The Engineering Heritage of
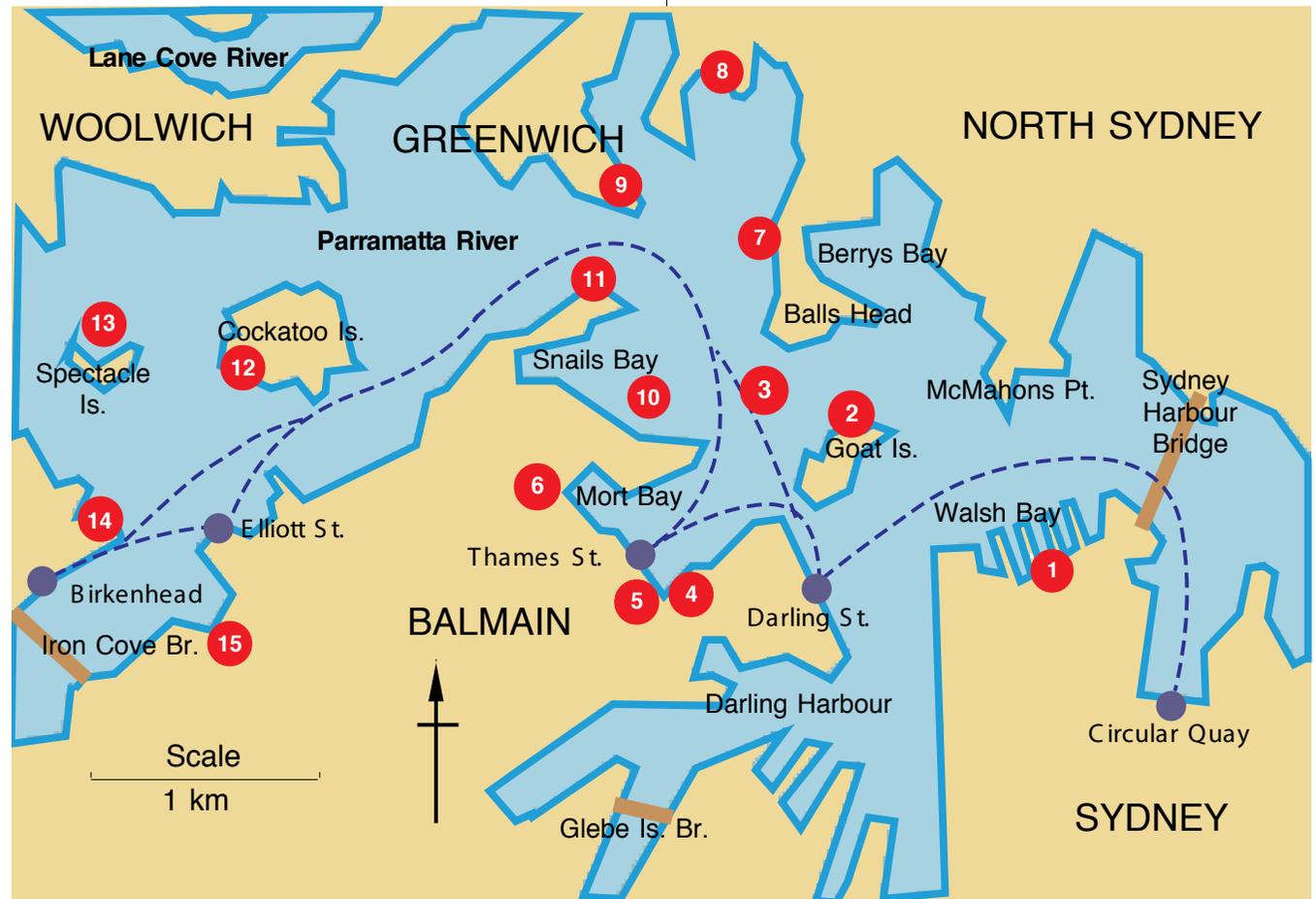# Sydney's Maritime Industries

The deep waters of Sydney Harbour enabled goods to be loaded and unloaded to overseas or coastal shipping at many points around the shoreline. Many industries took advantage of this potential, and established factories or production facilities right on the Harbour foreshores.

These establishments are fast disappearing to make way for modern development, but their stories can still be told.

