



**PROJECT APPLICATION AND PRELIMINARY ENVIRONMENTAL ASSESSMENT**



# **South West Rail Link**

## **Project Application and Preliminary Environmental Assessment**

April 2006

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**Transport Infrastructure**  
Development Corporation

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## ***Glossary and abbreviations***

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CBD	Central Business District
CEMP	Construction Environmental Management Plan
DIPNR	Department of Infrastructure, Planning and Natural Resources (now DoP)
DoP	Department of Planning
Down direction	Direction on rail network away from the City
Easy Access	Facilities provided at CityRail stations designed to assist usage by persons with a disability
EP&A Act 1979 "The Act"	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	Environment Protection and Biodiversity Conservation Act, 1999
Global Arc Centres	Macquarie Park (North Ryde), Chatswood, St Leonards, North Sydney, the CBD and Airport
LGA	Local Government Area
MREP	Metropolitan Rail Expansion Program
PB	Parsons Brinckerhoff
TIDC	Transport Infrastructure Development Corporation
Up direction	Direction on rail network towards the City
South West Sector	Broad regional area south-west of Sydney, encompassing Liverpool, Glenfield, Hoxton Park, etc.
South West Growth Centre	Specific area identified by South West Sector Structure Plan (Department of Planning, 2005)

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# Executive Summary

## Introduction and Overview

The Transport Infrastructure Development Corporation (TIDC) is the proponent of the proposed South West Rail Link (the proposal) — a proposed dual track, electrified railway line, approximately 12 kilometres long, between the existing junction of the East Hills Line and the South Main Line in Sydney's south-west. The proposal incorporates an upgraded station at Glenfield, two new stations at Edmondson Park and Leppington, and a stabling facility west of the planned Leppington town centre.

The proposal comprises:

- Construction of a grade-separated flyover junction over the Main South Line to provide a connection to the East Hills Line north of the Glenfield Railway Station (referred to as Glenfield North Junction);
- Modifications to track lay-outs, requiring realignment of approximately 2 kilometres of track and installation of new cross overs at Glenfield;
- Reconfiguration of Glenfield Railway Station, including re-location of the station buildings and concourse to provide for centrally loaded platforms, reconfiguring the eastern platform to an island platform and movement of the platforms 80 metres north. The re-configuration of Glenfield station would include a high level concourse with easy access, and other changes to surrounding areas to provide commuter carparking and additional facilities such as kiss and ride and bus stops;
- Construction of flyovers over the South Main and Southern Sydney Freight Lines to the south of Glenfield Railway Station and movement of the existing freight track to the west (referred to as Glenfield Junction South);
- Construction of approximately 12 kilometres of double track within an easement/corridor of approximately 40 metres width over lands to the south and west of the existing Glenfield Railway Station;
- Construction of two new railway stations, interchanges and commuter car parks at Edmondson Park and Leppington;
- Construction of a train stabling facility to the west of the Leppington Railway Station;
- Construction of ancillary facilities such as power supply, sectioning huts, signalling structures, access roads, and other infrastructure required for the operation and maintenance of rail services and infrastructure; and
- Operation and maintenance of the new rail line.

This Project Application and Preliminary Environmental Assessment:

- describes the proposal, undertakes a preliminary assessment of its likely impacts and the mitigative measures proposed to be adopted;
- seeks environmental assessment requirements under Section 75F(3) of the Environmental Planning and Assessment Act 1979;

- *Accompanies a request to authorise the submission of a concept plan under Section 75(M)(1) of the Act under Part 3A of the EP&A Act 1979; and*

### **Background to the South West Rail Link**

*The NSW Government's plan for managing growth and change in Sydney over the next 25 years is documented in the Sydney Metropolitan Strategy, City of Cities — A Plan for Sydney's Future' (Department of Planning 2005).*

*The South West Growth Centre is one of the major growth areas in the Sydney Metropolitan Region. To improve access to employment and educational opportunities for existing and future residents in the Growth Centre, the NSW Government proposes to build the South West Rail Link between Glenfield and Leppington as part of the commitment to infrastructure for the the South West Growth Centre. The South West Rail Link would be provided early in the development of the South West Growth Centre, which is planned to accommodate a population of 250,000 people in 90- 110,000 dwellings over the next 25 years. The South West Rail Link would provide fast connections to the Sydney central business district, Liverpool and Parramatta. Development of the proposal would provide opportunities to increase the patronage of the existing railway, reduce congestion on existing roads, provide linkages with other stations on the existing rail network, and achieve operational benefits and cost savings.*

*On 9 June 2005, the Government announced it would invest \$8 billion over the next 15 years to develop the Metropolitan Rail Expansion Program (MREP) consisting of three projects:*

- *North West Rail Link – A new line to Rouse Hill from Cheltenham via Castle Hill with long term plans to extend to Vineyard and the Richmond Line.*
- *CBD Rail Link – A new tunnel between Central and the North Shore Line at St Leonards including new stations in the CBD and in the lower North Shore, and extra tracks between St Leonards and Chatswood.*
- *South West Rail Link – A new line to Leppington from Glenfield Station with long terms plans for a western extension to either Bringelly or Oran Park.*

*The Government announcement anticipated that construction of the South West Rail Link would begin in 2009, with the line operational by 2012.*

### **Previous alignments**

*Planning for a railway to serve what is currently known as Sydney's South West Growth Centre began in the early 1990s, driven initially by planning for the proposed Sydney Second Airport at Badgerys Creek. Over the past 6 years, numerous studies have been undertaken to determine the feasibility of the proposed South West Rail Link. More recently, the stimulus for consideration of a South West Rail Link has been the future planning and development of the South West Growth Centre to house Sydney's growing population. In 2000, the then NSW Department of Transport undertook a review of public transport requirements for the proposed land release area at Edmondson Park, through which the South West Rail Link would pass. Most recently (between June and October 2005), the NSW Government exhibited an Overview Report of the South West Rail Link outlining work undertaken to date and identifying two alignment options (a southern and a northern alignment) west of Edmondson Park town centre.*

### **Planning focus meeting**

*A planning focus meeting for the proposal was held on 15 December 2005. Representatives from key government agencies, including the Department of Planning, RailCorp, the Sydney Water Corporation, the Sydney Catchment Authority, the NSW Roads and Traffic Authority, the Department of Environment and Conservation, and the Liverpool, Camden and Campbelltown Councils were in attendance.*

### **Planning and Assessment Process**

*TIDC is a state-owned corporation, established under the Transport Administration Act 1988 to develop major transport infrastructure projects on behalf of the NSW Government. The Minister for Transport and the voting shareholders of TIDC have granted consent under Section 18(1) of the Transport Administration Act 1988 for TIDC to undertake the development of the South West Rail Link.*

*The proposed South West Rail Link would be assessed under Part 3A of the EP&A Act by virtue of a Ministerial Order signed on 7 April 2006. Part 3A consolidates the assessment and approval regime for all major projects previously addressed under Part 4 (Development Assessment) and Part 5 (Environmental Assessment) of the Act.*

