Australian Technology Park, Eveleigh.

2005 Master Plan

Redfern Waterloo Authority

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<tr>
<td>ATP</td>
<td>Australian Technology Park</td>
</tr>
<tr>
<td>DUAP</td>
<td>Department of Urban Affairs and Planning</td>
</tr>
<tr>
<td>DIPNA</td>
<td>Department of Infrastructure Planning &amp; Natural Resources</td>
</tr>
<tr>
<td>ESD</td>
<td>Ecologically Sustainable Design</td>
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<tr>
<td>EPA</td>
<td>Environment Protection Authority</td>
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<tr>
<td>FSR</td>
<td>Floor Space Ratio</td>
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<tr>
<td>GFA</td>
<td>Gross Floor Area</td>
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<tr>
<td>Ha</td>
<td>Hectare</td>
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<tr>
<td>M</td>
<td>metre</td>
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<tr>
<td>REP 26</td>
<td>Sydney Regional Environmental Plan No. 26 City west</td>
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<tr>
<td>RL</td>
<td>Reduced level</td>
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<tr>
<td>RWA</td>
<td>Redfern Waterloo Authority</td>
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<tr>
<td>SEPP</td>
<td>State Environmental Planning Policy</td>
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<td>SHFA</td>
<td>Sydney Harbour Foreshore Authority</td>
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<tr>
<td>SCC</td>
<td>Sydney City Council</td>
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<td>STA</td>
<td>State Transit Authority</td>
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Acknowledgments

The original 1994 Master Plan for Australian Technology Park Sydney Limited was prepared by The City West Development Corporation and its consultants and was adopted by the Minister for Planning on 20 September 1994.

The 1997 and 1998 amendments to the Master Plan were prepared by the NSW Department of Public Works and Services.

The 2003 Australian Technology Park Master Plan was prepared for the Sydney Harbour Foreshore Authority (SHFA) by Architectus in consultation with the Department of Urban Affairs and Planning and South Sydney Council and was adopted by the Minister for Planning on 14 August 2003.

The amendments to the Master Plan detailed in this document were prepared by Nettleton Tribe and Mike George Planning for the Sydney Harbour Foreshore Authority and incorporate the Schedule 1 variations required by the Minister in his approval of 14 August 2003. The 2005 amendments to the Master Plan detailed incorporate the Instrument of Adoption variations required by the Minister in his approval of 23 June 2005.
Executive summary

What is the Master Plan?

The Australian Technology Park Master Plan (The Master Plan) is a requirement of Sydney Regional Environmental Plan No. 26 - City West (REP 26). It contains the objectives, and provisions for the development of the state government owned Australian Technology Park at Eveleigh (the Site).

The 2005 Master Plan is based on a review of the original ATP Master Plan 1994, which expired in December 1999 & the 2003 Master Plan together with an analysis of current environmental, social, economic and statutory issues affecting the Site.

The 2003 Australian Technology Park Master Plan was prepared for the Sydney Harbour Foreshore Authority (SHFA) by Architectus in consultation with the Department of Urban affairs and Planning and South Sydney Council and was adopted by the Minister for Planning on 14 August 2003.

The amendments to the Master Plan detailed in this document were prepared by Nettleton Tribe and Mike George Planning for the Sydney Harbour Foreshore Authority and incorporate the Schedule 1 variations required by the Minister in his approval of 14 August 2003. The 2005 amendments to the Master Plan detailed incorporate the Instrument of Adoption variations required by the Minister in his approval of 23 June 2005.

Master Plan vision

"To establish an internationally recognised world class technology and business centre aimed at building global competitiveness in key growth sectors of the economy."

Australian Technology Park Management Pty Ltd

purpose of the Master Plan

The Master Plan further refines the development principles contained in REP 26 and provides for the future development of the Site for:

- a range of accommodation for business uses, including high technology enterprises involved in research and development;
- supplementary uses such as retail, serviced apartments and hotel accommodation for ATP purposes, and educational and interpretive facilities;
- employment for approximately 6,500 people;
- the adaptive re-use of three heritage buildings;
- 2.86 hectares of public recreation space (increased by 2,260sqm compared to the 1994 Master Plan);
- community facilities;
- up to 1,600 car parking spaces;
- pedestrian routes on Site and linking residential areas to the north, south and west with Redfern Station; and
- cycle routes on Site and linking to the local and regional cycle network.

Master Plan Planning and design philosophy

The Master Plan is based on the following planning and design philosophy:

Planning & Design Philosophy

- Innovative, buildings, responding to ecologically sustainable development principles;
- Interpretation, adaptive reuse and respect for heritage railway buildings and historic layout;
- Efficient movement network based upon primacy of public transport;
- High quality public domain designed to reflect ecologically sustainable development principles;
- Complementary community facilities; and
- Flexibility to facilitate economically viable building floor plate sizes.
1 Introduction

1.1 Purpose of the Master Plan

This 2005 Master Plan replaces the original (now expired) Master Plan 1994, prepared as a requirement of Sydney Regional Environmental Plan No.26 - City West to control all future development on the ATP Site.

It contains the objectives and provisions for the development of the ATP. It is based on a comprehensive review of the original Master Plan.

This Master Plan varies from the 1994 Plan in a variety of ways in order to facilitate:

- a better streetscape relationship with the historic Locomotive Workshops;
- a more permeable street pattern on the Site;
- several activity or focal points on the Site;
- larger building floor plates in response to market demand; and
- buildings which provide leadership in environmentally sustainable development practices.

Details of the differences between the two Master Plans are contained in Appendix C. The further amendments adopted in this Master Plan are summarised in Appendix C.

1.2 Background to the Australian Technology Park (ATP)

The Australian Technology Park (ATP) was an initiative of the University of New South Wales, the University of Sydney and the University of Technology (Sydney), with support from the NSW State Government and the Commonwealth Government. Since July 2000 the ATP was owned and managed by the Sydney Harbour Foreshore Authority. In January 2005 ownership of the ATP was vested in the Redfern Waterloo Authority (RWA) and the RWA assumed full management from the end of April 2005.

The purpose of the ATP is to provide an innovative environment where companies can conduct research and development on their own, or in collaboration with other companies or universities, to develop new products and bring them quickly to a point where they are viable and marketable.

The bulk of the Site was previously owned by the State Rail Authority and used as the Eveleigh rail yards since the early 1880’s.

The ATP therefore inherits an environment with a considerable history of technology. Since the inception of the ATP in 1994, the majority of the large, heritage listed, workshop buildings on the Site (14,800 sqm GFA) have been re-adapted to house a range of tenants including:

- Conservatorium of Music;
- TAFE Institute;
- Interpretation Centre;
- Internet start-up companies;
- Commercial Artists;
- Computer and related industries;
- Questacon;
- High tech optical;
- Pharmaceuticals;
- Cafes; and
- Environmental Testing and Engineering.

1.3 The Site

The Site is located approximately 4 kilometres south of the Sydney GPO in the suburb of Eveleigh. The Site has an area of 13.89 hectares and is described as

Lots 50 and 51, DP 859192
Lot 41, DP 859191
Lots 42-49, DP 877901

The majority of the Site (13.54ha) is owned and managed by the Redfern Waterloo Authority. The kindergarten Site (0.35ha) in the south western corner of the Site is owned by Sydney City Council, having been given to them by the ATP some years ago.

The ATP forms a major use within the Eveleigh Precinct of City West, a Planning initiative for the inner west areas from Eveleigh through Central, Ultimo and Pyrmont to Rozelle and Balmain.

The Site is bounded by Henderson Road to the south; Garden and Cornwallis Streets to the east; the railway corridor (including Redfern Station) to the north and Department of Housing properties and State Rail operational facilities to the west.

All drawings of the site are based on the survey by Rygate & Company surveyors dated 3 June 1998. A copy of the survey is attached at appendix F.
Figure 2: The Site
The Master Plan site is shown by the heavy broken red line
1.4 Planning and Urban Design Analysis

An urban design analysis of the Site was undertaken as the basis for development of the Master Plan. This analysis is included in Appendix A. The key issues arising from the Planning and Urban Design Analysis have been summarised below to provide an understanding of the development of the philosophy behind the Master Plan.

Site Context:

Regional context

The Site is located approximately 4 kilometres south of the Sydney GPO, bounded by the inner suburbs of Darlington, Redfern, Alexandria Park, Erskineville and Newtown in close proximity to the University of Sydney and UTS.

The Site forms part of a connected regional band of research and high technology centres including North Ryde, ATP and the Sydney Airport environs.

With the commencement of the planned Parramatta to Chatswood Rail line, the ATP will be part of the connected 'think link' which will span from the Westmead Hospital and Rydalmere University of Western Sydney Campuses, Macquarie University, Lindfield UTS Campus, St Leonards Royal North Shore Hospital and UTS Gore Hill, UTS Broadway at Central, to Redfern Sydney Uni, UNSW and the ATP.

Figure 3: ‘The Think Link’

Figure 4: Regional Context
Local context

The ATP is strategically well located in close proximity to the soon to be upgraded Redfern Railway Station, the North Eveleigh mixed residential/commercial redevelopment area and Sydney University.

The area surrounding the Site contains a mix of residential, educational and railway uses. The Master Plan should recognise the transitional role played by the Site between these residential and railway uses and built forms.

The ATP is currently somewhat remote from its local setting. There is a need to better define the interface and connections between the Site and surrounding areas, particularly the residential areas directly adjacent to the west.

History and building character

The Eveleigh area is rich in history. It has been utilised for railway and associated uses since the early 1800’s. The conservation and adaptive reuse of the large heritage buildings on the Site provides a focus and establish the unique character and point of difference of this technology park.

Public transport

The Site is located immediately adjacent to the Redfern Railway Station, which is a major rail station on the Sydney rail network. CityRail and the Department of Transport have proposals to upgrade Redfern railway station based on a centre loading platform design as well as a new bus interchange in Wyndham Street.

Figure 5A: Local Context
Traffic

The ATP is strategically well located close to a number of regional roads leading to the airport, CBD and the Sydney region generally.

At the time of the 1994 Master Plan formulation a number of improvements to the local and regional road network were Planned. Since then access to the ATP has been enhanced by the provision of a significant proportion of these works including the:

- completion of the new heavy rail line from Central to the Airport and on to the East Hills line.
- installation of traffic signals at Garden Street 1 Henderson Road intersection;
- exemption of no right turn restrictions for emergency vehicles from Henderson Road into Botany Road;
- provision of emergency access provisions for the Central District Ambulance;

In order to minimise traffic congestion on the Site when fully developed, additional on-Site access roads should be required by the Master Plan.

Open space

General public open space in the vicinity of the Site is limited. A number of large open spaces in the surrounding area are dedicated single use sporting ovals, while many of the smaller spaces are too small, have limited public access, or have restrictions on their use.

Generous levels of open space are provided on the Site. Most of the open space identified in the 1994 Master Plan has been constructed and serves as an interface between the residential area to the south and west of the ATP.

