Transport Construction Authority

North Ryde Station Precinct
Part 3A and SSS Application

Preliminary Environmental Assessment

30 November 2010

mecone

Table of Contents

Tables and Figures

Appendices

Executive Summary

Background

The North Ryde Station Precinct is located on the Epping to Chatswood Rail Link (ECRL), which is a new high quality underground rail link connecting the growing Macquarie Park area to the Metropolitan Cityrail network. Services on the ECRL commenced on 23 February 2009. Since commencement of services commuter patronage levels have been beyond expectations with 11,500 people using the ECRL daily.

The North Ryde Station however, has been operating well below its patronage capacity primarily due to the surrounding "North Ryde Station Precinct" being largely undeveloped to the south and northwest. Poor pedestrian, cycle and vehicular connectivity between the station and nearby commercial development to the east, south and northwest and residential catchments to the south and west further compound this.

In order to rectify this situation, a transit oriented development (TOD) that encourages station usage and improves connectivity is proposed for vacant lands around the North Ryde Station known as the "North Ryde Station Precinct".

TCA, as the Proponent in accordance with Section 75A of the *Environmental Planning and Assessment Act 1979* (the Act), is well placed to undertake the strategic plan and development of a Concept Plan for the future development of lands surrounding North Ryde Station, given the following:

- it's understanding of the relationship between land use and transport strategic planning issues;
- the knowledge and expertise accumulated in respect of the existing ECRL corridor and North Ryde Station engineering constraints;
- it's commitment to achieving the best future land use and development outcome to support the State Government's investment in the ECRL;
- the existing working relationship developed with the various State and local government agencies on planning and transport related issues relevant to the North Ryde Station Precinct;
- an understanding of the connectivity constraints associated with the fragmentation of the North Ryde Station Precinct lands by major roads through the area, and recognition of opportunities to improve connectivity between North Ryde Station and surrounding lands through design and provision of necessary links;
- the thorough knowledge acquired of the existing environmental constraints and opportunities associated with its landholdings; and
- a desire to overcome the social and economic issues caused by the existing fragmented land to provide a high quality development framework to both support public transport use, and create a sense of place for the North Ryde Station Precinct. This would be achieved through provision of well planned public domain and open space areas, community facilities and services to support the local community.

In addition, TCA's thorough understanding of these complex issues and ability to deliver on major infrastructure enable Transport Construction Authority (TCA) to take carriage of the delivery of essential infrastructure such as roads, drainage and pedestrian and cycleway improvements to ensure improved connectivity is provided to North Ryde Station as soon as possible.

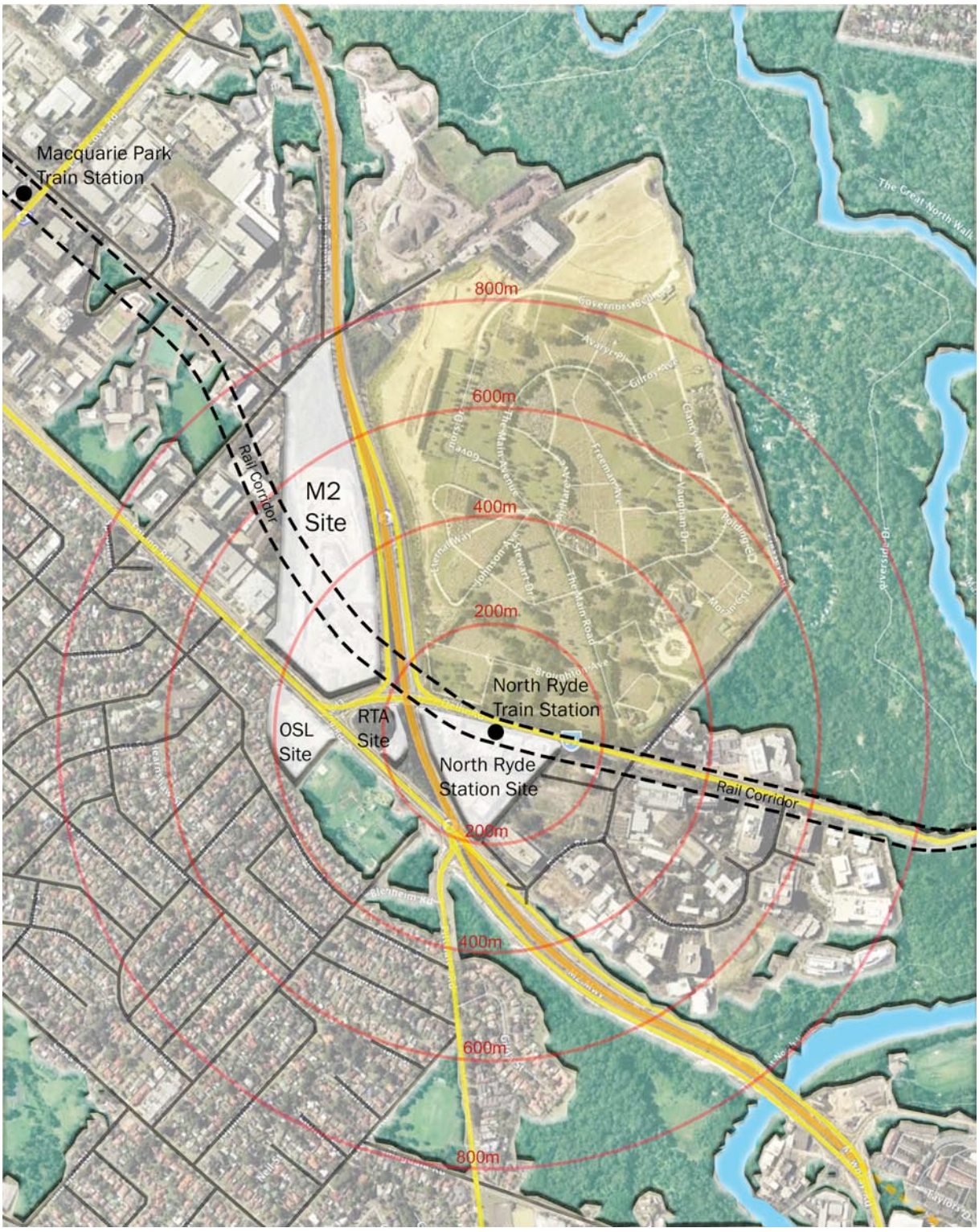
The thorough understanding of these complex issues and ability to deliver on major infrastructure makes the Transport Construction Authority (TCA) an appropriate organisation to progress the TOD.

This Preliminary Environmental Assessment (PEA) and request for consideration as a State Significant Site (SSS) has been prepared by the Transport Construction Authority (TCA) for the site known as the North Ryde Station Precinct. The North Ryde Station Precinct consists of five portions of land, which are described in Table A. The total site area of the North Ryde Station Precinct equates to approximately 13.99 hectares.

Table A: Land within the North Ryde Station Precinct

North Ryde Station Precinct Lands			
Site Name	Portions	Ownership	Description
M2 Site	M2 Site	TCA	Land bounded by the M2 to the east, Delhi Road to the south, Epping Road to the south west, adjoining commercial/industrial land uses to the west and Wicks Road to the north. The land is currently vacant.
North Ryde Station Site	North Ryde Station Site - Northern Site	TCA	Land bounded by Delhi Road to the north, the M2 to the west, adjoining commercial land to the east and the adjoining ING owned land to the south. Excluded from the Concept Plan are the North Ryde Station entrance building located on the site as well as two exhaust and mechanical services buildings, which are situated to the east and west of the station building accordingly.
	North Ryde Station Site - Southern Site	ING Industrial Custodian Pty Ltd c/o ING Industrial Fund (ING)	ING owned land located adjacent to North Ryde Station. It is bounded by the M2 to the south west, adjoining commercial zoned land to the east and the TCA North Ryde Station Site to the north. The site is currently vacant.
Office of Strategic Lands Site (OSL)	OSL	Office of Strategic Lands	Land located along the western side of Epping Road immediately opposite the Epping Road/Delhi Road intersection and the M2 site. The land currently is being used for recreational purposes.
RTA Site	RTA Land	RTA	Land bounded by Epping Road to the west, the M2 to the east and Delhi Road to the north.

Figure A: Site in its local context



Request

TCA is seeking the following:

- The Minister **form an opinion** in accordance with Clause 6 of the *State Environmental Planning Policy (Major Development) 2005* (Major Development SEPP) that the proposed development is a development of the kind described in Schedule 1 of the Major Development SEPP, so that the proposal is declared to be a project to which Part 3A of the *Environmental Planning & Assessment Act, 1979* (the Act) applies. In forming this opinion we request that the Minister also specifically nominate TCA as the Proponent.
- The Minister **form an opinion** in accordance with Clause 8 of the Major Development SEPP that the site is a State Significant Site (SSS), therefore, allow the site to be listed in Schedule 3 of the Major Development SEPP.
- The Minister **authorise** the preparation of a Concept Plan pursuant to section 75M(1) of the Act.
- The Minister **authorise** the preparation of a Project Application for Stage 1 of the proposal pursuant to section 75E(1) of the Act.
- The Director-General (DG) of the Department of Planning (DoP) **prepare** Director-General's requirements (DGRs) for the preparation of an Environmental Assessment in accordance with section 75F(2) of the Act.
- The DG **provide** the proponent with requirements for the preparation of the State Significant Site Study in accordance with DoP's *Guideline for State Significant Sites under the Major Project SEPP.*

The proposed development falls within the description in Clause 13 of Schedule 1 of the Major Development SEPP as it has an expected capital investment value (CIV) of over the required threshold, which is $100 million. The CIV for the entire project is estimated to be $987 million. Therefore, the proposal would be a project to which Part 3A of the Act applies.

In addition, the TCA and OSL owned lands are identified as being a 'deferred matter' in *Ryde City Council's* (Council) *Local Environmental Plan 2010* (Ryde LEP 2010), which then requires the Ryde Planning Scheme Ordinance (RPSO) to be applied. Therefore, the majority of the proposed uses are currently prohibited on land within the Precinct as per the RPSO. Further, some of the proposed land uses on the RTA and ING owned lands are inconsistent with existing land use zones. However, the request for the site to be declared an SSS provides the planning mechanism for rezoning the precinct to make the proposed land uses permissible.

The PEA provides preliminary environmental and planning considerations relevant to the issue of DGRs to guide the preparation and lodgement of a Concept Plan, Stage 1 Project Application and issue of requirements for an SSS Study.

SSS Justification - State and Regional Significance

The North Ryde Station Precinct is considered to be a State Significant Site (SSS) as it has major State and regional significance. The site is located within the Macquarie Park Corridor and would be one of the most significant development sites in the corridor. The only comparable sites for mixed use development in scale and investment would be Barrangaroo and Frasers on Broadway (ex Carlton United Brewery Site (CUB site)). The Macquarie Park Corridor is identified as a specialised centre in the *Inner North Subregion Draft Subregional Strategy* and is projected to have an estimated 55,300 employees by 2031. The site also forms part of the 'Global Economic Corridor' as identified in the Sydney Metropolitan Strategy.

