

Summary of key outcomes:

The existing public open space areas immediately surrounding Port Botany are important areas for passive and active recreation. The area is also an important ecological habitat for migratory shorebirds which occur mainly within Penrhyn Estuary.

In recognition of the importance of these areas, Sydney Ports Corporation has developed a public recreation and ecological plan to protect and enhance both the recreational amenity of the Foreshore Beach corridor and the ecological integrity of Penrhyn Estuary. This plan forms an integral part of the overall Port Botany Expansion proposal.

The plan would include the following in the public recreation areas:

- retention of the majority of Foreshore Beach for public recreation activities
- a four-lane boat launching ramp;
- car park for approximately 130 cars and boat trailers;
- amenities building;
- a jetty and pontoon for temporary mooring while trailers are parked and passengers board;
- pedestrian/cycle path parallel to Foreshore Road between the Mill Stream and Penrhyn Road;
- a footbridge over Foreshore Road connected to Sir Joseph Banks Park;
- protection, restoration and enhancement of the existing beach and native vegetation buffer;
- an elevated viewing platform and native landscaping near the mouth of the Mill Stream; and
- road-side and median strip landscaping on Foreshore Road.

The plan would also include extensive restoration, enhancement and reinstatement of foreshore dune vegetated areas, intertidal sand/mudflats, saltmarsh and seagrass habitat within Penrhyn Estuary.

The public recreation and ecological areas would be designed and maintained in a way which would enhance environmental and visual qualities, engage the public and encourage a greater sense of public ownership.

7.1 Background

The Foreshore Road/Foreshore Beach interface and Penrhyn Estuary have been subject to dramatic changes from the 1960's to the early 1980's. These changes, which included the development of airport, port and road infrastructure, shoreline realignment, and broad-scale landscape rehabilitation, followed previous periods of development in the area. Together they have combined to reshape and totally modify the landscape character of this area.

A broad range of issues affects the environmental quality and recreational use of the area. These include runoff from neighbouring urban and industrial sites, poor water quality, contaminated estuarine sediments, spread of noxious weeds, degraded vegetation, dune and beach erosion, poor visual quality, road-side litter, rubbish dumping, anti-social behaviour, poor public safety and security.

The Port Botany Expansion proposal provides an opportunity to address these social and environmental issues in an integrated way. The proposal would provide the impetus to develop and enhance public foreshore areas for appropriate recreational uses. It would promote public access with improved land-based linkages and facilities to access water-based activities such as boating and fishing. Furthermore, the proposal offers substantial environmental benefits in the extensive restoration, enhancement and reinstatement of foreshore dune vegetated areas, intertidal sand/mudflats and saltmarsh and seagrass habitat within the Penrhyn Estuary area.