Rush hour Circular Quay 1927

Self-guided tour by ferry

ASHET

Map labels:

Lane Cove River

WOOLWICH

GREENWICH

NORTH SYDNEY

Parramatta River

Berrys Bay

Balls Head

Cockatoo Is.

Spectacle Is.

Snails Bay

McMahons Pt.

Sydney Harbour Bridge

Goat Is.

Mort Bay

Walsh Bay

Elliott St.

Thames St.

Birkenhead

BALMAIN

Darling St.

Circular Quay

Iron Cove Br.

Darling Harbour

SYDNEY

Scale
1 km

Glebe Is. Br.

Most of the sights described in these notes can be best seen from the front or left-hand side of the Birkenhead Ferry. The boats move quickly, and you may not have time to read these notes in detail and still catch all the sights; concentrate on identifying the heritage sites on the outward journey, and sight-see on the return trip. The Ferries leave from Circular Quay (Wharf 4) in the mornings and afternoons; in the middle part of the day they travel only to Woolwich, which nevertheless is a pleasant journey. Obtain a copy of the timetable from the kiosk at Circular Quay.

Circular Quay to Mort Bay

1   Walsh Bay Wharves

As the Birkenhead Point Ferry passes under the Harbour Bridge, you will see on your left a two-storey timber building on the water's edge called Pier 1, and, a little further on, the four Walsh Bay Finger Wharves (1) projecting outwards into Walsh Bay.

These five wharves were all constructed around the time of the First World War to facilitate the export of wool bales, and resulted from an innovative concept developed by Henry Dean Walsh, who was Chief Engineer of the Sydney Harbour Trust from 1901 to 1919. Because this part of the Harbour has deep water very close to the shore, with high ground immediately adjacent, it was possible to construct these two-storey wharves with vehicular access from the urban road network directly onto both upper and lower levels. It was possible to load two or more vessels simultaneously, using both levels and both sides of the wharf. This type of construction has no counterpart in the world.

Cuthberts' shipyard at Millers Point

Millers Point and Darling Harbour

On your left is Millers Point and the entrance to Darling Harbour, which once was the major port area for the city, lined all round with a tangle of wharves and jetties and tall sailing ships. This area was also the birthplace of the nation's industrialisation; here were our first windmills, our first steam-engine, gas-works and power-stations.

2 Goat Island

After stopping at the Darling Street Wharf, the ferry passes Goat Island (2), possibly named after the flock of three goats that arrived with the First Fleet in 1788.

During the 1830s, the island served as a gaol and quarry, and a series of sandstone buildings were constructed which were subsequently used for the storage of army munitions, explosives and other ordnance for more than 60 years. Many of these buildings still remain, most notably a fine arsenal, with two-meter-thick walls and a vaulted stone roof. In 1901, the island became the main engineering depot for the Sydney Harbour Trust (later the Maritime Services Board), with large workshops and shipyards and a workforce of more than 150 men. It is now part of Sydney Harbour National Park.

3 Balmain Coal Mine

Although nothing is now visible, the whole area over which you will now sail used to be an active coal mine. The **Balmain Coal Mine (3)** was operated by Sydney Harbour Collieries Co. Ltd., from two shafts commenced in 1897. The main shaft was nearly 3000 feet (900 m) deep, and, although a plentiful supply of coal was available, there were problems with water seepage, and extraction was expensive when compared with the shallower coal-mines to the north and south of Sydney. By 1930, the works had ceased to trade profitably, although attempts were made at various times to produce natural gas from the mine. The shafts are now sealed off, but this part of the Harbour still has strong associations with coal mining.

In Mort Bay…

Note that some ferries enter Mort Bay to call at Thames Street wharf on the outward journey and some on the return journey; check your timetable to see which details apply to you.