The precinct would significantly contribute to the economy of the Subregion and 'Global Economic Corridor', as the proposed development of the site is expected to provide up to 367,000m^2 of

floorspace for mixed land use purposes. In addition, it is likely to generate an estimated 5,440 construction jobs over the life of the proposed development and an estimated 2,144 jobs on-site once the development is complete. The on-site retail expenditure from the estimated 2,144 workers is calculated to be approximately $2.5 million. This retail expenditure is additional to the potential on-site retail expenditure expected to be generated by the on-site resident population, which totals approximately $19 million.

Further, the project would significantly contribute to the activation of North Ryde Station, which is located along the Epping to Chatswood Rail Link (ECRL). The ECRL was a $2.3 billion investment by the NSW State Government and currently carries an estimated 11,500 customers per day. The ECRL is forecast to carry an estimated 30,000 passengers by 2030. The proposed development of the North Ryde Station Precinct is expected to contribute up to an estimated additional 6,000 entries per day at North Ryde Station when complete.

The SSS listing would address the need to provide appropriate land uses, density and scale of development, which the precinct is currently unable to facilitate for a TOD. Provision of a precinct planning framework would then support the proposed measures to address the existing major constraints and deficiencies of the precinct, including:

- The existing mix of land use zones and ownership, which could lead to a piecemeal and unrelated development outcome.
- The various sites are divided and bounded by major roads and thoroughfares, including the M2, Epping Road and Delhi Road, which contribute to the isolation of individual sites by creating defined boundaries.
- The imposing road network on the precinct contributes to poor connectivity across the precinct.

The development of the precinct provides an opportunity for a whole of government approach to integrate land uses and public transport on a unique site, which supports key transport and land use priorities and targets established by the State Government.

In addition, due to the inclusion of various publicly and privately owned lands in the Precinct, as identified in Table A, it is essential that transparency be maintained throughout the planning process. In this regard the best means to achieve this transparency for the rezoning process for all land owners is via the SSS process. As such, a centralised process through TCA would most efficiently and effectively manage the process.

Proposed Concept Plan

Indicative Concept Plan layouts identifying the proposed land uses, floor space ratios (FSR) and heights have been prepared as part of this application. Key elements of the Concept Plan include:

- Rehabilitation of bushland on the northern portion of the M2 Site to create a natural open space area.
- Development of two other primary open space areas, situated on the M2 Site and the North Ryde Station Site, together with a number of smaller pocket parks/open space areas, green setback/buffer zones and green links.
- Appropriate land use development and setbacks designed to mitigate traffic noise from the M2 Motorway, Epping Road and Delhi Road.
- A new mixed use area with retail and commercial/employment uses along the Epping/Delhi Road frontages of the M2 Site.
- Mixed use area with residential development through the precinct.

- Provision of appropriate community facilities.
- Extending Waterloo Road through the M2 Site through to Epping Road to provide the main vehicular thoroughfare through the M2 site.
- Development of three vehicular access points to the M2 Site, at Epping Road, Wicks Road/Waterloo Road intersection and provision for a third from the M2 Road Reserve.
- Development of a pedestrian bridge from the TCA M2 Site to the RTA Site to improve pedestrian and cycle connectivity to North Ryde Station across Delhi Road.
- Development of Road 38 along the eastern boundary of the North Ryde Station Site.
- Development of an east west road situated between the North Ryde Station Site – Northern (TCA owned) and the North Ryde Station Site – Southern Site (ING site).
- Significant pedestrian and cycleway upgrades and new links to improve connectivity to North Ryde Station and the Macquarie Park Corridor.

A summary table of the indicative FSRs and heights proposed in the Concept Plan for the precinct is provided in Table B.

Table B: Indicative Development Summary

Indicative Development Summary						
Site Name	Portions	Ownership	Lot/DP	Site Area (Ha)	Indicative FSR	Indicative Height (m)
M2 Site	M2 Site (27 Epping Road)	TCA	Lot 101 DP 1131776 and Lot 100 DP 1131776	9.16	3 - 3.6:1	Up to 30 storeys
North Ryde Station Site	North Ryde Station Site - Northern Site	TCA	Lot 4 DP 1131774	1.3	2.8 - 3.6:1	Up to 25 storeys
	North Ryde Station Site - Southern Site	ING	Lot 160 DP 1136651	1.76		
Office of Strategic Lands Site	OSL	Office of Strategic Lands	Lot 565 DP 28914	1.48	1.5 – 2.4:1	Up to 8 storeys
RTA Site	RTA Land	RTA	Lot 11 DP 1017829, Lot E DP 28507, Lot 11 DP 27851, Lot 12 DP 27851, Lot 20 DP 1017829 and Lot 21 DP 1017829	0.29	2.4:1	Up to 10 storeys
	Total			**13.99**		

TCA is also seeking to lodge a Stage 1 Project Application, which proposes works for specific sites within the precinct, including:

Table C: Summary of Works Stage 1 Project Application

Stage 1 Proposed Works	M2 Site	North Ryde Station Site
Spine/main road	Spine road with two main connections at the intersection of Waterloo Road and Wicks Road (north of the site) and with Epping Road (to the south of the site).	Provision of Road 38 (up to 20.4m wide) along the eastern boundary of the site connecting the North Ryde Station Site – Northern (TCA owned) and Southern (ING owned land) consistent with Council's *Macquarie Park Corridor Traffic Study* and Development Control Plan (DCP) for the precinct. The proposal will not preclude the future connection with the Epping Road/Pittwater Road intersection by others if required. An east west access road between the North Ryde Station Northern and Southern Sites (ING's land and TCA's land) allowing for vehicular, pedestrian and bicycle movements.
Key intersections and access	**Northern intersection corner of Wicks Road and Waterloo Road:** allows for vehicular, pedestrian and bicycle traffic; signalised and will operate with full functionality, hence left-in, left-out, right-in, right-out, and straight through movements. **Southern intersection to Epping Road:** allows for vehicular, pedestrian and bicycle traffic; will operate with limited functionality, only providing left-in and left-out movements. **East intersection to M2:** TCA proposes to develop a road up to the boundary of the site to make provision for a future connection the M2; a left-in and left-out, non-signalised intersection.	**Northern intersection (corner of existing service road and Delhi Road):** allows for vehicular, pedestrian and bicycle traffic; the main entry to the site; will operate with limited functionality, hence left-in, left-out, right-in, right-out movements only. Intersection is signalised. **Eastern intersection to existing road on adjoining land:** allows for vehicular, pedestrian and bicycle traffic between the site and adjoining lands to the east of the site through to Julius Avenue; will act as the secondary access point to the site; will operate with full functionality, hence providing left-in, left-out, right-in, right-out and straight movements. **South-eastern intersection to service road:** It is proposed to connect the southern most portion of the site from Road 38 to a service road on the eastern boundary of the site, which provides access to the adjoining Microsoft development.
Trunk drainage infrastructure	Associated with the development of the main trunk road including water detention basins.	Associated with the development of proposed roads on the site.
Pedestrian/cycle improvements	A pedestrian bridge connecting the M2 Site with the RTA Site, spanning Delhi Road.	Access for pedestrians and bicyclists from Road 38 to Pittwater Road is proposed to be provided to connect North Ryde Station with residential land uses to the south of Epping

Stage 1 Proposed Works	M2 Site	North Ryde Station Site
	Pedestrian access from the site to the Epping Road/Delhi Road intersection to allow an alternative access across Delhi Road utilising an existing pedestrian crossing and access across Epping Road (via existing signalised intersection) to open space and residential lands to the south west of Epping Road.	Road, as well as regional bicycle connections.
Utilities and Services Infrastructure	Street lighting and development of relevant utilities infrastructure if required, including substations and gas pumping station.	Street lighting and development of relevant utilities infrastructure if required, including substations and gas pumping station.
Development superlots	Subdivision of the site to allow a flexible divestment strategy. Indicative plans of the proposed subdivision pattern and potential staging will be provided as part of the Stage 1 Project Application.	N/A

Transit Orientated Development

The proposal offers an opportunity to achieve a TOD in an under developed precinct that has access to a new railway station. The *"Transit oriented development: guide for practitioners in Queensland"*, prepared by the Queensland Government, October 2010 (TOD Guide), defines a TOD as having the following characteristics:

- a rapid and frequent transit service;
- high accessibility to the transit station;
- a mix of residential, retail, commercial and community uses;
- high quality public spaces and streets, which are pedestrian and cyclist friendly;
- medium- to high-density development within 800 metres of the transit station (i.e. the TOD precinct); and
- reduced rates of private car parking.

The principles on which TODs have been generally designed are based on those established by Peter Calthorpe in, *"The Next American Metropolis",* 1993. As identified in the TOD Guide, Calthorpe's principles of transit oriented development included:

- Organise growth at a regional level to be compact and transit supportive.
- Place commercial, housing, jobs, parks and civic uses within walking distance of transit stops.
- Create pedestrian-friendly street networks, which directly connect local destinations.
- Provide a mix of housing types, densities and costs.
- Preserve sensitive habitat, riparian zones and high-quality open space.

- Make public spaces the focus of building orientation and neighbourhood activity.
- Encourage infill and redevelopment along transit corridors within existing neighbourhoods.

The Queensland Department of Infrastructure and Planning expanded on the above principles under six key themes, including location, land use, design, transport, social and process. In all, this included 21 agreed principles.

The North Ryde Station Precinct development encourages greater activity on adjoining lands through the implementation of suitable land uses and encourages greater use of public transport network. The proposal is consistent with Calthorpe's principles and those identified in the TOD Guide, as it would include the following:

- Provides mixed use development within 800 metres of the North Ryde Station, with greater focus on residential development, supported by appropriate community facilities.
- Provides increased residential density around North Ryde.
- Integrates North Ryde Station with retail, commercial, recreational and community uses therefore stimulating activity around the station.
- Provides pedestrian and bicycle connectivity to North Ryde Station.
- Provides a high level of pedestrian and bicycle connectivity to nearby employment.
- Provides liveable and active public domain spaces for the community that integrate with proposed land uses and North Ryde Station.
- Provides opportunity to rehabilitate the riparian corridor to the north of the M2 Site.
- Provides high quality open space that is within walking distance.

In summary, the practical outcomes that are achieved by the TOD include:

- Maximising public transport patronage through the appropriate placement of compatible land uses and improvements in accessibility and connectivity through the precinct and to North Ryde Station.
- Creating communities that are well connected to employment areas via public transport, pedestrian and bicycle links.
- Creating integrated open space and public domain spaces encouraging their use for recreation and pedestrian or bicycle connectivity.
- Providing protection of existing key open space areas.
- Providing a logical extension of urban areas for employment, residential, retail and commercial land uses.
- Providing appropriate level of community facilities.