Figure 5B: Zoning
Social context

The traditional mix of residential, light industrial and warehousing uses in the locality are changing and as suburbs such as Newtown and Surry Hills are gentrified, many traditional working class residents and workers are leaving the area. Large-scale redevelopment planned at nearby Green Square, where an additional 20,000 residents are predicted over the next 25 years will reinforce these trends. Eveleigh and Redfern areas immediately adjoining the Master Plan Site are rich in cultural mix. The area is home to a broad range of ethnic cultures including a significant Australian Aboriginal community.

Topography

The natural topography of the Site is generally no longer recognisable. To accommodate the railway operations over the years the Site and railway has been benched into three distinct platforms. With the exception of a section at the north east corner, the Site occupies the two lower levels.

Site analysis:

Completed buildings and infrastructure

Existing buildings on the Site comprise a mix of large footprint historic railway sheds and contemporary buildings.

A significant proportion of the elements envisaged by the 1994 Master Plan (as amended) have been completed, particularly infrastructure, open space, community facilities and adaptive reuse of heritage buildings on the Site.

Historic layout

The building character of the Site has been one of predominantly very broad large floor plate building forms. Historically the large building forms followed a general east/west orientation. Where economically appropriate for today’s uses it is desirable to reflect this historical building pattern in the orientation of street blocks and the presentation of buildings to the public domain to new streets within the Site.

Figure 5C: Heritage Context
Industrial archaeology

The Site is rich in industrial (railway use) archaeology. The Master Plan requires that elements of archaeological interest on the Site be recorded and where feasible preserved.

Views

Significant district view corridors to the CBD and harbour, and on the Site provide constraints and opportunities for future development of the Site. The street pattern, building footprints and heights in the Master Plan have been formulated to reinforce and protect these view corridors.

Public open space

With the exception of the park planned at the western end of Central Avenue (referred to as Central Avenue in the 1994 Master Plan), the majority of open space has been constructed. These areas are illustrated on Figure 28.

Pedestrian and cycle routes

The majority of the pedestrian and cycle routes have been constructed on the Site. However, these are inadequately sign posted and concentrated towards the eastern end of the Site.

Easements

A number of existing easements cross the Site to accommodate local and regional services and SRA access requirements.

Contamination

Due to the previous railway use of the Site there is some evidence of contamination of soils. Recent remediation works have been carried out to remove contaminated matter. Detailed contamination audits will be required with all future development applications on the Site to determine suitability and any additional remediation works needed to enable the safe use of any future buildings.

Utilities and stormwater

With the exception of the high voltage electricity tunnel easement running through Innovation Plaza to Garden Street and Henderson Road, most existing services on the Site will eventually require replacement and are not a constraint. Optic fibre routes have been provided for on the Site and a new ‘Transgrid’ tunnel has been constructed.

Most of the stormwater infrastructure is now constructed. The Oval and tennis courts act as a major stormwater detention basin for the Site.
2 Master Plan: Context

2.1 Planning Context and REP 26

The ATP forms a major use within the Eveleigh Precinct of City West, a Planning initiative for the inner west areas including Eveleigh, Central Station, Ultimo, Pyrmont, and parts of Rozelle and Balmain (Figure 2). The area is subject to the requirements of Sydney Regional Environmental Plan No.26 City West (REP 26).

REP 26 requires that the Site is subject to a Master Plan for which the Minister for Planning is the consent authority. The first Master Plan for the ATP was approved by the Minister in 1994 and remained in force until its expiry in 1999.

The Master Plan has been formulated in accordance with the objectives and principles of REP 26, to guide and control the future development of the Australian Technology Park.

The Master Plan complies generally with the requirements of REP 26. Details of compliance are contained in Appendix B. The Master Plan replaces the now expired Master Plan 1994 for the Site. Appendix B identifies areas where the Master Plan varies from REP 26 in accordance with Clause 25 and 48 of the REP. These variances relate to reorganisation of height envelopes and minor changes to the location of land uses on the Site. Appendix C identifies the differences between the Master Plan and the 1994 ATP Master Plan, as well as the amendments adopted in this document.

The Master Plan generally follows the principles of the Urban Development Plan prepared under REP 26 and adopted on 13 July 1993. The Master Plan represents a more detailed expression of those principles. Appendix B contains details of the variations and identifies those parts of the Urban Development Plan that would no longer apply.

2.2 The role of the Master Plan

A Master Plan is a step in the Planning process between the Regional Environmental Plan and a development application. REP 26 requires that a Master Plan be prepared and adopted by the Minister for Planning before development consent can be granted for areas of land specified in the REP.

A Master Plan is intended to:

- provide guidance to developers and authorities on the type, scale, form and phasing of development which will be acceptable in a particular location, within a publicly accountable process;
- enable development to proceed efficiently by clarifying issues and identifying requirements for co-ordination and consultation;
- assist the public in understanding the future character of the area and to assist them to comment on development applications; and
- assist consent authorities when they are considering development applications.

A Master Plan is not a development application. Adoption of a Master Plan does not imply consent for any development. In giving consent to a particular development application, the consent authority must take the master Plan for the area into consideration. A master Plan prepared under REP 26 no longer expires but may be amended as required by the Minister. This provision in the master Plan recognises that Master Plans may need to be adjusted or completely reviewed to reflect changed circumstances. The amendments adopted in this document provide an example of such an adjustment.

2.3 Supporting Studies

In addition to REP 26, the following studies, held by SHFA/RWA, which supported the 1994 Master Plan still have relevant aspects to the Master Plan:

- Urban Development Plan for Eveleigh Precinct - City West Region as amended 1993 (the UDP);
- ATP Human Services Strategy 1994;
- Conservation Management Plan 1995;
- ATP Transport Study, Colston Budd Hunt & Twiney 1994;
- ATP Evaluation of Water Sewage, Drainage & Reclaimed Water 1994; and

These studies are complemented by the following:

- Transport Management and Access Plan (TMAP), Masson Wilson Twiney, 2002;
- Proposed Access Intersection for Australian Technology Park, Masson Wilson Twiney June 2003

These studies and policies do not form part of the Master Plan as adopted by the Minister for Planning.

2.4 Consultation

The Master Plan has been formulated in consultation with the Department of Planning, Sydney City Council, the Department of Housing and the State Rail Authority.

2.5 Consent authority

The Minister for Planning is the consent authority for the Master Plan and any subsequent development applications on the Site.
Figure 6: Master Plan Concept
3 Master Plan: Vision and key elements

3.1 Master Plan Vision

To establish an internationally recognised, world class technology and business centre aimed at building global competitiveness in key growth sectors of the economy by facilitating:

- greater links in the value chain between the intellectual and research resources available in Sydney’s universities and clusters of firms in strategic industries through applied research and product development;
- the incubation of new ideas in an environment that fosters research and development;
- the establishment of industries on the Site that carry out scientific research and scientific development as an integral aspect of that industry;
- adaptive reuse and interpretation of the original railway use buildings and elements which are of heritage significance and show the historical uses of technology;
- the establishment of uses on the Site which will have a positive impact on the historic, social, economic, natural or built environments of the surrounding locality;
- construction of high quality innovative buildings and provide leadership in the provision of ecologically sustainable urban development and stimulating urban form; and
- an inspiring, inviting and safe public domain appropriate to a world class technology park.

3.2 General objectives

The general objectives for the development of the Site are to:

- comply with Sydney Regional Environmental Plan No.26 City West (as detailed in Appendix B);
- strongly define the public domain by close alignment of buildings to street and open space boundaries;
- interpret historic building patterns by east/west orientation of street blocks and continuous street frontages/heights to streets (especially opposite the Locomotive Building);
- ensure the development of ecologically sustainable buildings;
- facilitate a variety of floor plate sizes to suit end users;
- provide a special interface for new buildings opposite the heritage Locomotive Workshops building;
- locate small building floor plates, preferably near the Henderson Road frontage to respond to the scale of development south of Henderson Road and the pattern of adjacent residential development;
- provide easy pedestrian & cyclist access across the Site;
- provide for efficient layout of car parking, screened from view of streets and provide on-street parking;
- improve pedestrian and vehicular permeability across the Site and connections to surroundings areas including future links across the railway to North Eveleigh;
- reinforce views and view corridors from, to and within the Site;
- facilitate active street frontages by relating the location of activity strips with building entries, key pedestrian and cycle routes;
- minimise the need to reconstruct or re-route existing Site infrastructure, services or facilities;
- provide a variety of linked public and private open spaces with high levels of sunlight access;
- promote public transport and non-motorised forms of access as the key modes of transit to the Site; and
- promote safety and security in the design of the public domain and new buildings.

3.3 Key elements of the Master Plan

The Master Plan was formulated by consideration of:

- the success of the original building envelopes in achieving good urban design, ESD, social and economic outcomes;
- current building forms preferred by the most likely future types of tenant companies;
- the use of the public domain and
- a review of the provisions of the Master Plan in terms of their commercial practicability and feasibility.

Planning and Design Philosophy:

- Innovative buildings, responding to ecologically sustainable development principles;
- Interpretation, adaptive reuse and respect for heritage railway buildings and historic layout;
- Efficient movement network based upon primacy of public transport;
- High quality public domain designed to reflect High quality public domain designed to reflect ecologically sustainable development principles;
- Complementary community facilities; and
- Flexibility to facilitate economically viable building floor plate sizes.

3.4 Road names

The following are the reasons for the names of ATP roads. Generally they have been chosen to recognise important people and activities in the development of the historic railway use of the Site.

Davy Road is named after the famous ‘Davy Press’ which was a large machine for manufacturing train wheels. This machine, dating from the early 1900’s, is on display today in the Locomotive Workshop exhibition space.

Locomotive Street is named after the locomotive use of the Site and is adjacent to the historic Locomotive Workshop building.

Alexander Street is an extension of Alexander Street to the south of Henderson Road.
4 Master Plan: Objectives and provisions

This section outlines the specific objectives and provisions for each element in the Planning and design of buildings and the public domain. Each element is structured in terms of a background discussion, specific objectives for development, provisions for development and actions to be undertaken by RWA/ATP Management unless otherwise noted.

4.1 Land use

This section addresses the nature and location of land uses envisaged on the Master Plan Site in terms of land use and intensity and interim uses.

4.1.1 Land use and intensity

Background

With the exception of land designated for public recreation, the whole of the Site is defined as a Residential/Business zone in the REP. This land use zoning allows for the accommodation of public and private sector high technology industrial enterprises involved in research and development. While the ATP does not intend to develop housing, it anticipates that serviced apartments for the use of short-term staff and visitors may be developed.

Objectives

- To provide space for high tech uses not generally available in the Sydney CBD;
- To provide a density of development that reflects the Site’s accessibility and compatibility considerations, i.e. its role as a specialised employment node with high public transport access;
- To allow for temporary residential accommodation uses that are complementary/supportive of the ATP;
- To make provision for other supplementary uses associated with the ATP.