Mort Bay is named after T.S. Mort, an entrepreneur-merchant who developed a major enterprise in Sydney from 1838 until his death in 1878.
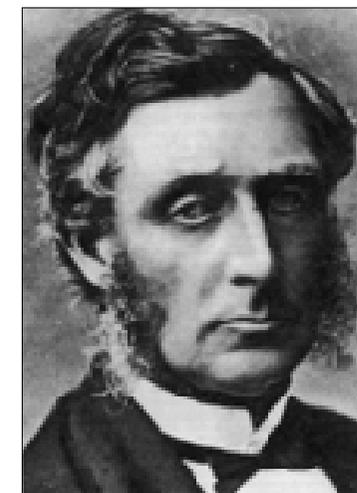
Thomas S. Mort

4 Palmolive Factory

Towards the head of the Bay on your left are some of the buildings of the **Palmolive Factory (4)**, now converted into residential apartments. For more than half a century, the "soap factory" (as it was sometimes disparagingly called) made its presence strongly felt in the air of Balmain as it converted pungent raw materials into bathroom and laundry products.

5 Sydney Ferry Depot

Near the Thames Street ferry wharf you will see the **Sydney Ferry Depot (5)**, where ferries are serviced between runs. Mort Bay traditionally has strong links with Harbour transport: the ocean-going tugs operated from here for many years.

6 Mort's Dock

Right at the head of the Bay, as the ferry leaves the wharf, you will see some structures at the waters edge that mark the location of Mort's Dock (6).

The dock was constructed in 1854 to service the mail-steamers that commenced the Europe-Sydney runs in 1852. This graving dock was designed by the noted colonial consulting engineer E.O. Moriarty, and was 120 meters long and 15 wide, dug from solid sandstone by pick and shovel. It was enlarged in 1898, and many ships were built and launched from these works. Mort's Dock and Engineering Co. Ltd., established in 1872, became the largest industrial establishment in the nation, with a workforce of 700 in Balmain, and subsidiary enterprises at several locations around the Harbour. Under the guidance of engineer J.P. Franki, the company was involved in a wide range of general engineering throughout this time, including the building of railway locomotives, before the creation of other (mainly Government-owned) shipyards in the 1940s led to its decline, and the company went into liquidation in 1959.
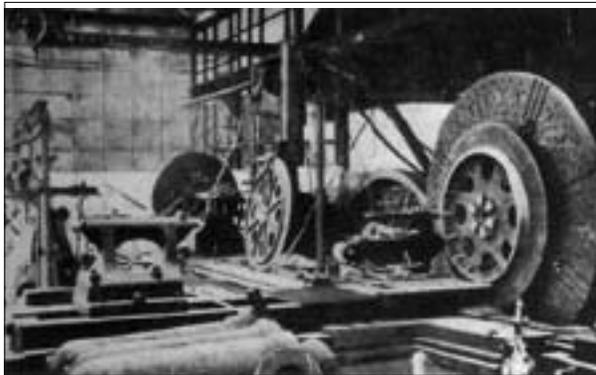
Workshop at Mort's Dock

7 Mort Bay to Birkenhead Point

As you pass the Caltex Oil Depot which occupies the northern headland of Mort Bay, look towards the northern shore of the Parramatta River, to your right, where you will see a large sandstone building near the water's edge. This was the Coal-Loader (7).

Coal from north and south of Sydney was unloaded here from bulk carriers and stored for the re-fuelling of steamers. In the later years of its working life, it was used to supply barges and boats involved in harbour and coastal trade, and now stands derelict.

8 North Shore Gasworks

At the head of that bay, a new residential development marks the location of the old **North Shore Gasworks (8)**, where coal was heated in huge retorts to make town-gas; you may be able to see the old chimney and powerhouse which is all that remains. Other gasworks were located near the water in Darling Harbour and at Concord, further up the river.

9 Shell Oil Terminal

Further to the west is the **Shell Oil Terminal (9)**, which marks the site of an early oil refinery built by a Scottish engineer, J.W.Fell, whose company also mined shale-oil at Newnes and Hartley, to the west of Sydney. The refinery operated for about 27 years from the turn of the century.

10 "Dolphin berths"

In pretty little Snails Bay on your left are the **"Dolphin" berths (10)**, where cargo ships carrying timber in logs and flitches were unloaded onto lighters for the sawmills and timber-yards that lined the shallow bays around Balmain.

11 Stone slipway

On the tip of Longnose (or Yurulbin) Point, adjacent to the Birchgrove Wharf, is the old stone **slipway (11)** that marks the site of Morrison and Sinclair's boatshed, where handcrafted timber vessels were built from the 1920's; such slipways were once common all around the Harbour.

12 Cockatoo Island

To your right after rounding Yurulbin Point are the majestic bulk and buildings of Cockatoo Island (12).