Consultation

TCA has had preliminary discussions with Council regarding the future land use mix and traffic and access issues, which have been taken into consideration in development of the Concept Plan. In addition, TCA has met and discussed the proposal with key relevant authorities, including RTA, DoP, Office of Strategic Lands, Transurban, RailCorp, Land and Property Management Authority (LPMA) and private landowners.

1. Introduction

1.1. Background

The North Ryde Station Precinct is located along the Epping to Chatswood Rail Link (ECRL), which is a new high quality underground rail link connecting the growing Macquarie Park area to the Metropolitan Cityrail network. Services on the ECRL commenced on 23 February 2009. Since commencement of services commuter patronage levels have been beyond expectations with 11,500 people using the ECRL daily.

The North Ryde Station, however, has been operating well below its patronage capacity primarily due to the surrounding "North Ryde Station Precinct" being largely undeveloped to the south and northwest. Poor pedestrian, cycle and vehicular connectivity between the station and nearby commercial development to the east, south and northwest and residential catchments to the south and west have compounded this.

In order to rectify this situation, a transit oriented development (TOD) that encourages station usage and improves connectivity is proposed for vacant lands around the North Ryde Station known as the "North Ryde Station Precinct".

The proposed development of the North Ryde Station Precinct provides a unique opportunity to establish a planning framework that promotes TOD principles and achieves development of a TOD in close proximity to a new railway station, on approximately 14 hectares of developable land predominately in government ownership.

The proposal is consistent with TOD principles, as it would achieve the following:

- Provides mixed use development within 800 metres of the North Ryde Station, with greater focus on residential development, supported by appropriate community facilities.
- Provides increased residential density around North Ryde.
- Integrates North Ryde Station with retail, commercial, recreational and community uses therefore stimulating activity around the station.
- Provides pedestrian and bicycle connectivity to North Ryde Station.
- Provides a high level of pedestrian and bicycle connectivity to nearby employment.
- Provides liveable and active public domain spaces for the community that integrate with proposed land uses and North Ryde Station.
- Provides opportunity to rehabilitate the riparian corridor to the north of the M2 Site.
- Provides high quality open space that is within walking distance.

The proposed TOD capitalises on the State Government's $2.3 billion investment into the ECRL due to its proximity to the North Ryde Station. In addition, the TOD encourages increased usage of the North Ryde Station and greatly improves connectivity of surrounding lands to the station.

A key constraint to the development of the area and station patronage is the convergence of a number of arterial roads, which block effective pedestrian and bicycle movements to the station and make site access difficult. These roads include:

- The M2 Motorway which forms the north eastern boundary of the M2 Site and the south western boundary of the North Ryde Station Site.

- Epping Road, which bisects the precinct and forms the southern boundary of the M2 Site and the RTA Site.
- Delhi Road, which divides the North Ryde Station Precinct (M2 Site from the RTA Site and North Ryde Station Site).

TCA intends, through the Part 3A Concept Plan process, to improve connectivity for pedestrians and cyclists to the station. In addition, the location of roads imposes other constraints on the lands within the Precinct such as noise and amenity impacts, which need to be addressed through careful land use planning, development parameters and design. Further, the Concept Plan design and Stage 1 Project Application would need to consider other existing physical environmental constraints such as the topography of the Precinct.

The majority of the North Ryde Station Precinct landholdings are located adjacent to North Ryde Station and have a combined site area of approximately 13.99 hectares. The precinct is divided into five sites. Land owners include the Transport Construction Authority (TCA), Roads and Traffic Authority (RTA), Office of Strategic Lands (OSL) and ING. Given the future development potential of these lands and the importance of improving patronage and connectivity to North Ryde Station, TCA's Executive recommended a masterplan process be undertaken to ensure its lands surrounding North Ryde Station are planned in an integrated manner to achieve appropriate land use and access to the station. This approach was also recommended by Ryde City Council (Council) as they noted that a 'masterplan' presents opportunities for sustainable environmental, social, transport and economic outcomes including enhancing rail patronage.

On 17 September 2009, TCA made a submission to the DoP requesting clarification in respect of the planning approval process and whether the site has sufficient merit to be declared a State Significant Site (SSS) in accordance with the *State Environmental Planning (Major Development) 2005* (Major Project SEPP).

On 6 October 2009, DoP responded to the submission indicating that the site did have sufficient merit to be declared an SSS and may be captured as a Major Project under the Major Development SEPP subject to the Minister for planning determination. Therefore, the project would be subject to Part 3A of the *Environmental Planning and Assessment Act, 1979* (the Act). Refer to **Appendix 1** for response letter from DoP.

The response letter from DoP identified a number of key items that would be required to be included in the request to the Minister for Planning (the Minister) to form the opinion that the site is an SSS and a Major Project. This application addresses the issues raised.

1.2. Purpose of this preliminary environmental assessment

This Preliminary Environmental Assessment (PEA) report has been prepared to support a request to the Minister for Planning (the Minister) for the following:

a) The Minister **form an opinion** in accordance with Clause 6 of the *State Environmental Planning Policy (Major Development) 2005* (Major Development SEPP) that the proposed development is a development of the kind described in Schedule 1 of the Major Development SEPP, so that the proposal is declared to be a project to which Part 3A of the Act applies. In forming this opinion we request that the Minister also specifically nominate TCA as the Proponent.

b) The Minister **form an opinion** in accordance with Clause 8 of the Major Development SEPP that the site is a State Significant Site (SSS), therefore, allow the site to be listed in Schedule 3 of the Major Development SEPP.

c) The Minister **authorise** the preparation of a Concept Plan pursuant to section 75M(1) of the Act.

d) The Minister **authorise** the preparation of a Project Application for Stage 1 of the proposal pursuant to section 75E(1) of the Act.

e) The Director-General of the Department of Planning (DoP) **prepare** Director-General's requirements (DGRs) for the preparation of an Environmental Assessment in accordance with section 75F(2) of the Act.

f) The DG **provide** the proponent with requirements for the preparation of the State Significant Site Study in accordance with DoP's *Guideline for State Significant Sites under the Major Project SEPP.*

It is noted that the final Concept Plan including land use and urban design parameters have not yet been developed. It is intended to undertake specialist studies to inform the finalisation of the Concept Plan, based on the requirements identified by the Minister and Director General to support the application.

1.3. Major Development SEPP criteria

The proposed development meets the following Major Development SEPP criteria, making the development subject to Part 3A of the Act:

Group 5 Residential, commercial or retail projects

13 Residential, commercial or retail projects

(1) Development for the purpose of residential, commercial or retail projects with a capital investment of more than $100 million.

(2) This clause does not apply to major development within the meaning of section 31 of the City of Sydney Act 1988.

The capital investment value (CIV) for the entire project is estimated to be $987 million

1.4. Proposed State Significant Site listing

In order to achieve the transit and public benefit objectives of the proposal it is proposed to rezone the site by way of Schedule 3 of the *State Environmental Planning Policy (Major Development) 2005*.

A discussion on the State and regional significance of the site is provided in Section 4.3 of this report.

2. North Ryde Station Precinct Context

This section of the report discusses the lands subject of the application and proposed development.

2.1. The locality

The precinct is located within the Macquarie Park Corridor, a predominantly commercial area that lies between the M2 Motorway and Epping Road, North Ryde. The geographical scale of the Macquarie Park Corridor is similar to the Sydney Central Business District (CBD). The distance from Macquarie University to the eastern most part of the Precinct is similar to the distance between Circular Quay and Central Station.

The Macquarie Park Corridor and North Ryde Station Precinct are framed by natural bushland to the north and east. The land uses immediately surrounding the North Ryde Station Precinct include:

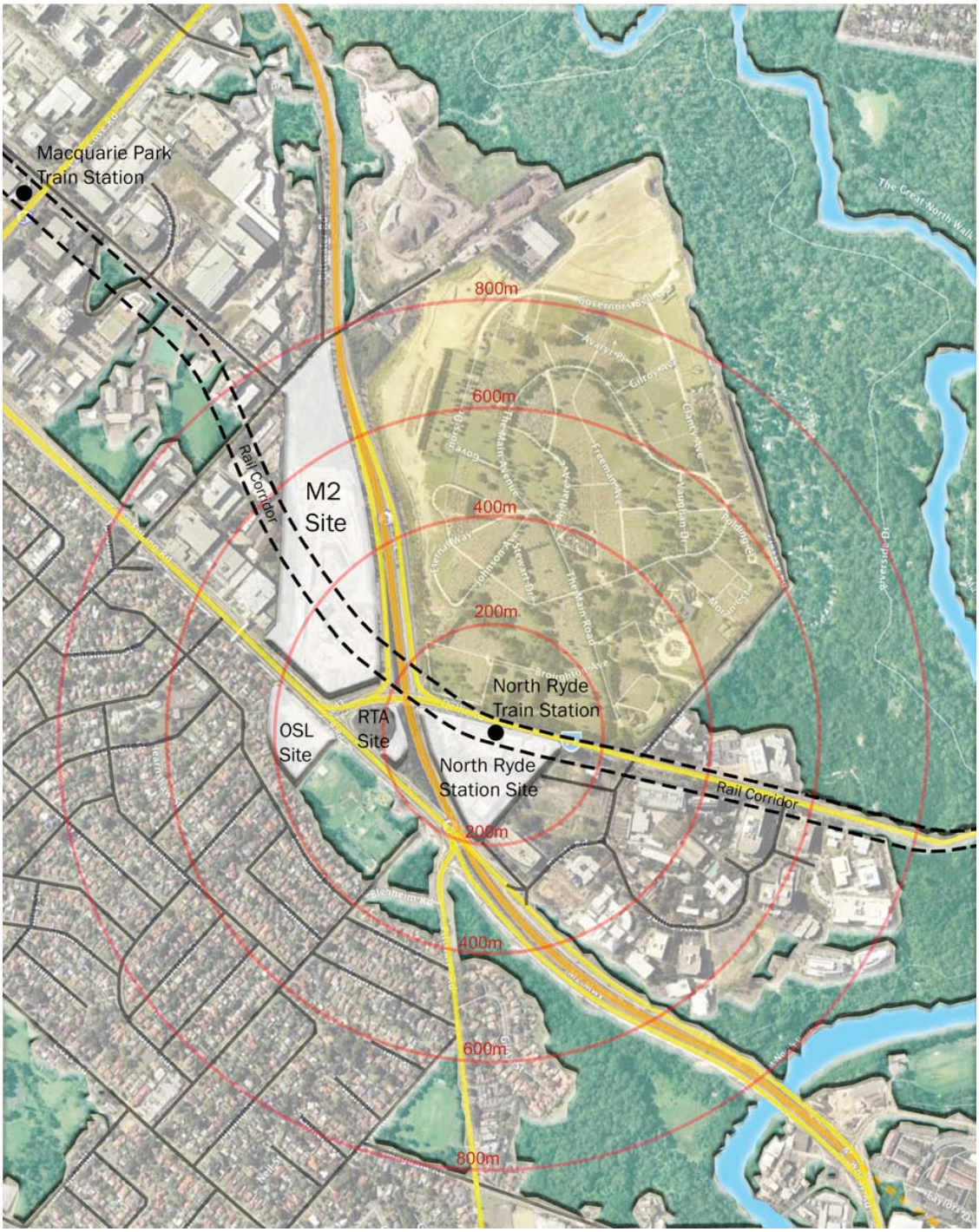
- To the south – North Ryde, a low density residential suburb consisting primarily of single storey detached dwellings.
- To the east – The M2 and the Riverside Corporate Park which is a continuation of the Macquarie Park Corridor consisting primarily of large floor plate multi storey commercial buildings.
- To the west – The built form in the area is a mix of modern medium rise, large floor plate commercial buildings, some vacant sites and older small scale commercial buildings.
- To the north – The precinct is bounded by Delhi Road to the north of the North Ryde Station Site. The North Ryde Crematorium and Cemetery are located beyond Delhi Ryde to the north. To the north of the M2 Site, the site is bounded by the M2 and residential and commercial land uses that form part of the Macquarie Park Corridor.