Provisions

a) Provide business floor space to accommodate high technology enterprises involved in research, development and commercialisation and supporting supplementary uses.

High technology enterprises involved in research, development, and commercialisation functions include:

- custom built facilities for tenant anchor companies (major research, development and production enterprises);
- multi-tenanted accommodation for small to medium sized tenant companies;
- multi-disciplinary and joint facilities between industry, universities and other (including government) organisations;
- specialised incubator accommodation and services for start up companies; and
- light industrial manufacture.

High technology enterprises may involve a mix of research and development in the fields of:

- information and technology;
- bio medical;
- agricultural and food processors;
- transport systems;
- new materials;
- telecommunications;
- biotechnology;
- environmental technology and management;

- instruments; and
- power and energy.

Supporting supplementary uses may include:

- hotel/serviced apartments;
- business clubs;
- conference and seminar space;
- banks;
- child care;
- restaurants;
- health facilities;
- medical facilities;
- recreational facilities;
- post office/newsagent and shops;
- travel centre;
- technology museum or interpretive centre;
- cultural facilities; and
- educational and training facilities.

b) Locate serviced apartments and/or hotel, if and when required by the ATP, on Sites which have some of the following characteristics:

- adjoin residential Sites (such as at the south western corner beside the housing area or at the northeast corner near the Water Tower apartments);
- have good northern aspect; and
- have a clear street address.

c) Locate retail services, and some community facilities, on Sites which contribute to the activity strips, provide convenient service and benefit from the most public exposure. Other community services will require good access but may not require the same public exposure as the activity strips.
d) Locate museum, interpretation and educational facilities in positions which have some of the following characteristics:

- best utilise the heritage buildings and artefacts;
- benefit from good public transport; and
- benefit from good visibility from main pedestrian routes.

e) Locate child care facilities on Sites which:

- meet the requirements of the relevant licensing authorities (Dept. of Community Services);
- have adequate north facing private open space and are close to public recreational space; and
- can have independent public access and vehicular drop off.

The 60 place long-day Alexandria Child Care Centre has been completed and is operating. A review of the childcare facilities should be undertaken when the ATP reaches 120,000sqm GFA certified for occupation (or 4500 employees on Site – whichever is the sooner) to establish whether the additional (30) childcare places are required on the Site.

f) The preferred location for smaller scale buildings is along the Henderson Road frontage, which is suitable for multi-tenant use (for example, start-up businesses). In order to provide affordable space some of the buildings may be walk-up (no lifts).

Figure 7: Land Use
The Master Plan generally adopts the land uses established by REP 26
4.1.2 Interim uses

Background

As the development of the ATP is likely to occur over a number of years certain areas of the Master Plan Site could be used in the short term for interim uses subject to satisfactory environmental impact on the rest of the Site and surrounding locality. This is consistent with the provisions of the REP. A recent example of interim uses is the establishment of temporary carparking areas on the Site. Such uses require development consent.

Objectives

- To make efficient use of the Site through the encouragement of interim uses;
- To ensure that interim uses do not compromise the future and ongoing uses of the ATP and the interests of the local community; and
- To ensure that interim uses can take advantage of existing facilities on the Site.

Provisions

a) Each interim use, which is not a use for which the Site is zoned, is to submit a separate Development Application as required by Clause 22 of the REP.

b) Interim uses shall not interfere with the orderly staging of the ATP.

c) Interim uses are to exhibit the same consideration for their impact on the local neighbourhood as long term uses on the Master Plan Site.
4.2 Development parcels

**Background**
The Site has been divided into a number of ‘development parcels’ (Figure 8) that correspond with street blocks, the public domain and likely subdivision parcels within the street blocks.

**Objectives**
- To facilitate the development of the Site based on a number of nominated development parcels, and
- To ensure the future development of the Site is consistent with the delivery of nominated public domain infrastructure elements.

**Provisions**
a) An occupation certificate is not to be issued for any habitable building within the following parcels unless the nominated works have been completed to the satisfaction of the consent authority. Refer Figure 8 for location of parcels.

<table>
<thead>
<tr>
<th>Parcels A1 &amp; A2:</th>
<th>Central Avenue and Locomotive St east of Davy Rd.</th>
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<tr>
<td>Parcel B</td>
<td>Davy Rd between Central Ave and Locomotive St, Locomotive St between Central Ave and Alexander St, Alexander St between Central Ave and Locomotive St, and Central Ave between Alexander St and Davy Rd (as open space or shared vehicular/pedestrian way)</td>
</tr>
<tr>
<td>Parcel C1 &amp; C2:</td>
<td>Davy Rd between Henderson Rd and Central Ave</td>
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<tr>
<td>Parcel D:</td>
<td>Improvements to entry area of Cornwallis Street/Garden Street junction.</td>
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**Figure 8: Development Parcels**
The subdivision lines within Parcels A1 and A2 are indicative only and subject to future tenancy requirements.
In addition –

- Public open space, public domain, utility and service provision is to be appropriately apportioned to relevant development parcels.
- Davy Road connection between Henderson St and Central Ave is to be established during an initial stage of development, but with finished treatment allocated to relevant development parcels as set out above.

4.2.1 Activity strips

**Background**

Consistent with the REP, activity strips (Figure 9) are areas where uses such as cafes, shops, restaurants, small-scale businesses and those uses, which will create active interest at pedestrian level are encouraged.

A Retail Study was carried out for the 1994 Master Plan. This indicated that the potential for commercially viable retail uses will be limited, particularly in the early stages of the development, and is most unlikely to be as extensive as indicated in the REP. It nevertheless reinforces the need to locate these activities carefully in order to both enliven the main pedestrian spaces and ensure their continuing viability.

The Study indicated that the main retail opportunities will occur where the main diagonal pedestrian route from Mitchell Road to Redfern Station, “Mitchell Way”, meets the main east-west vehicle route, Central Avenue. As indicated on Figure 9, the street frontages of developments at this intersection are required to have active use. Other frontages along the main pedestrian route are preferred Sites for active uses.

The Master Plan varies the location and extent of the Activity Strips from those contained in the REP. This is permissible with the Minister’s consent under Clause 48 of the REP. Their location and extent has been varied in conjunction with the refinement of the building envelopes to:

- capitalise on lunchtime solar access, particularly in Mitchell Way,
- encourage cafes and company foyers opening onto Locomotive Street adjacent to the through Site pedestrian link,
- to reinforce and encourage activity at the central intersection of Central Ave and Davy Road in conjunction with the landmark buildings,
- ensure activity is encouraged in highly visible areas of the Master Plan Site, and
- safeguard the economic viability of retailing establishments in the surrounding locality.

**Objectives**

- To provide interest along pedestrian routes;
- To provide convenient and viable services for ATP tenants; and
- To complement and augment services for the local community.

**Provisions**

a) Provide accommodation for such uses as cafes, shops, restaurants, building entries and supplementary uses as listed in 4.1.1 or small businesses that provide active interest for pedestrians in locations shown on Figure 9 as ‘mandatory activity strip’.

b) Develop other frontages along the main pedestrian routes (shown on Figure 9 as ‘desired activity, frontage’) in such a way as to provide interest at pedestrian level by providing reception areas, meeting areas, ‘break out’ spaces, cafes and the like.

c) The extent, location and uses for such activity strips are required to be reviewed by the ATP at the stage of each relevant development application.

d) Activity frontage Sites may be developed for other uses until activity frontage use is considered viable.

e) Ensure that floor space of activity frontage strips is adaptable to active use (i.e. 3.6m floor to ceiling height and floor level/entry at the same level as the footpath)

f) Any additional activity strips over and above that specified in SREP 26 will be required to be justified at DA stage. This will include an assessment of the broader community needs and impact on existing facilities in the neighbourhood.
4.3 Buildings

This section defines the form, style and location of buildings envisaged on the Master Plan Site.

4.3.1 Floor space

Background

The REP establishes a Floor Space Ratio (FSR) limit for business use within the Eveleigh Precinct (based on 13.89ha Site area at February 2001, FSR limit is 1.2A or 166,680sqm). As the nature and functioning of the ATP require that this development potential be drawn on as and when required, the Master Plan does not establish floor space limits for specific street blocks. The Site layout, height and urban design controls adequately provide for the form and intensity of development required.

The Master Plan requires the consent authority to keep a register of approved floor space in date order. This information to the end of February 2001 is included in the Register at Appendix D. At present 43,691sqm of business GFA has been developed out of the total available of 166,680sqm of GFA remains to be developed.

The possibility that the child care site or the RTA/Ambulance Centre site could be redeveloped for commercial purposes would need to be addressed in a future Master Plan amendment. Any business GFA on the site will need to come from the overall site maximum and would reduce the pool of GFA available to the nominated development parcels.

Objectives

- To ensure orderly Site development over time, within the environmental constraints of the Site;
- To ensure the retention of the adaptively reused heritage buildings on the Site; and
- The northern building facade of Parcel A should have passive climate and internal environment control, including opportunities to provide natural light and ventilation to the building interiors.

Provisions

a) Provide business floor space within the areas and building envelopes defined by the Master Plan.

b) Indicative allocations of GFA to development parcels are included in Section 5 – Indicative Development Examples.

c) The cumulative impact of successive development proposals on the distribution of floor space across the Site is required to be monitored at the development application stage for each building.

d) All development applications are required to provide evidence that the proposed development will contribute to an appropriate and coherent development pattern across the Site, that do not exceed the maximum GFA of 166,680 sqm for the Master Plan Site as a whole.

e) No more than 122,989sqm GFA is to be developed for business purposes beyond the 43,691sqm developed as at October 2003.

f) Any redevelopment of the existing child care site or RTA/Ambulance Centre site which increases existing building heights, will require an amendment of this Master Plan. Any business GFA involved in such developments will need to be part of the overall GFA limit (166,680sqm) for the total site.

Action

The consent authority in conjunction with ATP/RWA is to maintain a register of floor space (GFA) approved from time to time on the Site. Refer Appendix D for the format of the register.

Figure 10: Internal atriums
4.3.2 Built form and building envelopes

Background

The Master Plan responds to and further develops the principles of height, bulk and setback established in the REP. The proposed height envelopes and build to lines are illustrated in Figures 13, 14 and 15 below. The REP maximum heights are varied in the Master Plan, some lower and some higher. Note that where the Master Plan nominates heights exceeding the REP heights, an objection to the REP height standard under SEPP1 will be required with a development application.

The main determinants of built form and building envelope objectives and provisions are:

- **The built form context**
  The Site is bounded by a variety of development forms and uses, ranging from intensive railway uses, to industrial, commercial, high density residential and single dwellings. The built form objectives and provisions have been formulated to ensure the future buildings on the Site ‘fit well’ within this context.