*TIDC is proposing to submit a Concept Plan for the South West Rail Link under Section 75M of the EPA&A Act 1979. A Part 3A approval for a Concept Plan provides the community and Government with a greater level of certainty on the status of a project whilst retaining the necessary flexibility for refinement of design and management of environmental mitigation measures.*

### **Need for the proposal**

*The South West Rail Link is primarily needed to service the future urban development in the South West Growth Centre, ensuring that public transport links and services are in place early in the development of these areas. Indeed the early development of town centres at Edmondson Park and Leppington are dependent upon the provision of the South west Rail Link as a means of ensuring that these areas are transit-orientated and are attractive for future residents. The main benefits would include:*

- *Ready access to public transport and improved access to employment educational, community and cultural facilities.*
- *Provide additional stabling facility in the outer metropolitan area to enable rail services to respond to growth.*
- *Reduced congestion on the road network.*

### **Alternatives considered**

*In addition to the previous rail studies completed to date, TIDC undertook a series of investigations, including engineering, environmental, operability and economic studies, to refine the South West Rail Link alignment. TIDC also consulted with key stakeholders concerning the previous work and potential impacts of the proposal. This resulted in design refinements to the previously proposed northern and southern reference alignments, to reduce the overall impacts of the proposal, including flooding and private property impacts.*

*The northern alignment has been identified as the preferred option based on the reduced property impacts and opportunities to integrate development with long term plans for upgrades to Bringelly Road.*

*The northern alignment is the subject of this Project Application and Preliminary Environmental Assessment.*

### **Proposed scope of the Environmental Assessment**

*Based on the preliminary environmental assessment in this report and the framework statement of commitments outlined in Appendix C, it is proposed that the following issues are key issues for the proposal and would receive detailed consideration as part of the environmental assessment of the South West Rail Link:*

- *noise and vibration*
- *visual*
- *heritage*
- *flora and fauna*
- *flooding and drainage*
- *traffic, transport, parking and access*
- *land use and property*
- *social impacts.*

*These issues would form the focus of the environmental assessment and project-specific mitigation measures would be identified for these issues*

### **Other environmental issues**

*The following issues have been identified as minor issues:*

- *hazards and risk*
- *air quality and greenhouse gases*
- *public safety*
- *certain construction issues, including services and utilities, soils and water quality, groundwater, contaminated land, and waste, energy and demand on resources*
- *cumulative impacts.*

*The minor issues are issues that can be mitigated through the use of standard environmental management measures and allow the environmental assessment to proceed focussing on the key issues. The minor issues would be managed through the implementation of standard mitigation measures, which would be contained in environmental management plans developed for the construction and operation stages of the proposal. A Framework Statement of Commitments for the proposal is included in Appendix C.*

# 1. Introduction

## 1.1 Background

In December 2004, the New South Wales (NSW) Government announced a new land release plan for Sydney's South West and North West Sectors as part of the NSW Government's strategy to respond to Sydney's growing population. The release of this land is underpinned by a commitment to ensure that public transport services are put in place early in the development of these areas.

On 9 June 2005, the Government announced it would invest \$8 billion over the next 15 years to develop the Metropolitan Rail Expansion Program (MREP) consisting of three projects as shown in *Figure 1.1*:

- North West Rail Link – A new line to Rouse Hill from Cheltenham via Castle Hill with long term plans to extend to Vineyard and the Richmond Line;
- CBD Rail Link – A new tunnel between Central and the North Shore Line at St Leonards including new stations in the CBD and in the lower North Shore, and extra tracks between St Leonards and Chatswood;
- South West Rail Link – A new line to Leppington from Glenfield Station with long terms plans for a western extension to either Bringelly or Oran Park.

The Government announcement anticipated that construction of the South West Rail Link would begin in 2009, with the line operational by 2012.

In November 2005, the Transport Infrastructure Development Corporation (TIDC) was asked by the NSW Government to complete technical studies and finalise the route for the proposed South West Rail Link (the proposal), between Glenfield and Leppington. As part of this direction, TIDC is seeking planning approval for the proposal as a 'concept plan' under Part 3A of the *Environmental Planning and Assessment Act 1979*. TIDC commissioned Parsons Brinkerhoff (PB) to undertake preparation of this Project Application and Preliminary Environmental Assessment for the proposed South West Rail Link as the first step in the planning process.

## 1.2 Project development history

Planning for a railway serving what is currently known as Sydney's South West Growth Centre began in the early 1990's, driven initially by planning for the proposed Sydney Second Airport at Badgerys Creek, and by early land use planning for urban development in the South Creek Valley.

Since the early 1990's a number of studies have been undertaken in order to develop and evaluate rail corridors in the south west sector, several of these studies provided input into access requirements for the proposed second Sydney Airport.

More recently, the stimulus for consideration of the South West Rail Link has been the future planning and development of Sydney's South West Growth Centre to house its growing population, and the requirement to provide appropriate transport infrastructure as part of the development process.

Between 2001 and 2005 a series of studies were conducted developing a concept alignment and corresponding environmental assessment for the South West Rail Link. During this period, a Masterplan for the Edmondson Park release area, which included a corridor for the planned South West Rail Link, was developed. In 2004 the draft Edmondson Park Local Environmental Plans were exhibited and identified the southern alignment option of the South West Rail Link. An alternative northern alignment option was proposed by the community to address the impacts of the future rail line on existing residential development. The alternative northern alignment was investigated and included within the South West Rail Link Overview Report, exhibited by the Department of Planning from June to October 2005.

These prior investigations form the basis of information regarding the social, environmental, engineering and economic factors considered in the development of the South West Rail Link proposal. These and other more recent investigations conducted by TIDC were considered in the development and preliminary assessment of the proposal described in this report.

### **1.3 Purpose and structure of this document**

This Project Application and Preliminary Environmental Assessment:

- Describes the proposal, undertakes a preliminary assessment of its likely impacts and the mitigative measures proposed to be adopted.
- Seeks environmental assessment requirements under Section 75F(3) of the Environmental Planning and Assessment Act 1979;
- Accompanies a request to authorise the submission of a Concept Plan under Section 75(M)(1) of the Act under Part 3A of the EP&A Act 1979; and

The structure of the remaining sections of the document is as follows:

- *Section 2 — Planning and assessment process*
- *Section 3 — Need and alternatives*
- *Section 4 — Description of the proposal*
- *Section 5 — Preliminary environmental assessment*
- *Section 6 — Proposed scope of the Environmental Assessment.*