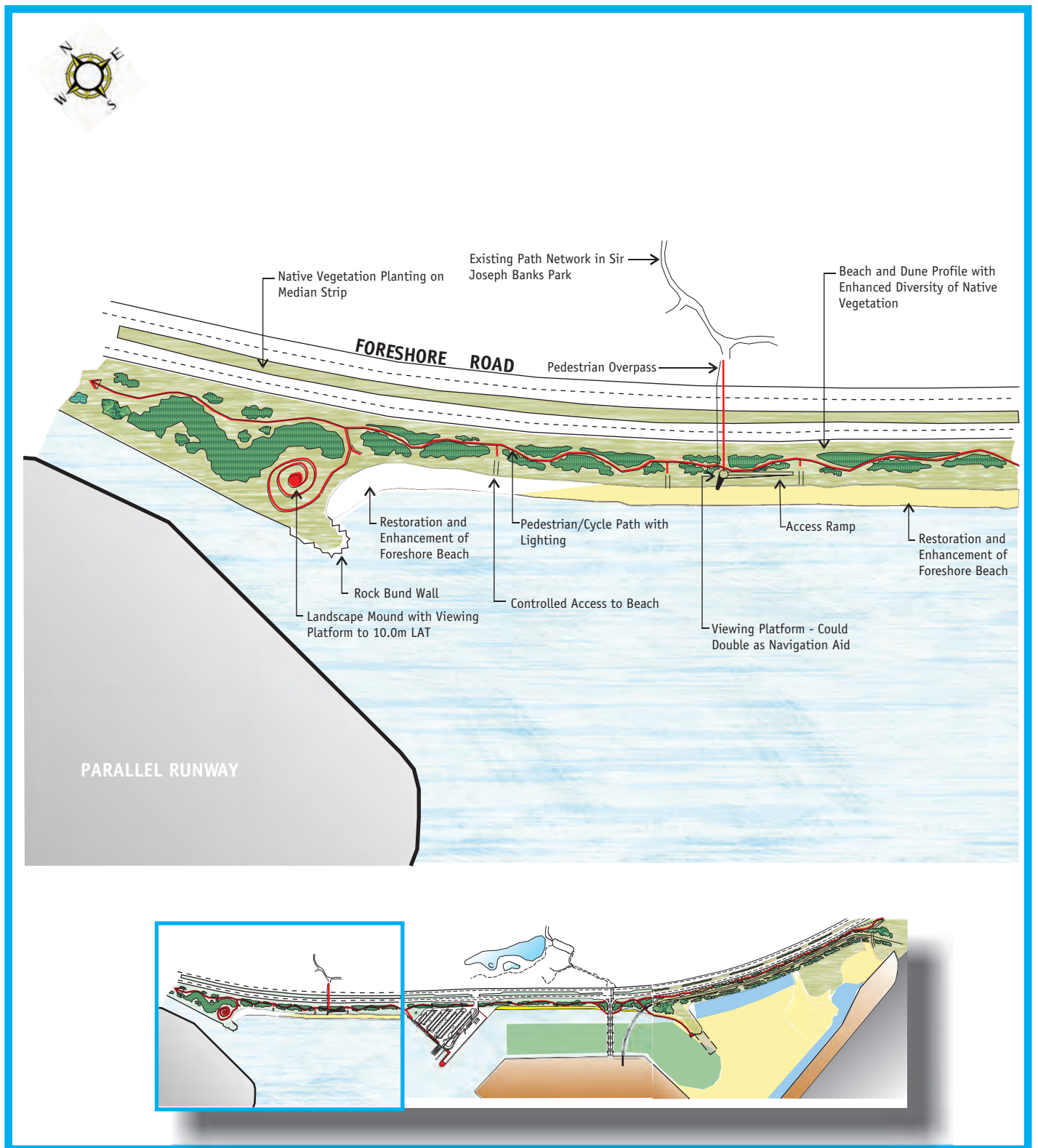
To make the most of this opportunity, a process has been undertaken with stakeholders to develop the best outcome for the community in relation to the public recreation and ecological areas within this foreshore corridor. Further details on the process undertaken in developing the public open space plan are provided in the report titled *Proposed Port Botany Expansion Public Open Space Plan* (Manidis Roberts 2003) contained in **Appendix E** and in **Chapter 11 Government Consultation**.

To complement the development of the public recreation and ecological plan, a report has been prepared to provide landscaping principles and guidelines for the foreshore corridor which would form the basis for a landscape plan to be developed during the detailed design of the proposal. This report aims to address the potential impacts of the proposal in relation to the existing landscape and to develop proposed landscape treatments focusing on the public Bay-side interface adjacent to Foreshore Road. The report is titled *Port Botany Expansion EIS Landscape Principles and Guidelines* (LandArc 2003) and is contained in **Appendix F**.

This chapter describes the preferred concept plan for the public recreation and ecological areas based on the findings of the stakeholder consultation and the recommendations contained in these reports.