- **The terraced topography and existing view lines**
  The Eveleigh Precinct and the Site are characterised by a series of terraces, artificially formed for railway purposes many years ago. There are two main terraces on the Site. The upper terrace on the Site is occupied by the three large heritage railway buildings that dominate the Site. The built form objectives and provisions respond to the changes in level across the Site and ensure protection of existing views to and across the Site.

- **Existing heritage built forms on the Site**
  The principal historical building form and development pattern on the Site is large linear industrial style buildings running east-west across the Site. Their form and layout has formed the basis for the building Site layout and general building forms on the Site.

- **The requirements of a world leading technology park**
  A principal aim of the Master Plan is to provide leadership in ecologically sustainable building design.

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**Objectives**

- The built form and circulation should generally respond to historical patterns of development (eg. large east/west oriented blocks as a response to the large east/west oriented buildings previously used on the Site including the current Locomotive building);
- The built form is to respect the scale and character of the retained heritage buildings;
- The built form is to respect the scale and character of surrounding development;
- Linear atrium style ‘superstructure’ building forms are preferred. Superstructure building forms are buildings that externalise structure, shading and ESD devices to minimise energy use, create visual interest and provide a building form that is generally visually associated with high technology use generally;
- Large floor plate buildings must achieve the public domain objective of visual interest, especially at pedestrian level. (For example, this can take the form of windows at street level so that the public may view parts of the manufacturing process.);
- Encourage the creation of common spaces that promote social interaction;
- Encourage the integration of roof top Plant into the overall design of the building, and
- Provide leadership in the provision of energy efficiency in building design.

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**Atriums create opportunities for pleasant public spaces and environmental management benefits**

As illustrated on Figure 14 the Master Plan provides for the construction of landmark buildings to provide focal points at the centre of the Site. This is at the northeast and northwest corners of the intersection of Central Avenue and Davy Road. In this area taller buildings (up to 44m) are permitted. Increased heights are also permitted in the area of the north-south connection between Locomotive Street and Central Avenue opposite Bay 8 of the Locomotive Workshops.

**Figure 11: Naturally lit public areas**
Figure 12: Weather protection structures public / private zone

Weather protection design elements can provide effective weather protection and visually exciting architectural elements
Provisions

a) New buildings should provide a contemporary interpretation of principles inherent in the Locomotive Workshops building such as:

- Visually interconnected atriums / courtyard spaces;
- Abundance of natural light penetrating deep floor plates;
- Repetitive regular bays expressed externally by structure and articulation;
- Prominent roof form;
- Close alignment with the streets;
- Clear demarcation of building entries; and
- Discrete signage.

b) Maximum heights and setbacks from street frontages and adjacent buildings are provided on Figure 15. All maximum heights are measured in RL’s and measured to the underside of the top most ceiling of a habitable floor.

c) Buildings are to be built to the mandatory and preferred ‘build to lines’ defined in Figure 9 in order to define the public domain, but it does not preclude indentations or gaps for entries, articulation or architectural effect.

d) View corridors as described in Figure 8 of Appendix A are to be maintained.

e) Buildings fronting Locomotive Street are to incorporate innovative architectural solutions in the ‘Locomotive Interface zone’ identified in Figures 13 & 15 which respond to the historic significance and building form of the adjacent Locomotive Workshops. Detailed provisions and examples of solutions are contained in Section 4.3.3.

f) Weather protection design elements are to be provided along the street frontages of buildings wherever possible. Weather protection must be provided for the protection of pedestrians on buildings fronting the south side of Central Avenue and Locomotive Street and the eastern side of Mitchell Way.

g) Roof top Plant rooms are to be designed:

- as an integral part of the design of buildings
- to not significantly increase potential overshadowing of adjoining public or private domains;
- to not significantly increase the visual bulk of buildings as viewed from adjacent streets;
- to display architectural expression in keeping with the style of the building; and
- to be of high design quality in external appearance and may include visual expression of technology components of the building.

h) Roof areas may contain mezzanine areas or floor space to enclose or partially enclose plant having gross floor areas no greater than 50% (including the roof top plant) of the floor of the building immediately below. Any roof top floor space is not to exceed 3m floor to ceiling height. The reason for this provision is to encourage visually interesting roof top treatment that is not dominated by roof top plant.

i) The impact of rooftop plant is to be minimised. Plant is to be located at basement level wherever practicable subject to provision (j). Full justification for the location of any plant above ground level is to be provided at DA stage.

j) Subject to Provision (l) the GFA for new buildings should not exceed a maximum of 60% of the building envelope, excluding atriums, courtyards and pedestrian circulation areas that are open to skylights or sky. Where a building is 1 or more storeys less than the maximum applicable building height, up to 70% of the building envelope may be included in GFA.

k) Subject to Provision (l) the Master Plan provides for flexibility in the application of Provision (j) as demonstrated in Section 5 – Indicative Development Examples. This allows the following range of building envelope controls within the overall limit of GFA for the Master Plan Site as a whole:

- A maximum 60% of the building envelope utilised for GFA, adhering to the building heights indicated in Section 5 Development Example A
- Maximum 70% of the building envelope utilised for GFA adhering to reduced building heights as indicated in Section 5 Development Example B
- And/or a mix of the above maximums as indicated in Section 5 Development Example C

(l) Development applications may apply to vary the envelopes prescribed in j) and k) provided they are able to demonstrate adherence to the following Master Plan controls:

- Height controls under the Master Plan;
- Floorspace provision across the Master Plan area;
- Urban design principles contained within the Master Plan including:
  - through site links;
  - solar access into buildings;
  - pedestrian amenity;
  - break up of building massing and bulk; and
  - high quality architectural treatment

(m) Building siting and heights are to be arranged so that a minimum of 2 hours sunlight access between 9.00 am and 3.00 pm is available to the child care site and existing housing. The shadow diagrams are to be measured at the winter solstice (21 June) and equinox (21 March / September) at 9am, 12 noon and 3pm or in more detail if requested by the consent authority. Building siting and heights are to be arranged to ensure that overshadowing impacts to the child care site and existing housing are measured at the winter solstice.

Note: Height excedences of the REP heights (see Fig B Section 6 of Appendix B) will require submission and approval by the consent authority of an objection under State Environmental Planning Policy No. 1.
Figure 13: The Master Plan north-south section
Figure 14: Street Block Heights

The RL heights shown are the maximum building heights to the topmost ceiling of the habitable floors.

Note that an additional roof top mezzanine area is permissible above defined RL’s to provide roof top visual interest and to enclose fully or partly plant rooms – refer Figure 16 and Provisions (g) and (h) above. This additional area including plant rooms is limited to a maximum of 50% of the area of the floor immediately below.
Figure 16: Plant room solutions
The above sections illustrate ways to integrate plant into roof structure of proposed buildings. Plant rooms should be designed in the context of the entire building. Mezzanines may be used to enclose plant rooms. The impact of any additional height resulting from plant room structures and mezzanines are to be considered with respect to solar access, view loss and relationship to adjoining buildings.
4.3.3 Locomotive Workshop interface zone

**Background**

The proximity of Development Parcel A to the heritage listed Locomotive Workshop requires a specific response from buildings on Parcel A. This is the interface zone. Locomotive Street as defined in the 1994 Master Plan is now considered too narrow because of the auxiliary structures built on the south side of the Locomotive Workshops building. Detailed building setbacks are provided for this purpose. Potential exists within the locomotive workshop interface zone to create public or semi public spaces.

Development in the interface zone requires sensitive architectural treatment that responds to conservation issues relating to the Locomotive Workshop as well as environmental opportunities. The main building of the Locomotive Workshop facing Locomotive Street is characterised by a long consistently articulated façade. This principle should be carried out in a contemporary design for new development on the opposite side of Locomotive Street.

Further design work and tenant feedback has suggested the inclusion of additional public domain space opposite the locomotive workshop.

**Objectives**

- The northern building facade of Parcel A should have passive climate and internal environment control, including opportunities to provide natural light and ventilation to the building interiors.
- The proximity of Development Parcel A to the Locomotive Workshop requires sensitivity in the treatment of the facing (northern) facades of buildings proposed for Parcel A;
- Take advantage of the northern orientation of the interface zone, to create pleasant outdoor public and semi public spaces;
- Ensure developments along this interface, particularly their facades, are architecturally integrated to unify the streetscape; and
- Locate street furniture, lighting and seating within the 3 metre footpath area in accordance with type and location specification contained in the Public Domain Strategy prepared by Architectus (formerly Travis McEwen Group).

**Provisions**

- A 10 metre setback is to be provided between the Locomotive Street road alignment and the main facade of buildings opposite the Workshops (interface zone setback).

**Figure 17: Interface zone**

- The Locomotive Workshop Interface Zone is to achieve the following principles:
  - A consistent built form treatment, particularly in relation to eaves heights and eave lines;
  - Retention of a generally open void below the eaves line, with the main body of the buildings set back to the 10 metre setback alignment (refer to Figure 17);
  - Limited sections of upper levels built form can project beyond the specified alignment, but not to protrude beyond the eaves line. Open sections which assist in providing sun shading or weather protection can similarly protrude forward the main body of the building (but not beyond existing eaves; and
  - Provision of a continuous weather protected zone at ground level.

**Figure 18: Locomotive Workshop facade**

- Architectural articulation of new buildings should consider the Locomotive workshop context. New buildings on Parcel A are to respond in a contemporary manner to the Locomotive Workshop in a sympathetic manner through detailed contextual design. This may occur through:
  - acknowledgment of the repetitive bay structure and Locomotive Workshop building proportions in the facade details of buildings fronting the interface zone by also providing a repetitive bay structure; and
  - location of functional elements such as "break out" spaces that reinforce the bay structure pattern.
d) Provide special architectural treatment to the interface zone (Figure 13) that addresses at least one of the three options shown in Figure 21.

Note: Section 6 of the Master Plan includes examples of stacking and chimney systems extracting warm air from internal spaces which have been developed in accordance to principles of passive environmental design.

The use of light shelves would admit natural light to the internal commercial space whilst deflecting heat loads.

The use of an eave overhanging the roof structure serves to shade the facade from undesired heat loads. Expression of the roof structure through a strong eave form is considered an appropriate method of defining Locomotive Street as well as being a suitable response to the Locomotive Workshop context.

e) As illustrated on Figure 19, within the 10 metre setback a 7-metre public/private zone is to be provided along the Locomotive Street facade of the buildings on Development Parcel A.

f) As illustrated on Figure 19, a 3m zone from the kerb of Locomotive Street to the secondary facade is to be the formal public zone (footpath). Within this zone lighting and planting are to be located.

g) 'Break out' spaces may protrude into the public/private zone. 'Break out' spaces are verandah rooms that can be naturally ventilated and provide building occupants contact with the outside air. Such spaces can be meeting rooms and social spaces.
Figure 22: Public / private setback zone

Figure 23: Potential ‘breakout’ spaces
public/private zone

Figure 24: Public/private zone :design options
4.4 Ecologically sustainable development

A primary objective of the ATP is to provide leadership in the design of ecologically sustainable development (ESD). The following section establishes objectives and provisions to ensure the future development of the Master Plan Site supports ESD Best Practice.