A number of arterial roads converge on and through the North Ryde Station Precinct, influencing effective pedestrian and bicycle movements to the station and constraining site access. These roads include:

- The M2 Motorway which forms the north eastern boundary of the M2 site and the south western boundary of the North Ryde Station Sites – Northern and Southern.
- Epping Road, which bisects the precinct and forms the southern boundary of the M2 Site and the RTA Site.
- Delhi Road, which divides the M2 Site from the North Ryde Station Sites – Northern and Southern and RTA Site.

A core aim of the strategic planning principles and Concept Plan will be to improve access issues that have arisen as a result of the convergence of these roads, particularly to North Ryde Station. This is discussed further in Chapter 3.

Figure 1: Site in its local context



2.2. The region

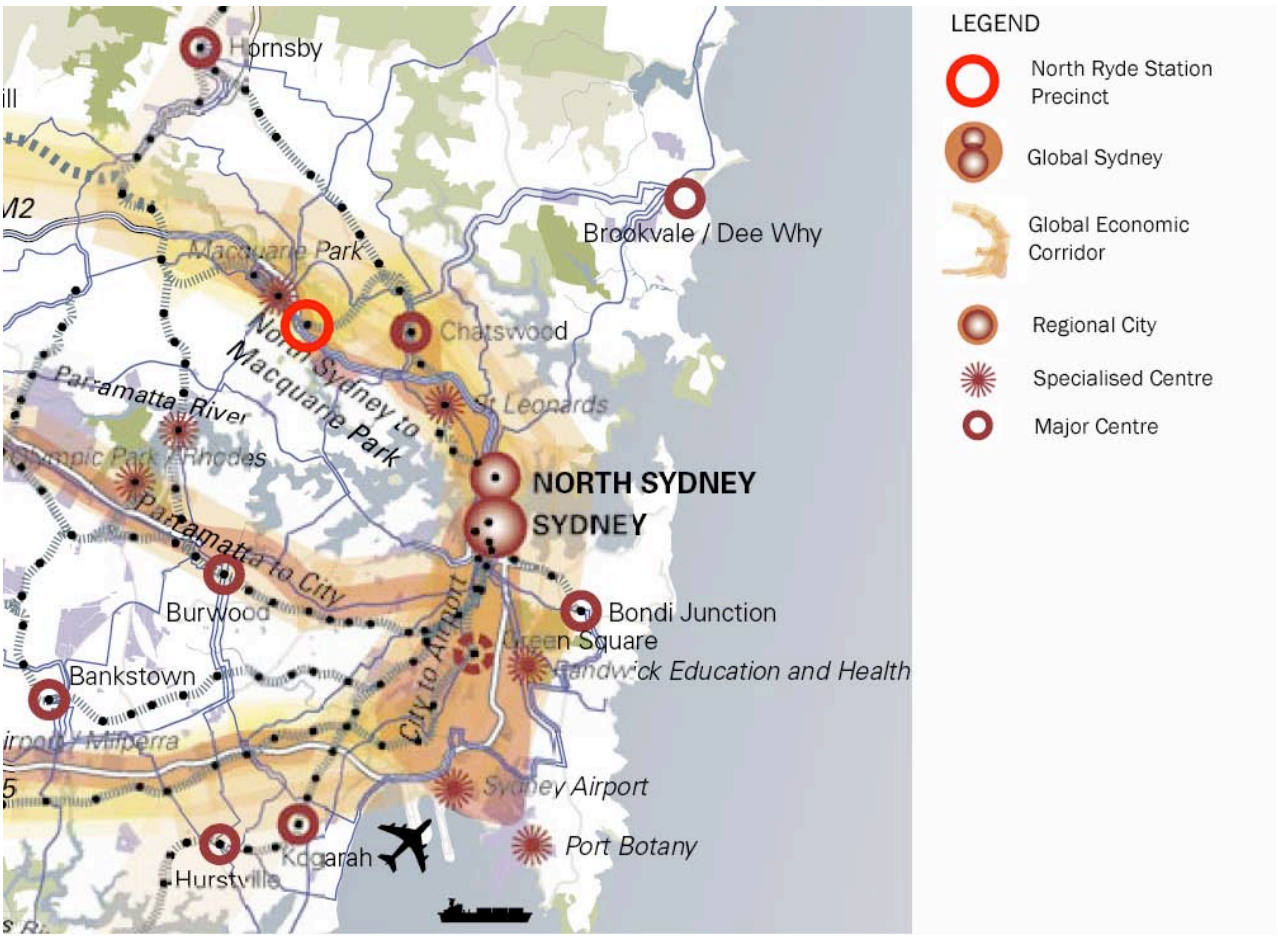
The North Ryde Station Precinct is located within the Macquarie Park Corridor, which is situated at the north western end of the "Global Economic Corridor". The Macquarie Park Corridor is located within the Inner North Subregion as defined in the Sydney Metropolitan Strategy (Metro Strategy). The Global Economic Corridor is an area of global economic activity stretching from Port Botany and Sydney Airport, through the CBD, North Sydney, St Leonards and to Macquarie Park

(refer to **Figure 2**). This region accounts for the majority of Sydney's globally oriented commercial businesses and over 10 percent of the National Gross Domestic Product.

The Inner North Subregion is located approximately midway between the Sydney CBD and Parramatta. The Subregion is also adjacent to Sydney Olympic Park and the upper North Shore. The main transport links include the:

- ECRL, which provides rail connectivity to the Sydney CBD as well as links to the greater Metropolitan Area including the Northern Railway Line, which services suburbs north of Chatswood to Hornsby and Berowra.
- M2 Motorway, providing access to lower north suburbs and the Sydney CBD to the south and Hills district to the northwest.
- Metroad 3 (Lane Cove Road – Church Street) – the main Metropolitan north-south road route linking the Northern Beaches to the St George region.

Figure 2: Site in its regional context

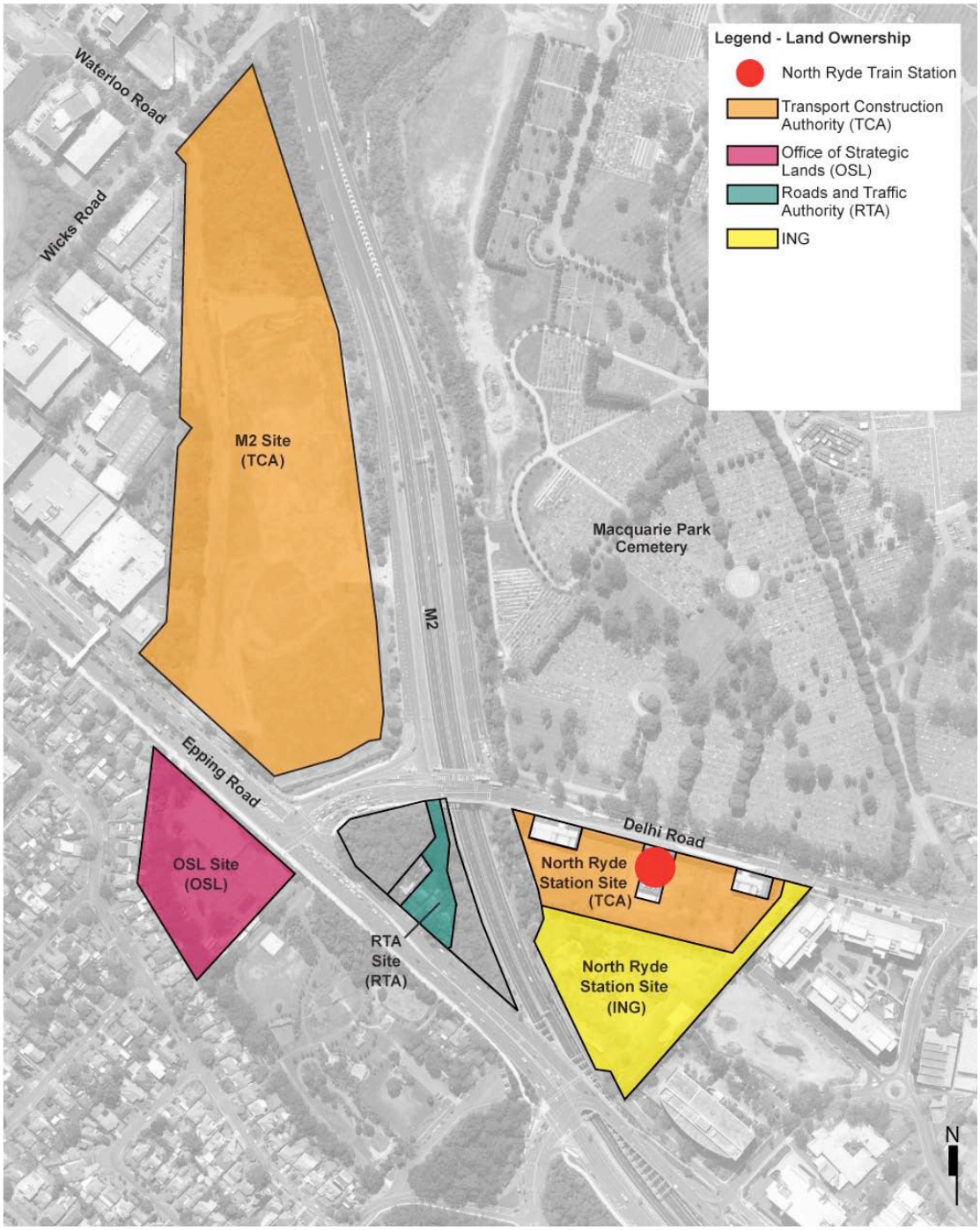


Source: Base Map from Sydney Metropolitan Strategy, DoP 2005

2.3. The North Ryde Station Precinct Lands

The subject lands, referred to as the North Ryde Station Precinct are situated within the City of Ryde (CoR) Local Government Area (LGA), at the southern end of the Macquarie Park Corridor (refer to **Figure 3**). The North Ryde Station Precinct comprises a total land area of 13.99 ha and is divided by the M2 Motorway, Epping Road and Delhi Road.