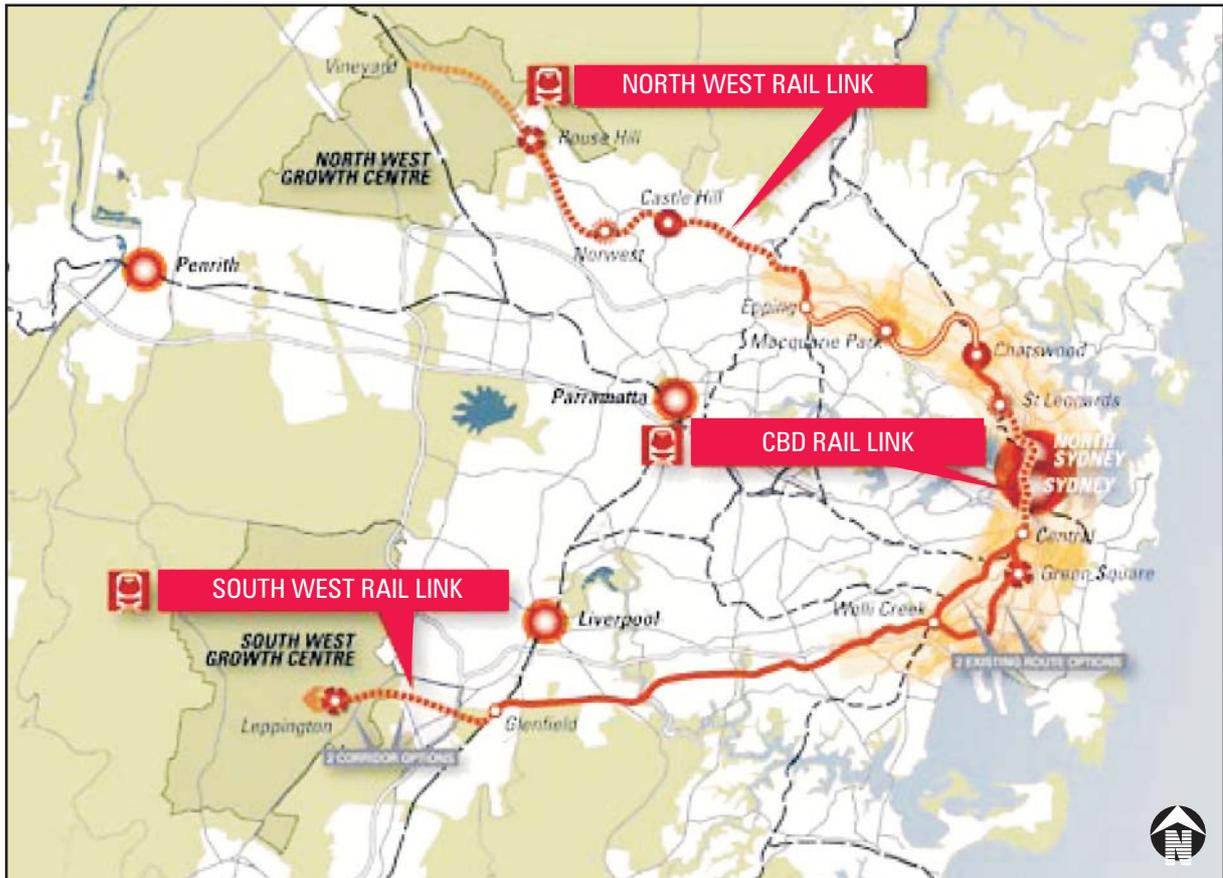


Figure 1.1 Components of the Metropolitan Railway Expansion Program

## 2. Planning and Assessment process

### 2.1 Approval process under Part 3A of the *EP&A Act 1979*

The Minister for Transport and the voting shareholders of TIDC have granted consent under Section 18(1) of the Transport Administration Act 1988 for TIDC to undertake the development of the South West Rail Link.

Part 3A of the EP&A Act establishes an assessment and approval regime for major infrastructure projects. Part 3A applies to development that is declared to be a Part 3A project by either a State environmental planning policy or Ministerial order (Section 75B). The South West Rail Link has been declared to be a project to which Part 3A applies by an order made by the Minister on 7 April 2006.

The planning and approval process under Part 3A is summarised in *Figure 2.1*.

#### Concept Plan

Division 3 of Part 3A provides a process for the environmental assessment and approval of concept plans for projects where the Minister has authorised or required a proponent to submit a concept plan under Section 75M of the EP&A Act.

This report has been prepared to support a request that the Minister authorise TIDC to submit a concept plan for the South West Rail Link under Section 75M. The South West Rail Link is a large scale, long term and complex infrastructure project for which conceptual strategic planning work has already been undertaken. The establishment of a rail corridor through a concept plan approval process will ensure better integration of land use and transport planning in the local government areas affected by the project. Submission of a concept plan will also enable further community involvement in the detailed planning phase and in the refinement of the project. In addition, it will provide the proponent with a greater level of certainty while retaining necessary flexibility for the refinement of design.

A concept plan is subject to the environmental assessment process prescribed under Part 3A (Section 75N). Once the Minister has authorised or required the submission of a concept plan, the environmental assessment process involves the following key steps:

- The Director-General will prepare the environmental assessment requirements for the project in consultation with other relevant authorities (Section 75F). TIDC will be notified of the environmental assessment requirements which may include a requirement for TIDC to give a statement of commitments relating to environmental management and mitigation measures (Section 75F(6)).
- The Minister may constitute an independent hearing and assessment panel to assess any aspect of the project (Section 75G).

- TIDC would then be required to prepare an environmental assessment in accordance with the Director-General's requirements (Section 75H(1)).
- The environmental assessment will be publicly exhibited for at least 30 days. The Director-General will provide copies of submissions, or a report of the issues raised by the submissions, to TIDC and relevant authorities. The Director-General will provide copies of submissions and a preferred project report (if required) outlining any changes to the project as a result of the submissions (see Section 75H).
- The Director-General will prepare a report to the Minister on the environmental assessment for the purpose of the Minister's determination of whether to grant approval to the concept plan (Section 75I).
- The Minister would determine whether to approve or refuse the concept plan.

This report also contains a preliminary environmental assessment upon which the Director-General may prepare environmental assessment requirements for the concept plan.

When giving approval for a concept plan, the Minister may make any (or a combination of) the following determinations under Section 75P:

- The further environmental assessment requirements for approval to carry out the project or a particular stage of the project under Part 3A.
- That approval to carry out the project or a particular stage of it is subject to Part 4 or Part 5 of the EP&A Act.
- That no further environmental assessment is required for the project or any particular stage of it (in which case the Minister may approve or disapprove of the carrying out of the project under Part 3A without further application or environmental assessment). Under Section 75R, if approval to carry out the Project is granted, all environmental planning instruments (other than State Environmental Planning Policies that specifically relate to the project) and council orders under Division 2A of Part 6 are excluded.

## **2.2 Statutory planning instruments**

### **2.2.1 Local environmental planning instruments**

The proposal would be located within the three local government areas of Liverpool, Campbelltown and Camden.

Within each local government area, the relevant local planning instruments have been considered in order to determine whether the proposal would be permissible within each of the land use zonings it would cross. *Table 2.1* summarises the permissibility of the proposal.