Background

REP 26 requires that development is to make a significant contribution to ecological sustainability by the use of practicable works and management frameworks for water distribution, sewerage, and stormwater recycling. The Master Plan requires the minimisation of energy consumption and the encouragement of recycling. A contribution to wider ecological issues such as the minimisation of greenhouse effect, ozone depletion, air, water and soil pollution, depletion of resources, and threats to bio-diversity, should be made through good urban design and ongoing ATP management.

Objectives

- All buildings are to address ESD objectives and requirements thoroughly and provide Australian leadership and best practice in more than one area;
- Overshadowing of major open spaces is to be minimised;
- Require energy efficient developments;
- ATP management to be a focus and facilitator in the dissemination of Ecological Sustainable Development (ESD) principles and information to ATP tenants, users and visitors;
- Implement ESD principles wherever practical and economically feasible;
- Have special regard to the development and use of ESD high technology applications;
- Investigate the practicalities and economic feasibilities of reclaimed water use at the ATP; and
- Actively encourage and participate in the following ESD areas: energy conservation

Provisions

a) Generally the ATP is to:
- Restrict parking and ensure that development facilitates the promotion of public transport services through bulletin boards etc so that public transport use is encouraged.
- Adopt measures to make private transport modes more efficient such as provision for car pooling, facilities for bicycles.
- Provide for clean and efficient operational practices through ongoing education, eg. Bulletin boards, seminars, newsletters etc.
- Select landscaping species to minimise the need for irrigation systems.

b) Buildings are to:
- Adopt passive solar building design practices through the orientation of buildings, selection of materials on the basis of thermal performance, the use of insulation, natural ventilation and sun shading as appropriate.
- Use passive or active solar design techniques (which are to be demonstrated in Development Applications). As a minimum, all northeaster or west facing windows are to be shaded in order to reduce the energy consumption of the building.
- Maximise the use of natural light.
- As part of a commitment to ESD, all new buildings will be required to achieve appropriate standards, and specifically a minimum 4 star rating under the SEDA Building Greenhouse rating scheme for commercial buildings or equal rating system.
- Introduce high efficiency artificial lighting systems and layouts.
- Select appliances on the basis of their energy efficiency.
- Zone mechanical ventilation in accordance with usage pattern requirements, with preference given to natural ventilation.
- Provide for the use of building management control systems and audits to set and achieve energy efficiency benchmarks.
- Consider optional natural ventilation to all or part of buildings. Consider "break out" spaces in buildings which can be naturally ventilated.
- Adoption of ecologically sustainable material selection policies and practices.
- Minimise the use of chlorine-based products such as PCBs and PVCs.
- Use where practical and viable recycled and recyclable materials.
- Use timbers from a proven renewable and managed source.
- Adoption of clean and efficient operational practices: Ensure that waste can be minimised and recycling encouraged.
- Provide space and receptacles for the separation and recycling of wastes, supported by information and collection programs.
- Ensure that pollution and waste can be minimised in all stages of the research and production cycle undertaken by tenancies.
- Use water conservation devices and low water use appliances, such as dual flush toilets and water efficient showerheads.
- Opportunities for effluent re-use with, for example, low flow sub surface irrigation are to be investigated.
- All applications for new buildings should be accompanied by a report by a qualified environmental engineer that addresses the above requirements and shows how the proposal will demonstrate ESD best practice in more than one area; and incorporates a 'lifecycle costing' of the development.

In certain circumstances, for heritage conservation reasons, heritage restoration need not comply with these requirements.

Action

ESD practices to be prepared for implementation by ATP management.
4.4.1 Wind & Reflectivity

**Background**

The Site is relatively exposed, especially on the upper level immediately south of the Locomotive Workshop where there is little protection from cool southerly winds. Progressive development will reduce that exposure at ground level but buildings above the general level of surrounding developments will remain exposed and may cause turbulence at ground level under certain wind conditions.

**Objectives**

- To protect the public domain from the impact of undesirable winds while allowing the penetration of cooling summer breezes, and
- To minimise any adverse wind impacts from the introduction of new structures.
- To protect neighbouring residential areas from possible adverse mirroring effects of building facades.

**Provisions**

a) Development applications for buildings which have habitable floors with topmost ceilings higher than 24m above the adjacent street level, must assess the wind impact through a wind effects assessment report prepared by a suitably qualified expert.

b) The consent authority may require at DA stage a wind assessment for any new buildings on the Site.

c) Building materials with reflective properties should be designed to minimise hazardous or uncomfortable glare arising from reflected sunlight.

d) The consent authority may require at DA stage a report analysing solar glare reflectivity from the proposed new development on adjoining properties.
4.5 Noise and vibration

The ATP is set amid the main railway line and a number of major main roads, all potential noise sources for future development of the Master Plan Site. This section contains objectives and provisions aimed at minimising the impact of external noise sources on proposed developments on the Master Plan Site together with measures to reduce noise levels emanating from those developments.

Background

The main source of intrusive noise is the rail corridor on the northern edge of the Site. This is one of the busiest sections of rail lines in the State system. The problem is made worse by the elevation of many of the tracks relative to most of the Site. The perimeter roads especially at the southeast corner nearest to the busy Henderson Road junctions on the Southern Arterial provide additional noise sources.

The main sources of vibration on the Site will be from surface train movements to the north, from sub ground train movements in the Eastern Suburbs Railway tunnel along the southern part of the Site, from heavy vehicle movements on perimeter roads, and occasionally on Site roads, and from construction activity such as piling.

Objectives

- Minimise the impact of rail and road noise on the functioning of the ATP;
- Minimise the impact of vibration on the functioning of the ATP; and
- Minimise the impact of noise from development within the ATP on the surrounding locality.

Provisions

a) If noise sensitive uses are required in noise affected locations, an acoustic report shall be prepared to identify required amelioration measures.
b) Utilise the northern side of the Locomotive Workshop for noise tolerant activities.
c) Utilise landscaping and soft surfaces to modify, the transmission of airborne noise and reduce reverberation in the public environment adjacent to Henderson Road.
d) Where vibration sensitive activities are required in vibration affected parts of the Site, include a vibration consultant’s report at the detailed design stage to ensure that appropriate isolation and ameliorating measures are adopted.
e) Adopt procedures during construction which minimise vibration transmission to heritage and neighbouring structures and which can record and document potential damage.
f) Development applications are to be accompanied by a acoustic impact report. Acoustic impact reports at the DA stage shall consider the State Rail Authority and Rail Infrastructure Corporation Guidelines for development within 200m of an underground rail line.
4.6 Building services

This section contains objectives and provisions for the design and location of on Site services.

Objectives

- To ensure continuous servicing to existing buildings;
- To ensure timely services to Sites for development; and
- To minimise the impact on neighbouring areas.

Provisions

a) All servicing to be in accordance with relevant utility authority requirements and services to be coordinated with SCC and utility authorities. Prior to the submission of the first relevant DA, further negotiation is required with Sydney Water regarding the existing and future capabilities of the water, sewer and stormwater/detention services. These negotiations are to be to the satisfaction of the consent authority.

b) Maintain continuity of services through the Site for adjacent SRA operations and facilities.

c) A stormwater drainage strategy is to include:

- Dual use of the public domain for surface and sub-surface (piped) drainage purposes.
- An internal piped stormwater drainage system containing flows up to the 10-year design critical storm event.
- Containment of surface flows from the Site, in excess of the piped system capacity. Within defined drainage paths and discharging to the detention basin.
- Control of runoff to below the Sydney Water Corporation’s permissible Site discharge by provision of a detention basin in the south eastern corner of the Site so that all overland flow up to the 100 year ARI storm is directed into the basin from this catchment. Overland flow out of the Site is only permitted for events exceeding the 100-year ARI storms as required by the Sydney Water Corporation.
- Water quality management systems incorporating trash and other floating debris collection and for sediment control.

d) Review the building services strategy to ensure progressive extension of services throughout the Site for development for landscape irrigation around the Site.

Background

The Site contains services, which to a large extent serviced the operations and requirements of the original railways operations within the Site. A large area of the Site was paved for the provision of car parking to the temporary Paddy’s Markets which was previously operating from the Locomotive Workshops building.

The increase in the impervious area generated a significant increase in stormwater runoff causing flooding problems in Henderson Road and surrounding area. (Mounding was constructed along Henderson Road to retard these additional flows and reduce the flooding problem). A retention pond was constructed and this area used an oval and three hard surface courts. The implementation of the Master Plan will include the removal of non-approved paved parking areas.

Adjacent SRA operations and facilities are currently provided with water supply, stormwater and sewer drainage services which pass through the Site and have been considered in developing services strategies for ATP and the Site.

The ATP Site has a new stormwater system in Locomotive Street, Central Ave and Westlink/Tangarra St. There is a new sewer line in Mitchell Way and along Locomotive Street. A new water main has been installed from Garden St, along Mitchell Way to Locomotive Street.

The development of the Site offers a unique opportunity to demonstrate the use of reclaimed water to reduce the dependence on the potable (town) water supply. Reclaimed water is wastewater which has been treated where necessary so as to be suitable for reuse within the development. Possible sources of wastewater include sewage effluent, grey water, roof water and stormwater runoff. With appropriate safeguards, reclaimed water may be suitable for irrigation of public open space, for hosing down and maintenance purposes, for toilet flushing and cooling air conditioning for buildings.

An assessment of reclaimed water sources indicates that a potentially feasible opportunity on the Site is the collection of roof water from certain buildings which could be stored in large tanks and reticulated

To date investigations have demonstrated that treated sewage effluent is impractical. However, roof water irrigation should be implemented. Where feasible irrigation of open space areas with recycled or rainwater tank water is to be provided.

Actions

- Review of the Building Services Strategy to be managed by ATP management.
- Review of Water re-use feasibility to be managed by ATP management.
- Roof water irrigation of soft landscape work to public recreation area to be implemented.

The Site contains services, which to a large extent serviced the operations and requirements of the original railways operations within the Site. A large area of the Site was paved for the provision of car parking to the temporary Paddy’s Markets which was previously operating from the Locomotive Workshops building.

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- Review of Water re-use feasibility to be managed by ATP management.
- Roof water irrigation of soft landscape work to public recreation area to be implemented.
4.7 Signage

Coordination of private and public signage is considered an important element in the urban design of the ATP. This section contains objectives and provisions for signage on individual buildings. Such signs are to take into account signage in the nearby public domain as detailed in the ATP Public Domain Strategy 2002 prepared by Architectus (formerly Travis McEwen Group).

Background

The ATP is presented and marketed as Sydney’s pre-eminent high technology research park. Building occupant signage should reinforce the presentation of the whole park and contribute to a high quality public domain. Signage should be discrete and interpreted with the form of the buildings.