7.2 Coverage of the Plan

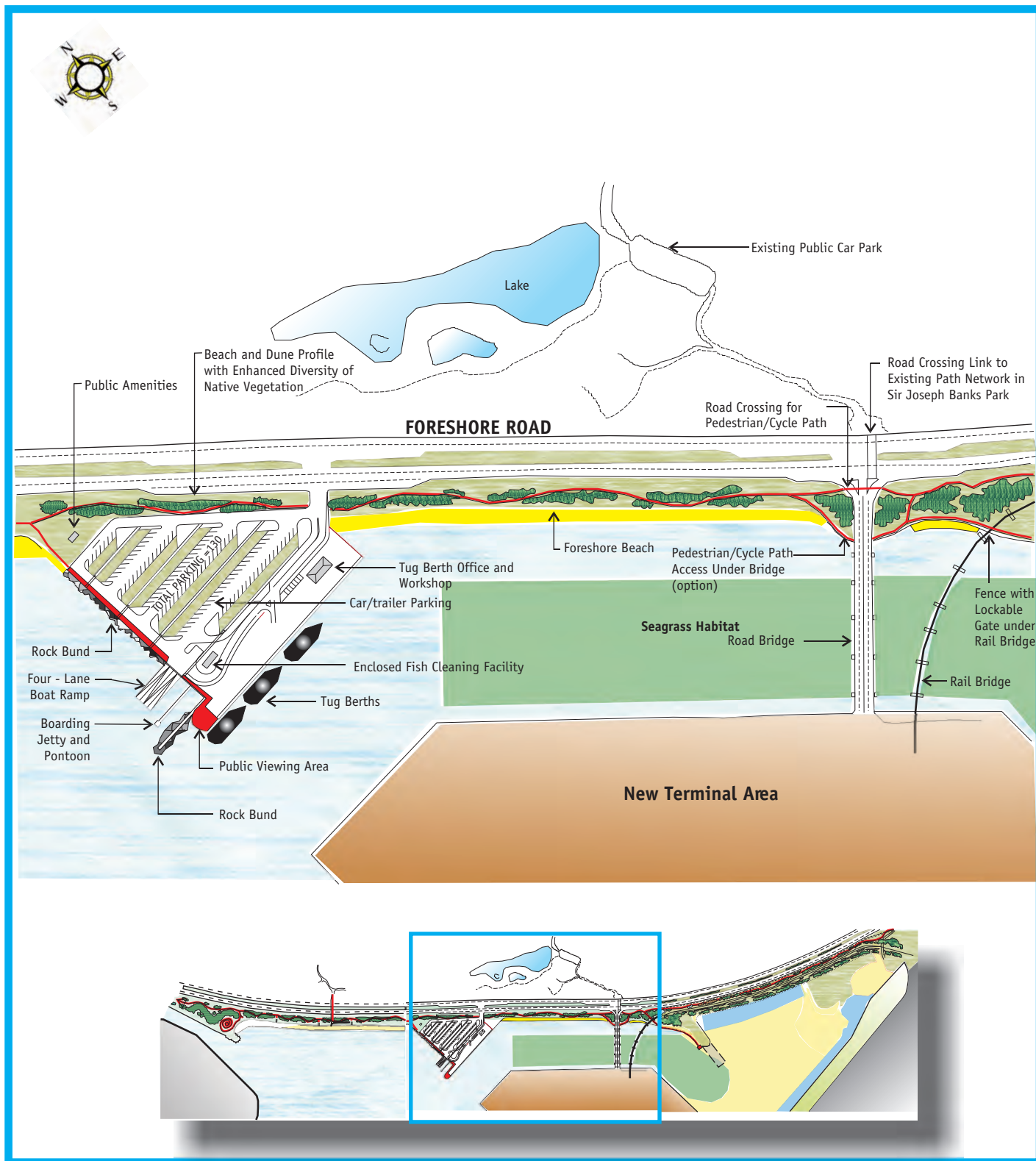
The public recreation and ecological plan applies to all the public land south of the central median strip along Foreshore Road between the mouth of the Mill Stream and Penrhyn Road, including Penrhyn Estuary, as shown in **Figures 7.1a, 7.1b and 7.1c**.