Figure 3: North Ryde Station Precinct



Source: Architectus

The North Ryde Station Precinct consists of significant state government landholdings, together with two privately owned landholdings, as outlined in Table 1. The State government owned lands represent approximately 87% of the total area of the North Ryde Station Precinct.

Table 1: Summary of North Ryde Station Precinct lands

North Ryde Station Precinct				
Site Name	Portions	Ownership	Lot/DP	Site Area (Ha)
M2 Site	M2 Site (27 Epping Road)	TCA	Lot 101 DP 1131776 and Lot 100 DP 1131776	9.16
North Ryde Station Site	North Ryde Station Site - Northern Site	TCA	Lot 4 DP 1131774	1.3
	North Ryde Station Site - Southern Site	ING	Lot 160 DP 1136651	1.76
OSL Site	Office of Strategic Lands	OSL	Lot 565 DP 28914	1.48
RTA Site	RTA Land	RTA	Lot 11 DP 1017829, Lot E DP 28507, Lot 11 DP 27851, Lot 12 DP 27851	0.29
	Total			**13.99**

2.3.1. M2 Site

The M2 Site is bounded to the east by the M2 Motorway, to the south west by Epping Road, to the south by Delhi Road and to the north by Wicks Road. Access to the site for construction purposes was established via a construction access point from the M2 on ramp and an access driveway from Wicks Road. The M2 Site has a total site area of 91,530m^2. The land generally slopes down to the north, towards Wicks Road. Part of the site is affected by the ECRL Corridor, which poses some engineering related restrictions, which could limit development at surface level. The northern portion of the site is affected by bushland and is partially flood affected.

2.3.2. North Ryde Station Site

North Ryde Station Site - Northern Site

The northern portion of the North Ryde Station Site is owned by TCA and RailCorp and is situated with frontage to Delhi Road, and is bounded by the M2 Motorway to the west, and privately owned land (North Ryde Station Site – Southern owned by ING) to the south. The site has a total area of approximately 13,000m^2 and is located adjacent to North Ryde Station and its service buildings. The land falls away from Delhi Road to the south, towards the North Ryde Station Site – Southern.

Access to the site is via the signalised intersection (constructed by TCA as part of the ECRL) at the intersection of Delhi Road and the proposed Road 38 along the eastern boundary of the site. There are no major environmental constraints affecting the land.

North Ryde Station Site - Southern Site

The North Ryde Station Site – Southern is owned by ING and is approximately 17,600m^2. The site slopes gently to the south. It is also vacant and unoccupied. The large building that previously existed at the site has been demolished, leaving a stepped profile where the building had been cut into the natural hill slope. However, an abandoned single-storey brick building remains in the east of the site, and a compound containing two disused transformers is also located immediately adjacent to this building. The footprint area of the demolished building is unsealed, whilst the previously existing asphalt access roads and car parking areas remain and were observed to be in good condition with no evidence of spills or stains observed during the inspection. Ornamental grass and garden areas also remain in the south of the site.

2.3.3. Office of Strategic Lands Site

The OSL owned land is located on the western side of Epping Road, opposite the Delhi Road/Epping Road intersection. The site has an area of approximately 14,800m^2 and is currently leased on a long term basis and used as a recreational facility (tennis courts). Blenheim Park adjoins the site to the south, while residential development adjoins the site to the west and north.

2.3.4. RTA Site

The approximate area of the RTA Site incorporated into the North Ryde Station Precinct is 2,875m^2. The RTA owns four blocks of land situated between Epping Road, Delhi Road and the M2 Motorway. The lands adjoin the Bundara Reserve, which is owned by Council. The RTA owned lands surround one privately owned parcel of land, which is not included in this application.

3. Statutory Planning Context

The lands within the North Ryde Station Precinct fall within the CoR LGA. The following key strategic plans, commonwealth, state and local planning instruments, development control plans and contributions plans currently apply to the site:

- *Commonwealth Environment Protection Biodiversity Conservation Act 1999* (EPBC Act);
- *NSW State Plan*;
- *Environmental Planning and Assessment Act 1979* (the Act);
- *State Environmental Planning Policy (Major Development) 2005*;
- *State Environmental Planning Policy (Infrastructure) 2007*;
- *Inner North Subregion Draft Sub-Regional Strategy*;
- *Ryde Local Environmental Plan 2010*;
- *Ryde Planning Scheme Ordinance*;
- *Ryde Development Control Plan 2010*; and
- *Ryde Section 94A Development Contributions Plan*.

3.1. Commonwealth planning framework

The *Commonwealth Environment Protection & Biodiversity Conservation Act 1999* (EPBC Act) establishes a process for assessing the environmental impact of activities and developments where 'matters of national environmental significance' may be affected. Under the Act any action which "has, will have, or is likely to have a significant impact on a matter of national environmental significance" is defined as a "controlled action", and requires approval from the Commonwealth Minister for the Environment.

The ecological assessment identified that the EEC Sydney Turpentine Ironbark Forest (STIF) occurs within the adjoining Bundara Reserve, which is listed in the EPBC Act.

3.2. State planning framework

3.2.1. NSW State Plan

The NSW State Plan identifies key strategies for integrated land use development and specifically seeks to achieve "Jobs closer to home".

The proposal meets the State Plan priorities in the following ways:

- continuing to implement the Metropolitan Strategy, which plans for the growth of the Sydney region and provides guidance for all 41 metropolitan councils on how to best plan for jobs and services close to homes;
- integrating urban growth and transport delivery through the Metropolitan Transport Plan and the review of the Metropolitan Strategy and Regional Strategies; and
- accelerating the establishment of residential and commercial centres around transport hubs.

The State Plan sets a target to increase the proportion of people living within 30 minutes by public transport of a Strategic Centre, as part of the Priority to 'Increase the Number of Jobs Closer to Home'. The Inner North Subregion currently performs above the Sydney average on this target. To maintain the Inner North Subregion's performance on this State Plan target, Inner North Councils should ensure that at least 80 per cent of new dwellings are located within 30 minutes by public

transport of a Strategic Centre. The proposed land use zones and development concept is consistent with this Priority.

The NSW State Plan also sets a Priority to 'Improve Housing Affordability', which aims to

- Increase the supply of affordable housing for low and moderate income households in the Sydney Metropolitan Region and the Central Coast.
- Provide capacity for 640,000 new dwellings between 2004 to 2031, including 445,000 in existing urban areas and the remaining 195,000 in greenfield locations.
- Achieve stocks of land zoned and serviced with trunk infrastructure with potential for development of 55,000 dwellings.

The NSW State Plan acknowledges the impact of housing supply on affordability and recognises that there is a need to ensure competitive tension in the supply of land so there is a continuing flow of new properties to the market. A key objective of the proposal is to provide diverse housing that can provide for affordable housing.

3.2.2. Sydney Metropolitan Strategy

The proposal is consistent with the actions of the *Sydney Metropolitan Strategy* (Metro Strategy) and the *Inner North Subregion Draft Sub-Regional Strategy* (Draft INSS). Specifically, the Draft INSS aims to ensure that adequate land is available and appropriately located to sustainably accommodate the projected housing and employment needs of the region's population over the next 25 years.

Key actions within the Metro Strategy and Draft INSS that would be achieved by the proposal are identified in Table 2 below.

Table 2: Summary and review of Metro Strategy and draft INSS actions

Sydney Metropolitan Strategy	
Action	Response
A1 Provide suitable commercial and employment lands in strategic areas	The proposal is located within the Macquarie Park Corridor. The site is currently under developed but offers a unique opportunity to provide mixed use land uses to support North Ryde Station.
B1 Provide places and locations for all types of economic activity and employment across the Sydney Region	The proposal will introduce a range of land uses that will activate North Ryde Station and surrounding lands. The proposal forms a logical extension to existing development in the Macquarie Park Corridor to the west of the station and the Riverside development to the east of the station. The precinct is also located within the 'Global Economic Corridor' corridor as identified in the Metro Strategy therefore it is considered to be of major significance for employment and economic activity. In particular, the CIV for the development is estimated to be $987 million and is likely to create approximately 5,440 construction jobs.
B4 Concentrate activities near public transport	The proposal is centred on the newly developed North Ryde Station which forms part of the ECRL. The State Government invested $2.3 billion in the development of the ECRL. The proposal is aimed to encourage greater use of North Ryde Station and activate lands around the station.
C2 Plan for a housing mix near jobs transport and services	The proposal would include diverse housing within the precinct to promote housing affordability and diverse communities near public transport.

Sydney Metropolitan Strategy	
Action	Response
C5 Improve the quality of new development and urban renewal	The proposal will be a benchmark TOD and aims to include appropriate sustainability measures enhancing the quality of redevelopment. The redevelopment of the precinct will be one of the largest urban renewal projects in NSW.
Inner North Subregion draft Subregional Strategy	
Action	Response
Employment	
A3.2 Integration of employment and housing markets	The proposal is a TOD which aims to integrate a variety of land uses to support the North Ryde Station.
Employment	
B2 Increase densities in centres whilst improving liveability	The redevelopment will be consistent with TOD principles and promotes higher densities to support activation of the North Ryde Station. The proposal aims to create liveable and active communities with a high degree of amenity including open space and solar access.
B4 Concentrate activities near public transport	The proposal is a TOD that will activate land uses in and around the North Ryde Station.
Housing	
C1.2 Apply sustainability criteria for new development	The proposal would meet TCA's Sustainability Objectives. Appropriate sustainability measures would be incorporated at various stages of the development.
C1.3 Plan for increased housing capacity targets in existing areas across the metropolitan region. A target of 60–70 percent of new housing will be accommodated in existing urban areas, focused around centres and corridors. This will take advantage of existing services such as shops and public transport and reduce development pressures in other parts of Sydney.	The proposal is infill mixed use development in proximity to public transport. The proposal is aimed to provide up to approximately 273,000m^2 of residential land use within the Macquarie Park Corridor. The additional housing provides compatible uses to the surrounding employment lands.
C2 Plan for a housing mix near jobs, transport and services	The proposal is aimed to provide a mix of housing near employment lands and public transport. The proposal would meet TOD principles.