Objectives

- Occupant/tenant signage to reinforce the presentation of the whole ATP; and
- Signage to contribute to a high quality public domain.

Provisions

a) Each building to be restricted to one naming sign on each street facade

b) The naming sign to be restricted to a logo of up to 4sqm in area and/or up to 4 words of up to 4sqm in area. It is preferred that logos/letters are applied directly to the building in a manner that integrates well with the architecture of the building and is not on a backing panel or part of an illuminated panel. Letters or logos may be internally lit or externally spot lit.

c) The naming sign is to be located at ground floor or first floor level in order to reinforce the visual interest in the public domain for pedestrians.

d) Additional single naming rights signage on roof tops may be permitted provided they are integrated into the building envelope.

e) Ensure the impact of signage on surrounding areas is minimised, particularly close to heritage conservation areas and residential areas.
4.8 Access and facilities for the disabled

This section contains objectives and provisions which ensure equal access to ATP buildings, services and facilities for both able bodies and physically impaired members of the community alike.

Objectives

- Develop the public domain to facilitate ease of movement for people with disabilities, and
- Buildings are to be generally designed to accommodate the needs of people with disabilities.

Provisions

a) Buildings are to comply with the provisions of the Building Code of Australia Part D3 - "Access for People with Disabilities" and with the provisions of AS 1428.11988 -"Design for Access and Mobility Part 1 General Requirements for Access - Buildings".

b) Car parking spaces for people with disabilities shall be provided as required in Section 4.10.2.

4.9 Site contamination

This section contains provisions aimed at ensuring suitable contamination investigations are undertaken and, if necessary, the carrying out of Site remediation to permit safe occupation of future developments.

Background

Parts of the Site were the location of a variety of industrial/railway activities which are likely to have resulted in the contamination of soil. These activities include iron and steel founding, heavy engineering machining, locomotive fuelling, goods yard and various smithies. Integral to these manufacturing and maintenance activities were equipment cleaning and degreasing.

The ATP Site has been substantially cleared of all contaminants through the process of refurbishing heritage buildings, construction of new buildings and landscaping. Any new building work undertaken on Site will require fully assessment to confirm that the land has been remediated in accordance with Australian standards.

Objective

- To ensure that there is no unacceptable risk to public health or safety from residual contamination on the Site.

Provisions

a) To further develop remediation strategies in consultation with the NSW Department of Environment & Conservation for the treatment of any contaminants found during exploratory testing and in the course of development, including infrastructure works.

b) Where appropriate, undertake appropriate environmental monitoring of excavated materials during infrastructure works and subsequent development.
4.10 Transport and Access

This section contains the objectives and provisions relating to vehicular access, car parking and access to public transport.

4.10.1 Roads

Background

In summary, the external public transport and road network context for the ATP remains similar to 1994 with changes to Redfern Station, bus interchange and extension of the one-way pair of north-south arterial roads (Botany Road and Regent Street) still pending. The completion of the new rail link to the Airport and the Eastern Distributor Motorway are the main regional changes to the traffic and transport systems affecting the Site.

Access to the Site by vehicle is constrained by the rail tracks to the north, by the narrow and one way configuration of roads to the northeast, and by a need to protect the residential areas to the south and southwest. As a result, the main approach to the Site is from the south east via Henderson Road, Mitchell Street and Garden Street with the majority of trips being via the Southern Arterial, Regent Street/Botany Road and Wyndham Street/Gibbon Street.

In line with the REP development principle to encourage public transport, parking spaces on Site are limited to a maximum of 1,600 spaces. This is the same limit as in the 1994 Master Plan as amended. To safeguard any likely conflict between the Site and local area traffic and car parking, when occupied floor space reaches the 120,000m² the traffic and parking impact on the development on the locality is required by the Master Plan to be monitored. This is a requirement that was also in the 1994 Master Plan.

The vehicular access and parking principles of the Public Domain Framework established in the 1994 Master Plan have been adopted and refined in the Master Plan. Further design development of road proposals and local traffic management will require ongoing consultation with Sydney City Council and, where appropriate, with the RTA.

As part of the development of road options the Master Plan has been modified by:

- Relocation of the Main entry to the junction of Mitchell Street and Henderson Street. This amendment reinforces the entry point and also reduces traffic flow to residential areas in Henderson Street.
- Central Avenue now terminates within the site which again reduces traffic from residential areas and also the impact on the existing childcare centre
- Davy Road has also been terminated at Central Avenue

Objectives

- Establish a permeable street pattern that provides several links to the surrounding street system and provides an internal grid system;
- Protect existing and proposed residential areas from the impact of increased traffic;
- Protect the ATP from through traffic;
- Ensure that all buildings have easy vehicular access and a street address;
- Ensure safe access and egress from adjacent streets;
- Maintain access to ongoing SRA operations;
- Minimise pedestrian/vehicle conflict;
- Provide adequate service and emergency vehicle access; and
- Develop a vehicular movement system that is consistent with a safe pedestrian and cycle environment

Provisions

The required road network is shown in Figure 25

a) Garden Street and a new road (Davy Road) off Henderson Street are to be the main vehicular entry points to the Site.

b) Create a central east-west road (Central Avenue) to serve the main parking areas near the cliff and link them efficiently to the main vehicular entry points. Other roads within the Site will carry lighter traffic to smaller dispersed parking areas and provide service, courier and taxi access to all buildings.

c) Construct new road extension of Alexander Street within the ATP Site boundary.

d) Some lightly trafficked routes are to be treated as shared zones. The Master Plan includes strong pedestrian linkages through the Site. Shared routes are to be provided where the pedestrian links cross Central Avenue and along Locomotive Street. These areas are to be appropriately designed to enhance pedestrian amenity and safety.

e) The main elements of the public domain are to be observable and have as much activity as possible for the personal security of ATP workers and the local community passing through the Site. Therefore vehicle movement will be permitted on all streets, except Mitchell Way. Traffic calming and regulatory measures are to be included to control the speed of such traffic.

f) All roads on the Site are to provide for on street parking for the convenience of visitors.

g) A new low traffic road is to be provided along the western boundary of the Site to provide for efficient circulation and an interface with the adjacent housing so that ATP development fronts the housing area. This road is to be designed with the option for vehicle separation from the residential street system (while providing for pedestrian and cycle links).

h) Configure routes within the Site to minimise local area traffic using the ATP roads as a shortcut.

i) Liaise with SRA regarding the maintenance of access to ongoing rail operations.

j) Comply with Sydney City Council requirements for detailed road design and construction.

k) Maintain controlled vehicle access to the Site at all entry points.

l) The developer of land parcels C1 and C2 are to liaise with and seek approval from Railcorp to ensure that the integrity of the Rail Tunnel along Henderson Road is preserved.
**Actions**

- A 'Transport review group' shall be established and facilitated by RWA/ATP.

- The transport review group shall comprise at least the following: the owners of the Master Plan site (RWA); Sydney City Council; RTA; STA & SRA.

- The transport review group shall determine the parameters and timeframe of an annual transport survey within 2 months of the adoption of the Master Plan to the satisfaction of the Consent Authority.

- The transport review group shall review the annual survey (to be undertaken by the owner of the Master Plan site on a basis agreed by the transport review group) to confirm the actual modal share being achieved at the ATP.

- The transport review group shall undertake the following tasks:
  
  - Review all transport initiatives being implemented to achieve a modal split, on site, of 70:30 public to private transport (employees and visitors combined). Such initiatives to include Redfern Station upgrade; car pooling; car park management; residential parking scheme; the opportunity and desirability of integrating bus services into the Master Plan site;
  
  - Provide advice to the consent authority on all DAs with significant transport implication matters;
  
  - Identify other government agency actions required; and
  
  - Review the capacities and loadings of relevant junctions to provide advice on phasing of infrastructure and development.

**NOTE:** It is acknowledged that the above transport issues are not wholly within the control of the owners of the Master Plan Site and will require partnerships between various agencies to implement the Master Plan.

- Traffic and parking conditions are to be reviewed by the ATP when occupied GFA within the ATP reaches 120,000m². At that stage, the impact on neighbouring areas is required to be monitored and ameliorating measures inside the Master Plan area taken as necessary.

- The ATP is to liaise with Sydney City Council on measures necessary outside the Master Plan area.

**Actions**

- Traffic and parking conditions are to be reviewed by the ATP when occupied GFA within the ATP reaches 120,000m². At that stage, the impact on neighbouring areas is required to be monitored and ameliorating measures inside the Master Plan area taken as necessary.

- The ATP is to liaise with Sydney City Council on measures necessary outside the Master Plan area.
Figure 25: Vehicular access and circulation
### 4.10.2 Car parking

#### Background

Due to the proximity of the Site to Redfern railway station, on Site parking is limited to 1,600 spaces to serve visitors and tenants. Allocation of the car parking on the Site is the responsibility of the Redfern Waterloo Authority, regulated by development consent, according to a Parking Management Plan.

The ATP has implemented a pricing policy for car parking on-Site with ongoing reviews.

The ATP will require provision for tourist coach parking and circulation in addition to general worker and visitor parking.

#### Objectives

- Take advantage of the proximity of Redfern Station and STA bus services to minimise the use of private vehicles by ATP users and therefore minimise the need for ATP workers and visitor parking provision within the ATP;
- Reduce the potential impact of ATP vehicles on neighbouring residential streets;
- Ensure that access to, and provision of, parking is able to meet the reasonable requirements of ATP visitors;
- Provide designated parking for visitors at a fee to the ATP including exhibition and convention facilities, and
- Minimum vehicle entry widths to buildings are desirable to minimise visual impact on the streetscape.

#### Provisions

- Indicative car parking areas are shown on Figure 26.
- Development is required to take advantage of the step in the Site to provide parking accessed from Central Avenue.
- Some controlled short stay surface parking is to be provided in the streets and selected locations in front of the Locomotive Workshop, the proposed National Innovation Centre, and the Works Managers building.
- Provide a bus/tourist coach set down bay and short stay parking alongside Locomotive Street.
- Where possible, provide a minimum of 10% of parking generated by a particular building within the immediate vicinity of that building. Other parking up to the balance of the maximum provision permitted will be provided in a centralised parking area. This solution will ensure parking areas can be easily accessed from existing heritage buildings and also can be of multi function to accommodate flexibility for individual buildings and enable easy access for exhibition and theatre usage.
- Car parking spaces for people with disabilities shall be provided in accordance with the Building Code of Australia and as normally required by SCC.
- At least 2% of spaces in parking areas of more than 50 spaces shall be set aside for the use of drivers with disabilities. In addition, at least one space should be provided in Managers Plaza and one in Locomotive Street for disabled parking.
- Design of car parks is to minimise driveway entry widths, have regard for the streetscape and minimise conflict with pedestrians and cyclists.
- Shared access to private parking may be required by the consent authority (for example, access to parking for one building may be required through the parking area of another building) in order to minimise vehicle entries from streets and to make car parking layout efficient on the whole Site.