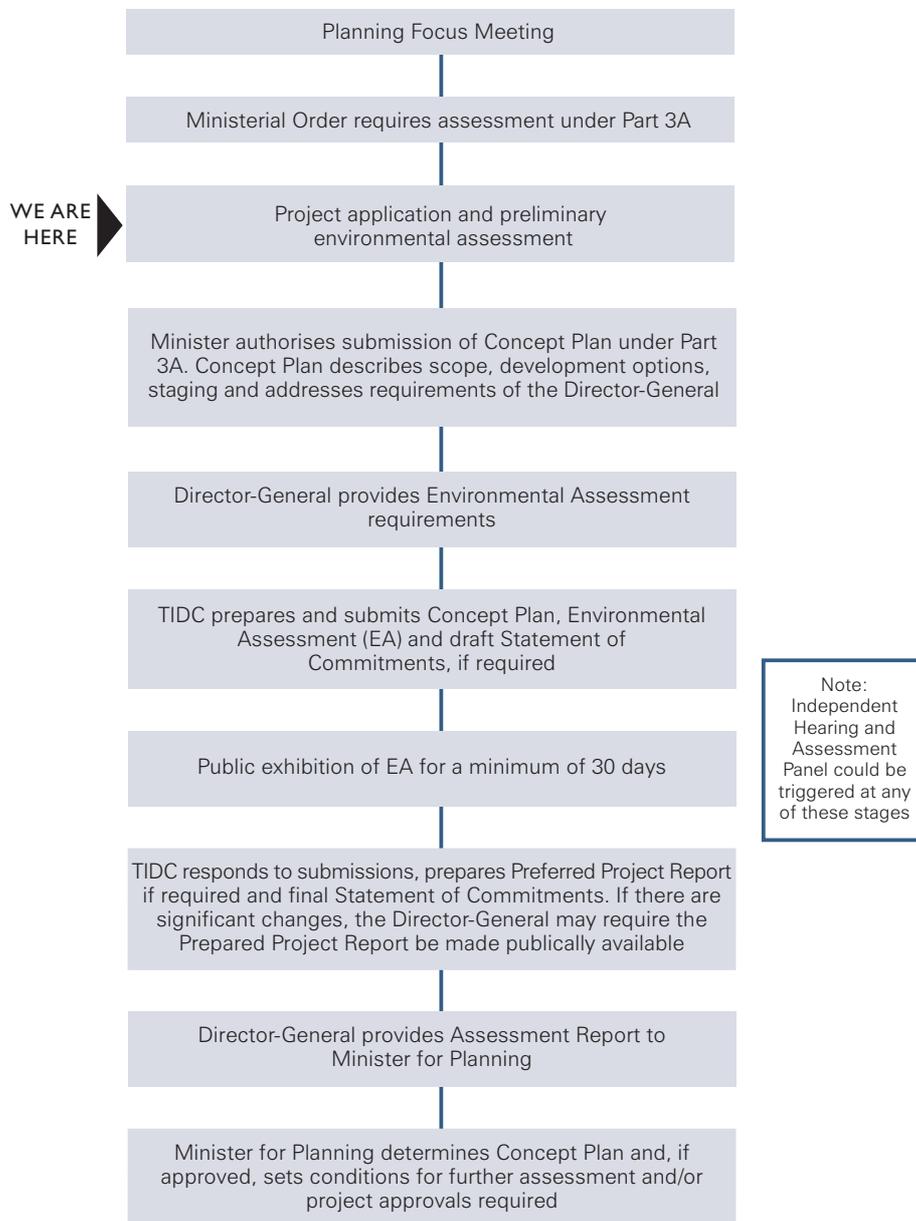


Figure 2.1 Planning approval process under Part 3A of the Environmental Planning and Assessment Act, 1979

**Table 2.1 Overview of the permissibility of the proposal**

<b>Zone</b>	<b>Permissible</b>	<b>Prohibited</b>
<i>Liverpool Local Environmental Plan 1997</i>		
1(a) Rural	With consent	No
1(b) Rural – Future Urban	With consent	No
5 (a) Special uses – Public transport	With consent	No
5 (b) Special uses – Arterial Road	With consent	No
Deferred matter	Subject to endorsement by the Department of Planning	Subject to endorsement by the Department of Planning
<i>Campbelltown (Urban Area) Local Environmental Plan 2002</i>		
5(a) Special uses 'A'	Without consent	No
<i>Campbelltown Local Environmental Plan No. 112 – Macquarie Field House</i>		
No zoning identified	With consent	No
<i>Camden Local Environmental Plan No. 48</i>		
1(b) Rural 'B'	With consent	No

The alignment would traverse an area that is defined as 'deferred matter' pursuant to Liverpool Local Environment Plan 1997. Clause 2(c) of this plan stipulates:

...areas of land that are affected by the proposed northern and southern rail alignments of the proposed South West Rail Link, with consideration of the future zoning of these areas being deferred until such time as a preferred rail alignment has been identified and endorsed by the Department...

The table demonstrates that the proposal is not prohibited in any land use zonings within which it is proposed and that parts of the South West Rail Link would be permissible with consent and other parts permissible without consent.

As indicated above, the proposal is subject to Part 3A of the EP&A Act 1979 by virtue of a Ministerial Order dated 7 April 2006.

The environmental assessment requirements of the EP&A Act 1979 still apply. These are discussed further in *Section 2.3*.

## **2.2.2 Local environmental plans for Edmondson Park**

Campbelltown (Urban Area) Local Environmental Plan 2002 (Amendment No 12) and Liverpool Local Environmental Plan 1997 (Amendment No. 83) were gazetted on 31 March 2006. The amendments to the Local Environment Plans give effect to planning controls for the Edmondson Park urban release area and accommodate the South West Rail Link corridor. A zoning plan of the Edmondson Park release area is provided in *Figure 2.2*.

Clause 2 to Campbelltown (Urban Area) Local Environmental Plan 2002 (Amendment No 12) aims to:

...establish a framework for the preparation of locality development control plans for the Edmondson Park Urban Release Area Precinct that are consistent with and complement

the provisions of this plan, and facilitate the timely provision of physical and social infrastructure, the orderly phasing of the development of land, the management of water courses and stormwater, and the appropriate management of development...

The rail corridor is zoned 5(a) Special uses.

Similarly, Clause 2 (c) of the Liverpool Local Environmental Plan 1997 (Amendment No. 83) aims to:

...identify areas of land that are affected by the proposed northern and southern rail alignments of the proposed south west rail link, with consideration of the future zoning of these areas being deferred until such time as a preferred rail alignment has been identified and endorsed by the Department...

The rail corridor, incorporating Edmondson Park station is zoned 5 (a). West of the proposed station, the zoning of the rail corridor has been deferred to provide flexibility for resolution of the alignment.

The Edmondson Park Local Environment Plans contain land acquisition clauses. For the purposes of the South West Rail Link, the Corporation Sole (Minister administering the *EP&A Act 1979*) has been identified as the acquisition authority for the rail corridor (i.e the Department of Planning, Land Management Branch). Land required for the rail corridor would be acquired in accordance with the *Land Acquisition (Just Terms compensation) Act 1991*. No acquisition clauses apply to the deferred land.

