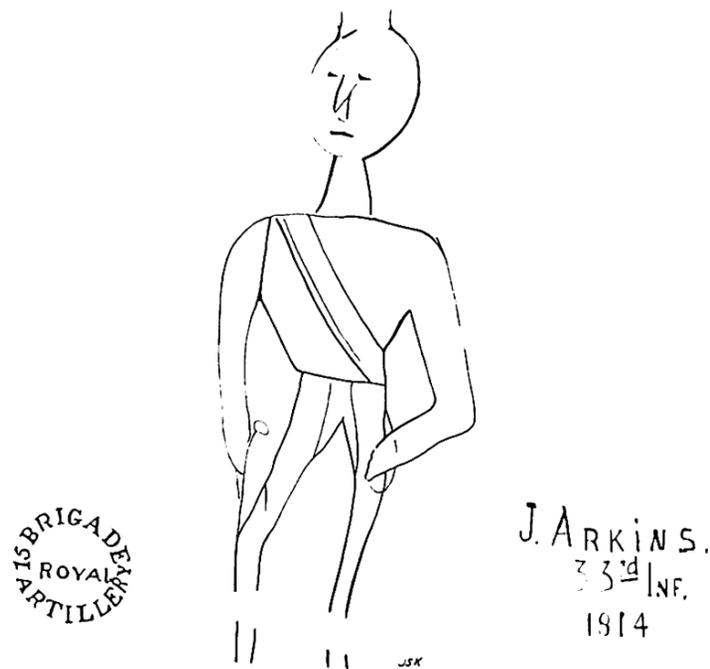
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7.0 ADDENDA

The assessments and terminology relating to the winch drum and cranes in the shipyard have been adjusted to reflect the comments of Peter Hayward.

Further information on the history of the island or corrections to this account would be appreciated. Please address the material to:

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Tailpiece. Examples of graffiti on the Magazine Precinct wall and sentry box, dating from the period of the Military Guard. Traced from photos taken 1985.

CORRECTIONS

- Page 40: expenditure in table is quoted in pounds.
Page 44: third paragraph: for "fig. 35-r" read "fig. 34".
Page 49: caption to fig. 34 should end with "1985" not "1980".
Page 57: cover photo on the first impression has been replaced by an aerial view taken in 1987 and reproduced by courtesy of the Maritime Services Board of NSW.