#### Actions

- RWA to review the current Parking Management Plan in consultation with the Sydney City Council.
- The Plan is to address the allocation of spaces to buildings and uses, management and policing of on street parking, parking fees, location and management of visitor spaces (including attendees to conferences and exhibitions at the Locomotive Workshops facilities), any interim parking facilities, construction parking and strategies to encourage car pooling.
Figure 26: Car Parking
4.10.3 Public transport

**Background**

The achievement of a high public transport modal split and the achievement of a relatively compact dense development within walking distance of Redfern Station are interdependent objectives.

A dedicated pedestrian path has been provided via Mitchell Way to Mitchell Road and Redfern Station to link the neighbourhood and the ATP to Redfern Station. In addition, an east-west pedestrian path to Boundary Street directly links the ATP to the Planned Wyndham Street Bus Interchange.

**Objectives**

- To reinforce the Site’s location near rail and bus services by facilitating access to and use of public transport;
- To provide for and encourage cycle and pedestrian access;
- To encourage diversity of arrival and departure times (to avoid exacerbating the peaks of traffic flow);
- To address security issues (particularly in the evening and at weekends);
- To inform visitors to ATP of the practicality of public transport access;
- To reduce car travel and
- To monitor the use of public transport.

**Provisions**

a) Provision is to be made on roads within the ATP for the introduction of a possible future minibus service feeding to Redfern station.

**Actions**

- Public transport timetable information to be disseminated within the ATP. ATP to promote the availability of bus and train services through newsletters, physical and electronic bulletin boards etc.
- Liaise with State Transit Authority (Sydney Buses) Council and the Universities regarding the introduction of new cross-regional and inter-University bus services. It could be feasible, for instance, to extend the existing University of Sydney Redfern Station bus service to the ATP.
- The trial of innovative public transport (shared taxis, car pooling, call buses etc) be promoted by ATP management.
- ATP to provide incentives to encourage use of public transport such as combined conference/train tickets.

4.10.4 SRA and emergency vehicle access

**Objectives**

- Provide 24-hour access for authorised vehicles accessing SRA's operations, and
- Provide emergency access to all ATP buildings and, where possible, to all sides of the existing heritage buildings.

**Provisions**

a) At all stages of development, SRA access for standard heavy vehicles is to be available to agreed locations for SRA purposes.

b) Emergency services to be issued with the means to circumvent any possible access control measures, such as gates, fences and bollards, to enable 24 hr access to all buildings.

c) Nominated paved areas to accommodate emergency vehicles.

**Action**

Liaison shall be maintained by ATP management with the SRA in order to ensure that agreed routes to the above locations are both made available by the ATP and adhered to by SRA users, thus protecting residential areas and more sensitive areas within the Site.

4.10.5 Service access

**Objective**

- To ensure that all buildings can be adequately serviced.

**Provisions**

a) All new ATP buildings to provide service vehicle access and service vehicle parking in accordance with the relevant provisions of the current Sydney City Council Parking DCP (as amended).

b) Garbage collection areas to be provided within each building at a point with service access.

c) Wherever possible, service vehicle access to be restricted to parking entry locations in Figure 26 Car parking.

d) Liaise with SCC regarding service access required off perimeter public roads.
4.11 Public domain

Detailed objectives and provisions for the enhancement of the public domain on the Site are contained in the Public Domain Strategy prepared by Architectus (formerly Travis McEwen). The following section establishes the framework for that Strategy and contains objectives and provisions for the pedestrian network, open space and cycle routes.

4.11.1 Pedestrian network

**Background**

The main elements of the pedestrian network are established in the REP. The appended Public Domain Strategy provides design guidelines for the network. The proposals in the Master Plan are consistent with these documents.

<table>
<thead>
<tr>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Ensure the provision of a high quality pedestrian environment;</td>
</tr>
<tr>
<td>• Provide safe, convenient and direct pedestrian routes through the ATP for the public;</td>
</tr>
<tr>
<td>• Buildings fronting Central Avenue to have pedestrian entries from Central Avenue;</td>
</tr>
<tr>
<td>• Focus pedestrian access ways on building entries, open spaces, community facilities and the Redfern railway station;</td>
</tr>
<tr>
<td>• Provide attractive pedestrian environments that encourage social interaction between ATP workers;</td>
</tr>
<tr>
<td>• Ensure a direct safe and attractive connection to Redfern Station both in the short term and when a proposed new station is in place;</td>
</tr>
<tr>
<td>• Provide access for those with mobility impairments (barrier-free access); and</td>
</tr>
<tr>
<td>• Allow for a pedestrian link to North Eveleigh across the rail line.</td>
</tr>
</tbody>
</table>

**Provisions**

a) Conform with the principles shown in Figure 27.

b) Provide a dedicated pedestrian route between Redfern Station and Mitchell Road.

c) Provide pedestrian routes in association with vehicular routes or in locations easily observed from buildings or other active public areas.

d) Semi-public concealed areas are not to be located on pedestrian routes.

e) Provide barrier free access. Where public pedestrian routes negotiate level changes via steps, ensure that an alternative “barrier-free” route is available utilising lifts or a ramp complying with AS 1428. (The lifts may double as access to common parking levels and should be available at least during working hours).

f) New pedestrian circulation paths are to be designed in accordance with CPTED principles.

g) Ensure that vehicle entry points to buildings do not conflict with pedestrian circulation.
Figure 27: Pedestrian circulation
4.11.2 Open space

Background

Public open space in the vicinity of the Site is limited. A number of large open spaces in the local area are dedicated single use sporting ovals while many of the smaller spaces are too small, have limited public access, or have restrictions on their use.

The ATP will generate its own need for open space as pleasant settings for its buildings, but more importantly as part of the sporting and recreational resources that encourage social interaction between ATP tenants and the local community. Such interaction is part of the objective to create "synergy" between disciplines, which is one of the fundamental philosophies underlying the concept of a successful Technology Park.

The Master Plan provides public recreational space to a total of 2.86ha. This is an increase of 2,260sqm on the 1994 Master Plan.

The area of open space shown at the extreme western end of Central Avenue has not been included in this total figure as this area could also be a shared pedestrian/vehicular access way. Future variations to the Master Plan must adhere to this revised open space area as a minimum.

A TransGrid cable has been run underground, underneath the public open space corridor as shown in Figure 28 – Public Domain Open Space. TransGrid have acquired a portion of land along the Henderson Road frontage of the Site adjacent to the pedestrian entry to the ATP. An air vent for the cable will be required to be located on this Site. TransGrid are working with ATP Management to ensure that the air vent structure is designed as a pedestrian entry feature for the ATP.

The location and character of these spaces are consistent with the aims of the REP. With the exception of the park at the western end of Central Avenue, all recreation areas required by the REP and the 1994 Master Plan as amended have been constructed and are to be retained. Note: The area of the park along Henderson Road (west of Davy Road) is to be increased as illustrated on Figure 28 in order to compensate for higher building heights further set back from Henderson Road compared to the 1994 Master Plan.

Objectives

- Provide open space and recreational facilities for the needs of the ATP workers;
- Reflect the priority of walking, cycling and public transport as the preferred means of access to the ATP;
- Provide public recreational areas, which are accessible to the local community;
- Create a variety of linked open spaces along main pedestrian routes;
- Ensure that new open space on Site (and links to adjoining open space) is designed to promote the safety and security provisions for the ATP, as detailed in Section 4.12 of the Master Plan;
- Develop landscape and street details to unify the area and integrate the ATP with its surroundings;
- Provide a variety of passive and active use in public open spaces;
- Utilise the open spaces to enhance the appreciation of the heritage buildings;
- To provide public recreation space that can be used by the public for active and passive recreation;
- To provide outlook and settings for the ATP buildings;
- Maximise personal safety and security in the Public Domain;
- Ensure that new open space on the Site (and links to adjoining open space) is designed to promote the safety and security provisions for the ATP, as detailed in Section 4.12 – Security.

Provisions

The following requirements are additional to the open space already constructed. Detailed design objectives and design requirements for public domain areas are included in the ATP Public Domain Strategy 2002.

a) Provide public recreation space within the Master Plan area of the ATP to a total of 2.86ha.

NOTE: approx 2.4ha of this open space has been constructed on the Site as at March 2001.

b) Provide public open space areas as detailed on Figure 28.

c) Provide a park of 0.13ha minimum area that will provide a transition between the ATP and the adjoining public housing Site.

d) Provide an expansion of the open space fronting Henderson Road to at least 0.13ha.

e) Provide for either a public open space area in the form of a park at the western end of Central Avenue on Development Parcel B (Refer Figure 28) or provide a road extension of Central Avenue to Alexander Street.

f) The design of additional public open space and roads on Site should be undertaken in consultation with the Crime Prevention Officer at the Redfern Local Area Command of the NSW Police Service and adjoining Department of Housing tenants to ensure that safety and security objectives are met.

g) The design of additional Henderson Road open space is to be undertaken in close cooperation with Sydney City Council with the aim of ensuring that it will be acceptable to the Council for possible future dedication and care, control and management.

h) The design of additional public open space on Site should be undertaken in consultation with the Crime Prevention Officer at the Redfern Local Area Command of the NSW Police Service, the Department of Housing, and local residents to ensure that safety and security objectives are met.

Note: All areas cited above are subject to clarification by a detailed survey of the ATP Master Plan Site.
Figure 28: Public Domain open space
4.11.3 Cycle routes

Background

Figure 29 illustrates the required cycle routes on the Site. These have been designed to provide effective links between the Site, the adjacent railway station and residential areas.

Objectives

- Encourage use of cycles as a means of transport to the ATP and within the ATP, and
- Provide links to adjoining areas for commuter and recreational cyclists.

Provisions

a) Cycle access within the Site is to be provided as shown in Figure 29.

b) Short term and visitor bicycle parking shall be provided close to the main entry to each building.

c) Secure bicycle storage shall be provided for longer term and day parking within buildings or at supervised locations throughout the ATP at the rate equal to at least one bicycle parking space for every 100 car parking spaces or part thereof.

d) A readily accessible shower, toilet and change room is to be provided within the basement of buildings for cyclists in accordance with the Building Code of Australia.

e) The regional cycle route on the Site is to be constructed and appropriately signed in accordance with the Austroads Part 14.

Note: The cycleway pavement is to be unmarked.

Actions

- The ATP is to signpost the regional cycle connection on the Site between Henderson Road and Redfern railway station in consultation with Sydney City Council.
Figure 29: Cycle Routes
4.12 Security

The following section contains objectives and provisions aimed at maximising the safety of tenants and visitors to the ATP through building design.

**Background**
A recurring concern expressed by the community is how safe the public spaces in the ATP will be to use, especially in the evening. While many measures to improve security will be a management concern, The Master Plan addresses part of the problem through design objectives and provisions.