Cockatoo Island

For many years this was the premier shipyard of Sydney Harbour. As with many other Harbour islands, Cockatoo's initial role was as a jail, and remnants of the original 1841 convict-built stone buildings can still be seen at the western end of the main ridge. At the eastern end, not visible from the water, these convicts also built a set of silos, excavated 6 meters deep into the solid sandstone, for the storage of the colony's grain.

Fitzroy Dock, 1870s

In 1851, the convicts were put to work constructing a large graving dock (named the Fitzroy, after the then Governor) for servicing naval vessels; you can see the entrance to this dock at the south-eastern corner of the island from the Birkenhead ferry. In 1890, the Sutherland Dock, in the south-western corner of the island, was completed.

Following transfer of ownership to the Commonwealth government in 1913, facilities for ship construction increased rapidly, and warships and government-owned cargo and passenger vessels were built and launched. In 1933 the facilities were leased by the British shipbuilders, Vickers Ltd, and in subsequent years extensive workshops with very heavy machinery were set up, with the workforce reaching 3,600 men. However, as with the operations at Morts Dock, Cockatoo was unable to compete with the shipbuilders elsewhere, and the works were wound down in the 1960s.

13 Spectacle Island

To your right as you approach Birkenhead Point are two islands: tiny Snapper Island is virtually unoccupied but the larger Spectacle Island (13) has been used as a Naval Armament Supply Depot since 1884.

14 Dunlop Rubber Works

On Birkenhead Point stands the complex of buildings that formerly comprised the **Dunlop Rubber Works (14)**. John Boyd Dunlop invented the pneumatic tyre in Belfast in 1888, and factories were quickly established all round the world to produce tyres for cycles and motor-cars. The Australian company was formed in 1899, but this particular factory was started by Henry Perdriau in the 1890's to manufacture India-rubber goods.

15 Balmain Power Station

Just before your ferry reaches its destination, you will see a small brick building on the water's edge to your left. This Pumphouse (1934) is almost all that remains of the old **Balmain Power Station (15)**, established in 1909 by the Electric Light and Power Supply Corporation. This highly innovative piece of engineering involved the construction of a large incinerator, to be used for the combustion of the city's garbage, coupled to a power station which used the waste heat from the burning garbage (supplemented by coal unloaded from a deepwater port) to generate electricity. The works were finally de-commissioned during the 1970s.

The present-day Iron Cove Bridge replaced the 1884 iron lattice bridge which formerly carried traffic to a vehicular ferry across the Parramatta River.

Stay on the ferry at Bridge Street, and return with it to Circular Quay – or you may choose to stopover at Thames or Darling Street wharves, and return to the Quay by bus or by another ferry. *But check timetables first!* At Thames Street, there is an interesting walk to the north into Mort Bay Park, where you will find the outline of the old dock laid out in sandstone blocks, with some plaques to tell the story of the dock and the ships that were built there. At Darling Street you can walk around through a foreshore park to the entrance to Darling Harbour.

ASHET self-guided tour brochures

This brochure is one of a series describing self-guided tours to places of engineering and technological interest in the Sydney area. All of the brochures are published in pdf form on the ASHET website www.ashet.org.au where they may be viewed and downloaded for printing on a desktop printer.

The full set of brochures is as follows:

The Sydney Harbour islands
Self-guided tours by ferry

Ryde to Tempe: discovering the history and industrial heritage of Rhodes, Concord, Canterbury and the Cooks River
Self-guided cycle tour

Sydney's colonial fortifications
Self-guided tours

Sydney Harbour Bridge
Self-guided walk

The engineering heritage of Sydney's maritime industries
Self-guided tour by ferry

Steam at the Powerhouse
Self-guided visit to the museum

Parramatta River bridges
Self-guided tour by RiverCat

Sydney Water: A day tour of the water supply dams south of Sydney
Self-guided tour by car

Engineering and industry on three Sydney Harbour islands
Self-guided tours of Fort Denison, Cockatoo and Goat Islands

An engineering walk around the Sydney Opera House
Self-guided walk

ASHET, the Australian Society for History of Engineering and Technology, was formed in June 2003. Its objects are to encourage and promote community interest and education in the history of engineering and technology in Australia. For more about ASHET, visit the website www.ashet.org.au .