3.2.3. Environmental Planning and Assessment Act 1979

The Act is the main environment and planning legislation that applies to development in NSW. The Act establishes the process by which any development is to be considered for approval by the relevant consent authority being, either, a local government authority, a determining authority or the Minister for Planning. Specifically, three parts of the Act provide the framework for assessment and determination namely, Part 3A, Part 4 and Part 5.

Subject to the authorisation of the Minister for Planning, the proposed development would be subject to Part 3A of the Act given it is a development as described in Schedule 1 of the Major Development SEPP and proposed to be listed under Schedule 3 of the Major Development SEPP. (see below).

3.2.4. State Environmental Planning Policy (Major Development) 2005

Clause 6(1) of the Major Development SEPP provides that development, which in the opinion of the Minister is development of a kind described in the various schedules of the Major Development SEPP, is declared to be a project to which Part 3A of the Act applies.

The proposed development falls within the description in clause 13(1) of Schedule 1 of the Major Development SEPP as it is a mixed use development with a capital investment value of over $100 million.

Clause 8 of the Major Development SEPP provides the mechanism for the Minister for Planning to declare a site as a State Significant Site. Clause 8 also identifies that a study may be required to be prepared to assess the merits of the site and provides the role of the Director-General for Planning.

3.2.5. State Environmental Planning Policy (Infrastructure) 2007

The Infrastructure SEPP provides consistent planning regimes with improved regulatory certainty for provision of infrastructure and services across NSW, along with providing for consultation with relevant public authorities during the assessment process. Key points and provisions of the SEPP include, but are not limited to the following:

- Identifying classes of infrastructure development that can be approved by public infrastructure proponents, rather than through a formal development consent process, if the development does not significantly affect the environment (Schedule 1);
- Identifying additional uses permitted on land currently zoned for a 'special use' or government land, subject to the issuing of a compatibility statement by the Director;
- Requiring State agencies constructing infrastructure to consult councils when a new infrastructure development is likely to affect existing local infrastructure or services (Clause 7).

In addition the SEPP outlines a need for a traffic report, as is outlined in Clause 104 (Traffic-generating development), which must address such issues as access and any parking or traffic impacts of the proposed development.

This SEPP determines that referral to the RTA is required with 300 or more dwellings being proposed at the site.

3.3. Local planning framework

The subject sites fall within the CoR LGA. Council has been progressively updating its planning controls applying to the Macquarie Park Corridor area. TCA previously requested from Council that its sites be identified as "deferred matters" under the updated planning instruments. OSL similarly requested that its site be listed as "deferred matters" from draft LEPs. Given the

"deferred matter" status, the planning controls applying to TCA's and OSL's lands revert back to the Ryde Planning Scheme Ordinance (Ryde PSO) provisions.

The planning documentation that applies to the lands is summarised in Table 3.

Table 3: City of Ryde Environmental Planning Instruments and plans

Local EPIs	Details
Ryde Local Environmental Plan 2010	• TCA and OSL owned lands are 'deferred matter' • RTA/Transurban owned lands zoned low density residential (R2) and Infrastructure (SP2). • ING Site zoned as Commercial Core (B3)
Ryde DCP 2010 – Part 4.5 Macquarie Park Corridor	• North Ryde Station indicative provisions illustrated. Identifies that sites are subject to further masterplanning. • TCA and RTA/Transurban owned lands part of North Ryde Station Precinct. OSL owned land outside precinct.

3.3.1. Land Use Zone

The majority of the subject lands are currently unzoned under *Ryde Local Environmental Plan 2010*. TCA believes, for a development of this scale, the most appropriate means of addressing the land use zoning provisions is through the SSS process (refer to Section 4.3).

3.3.2. Macquarie Park Corridor DCP

The site is identified in the Macquarie Park Corridor DCP (MPC DCP). The North Ryde Station Precinct, is specifically identified as a 'special precinct' in the MPC DCP, which states that:

> *The North Ryde Station Precinct provides an important link between the Riverside Corporate Park and the Macquarie Park Corridor to the west. The precinct includes two distinct sub-precincts: North Ryde – East, which is centred around the North Ryde Station and a new public park adjoining Riverside Corporate Park, and North Ryde – West, which is located on an elevated plateau along the edge of the M2 east of Wicks Road.*

The MPC DCP goes further to identify the characters of potential future development of these areas within the precinct, stating that:

> *North Ryde – East is characterised by:*
>
> - *a rail station plaza and new local park are concentrated adjacent the rail station,*
> - *a vibrant local activity centre with retail and community uses along public spaces and new streets,*
> - *a new street network connecting into Riverside Corporate Park and into the surrounding streets,*
> - *a pedestrian network along streets and through site links connecting into surrounding areas,*
> - *a mix of uses including commercial, residential, retail and community facilities, and*
> - *landmark towers marking the station area.*

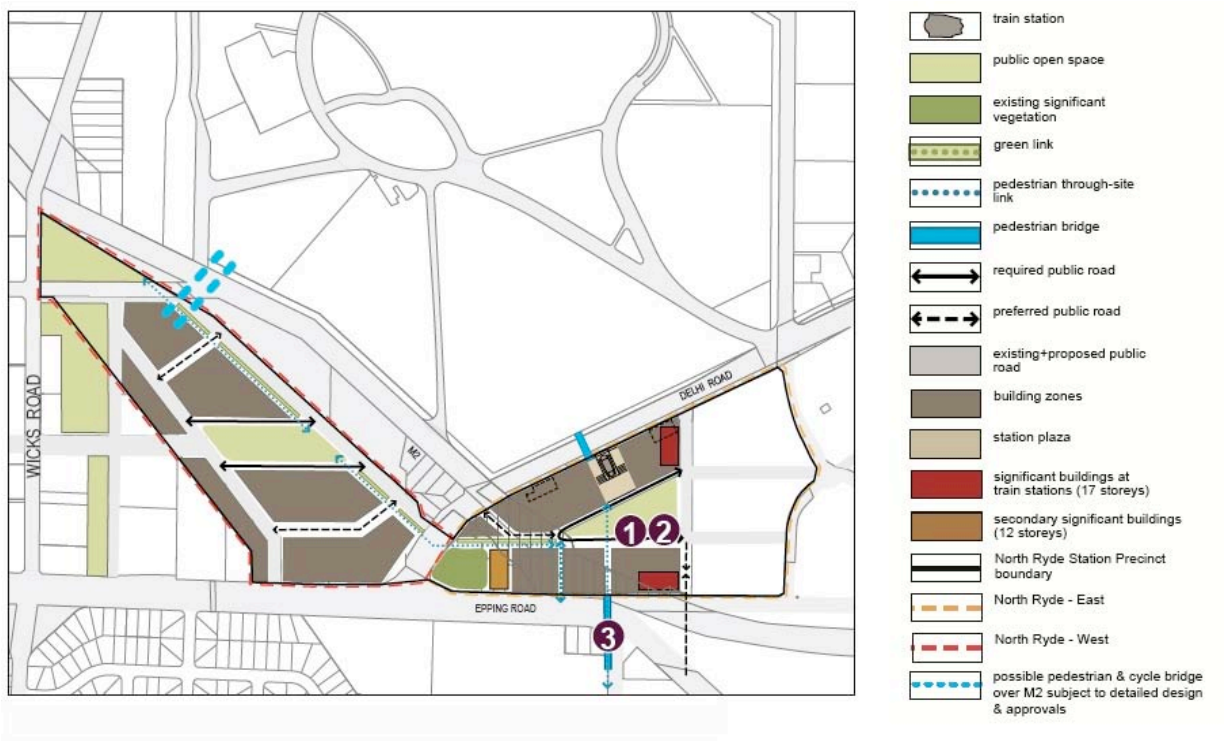
and,

North Ryde West is characterised by:

- *new residential neighbourhood,*
- *a series of public parks, communal open spaces and reserves,*
- *a new street network connecting into the Macquarie Park Corridor grid and the extension of Waterloo Road,*
- *commercial uses along Epping Road and a range of uses supporting the residential neighbourhood, including a small retail hub for daily shopping and community facilities,*
- *a road and linear planting creating a buffer along the edge of the M2,*
- *building forms and heights that reinforce the street network and public spaces, and*
- *a bushland reserve at the northern end of the North Ryde – West site.*

The proposed development is consistent with the intended character of the precinct and generally consistent with Council's 'Special Precinct Illustrative Plan' (refer to **Figure 4**).

Figure 4: North Ryde Station Precinct Special Precinct Illustrative Plan



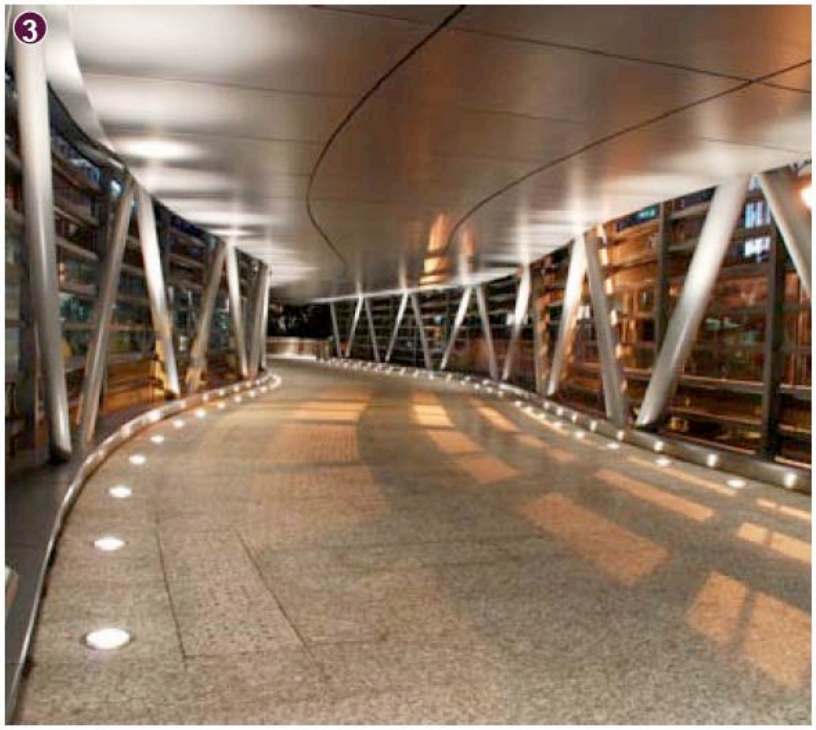
Source: City of Ryde Macquarie Park Corridor DCP 2010

The Special Precinct Illustrative Plan also identifies examples of the type of development around the North Ryde Station, as illustrated in **Figure 5** to **Figure 7** (extracts from the MPC DCP).