**Objective**
- To ensure that the ATP is safe to move around on foot at all times of the day or night and is publicly perceived to be so.

**Provisions**
- is well lit;
- avoids dead ends and routes with no alternative escape routes;
- avoids semi concealed spaces on main pedestrian routes;
- has access to established on Site security points; and
- is consistent with the NSW Police Service “Safer by Design” and CPTED Principles.

**Action**
The ATP management is to establish security points at strategic locations on the Site.
4.13 Heritage

The ATP is a valuable heritage asset as listed in the State Heritage Register. The following objectives and provisions are aimed at ensuring the conservation and continued enjoyment of these assets by the community in perpetuity.

4.13.1 Heritage and archaeology

Objectives

- Evaluate, conserve and re-use nominated heritage items;
- Respect the character of the heritage buildings through the juxtaposition of new buildings, and
- Evaluate and address the appropriate response to archaeological items.

Provisions

a) Conserve the following items identified as heritage items in the REP (Schedule 4 - part 2) within the Master Plan area:
   - Locomotive Workshops Bays 1-16, including machinery in Bays 1-4 (REP Item No. 1).
   - New Locomotive Workshop (Engine Workshop REP Item No. 2).
   - Works Manager's Office (REP Item No 3).

b) Where possible conserve the following additional items located within the Master Plan area as identified in the Conservation Policy Guidelines:
   - Locomotive Workshop Traverser.
   - Cast Iron Water Tank and Stand.
   - Equipment Adjacent to the Locomotive Workshops.

c) Items not able to be conserved should be recorded in accordance with the Conservation Policy Guidelines.

d) Development, which is adjacent to heritage buildings, is to be consistent with the Locomotive Interface Zone as detailed in Section 4.3.3 of the Master Plan.

e) Undertake archaeological surveys of the known archaeological Sites before any development which would disturb or cover these areas is commenced.

f) An annual update is to be provided to the Heritage Office and Department of Planning on the status of heritage items across the Site.

g) Undertake any required or outstanding heritage works across the site in accordance with any revisions of the Conservation Management Plan and Movable Heritage Items Conservation Plan.
Figure 30: Heritage Items
4.14 Community facilities

An important role of the ATP is to provide a range of community facilities not only for the occupants of the Site but also for the surrounding community. The following section establishes the requirements for provision of community facilities on the Master Plan Site.

Background

The 1994 Master Plan made the provision for:

- an informal playing field/oval;
- other active and passive recreational space;
- shelter and changing rooms for the above facilities; and
- a provision for a child care centre.

As at February 2001 approximately 2.4 hectares of Public Recreation has been constructed at the ATP, including:

- the informal playing field/oval;
- two tennis courts and a basketball court; and
- informal open space areas.

Sydney City Council owns and operates a 60 place child care constructed in the south western corner of the Master Plan Site adjoining the Department of Housing Land.

Although a human services study and community consultations were undertaken during the preparation of the 1994 Master Plan, the needs and requirements of both the local community and the ATP may change over the course of development. It will be necessary for the liaison process to continue and for the provision and requirements to be monitored.

<table>
<thead>
<tr>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>- To provide a range of community facilities on the Site to cater for workers, visitors and the local community.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) In addition to the completed community facilities at February 2001, a further 30 place childcare centre is to be provided, if required.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATP to establish a management framework for community facilities on the Site. ATP to review the timing need, and location for the provision of the additional 30 childcare spaces once 120,000 sqm of floor space is occupied on the Site (or there are 4500 employees on site – whichever is the sooner).</td>
</tr>
</tbody>
</table>
5 Indicative development examples

This section provides an indication of possible building and development options for the Site based on the objectives and provisions of the Master Plan.

Three development examples for the Site are shown. Combinations of the examples can be done. Both indicative development examples adopt a linear form of building layout with an east west orientation, which interprets the historic development pattern of the Site and adopts the principles of ecologically sustainable development.

In the three examples building forms have been designed to be compatible with existing adjacent building forms and uses, by transitional scale and separation.

The preferred location for large tenancy buildings or large floor plate users are on Development parcels A and B1 where the scale of buildings can be largest, being towards the centre of the Site.

Development in the vicinity of the child care site and existing housing will need to demonstrate that at least 2 hours of sunlight between the hours of 9.00 am and 3.00 pm will remain available to those uses.

The preferred location for small tenancy buildings (eg. in three and four storey walk-ups for incubator businesses) is on Development parcels B2 and C fronting Henderson Road where the scale of buildings is compatible with the existing development scale opposite on Henderson Road.

The examples contain a variety of building forms and heights, which are flexible and well suited to a wide range of end users.

These examples are indicative only and individual buildings may vary in accordance with Section 4.3.2.
Development Example A – 60%

Example A demonstrates elongated buildings with 25m deep floor plates and three higher buildings in the central area of the Site. The taller buildings are located to act as markers reinforcing the intersection of Central Road and Davy Road, the central focus of the Site. Also a higher building marks the pedestrian route through Development Parcel A to Bay 8 of the Locomotive Workshops building.

Buildings are separated by 24m wide, open courtyards or covered atrium spaces. The narrower floor plates permit solar access to the internal spaces and generous environmental control of the internal courtyard environment. This would facilitate the development of building types with a strong environmental agenda. For example, the use of an enclosing skin would assist in naturally controlling the environment of the internal spaces.

Figure 31: Example A aerial view

Figure 32: Example A Building plan
Development Example B – 70%

Example B demonstrates elongated buildings with up to 30m deep floor plates and two higher buildings in the central area of the Site. The higher buildings have floor plates of up to 35m width. Two taller buildings mark the centre of the site.

This example includes narrower courtyards or atrium spaces than example A in order to provide for tenants requiring large floor areas.

Figure 33: Example B aerial view

Figure 34: Example B Building plan
Development Example C – 60 - 70%

Example C demonstrates a variety of building solutions giving various options for both built form, open space and tenancy solutions.

Figure 35: Example C aerial view

Figure 36: Example C Building plan
6 Building type examples

This section contains a number of examples of the type of buildings envisaged for the Site. The types selected enable the Site to be developed in accordance with the objectives and provisions of the Master Plan. They have also been chosen as good examples of the application of Ecologically Sustainable Development principles.

When the Site was used as a railway workshop the majority of the buildings on the Site were large floor plate buildings with specific task zoning enabling the train assembly and maintenance process. These large buildings were naturally climatically controlled similar to the public spaces of the National Innovation Centre and the Locomotive Workshops today.

The building types investigated offer the opportunity to take advantage of the general aspect, Site conditions and historic context to deliver sustainable buildings.

Each example on the following pages illustrates the application of at least one ESD principle. These examples comprise:

- Large floor plate atrium building
- External light shelf/shaded building
- Superstructure building
- Double skin building
- Air convection building
6.1 Large floor plate atrium building

This 6-storey building consists of two 900sqm floor plates, which are 24 metres wide joined by a 10m wide internal atrium. The atrium space is naturally ventilated and hot air extracted by a fan from the roof.

This building demonstrates the opportunity for the natural lighting of large floor spaces.

Figure 37: Internal atrium space

Figure 38: Large floor plate atrium building
6.2 External light shelf/shaded building

The design of this four-storey building incorporates the use of external shades/light shelves. These devices reduce the heat load on the facade of the building while reflecting daylight into the ceilings of internal spaces of the building.

Figure 39: Light shades along facade

Figure 40: Combination shades/light shelves
6.3 Superstructure building

This building type uses an outer skin to contain inner buildings. This example contains accommodation, lecture rooms and library.

The main ESD benefit of this design is the use of venting to naturally remove hot air from the building. Recirculating air in winter results in a warm internal environment. Cool air from the outside is warmed in the large internal space before it is drawn into the building.

The potential to manipulate the internal environment is assisted through the use of internal cooling ponds and shade giving Plants.

Figure 41: Superstructure plan

Figure 42: Superstructure interior

Figure 43: Superstructure Building environmental management
6.4 Air convection building

This is a large floor plate building which contains an enclosed courtyard/atrium space with a series of large chimneys through the structure.

The "chimneys" in this design are used to extract hot air and to recirculate heated air to various parts of the building. Fresh air enters through the user adjustable facade grills, which are mounted in ceiling units. The air is heated by the perforated ceiling grills as it passes through the ceiling system. These panels are heated to the temperature of the interior due to the ambient temperature of the office environment.

Figure 44: Chimneys

Figure 45: The chimney effect
7 Complementary development

In order to reinforce the integration of the ATP with surrounding areas a number of actions are recommended for areas outside the Site. It is accepted that these actions are beyond the control of the owners of the Site. However, they are included to provide guidance for the future Planning of these areas. These actions primarily relate to lands in public ownership adjacent to the Site and would be dependent on the consent of the relevant owners and liaison with Sydney City Council, City Rail, the Department of Housing and the community.

Actions

- **Improve the pedestrian connection to Redfern Station and North Eveleigh**

  Pedestrian access to the station from the Site is currently circuitous. It is recommended that in the upgrading of the station currently taking place consideration be given to providing more direct, legible pedestrian access between the ATP and the rail and bus interchange.

  Currently the pedestrian connection between the Site and North Eveleigh is circuitous. Historically there was a bridge over the railway line between the 2 areas. Consideration of reinstatement of such a direct link should be included in any future Planning of the Eveleigh residential precinct and Redfern Railway Station.

- **Construction of part of new road (Alexander Road extension)**

  A new road is Planned at the western edge of the Site. This would be located in part on land owned by the Department of Housing. The reasons for the road are to:

  - provide improved permeability to the Site;
  - provide another link between Henderson Road and the upper level of the Site at the western edge;
  - better interface the Site with the adjacent residential areas because buildings will front the road and provide a better presentation to the housing area.

  It is noted that this road should be designed for low traffic volumes and be capable of vehicle separation from the public housing area.

- **Upgrading of Garden and Cornwallis Street**

  It is recommended that the Garden Street and Cornwallis Street footpaths be upgraded in accordance with Sydney City Council’s Plans and timed with the development of Development Parcel D.

- **Review on street parking controls**

  Liaise with Sydney City Council regarding the provision and control of short stay parking spaces on perimeter streets. Short term parking on Garden Street, and the western section of Henderson Road would provide a buffer between ATP parking and residential parking. This review is to be done no later than when 120,000sqm of gross floor area is constructed on the Site.

  Liaise with Sydney City Council regarding:

  - the monitoring of possible overflow parking into residential areas when net occupied floor space within the ATP reaches 120,000m²; and
  - the fees for parking and possible controls in surrounding streets.

- **Traffic calming measures in Garden Street and signals at Boundary/Gibbons Streets.**

  Traffic calming measures should be introduced in Garden Street (north of Henderson Road) and phasing of the traffic signals at Boundary/Gibbons Streets intersection be adjusted.

- **General traffic measures**

  The ATP management to consult with Council and RTA regarding general traffic measures off Site.