Source: Timothy Williams and Associates

Public Recreation and Ecological Plan
(1 of 3)

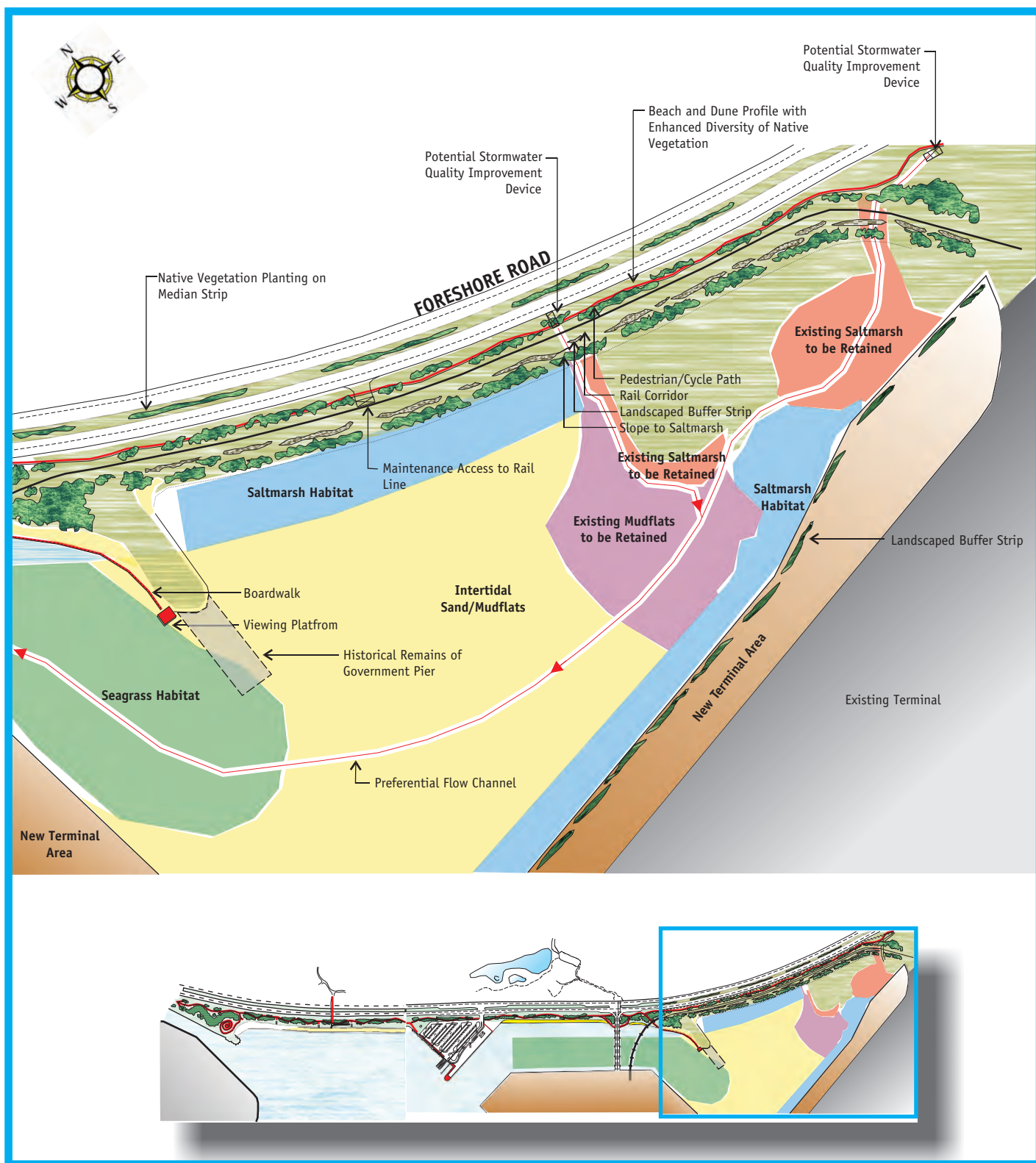
Figure 7.1a



Source: Timothy Williams and Associates

Public Recreation and Ecological Plan
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Figure 7.1b