Figure 5: Suggested open space

Figure 6: Potential open space

Figure 7: Suggested pedestrian link



Source: City of Ryde Macquarie Park Corridor DCP 2010

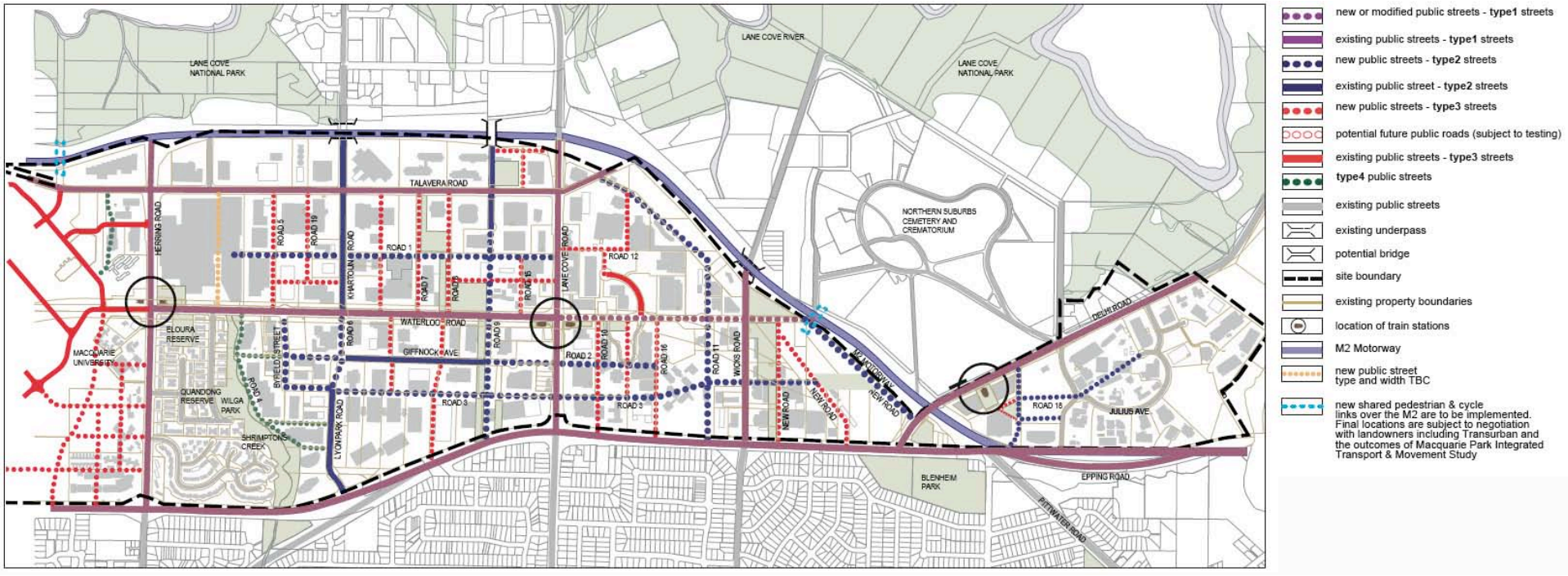
The MPC DCP identifies that a masterplan should be prepared over the site.

In addition, the proposal is generally consistent with various access and design elements identified in the MPC DCP Street Network Structure Plan and Built Form Structure Plan, including but not limited to:

- Provision for Road 38.
- Provision for an internal access/service road.
- Provision for open space.
- Provision for a road connection to adjoining lands to the east of the North Ryde Station Precinct.

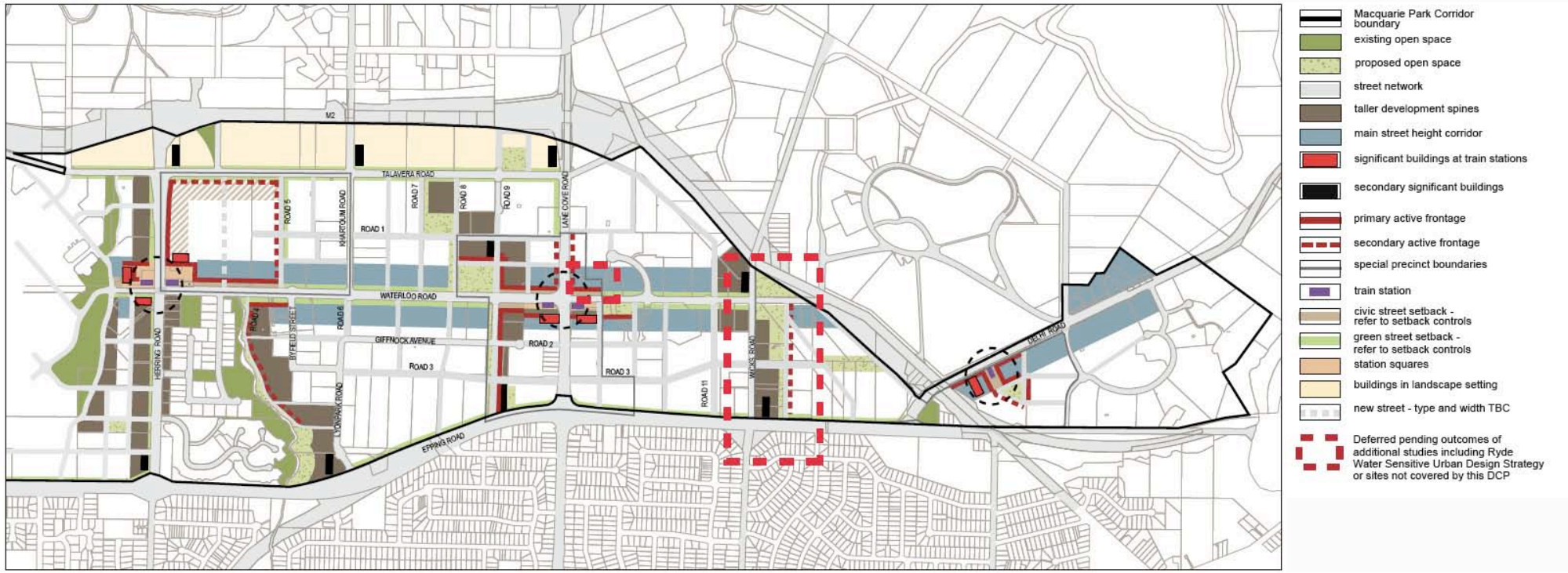
Refer **Figure 8** and **Figure 9** for relevant MPC DCP Structure Plans.

Figure 8: MPC DCP street network structure plan



Source: City of Ryde Macquarie Park Corridor DCP 2010

Figure 9: MPC DCP built form structure plan



Source: City of Ryde Macquarie Park Corridor DCP 2010

4. The Proposal

4.1. Transit Oriented Development Principles

The proposal offers an opportunity to achieve a TOD in an under developed precinct that has access to new a railway station. The *"Transit oriented development: guide for practitioners in Queensland"*, prepared by the Queensland Government, October 2010 (TOD Guide), defines a TOD as having the following characteristics:

- a rapid and frequent transit service;
- high accessibility to the transit station;
- a mix of residential, retail, commercial and community uses;
- high quality public spaces and streets, which are pedestrian and cyclist friendly;
- medium- to high-density development within 800 metres of the transit station (i.e. the TOD precinct); and
- reduced rates of private car parking.

The principles on which TODs have been generally designed are based on those established by Peter Calthorpe in, *"The Next American Metropolis",* 1993. As identified in the TOD Guide, Calthorpe's principles of transit oriented development included:

- Organise growth at a regional level to be compact and transit supportive.
- Place commercial, housing, jobs, parks and civic uses within walking distance of transit stops.
- Create pedestrian-friendly street networks, which directly connect local destinations.
- Provide a mix of housing types, densities and costs.
- Preserve sensitive habitat, riparian zones and high-quality open space.
- Make public spaces the focus of building orientation and neighbourhood activity.
- Encourage infill and redevelopment along transit corridors within existing neighbourhoods.

The Queensland Department of Infrastructure and Planning 2009, expanded on the above principles under six key themes, including location, land use, design, transport, social and process. In all, this included 21 agreed principles.

The North Ryde Station Precinct development encourages greater activity on adjoining lands through the implementation of suitable land uses and encourages greater use of public transport network.

The proposal is consistent with Calthorpe's principles and those identified in the TOD Guide, as it would achieve the following:

- Provides mixed use development within 800 metres of the North Ryde Station, with greater focus on residential development, supported by appropriate community facilities.
- Provides increased residential density around North Ryde.

- Integrates North Ryde Station with retail, commercial, recreational and community uses therefore stimulating activity around the station.
- Provides pedestrian and bicycle connectivity to North Ryde Station.
- Provides a high level of pedestrian and bicycle connectivity to nearby employment.
- Provides liveable and active public domain spaces for the community that integrate with proposed land uses and North Ryde Station.
- Provides opportunity to rehabilitate the riparian corridor to the north of the M2 Site.
- Provides high quality open space that is within walking distance.

4.2. State Significant Site Request

To support the future development of the North Ryde Station Precinct lands, amendments to the existing land use zoning are required through an amendment to Schedule 3 of the Major Development SEPP. At this stage specific zones have not been considered in detail although these will be based on supporting the future development of the land in accordance with the TOD principles identified for the precinct and to enable development subject of the Concept Plan application. An amendment to *Ryde Local Environmental Plan 2010* would also subsequently be required to incorporate the strategic planning controls incorporated into Schedule 3.

At this stage the scope of the amendment required is yet to be finally determined. The following potential standard template (under the *Standard Instrument (Local Environmental Plans) Order 2006*) zones have been identified consistent with the zoning approach adopted by Council elsewhere in the local Government Area:

- Open space - RE1 Public Recreation.
- Mixed use areas - Zone B4 Mixed Use.
- Ecologically significant lands - Zone E2 Environmental Conservation.
- Medium to high density residential R3 – Medium density residential or R4 – High density residential.

4.3. State Significant Site Justification

The proposed development provides a unique opportunity to achieve a TOD in proximity to a new railway station and on lands that are significantly under developed. The site is unique as it is predominately in government ownership and is approximately 14 hectares of developable land centred on a railway station. This provides an opportunity to develop the site with a whole of government approach, which is consistent with State Government strategies, plans and policies.

The State Government has established a guideline for State Significant Sites titled, *Guideline for State Significant Sites under the Major Projects SEPP* (SSS Guide). The SSS Guide sets out the key criteria for the consideration for a site state significant listing. A SSS must be of State or regional planning significance because of its social, economic or environmental characteristics.

The proposed SSS listing is considered to meet the following criteria:

Be of regional or state importance because it is in an identified strategic location (in a State or regional strategy), its importance to a particular industry sector, or its employment, infrastructure, service delivery or redevelopment significance in achieving government policy objectives.