### **2.2.3 Regional and state environmental planning instruments**

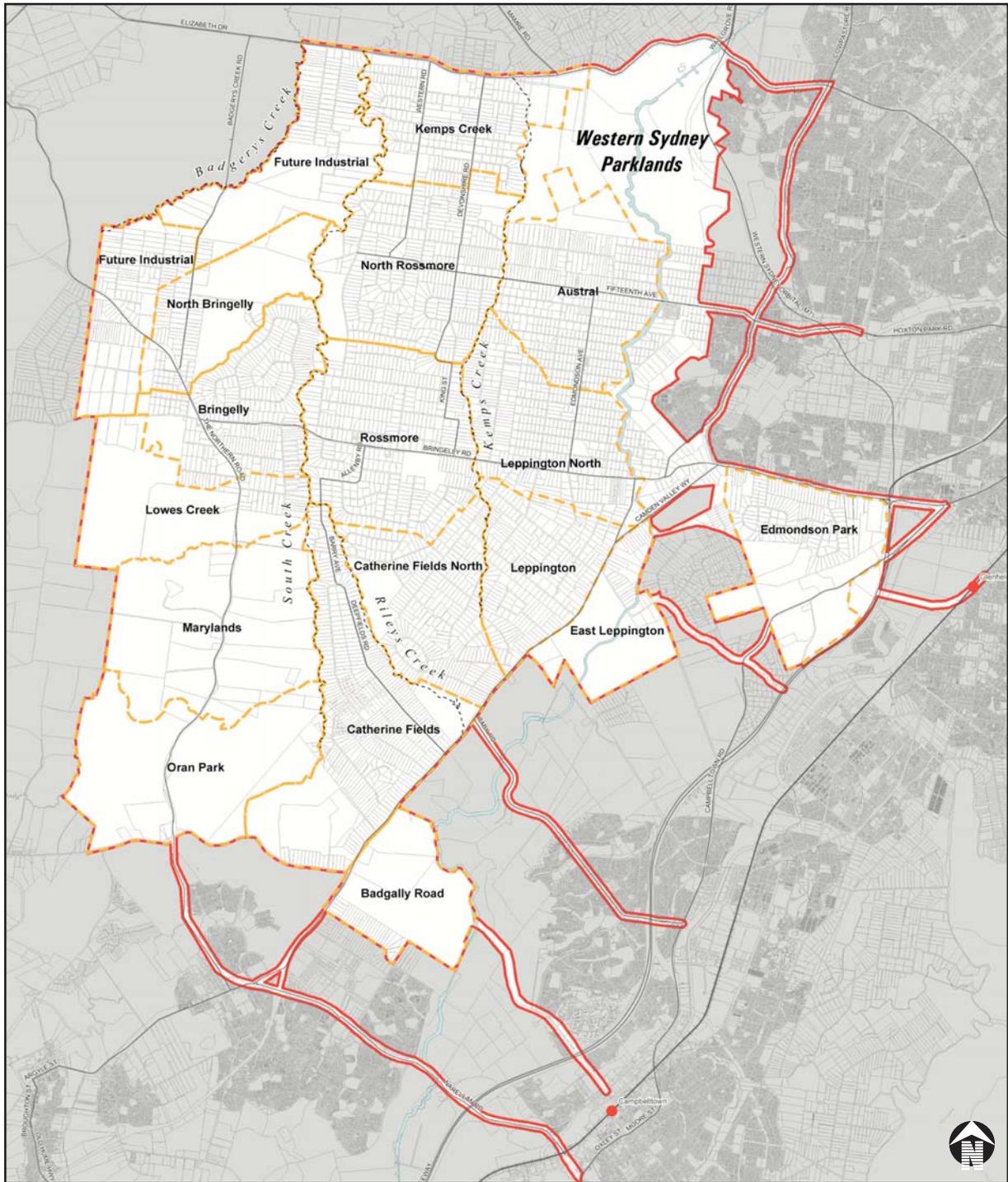
A number of regional environmental plans and state environmental planning policies are relevant to the proposal. These include the:

- *State Environmental Planning Policy No. 19 — Bushland in Urban Areas*
- *State Environmental Planning Policy No. 29 — Western Sydney Recreation Area*
- *State Environmental Planning Policy No. 32 — Urban Consolidation (Redevelopment of Urban Land)*
- *State Environmental Planning Policy No. 44 — Koala Habitat Protection*
- *State Environmental Planning Policy (Major Projects) 2005.*
- *Sydney Regional Environmental Plan No. 31 — Regional Parklands*
- *Sydney Regional Environmental Plan No. 20 — Hawkesbury-Nepean River (No. 2 - 1997).*

These State and Regional Environmental Planning Policies will be discussed further in the proposed environmental assessment.

The *Draft State Environmental Planning Policy (Sydney Region Growth Centres) 2006*, (refer *Figure 2.3*) was exhibited from January to March 2006 and is being considered by the Department of Planning in light of community and stakeholder consultation. The Draft Policy sets out the statutory plans and processes that will apply in the North West and South West Growth Centres. Central to the draft State





- South West Growth Centre boundary
- Precinct boundary

Figure 2.3 South West Growth Centre precinct boundaries map



Environmental Planning Policy is the coordination of sustainable land release for urban development within each growth centre.

Once the South West Rail Link alignment is confirmed, it is likely that amendments to State Environmental Planning Policy 63 - Major Transport Projects would be sought. The amendments would provide a mechanism for corridor preservation along the proposed alignment. State Environmental Planning Policy 63 also provides RailCorp concurrence for certain developments within the identified rail corridor.

## 2.3 Applicable legislation

### 2.3.1 State legislation

Table 2.2 identifies the licences and approvals that may be required for the construction and operation of the proposed South West Rail Link.

**Table 2.2 Summary of potential approval requirements under NSW legislation**

Provision	Approval Requirements	Required Action	Agency
<b>Protection of the Environment Operations Act, 1997</b>			
Section 48	EPL for construction	Apply for an EPL.	Department of Environment & Conservation
<b>Water Act, 1912</b>			
Section 10	Approval for extraction of water from a river or lake.	Apply for approval if water is required to be sourced through direct extraction from surface waters.	Department of Natural Resources
Section 116	Approval to sink or enlarge a bore.	Apply for approval if water is required to be sourced through bores.	Department of Natural Resources
<b>Roads Act, 1993</b>			
Section 138 <sup>1</sup>	Consent to erect a structure or carry out a work in, on or over a public road.	Apply for consent	Roads and Traffic Authority
<b>Contaminated Land Management Act, 1997</b>			
State Environmental Planning Policy No. 55	Consent for remediation works (under EP&A Act).	Where remediation of contamination is required as part of the required works under State Environmental Planning Policy 55. This Policy would require consent from the relevant Councils for the remediation works. Section 75B(3)	Relevant Council

		of the EP&A Act obviates the need for such consent as the contamination remediation could be regarded as 'related development'.	
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Depending on how the Minister exercises his powers under Section 75P, consent under Section 138 of the *Roads Act 1993* and Environmental Protection License under the *Protection of the Environment Operations Act 1997* may not be able to be refused if it is necessary for carrying out an approved project and may be required to be substantially consistent with the approval under this Part, as a result of Section 75V.