Source: Timothy Williams and Associates

Public Recreation and Ecological Plan
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Figure 7.1c

7.3 Foreshore Corridor Precincts

The foreshore corridor can be divided into two separate zones or precincts as follows:

- Foreshore Beach; and
- Penrhyn Estuary.

These two precincts are defined by distinctive landscape, heritage, environmental and recreational values. In the preferred concept plan, the Foreshore Beach precinct would be a public recreation area while the Penrhyn Estuary precinct would become a conservation zone delineated by the proposed rail corridor and the new terminal.

7.3.1 Foreshore Beach

It is proposed that the Foreshore Beach precinct would have a recreational focus within a natural setting and would include the following major landscape components as shown in **Figures 7.1a, 7.1b and 7.1c**:

- retention Foreshore Beach for public recreation activities;
- a four-lane boat launching ramp;
- car park for 130 cars and boat trailers;
- amenities building and enclosed fish cleaning facility;
- a jetty and pontoon for temporary mooring while trailers are parked and passengers board;
- pedestrian/cycle path parallel to Foreshore Road between the Mill Stream and Penrhyn Road;
- a footbridge over Foreshore Road connected to Sir Joseph Banks Park;
- protection, restoration and enhancement of the existing beach and native vegetation buffer;
- an elevated viewing platform and native landscaping near the mouth of the Mill Stream; and
- road-side and median strip landscaping on Foreshore Road.

This plan was adopted because consultation identified a preference for minimising changes to the form and use of Foreshore Beach, although the provision of a new boat ramp was considered essential to replace the existing boat ramp in Penrhyn Estuary which would be removed as part of the proposal.

7.3.2 Penrhyn Estuary

In contrast with the recreational emphasis of the western precinct, the Penrhyn Estuary area would focus on the protection and enhancement of ecological conservation values.

The preferred concept plan for this area would substantially expand the existing shorebird habitat at Penrhyn Estuary to provide a larger, more open area of habitat, with intertidal flats and saltmarsh for feeding and roosting. The aim would be to continue to attract the migratory shorebird species that currently use the Estuary, and potentially attract a greater number of shorebirds.

Public access would be restricted and controlled by fencing and signage while still providing educational and interpretive opportunities. The design would include construction of a boardwalk and viewing platform linked to the pedestrian/cycle path and located at the western edge of the proposed intertidal sand/mudflats.

The remains of the historic Government Pier near the southeastern end of Foreshore Beach would be protected from any modification or disturbance under this proposal.

The main components of the proposed Penrhyn Estuary ecological restoration and habitat enhancement would include the following as shown in **Figure 7.2**:

- removal/excision of sand dune on the western side of Floodvale Drain to maximise the area of intertidal sand/mudflats habitat (1.5 ha existing area increased to 12.5 ha total area);
- expansion of saltmarsh habitat including retention/transplanting of existing areas, removal of colonising mangroves and natural colonisation of additional saltmarsh (approximately 1.4 ha existing area increased to up to 6 ha total area);
- creation of seagrass habitat for transplanting seagrass that would be lost due to the reclamation and for the natural colonisation of additional seagrass (up to 8 ha total area);
- public access to a pedestrian boardwalk and viewing platform extending a short distance into the Estuary to minimise disturbance of the migratory shorebirds and damage to seagrass/saltmarsh;
- fencing of the Estuary and erection of signs to control and restrict public access to the location of the boardwalk only and control feral animals such as foxes; and
- establishment of a native vegetation buffer strip along the edges of the Estuary including the edge of the new terminal.

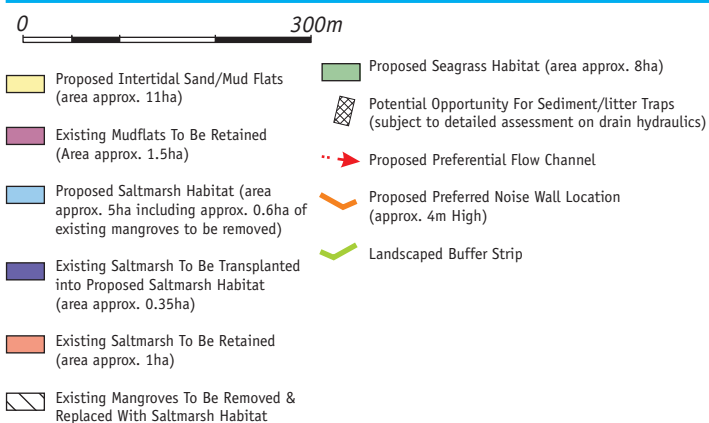
The conservation emphasis of the Penrhyn Estuary precinct was preferred for the following reasons:

- Penrhyn Estuary is the only viable shorebird habitat remaining on the northern side of Botany Bay and should be conserved;
- to maintain the existing use of the Estuary by migratory shorebirds, which are listed in international treaties and on threatened species lists; and
- provision of seagrass habitat within the Estuary and the tidal channel would compensate for seagrass lost as a result of the proposed reclamation and would provide habitat for the colonisation of additional seagrass.

Further details of the proposed habitat enhancement works within Penrhyn Estuary can be found in **Chapter 20 Terrestrial Ecology**.

7.4 Landscape Principles and Guidelines

The following general principles and guidelines for landscape design and ecological restoration and enhancement have been established. These principles and guidelines aim to be consistent with the City of Botany Bay Development Control Plan No. 32 – Landscape (2002) and to allow development of expanded port infrastructure whilst ensuring appropriate protection, restoration and enhancement of the foreshore interface and its significant visual, landscape, heritage, recreational and ecological values.



Penrhyn Estuary Habitat Enhancement Plan

Figure 7.2

The general principles and guidelines which would be applied throughout the foreshore corridor are provided in **Appendix F**. These principles and guidelines include the following:

- protect, restore and enhance existing foreshore profiles, soils and vegetation;
- provide recreational infrastructure and facilities for land-based and water-based activities which are consistent with community values;
- control public access in fragile and sensitive ecological areas;
- ensure public safety along pathways, entry points and recreational nodal areas with appropriate lighting and security measures;
- minimise potential visual and acoustic impacts of the proposed port expansion through an appropriately balanced landscape strategy including enhancement of existing native vegetation buffer, roadside and median strip planting/screening, and maintenance of view corridors to Botany Bay;
- address bird hazard issues associated with the operations at Sydney Airport;
- develop strategies to engage the public in interpretation and education particularly with respect to environmental initiatives;
- address ongoing management and maintenance issues such as weed management, litter control, pest control, rubbish dumping, pedestrian access and visitor impacts; and
- ensure that landscape components reflect appropriate ecologically sustainable development principles and best practice methods.

7.5 Public Recreation and Ecological Design

In accordance with the outcomes of the landscape assessment, stakeholder consultation and the overall development strategy, the following detailed list of landscape components (**Table 7.1**) have been incorporated into the public recreation and ecological plan as illustrated in **Figures 7.1a, 7.1b, 7.1c** and **7.2**.