If approval to carry out the project is granted under Part 3A of the *Environmental Planning and Assessment Act 1979*, the following authorisations would not be required:

- A permit under Section 201, 205 or 219 of the *Fisheries Management Act 1994*.
- An approval under Part 4, or an excavation permit under Section 139, of the *Heritage Act 1977*.
- A permit under Section 87, or a consent under Section 90, of the *National Parks and Wildlife Act 1974*.
- An authorisation referred to in Section 12 of the *Native Vegetation Act 2003* (or under any Act to be replaced by that Act) to clear native vegetation.
- A permit under Part 3A of the *Rivers and Foreshores Improvement Act 1948*.
- A water use approval under Section 89, a water management work approval under Section 90, or an activity approval under Section 91, of the *Water Management Act 2000*.

Whilst the above authorisations would not be required, TIDC will consult with the relevant agencies that administer these Acts to ensure the intent of the Acts is appropriately observed.

### **2.3.2 Commonwealth legislation**

Potential impacts of the proposed South West Rail Link that may trigger assessment under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act*) relate to the potential impacts on threatened ecological communities and impacts on Commonwealth land.

Three endangered ecological communities were identified in the study corridor, including Alluvial Woodland (Sydney Coastal River Flat Forest), Shale Hills Woodland (Cumberland Plain Woodland) and Shale Plains Woodland (Cumberland Plain Woodland). Remnants of Cumberland Plain Woodland exist along the entire alignment, with a greater distribution to the west where less clearing and development has been undertaken. Preliminary estimates by Parsons Brinckerhoff are that approximately 5.6 hectares of Cumberland Plain Woodland would be cleared as a direct result of development of the proposal. A referral to the Commonwealth Minister for the Environment under the *EPBC Act* is required to determine whether the potential impacts

would constitute a 'controlled action' and therefore require approval under the *EPBC Act*.

Commonwealth land is located at the former Ingleburn Military Camp and there is a need to liaise with the Department of Defence regarding potential impacts of the proposal. This site has been identified for disposal by the Department of Defence and a conservation management plan for the site is currently being prepared. Further discussions with the Department of Defence and the Commonwealth Department of Environment and Heritage is proposed during the preparation of the Environmental Assessment report.

## **3. Need and alternatives**

### **3.1 Need for the proposal**

#### **3.1.1 Strategic planning context**

The Department of Planning's (2005) *Metropolitan Strategy, City of Cities – A Plan for Sydney's Future* is an initiative of the NSW Government to guide growth and change in the Sydney metropolitan area over the next 30 years. The Metropolitan Strategy, which was released by the Premier of NSW in December 2005, includes separate components relating to housing, employment and economy, environment, transport, centres and corridors, and parks and public places. The proposed Metropolitan Rail Expansion Program is an integral component of both the Centres and Corridors (Strategy B) and Transport strategies (Strategy D) included in the Metropolitan Strategy. These new rail projects would link the major new population growth and employment areas of the metropolitan region, including the South West Growth Centre. Action D1.1 of the Transport Strategy is to 'Extend the Rail and Bus networks to connect centres' and includes the planning and, as appropriate, the construction of the South West Rail Link.

In December 2004, the NSW Government announced a new land release plan for Sydney's South West and North West Growth Centres as part of the Metropolitan Strategy, to respond to the growing population. Regional structure plans for the Growth Centres were revised in response to public exhibition of the draft versions. The revised plans show centres, major road and public transport routes, and future employment areas to accommodate the future population. In total, the plans indicate that the South West Sector could potentially be developed to provide 90,000 to 110,000 dwellings and accommodate 250,000 people.

A key component of the NSW Government's approach to major land release is to ensure that key infrastructure, such as the proposed South West Rail Link, is provided at the right time to serve newly developing areas. As the source of the majority of greenfield urban development over the next 25–30 years, the Growth Centres, represent an opportunity to deliver well-designed urban development, integrated with the timely provision of transport infrastructure.

The presence of reliable public transport when development is occurring can help to influence travel behaviour away from motor vehicles towards more sustainable forms of transport. The early introduction of heavy rail links to the Growth Centres would be a major contributor towards this outcome.

The South West Rail Link is part of a package of transport infrastructure projects that would provide existing and future residents with a high degree of access to public transport and, thereby, to employment, education, health, commercial services, and retail and recreation facilities. The South West Rail Link is planned to pass through new 'transit oriented' development at Edmondson Park and Leppington. The town centre of Leppington is proposed to be the principal commercial/retail heart and public transport

hub for the new surrounding suburbs of the South West Growth Centre. The town centre is intended to accommodate a large shopping centre, a TAFE college and medium density housing (apartments and townhouses), while also supporting commercial and community services and recreation facilities.

The South West Rail Link would provide direct access to the “Global Arc”, in particular the Sydney Airport and CBD for access to employment, education and recreational facilities. Direct access to the regional economic hub at Liverpool, identified as a regional city in the Metropolitan Strategy would be provided by both the *South West Rail Link* and planned regional bus transitway. Additionally, access to Parramatta would be provided via the existing Liverpool to Parramatta transitway.

In June 2005, the NSW Government exhibited a Draft Structure Plan for the South West Growth Centre (Department of Planning 2005). The Leppington area was identified as an area of particular strategic importance in the Draft Structure Plan, because of its location at the intersection of two corridors of urban development in the South West Growth Centre, and its proximity to several arterial roads, including Cowpasture Road, Camden Valley Way, Bringelly Road and Edmondson Avenue, as well as the future South West Rail Link. Leppington Town Centre is identified as the major centre in the South West Growth Centre, as it provides the best opportunity to provide significant retail and services employment. Additionally, up to 26,000 residential dwellings are proposed within the town centre.

A future Leppington would be similar in size and nature to Blacktown, Bankstown, Burwood, Campbelltown or Castle Hill. The South West Growth Centre Structure Plan identifies Leppington as a regional centre supported by a number of smaller town and village centres at Oran Park, Austral, Rossmore, North Rossmore, Bringelly, North Bringelly, Marylands, Catherine Fields and Catherine Fields North. A number of other smaller neighbourhood centres and mixed use employment corridors were also identified as part of the overall planning.

Edmondson Park is one of the first precincts in the South West Growth Centre to be released. The Edmondson Park Local Environment Plan area (refer *Figure 2.2*) is planned to accommodate approximately 7,500 dwellings, with a projected population of 23,000 people on approximately 800 hectares of land. The town centre for the new suburb would be based around an anticipated transport interchange, linking rail facilities with bus transitways and local bus operations. The town centre is expected to operate as a district centre, with approximately 25,000 square metres of retail floor space and higher density residential development (about 55 dwellings per hectare) to support the interchange.

In January 2006, the NSW Government released its *Draft State Environmental Planning Policy (Sydney Growth Centres) 2006*, addressing the development of the South West Growth Centre. Integrated with the Policy were a revised structure plan, identification of precincts development control guidelines and other zoning details.

The NSW Government is committed to delivering the South West Rail Link as a key element of the urban structure and transport network proposed for the South West Growth Centre and, in particular, the Leppington and Edmondson Park town centres. The potential extension of the South West Rail Link to the west towards Bringelly or Oran Park will be subject to separate investigations by the NSW Government.