Table 7.1 Elements of the Public Recreation and Ecological Plan

PUBLIC RECREATION AND ECOLOGICAL ELEMENTS	
New Boat Ramp Area	
New four-lane boat ramp.	
New jetty for boarding boats.	
Car park for 130 cars with boat trailers.	
Enclosed fish cleaning facilities.	
Public amenities	
Access	
Access to Penrhyn Estuary would be restricted by fencing and signage to a boardwalk which would connect to a viewing platform to be constructed west of the Government Pier remains. The viewing platform would allow observation of wildlife within Estuary area and the remains of the Government Pier.	

PUBLIC RECREATION AND ECOLOGICAL ELEMENTS	
Access from Foreshore Road to Penrhyn Estuary across the rail line corridor would be restricted by security fencing.	
Swimming and recreational boating access would be restricted for public safety, and ecological and operational reasons in the channel to be created between the new terminal and Foreshore Beach and in Penrhyn Estuary.	
A dedicated channel, between the Parallel Runway and the new terminal, would be provided for use by recreational craft.	
A pedestrian/cycle path network would be provided along the entire length of the foreshore corridor from the Mill Stream (western end) to Penrhyn Road (eastern end) – design of pathway to meander through the corridor.	
An access ramp and pedestrian overpass (over Foreshore Road) would link to existing pathways in Sir Joseph Banks Park.	
A road crossing across Foreshore Road at the new port entry bridge would link to existing pathways in Sir Joseph Banks Park.	
Pedestrian crossings/bike dismount areas would be provided at the entrance to the boat ramp car park and road crossing near the port entry bridge. A direct underpass at the port entry bridge is an option that would be considered during detailed design.	
Public access/promenade would be provided along the edge of the new boat ramp (from the pedestrian/cycle path to a public viewing area).	
Controlled access points would be delineated through dunes to the beach to provide appropriate protection to soils and vegetation.	
Environmental	
Penrhyn Estuary would be conserved as an area of ecological significance within an area of approximately 27 ha to retain and expand shorebird feeding and roosting habitat including intertidal sand/mudflats, saltmarsh habitat and removal of colonising mangroves.	
Up to 8 ha of seagrass habitat would be created in Penrhyn Estuary and the tidal channel between the new terminal and the shoreline to replace the 4 ha lost as a result of the development.	
Use of a rock embankment design for the new terminal would provide habitat for a variety of invertebrates, fish and other marine organisms.	
A rock bund would be installed at the mouth of the Mill Stream to define the channel and control accretion of sand in this location.	
Viewing Locations	
The area near the mouth of the Mill Stream would include an elevated viewing platform on a landscaped mound (up to 10 m LAT).	
Public access/promenade along the edge of the new boat ramp would link to a public viewing area at the end nearest the new terminal.	
A viewing platform would be constructed west of the Government Pier remains. The viewing platform would allow observation of wildlife within Penrhyn Estuary and the remains of the Pier.	
The pedestrian footbridge over Foreshore Road would provide viewing opportunities over Botany Bay.	
Landscaping	
Native vegetation would be planted in the Foreshore Road median strip.	
Additional native vegetation would be established within the dune areas behind Foreshore Beach to enhance the existing vegetation.	
Small trees would be provided for shade and amenity.	
Protective dune/vegetation fencing would be established around dune restoration areas and ecologically sensitive areas.	
Minimal areas of mown lawn would be established in accordance with bird hazard guidelines (refer to Chapter 29 Bird Hazard).	

PUBLIC RECREATION AND ECOLOGICAL ELEMENTS	
Trailer parking bays would be grassed and would drain to open swales planted with native dry wetland grasses/sedges which would connect to subsurface stormwater drainage.	
Landscaped areas would be established in the car park using local native trees, shrubs and groundcover.	
Appropriately designed litter bins and an enclosed fish cleaning room would be provided in accordance with bird hazard guidelines.	
Safe entry/exit point and set-backs from Foreshore Road would be established and appropriate landscaping/screening would minimise visual impact.	
Light spillage/glare and uplighting would be avoided in accordance with bird hazard guidelines.	
Security	
Public safety, security and surveillance issues would be addressed in the design including adequate lighting and maintenance of sight lines near entry points and along pathways.	
Safe distances from road-side traffic would be maintained.	
Signage	
An integrated signage system would be developed to assist visitors in orientation and planning their itinerary, identify landmarks and environmental issues and initiatives, and guide appropriate low-impact behaviour. In particular, signs would be erected to:	
<ul style="list-style-type: none"> - educate the public about the operations of the port, the environmental conservation values of areas such as Penrhyn Estuary and the historical significance of the remains of Government Pier; - prevent the public accessing Penrhyn Estuary except via the proposed boardwalk. This would include restrictions to prevent dogs from accessing the boardwalk to minimise any disturbance to shorebirds; - provide the public with information of the location of the proposed recreational navigation channel and the Sydney Airport boating exclusion zone adjacent to the Parallel Runway; - prevent people from swimming or fishing in Penrhyn Estuary and the channel between the new terminal and the foreshore; and - educate the public about bird hazard issues including the appropriate use of the boat ramp, the enclosed fish cleaning facilities and litter control in all public recreation areas along the foreshore. 	

7.6 Landscape Maintenance

Landscapes continue to change and evolve over time. The public foreshore interface area requires a long term commitment to providing a quality maintenance regime. The following maintenance commitments are made by Sydney Ports Corporation and would be incorporated into the detailed landscape plan for the foreshore corridor:

- commitment to long term landscape restoration, enhancement and management which is consistent with ESD principles and addresses day to day issues of weed control, pest control, litter control, rubbish dumping, public safety and security;
- ensure that all areas are kept neat and tidy at all times and free of food and litter (especially at the boat ramp and car park area) to improve amenity and reduce potential issues with bird hazard at Sydney Airport; and
- continue to develop cooperative strategies between the various managing bodies and stakeholders (e.g. Sydney Ports Corporation, City of Botany Bay Council, National Parks and Wildlife Service, NSW Fisheries, Roads and Traffic Authority, Waterways Authority, Sydney Airport Corporation Limited and terminal operator(s)).

Sydney Ports Corporation may establish ongoing maintenance agreements with other Local or State Government agencies for certain elements of the public recreation and ecological area (e.g. boat ramp).

7.7 Conclusion

There is a demonstrated need to address the broad range of social and environmental impacts which continue to affect the quality and integrity of existing public open space along the foreshore corridor between Port Botany and Sydney Airport. These issues include beach and dune erosion, poor water quality, weeds, visual quality, road-side litter, rubbish dumping, poor public safety and security.

It is important to recognise the opportunities provided by the proposed Port Botany Expansion, as the proposal would provide the impetus to address these social and environmental issues in an integrated way. The proposed public recreation and ecological plan would protect and reinforce the natural qualities of the foreshore open space whilst addressing the distinctive identity of the proposed Port Botany Expansion. The approach would emphasise the interplay between these two elements, providing opportunities for viewing the port facilities and the natural Bay/foreshore setting.

The proposal would provide a range of opportunities to revitalise and enhance the public foreshores for appropriate recreational uses. Public access would be promoted with improved land-based linkages and facilities to access water-based activities such as boating and fishing. The pedestrian/cycle path linkages including overpass and underpass connections and road crossings, elevated viewing platform, boat ramp facilities, car parking area, boardwalk and interpretive facilities would increase recreational opportunities. These public areas would be designed and maintained in a way which would enhance environmental and visual qualities, engage the public and encourage a greater sense of public ownership.

Moreover, the quality of the broader foreshore and estuarine areas would be dramatically transformed by environmental initiatives including extensive restoration, enhancement and reinstatement of foreshore dune areas, intertidal sand/mudflats, saltmarsh and seagrass habitat. This transformation of environmental, landscape and visual qualities would establish the basis for improving recreational opportunities and ecological conservation.