### 3.1.2 Transport context

A number of transport challenges are associated with development of the South West Growth Centre. The Growth Centre is located 10–20 kilometres south-west of Liverpool, 10–20 kilometres north-west of Campbelltown, and about 60 minutes drive to the Sydney central business district during peak periods. The Hume Highway/South-western Freeway provides good access to north-western Sydney (via the Westlink M7) and central Sydney (via the M5 Motorway). The proposed upgrading of a number of existing east–west links, with access to the M5 Motorway, would increase the overall accessibility of the South West Growth Centre. However, many of these roads are forecast to be highly congested in the long term (PB 2006). Leppington is identified as the major centre within the South West Growth Centre. The ‘greenfield’ nature of development presents an opportunity for an overall land-use and transport plan that would be supportive of sustainable objectives (PB 2006).

Access to the East Hills, Main South and Cumberland Rail Lines can be gained from Glenfield Railway Station and other stations, including Macquarie Fields, Ingleburn, Minto, Leumeah and Campbelltown. In the absence of the *South West Rail Link*, current and future residents would access the rail network by rail stations on the Main South Line. Existing and planned roads in the area are projected to become more congested as a consequence of development (including Narellan Road and Camden Valley Way), and this will result in potential constraints on access to existing railway stations on the South Main line (PB 2006). It is expected that additional rail patronage would be generated through the development of the South West Rail Link via the following means:

- Better passenger access to new stations — The proposed Edmondson Park and Leppington Railway Stations would comprise bus/rail interchanges, with the Edmondson Park Railway Station linked to a possible extension of the Liverpool to Parramatta strategic bus corridor.
- By attracting passengers from other modes — Park-and-ride facilities are proposed for both the new railway stations since the reduced travel time to the new stations will make them particularly attractive to residents of existing developed areas and who may choose to use public transport once it is more accessible.

The proposed development of additional train stabling facilities at Leppington is also a key component of the need for the South West Rail Link, as it would provide significant railway operational benefits through:

- Providing additional train storage capacity for increased services for the outer metropolitan area and the south west areas in particular.
- Reducing the need to run empty trains to meet peak hour train positioning requirements.
- Provides capacity benefits for rail services between Macarthur and Glenfield.

In summary, development of the South West Rail Link would provide:

- Improved access to public transport for existing and future residents of the South West Sector.
- Improved accessibility to employment within the Global Arc centres, educational, community and cultural facilities.

- Increased stabling capacity for trains in the outer metropolitan area.

## **3.2 Consultation undertaken**

### **3.2.1 Government**

Stakeholder consultation has been an important aspect of the proposal development. Consultation conducted during the preparation of this Project Application and Preliminary Environmental Assessment built on earlier consultation conducted through the exhibition of the draft Edmondson Park Local Environmental Plan and the South West Rail Link Overview Report prepared by the Department of Infrastructure Planning and Natural Resources (2005).

Meetings with key stakeholders were conducted to help identify the appropriate approvals pathway for the project, and the key issues that apply to the proposal and helped distinguish the performance of the route options. Meetings were held with:

- RailCorp as the state owner and operator of the NSW passenger rail network has been actively involved in development of the proposal.
- Department of Planning (Major Infrastructure Assessment) concerning the Part 3A approvals process and environmental assessment issues.
- Department of Planning (Transport Planning) concerning the results and context of earlier studies conducted and the South West Rail Link Overview Report.
- Department of Planning (Sydney Region West) concerning the future planning of the Glenfield and Edmondson Park areas.
- Department of Planning (Land Management Branch) concerning the Western Sydney Parklands.
- Landcom.
- Growth Centres Commission.

Additionally, a planning focus meeting was held on 15 December 2005 at Liverpool City Council. In this meeting, the scope of the proposed investigations and key issues were identified. Details of the attendees and issues raised at the planning focus meeting are contained in *Appendix A*. The main issues discussed included:

- The primary function of the South West Rail Link, its operations plan and potential future extension.
- Assessment of the project options and the need to identify a preferred alignment to provide certainty.
- Potential impacts on heritage, threatened species, endangered ecological communities and flooding.
- Coordination of the project with the overall planning of the South West Growth Centre.

- integration of the stations and facilities with town centres at Leppington and Edmondson Park.
- The approvals process and requirements of Part 3A of the *Environmental Planning and Assessment Act 1979*.

Government stakeholder consultation is proposed to continue during preparation of the Environmental Assessment.

### **3.2.2 Community**

Community consultation has been conducted at each stage of the development of the South West Rail Link.

In 2004, the Liverpool and Campbelltown Councils placed a Draft Local Environmental Plan for the Edmondson Park release area on exhibition, which included the identified southern corridor for the South West Rail Link. The outcome of the consultation were comments received on the Draft Plan which resulted in the identification of an alternative alignment to the north of the Forest Lawn Memorial Gardens. The Draft Plan was re-exhibited in October 2005 with the railway route to the east of the proposed Edmondson Park Town Centre reserved as a public transport corridor

The NSW Government exhibited an Overview Report of the South West Rail Link between June and October 2005 (Department of Infrastructure, Planning and Natural Resources 2005), which outlined work undertaken to date and, as a response to previous community consultation, identified two alignment options (a southern and a northern alignment) west of the Edmondson Park Town Centre. Seventy-seven submissions on the report were received by the Department of Planning.

Further community consultation is planned during preparation of the Environmental Assessment.

## **3.3 Alternatives**

### **3.3.1 Options development**

In 1991, the former State Rail Authority undertook a study to develop and evaluate alignment options for road/rail corridors between Glenfield and the proposed airport (Kinhill Engineers 1991). Then in 1992, the State Rail Authority reviewed alignment options for rail only corridors between Glenfield and Leppington (Kinhill Engineers 1992). During 1994, three subsequent studies were undertaken (Connell Wagner with Hard & Forrester 1994, GHD-Transmark 1994, State Rail 1994) to provide input to the joint Commonwealth/NSW Government Task Force, which was reviewing transport access requirements for the (then) proposed Second Sydney Airport (as stated in John S Bryan Consulting 2005).

More recently, the stimulus for consideration of the South West Rail Link has been the future planning and development of Sydney's South West Sector to house its growing

population, and the requirement to provide appropriate transport infrastructure as part of the development process.

In 2003, the former Rail Infrastructure Corporation prepared a master plan for Glenfield junction, which in addition to planning for the future operational requirements of the junction between the Main South Line and the East Hills Line, included plans for a junction with the South West Rail Link to the south of Glenfield Railway Station.

Between 2001 and 2005, the then State Rail Authority conducted a series of studies to review earlier rail alignment options and develop a concept alignment for the South West Rail Link (Connell Wagner 2001, 2003 a-g, 2004, 2005a-b, sp Binary Consultants 2003, Civitas Report 2003, GHD 2002). These studies were conducted under the supervision of a Project Control Group, consisting of the former Rail Infrastructure Corporation and State Rail Authority (now RailCorp), former TransportNSW, the NSW Roads and Traffic Authority and the former Department of Urban Affairs and Planning. A series of environmental studies were conducted based on this alignment, including assessments of land use, air quality, noise and vibration, heritage, visual, ecology, social impacts, soils and salinity (Connell Wagner 2003a-g).

In 2004, the Liverpool and Campbelltown Councils placed a Draft Local Environmental Plan for the Edmondson Park release area on exhibition, which included the identified southern corridor for the South West Rail Link. Comments received on the Draft Plan resulted in the identification of an alternative alignment to the north of the Forest Lawn Memorial Gardens. The Edmondson Park Local Environment Plan gazetted on 31 March 2005 includes land on which zoning has been deferred, west of the proposed Edmondson Park station.

The NSW Government also exhibited an Overview Report for the South West Rail Link between June and October 2005 (Department of Infrastructure Planning and Natural Resources 2005), which outlined work undertaken to date and identified two alignment options (a southern and a northern alignment) west of the Edmondson Park Town Centre.

As part of its most recent investigations, which are detailed in *Appendix B* and *Section 3.3.2* below, TIDC reviewed the two reference alignments to confirm their technical feasibility and investigate further their potential impacts, particularly in relation to:

- Potential flooding near the existing railway corridor at Leppington.
- The planning of the proposed Leppington town centre and the relative location of the proposed stabling facility west of Leppington.
- The number of private properties potentially affected and the total area of acquisition required.
- The overall cost of the railway development.

As a result of this review, two refined options were identified. The refined southern alignment would reduce the area of impact on the Forest Lawn Memorial Gardens Cemetery, as well as the severance of the Casa Paloma Caravan Park. The refined northern alignment would avoid the impact on the Forest Lawn Memorial Gardens Cemetery. Both the northern and southern reference and refined alignments are shown on *Figure 3.1*.

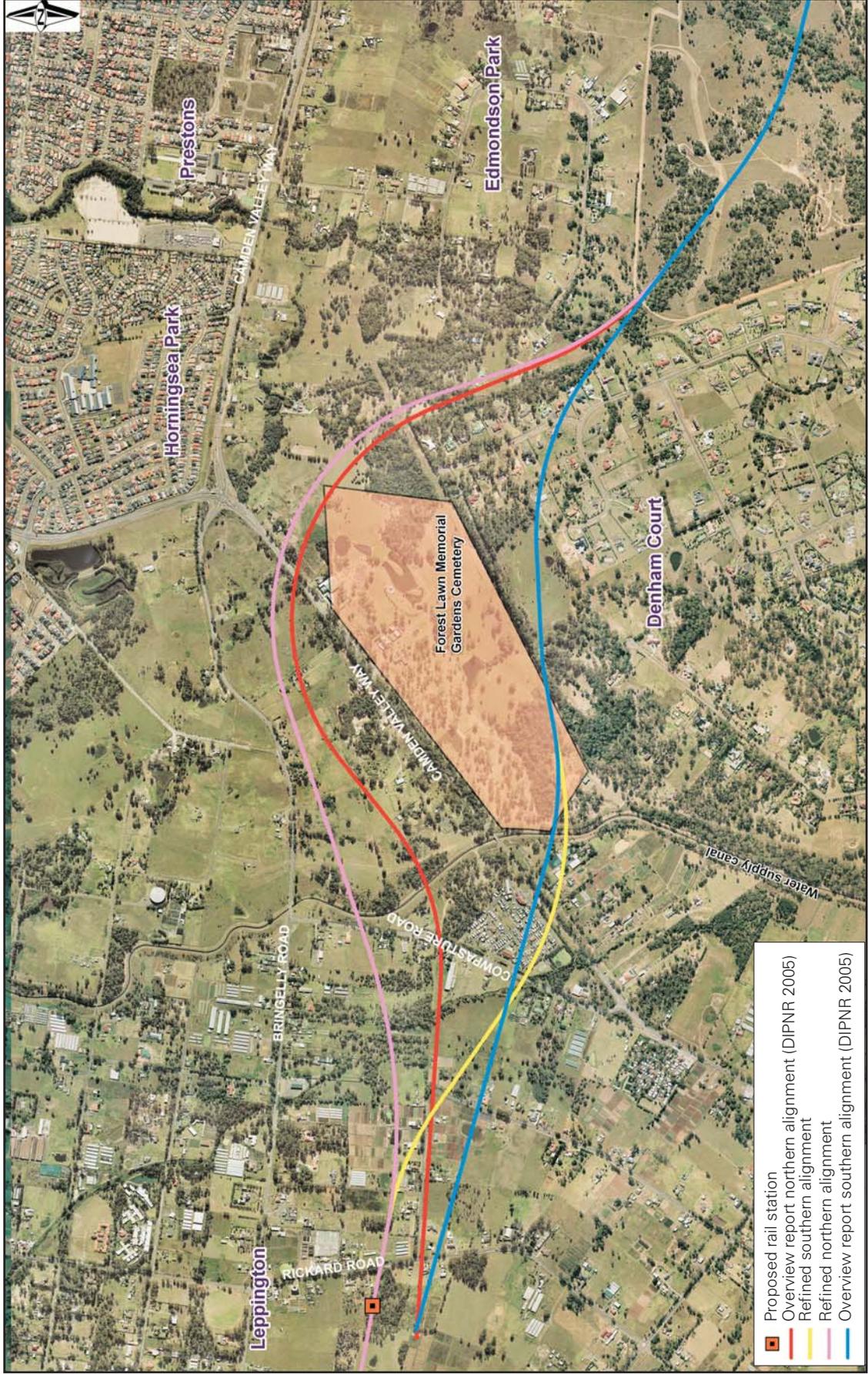


Figure 3.1 Alignment options

Possible flooding issues and the potential effect of the stabling facility on the future development of the Leppington town centre also led to the relocation of the proposed Leppington Railway Station and stabling facility further to the west and north towards Bringelly Road. This has also influenced the location of the refined northern and southern alignments considered by TIDC.

### **3.3.2 Options assessment**

This section summarises the findings of TIDC's evaluation of the two refined alignment options between Edmondson Park and the Leppington Railway Station. A detailed Route Options Report, which describes the assessment process and documents the outcomes, is contained in *Appendix B*.

The performance of each alignment option was assessed against the following criteria:

- Technical feasibility and constructability — engineering and design constraints and the perceived difficulty of construction.
- Operability — train travel time and interface issues with the existing railway.
- Urban design — the functionality of the proposed new stations and their fit within the context of existing and future land uses and transport networks.
- Environmental impacts — including potential impacts on flora and fauna (including Cumberland Plain Woodland and the Cumberland Plain land snail), Indigenous and European heritage, visual, local traffic and access and noise impacts.
- Property impacts — the need for full and partial acquisition of private properties.
- Social/community impacts — impacts on existing neighbourhoods and community facilities, such as the Western Sydney Regional Parklands.
- Capital cost — the estimated construction cost of the project.

### **3.3.3 Identification of a preferred option**

The northern alignment was identified as the preferred option as it exhibits a number of advantages, which are:

- It's capital cost would be approximately \$11 million less than the refined southern alignment.
- It would have less impact on private property, with 13 privately owned properties needing to be acquired (versus 24 for the southern alignment).
- It would have less impact on residential amenity with noise targets being exceeded at fewer residences than the southern route.