The primary aim of the proposal is to better activate the North Ryde Station Precinct, improve station access and provide for a mixed use development that supports patronage of North Ryde Station and ECRL. The State Government has invested significant sums in the ECRL and the

proposal is considered essential to achieving appropriate utilisation of the station and rail network.

Specifically, the site is located within the Macquarie Park Corridor and would be one of the most significant development sites in the corridor. The only comparable sites for mixed use development in scale and investment would be Barrangaroo and Frasers on Broadway (ex Carlton United Brewery Site (CUB site)). The Macquarie Park Corridor is identified as a specialised centre in the *Inner North Subregion Draft Subregional Strategy* and is projected to have an estimated 55,300 employees by 2031. The site also forms part of the 'Global Economic Corridor' as identified in the Sydney Metropolitan Strategy.

The precinct would significantly contribute to the economy of the Subregion and 'Global Economic Corridor', as the proposed development of the site is expected to provide up to 367,000m^2 of floorspace for mixed land use purposes. In addition, it is likely to generate an estimated 5,440 construction jobs over the life of the proposed development.

Further, the project would significantly contribute to the activation of North Ryde Station, which is located along the ECRL. The ECRL was a $2.3 billion investment by the NSW State Government and currently carries an estimated 11,500 customers per day. The ECRL is forecast to carry an estimated 30,000 passengers by 2030. The proposed development of the North Ryde Station Precinct, when completed, is expected to contribute up to an estimated additional 6,000 entries per day at North Ryde Station.

The site provides an opportunity for a whole of government approach to integrate land uses and public transport on a unique site, which supports key transport and land use priorities and targets established by the State Government. Importantly, TCA as the State Government landowner responsible for delivery of the ECRL and with the most significant landholdings within the Precinct is best placed to delivery the TOD. In addition, TCA has a high level of knowledge of those sites within the Precinct, the constraints posed by the ECRL and how to best enhance patronage of the station through land use planning and improved connectivity.

The proposal includes a number of public and private landowners including TCA, RTA, OSL and ING. In order to provide transparency in regard to the rezoning process for all land owners it is proposed to use the SSS process. As such, a centralised process with TCA as the Proponent would most efficiently and effectively manage the process.

4.4. Concept Plan

An indicative Concept Plan for the site has been developed by Architectus (refer Figure 4 and **Appendix 2).** Key elements of the indicative Concept Plan include:

- Rehabilitation of bushland on the northern portion of the M2 Site to create a natural open space area.
- Development of two other primary open space areas, situated on the M2 Site and the North Ryde Station Site, together with a number of smaller pocket parks/open space areas, green setback/buffer zones and green links.
- Appropriate land use development and setbacks designed to mitigate traffic noise from the M2 Motorway, Epping Road and Delhi Road.
- A new mixed use area with retail and commercial/employment uses along the Epping/Delhi Road frontages of the M2 Site.
- Mixed use area with residential development through the precinct.

- Provision of appropriate level of community facilities.
- Extending Waterloo Road through the M2 Site through to Epping Road to provide the main vehicular thoroughfare through the M2 site.
- Development of three vehicular access points to the M2 Site, at Epping Road, Wicks Road/Waterloo Road intersection and provision for a third from the M2 Road Reserve.
- Development of a pedestrian bridge from the TCA M2 Site to the RTA Site to improve pedestrian and cycle connectivity to North Ryde Station across Delhi Road.
- Development of Road 38 along the eastern boundary of the North Ryde Station Site.
- Development of an east west road situated between the North Ryde Station Site – Northern (TCA owned) and the North Ryde Station Site – Southern Site (ING site).
- Significant pedestrian and cycleway upgrades and new links to improve connectivity to North Ryde Station and the Macquarie Park Corridor.

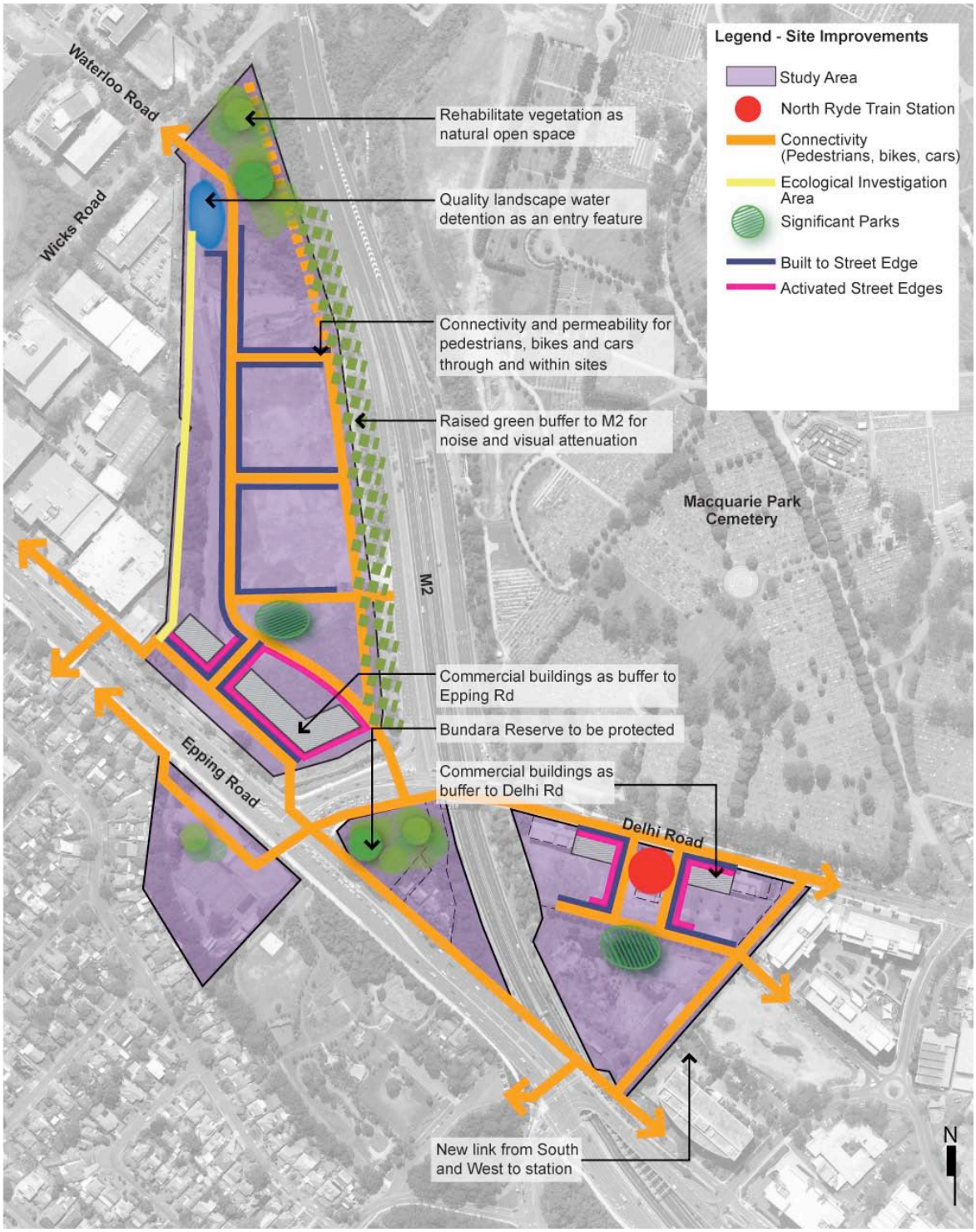
The indicative Concept Plan provides for an overall gross floor area (GFA) of 366,438m^2 broken down into the following land uses.

Table 4: Concept Plan land uses

	M2 Site	North Ryde Station Site		OSL Site	RTA Site	Total
	M2 Site	North Ryde Station Site - Northern Site	North Ryde Station Site - Southern Site	OSL Land	RTA Land	North Ryde Station Precinct
Site Areas	9.15 Ha	1.3 Ha	1.76 Ha	1.48 Ha	0.29 Ha	**13.99 Ha**
Land Use	Proposed Gross Floor Area (GFA) for each site and land use (m^2)					
Commercial	42,300	6,310	0	0	0	**48,610**
Retail	3,000	3,000	0	0	0	**6,000**
Residential	202,140	31,608	49,060	18,310	10,710	**311,828**
Total	**247,440**	**40,918**	**49,060**	**18,310**	**10,710**	**366,438**

The North Ryde Station Precinct Master Plan report at **Appendix 2** provides more detail on the specific uses for each site.

Figure 10: Concept Plan Site Improvements



Source: Architectus

Approval for the following Concept Plan elements will be sought:

- Building Envelopes.
- Quantum and location of proposed land uses.
- Extent of public domain including parks, streets and public squares etc.
- Extent of proposed conservation/open space lands.
- Indicative size and location of drainage infrastructure including wetlands, detention basin.
- The extent of bushfire asset protection zones (if required).
- Primary road, pedestrian and cyclist entry and exit points.
- New pedestrian and cyclist infrastructure providing improved connectivity to North Ryde Station including traffic signalling and road bridges.
- Provision of appropriate community facilities, which may include childcare centre, community hall, playground, library. The type and location of community facilities are yet to be confirmed.
- Staging plan addressing the timing of future release and development of land.

The M2 Site and North Ryde Station Site would be developed as soon as possible in order to encourage activation of the station. As such, the application will include elements within a Stage 1 Project Application to allow the provision of infrastructure to support the development of the precinct in stages. These elements are described in Section 4.5 below.

It is anticipated that the remainder of the site would have a long term development timeframe of up to 15 years.

4.5. Stage 1 Project Application

The proposal includes a Stage 1 Project Application. The works captured under the Stage 1 Project Application relate only to the M2 Site and the North Ryde Station Site and are detailed in Table 5.

Table 5: Stage 1 Project Application

Stage 1 Proposed Works	M2 Site	North Ryde Station Site
Spine/main road	Spine road with two main connections at the intersection of Waterloo Road and Wicks Road (north of the site) and with Epping Road (to the south of the site).	Provision of Road 38 (up to 20.4m wide) along the eastern boundary of the site connecting the North Ryde Station Site – Northern (TCA owned) and Southern (ING owned land) consistent with Council's *Macquarie Park Corridor Traffic Study* and Development Control Plan (DCP) for the precinct. The proposal will not preclude the future connection with the Epping Road/Pittwater Road intersection by others if required. An east west access road between the North Ryde Station Northern and

Stage 1 Proposed Works	M2 Site	North Ryde Station Site
		Southern Sites (ING's land and TCA's land) allowing for vehicular, pedestrian and bicycle movements.
Trunk drainage infrastructure	Associated with the development of the main trunk road.	Associated with the development of proposed roads on the site.
Pedestrian/cycle improvements	A pedestrian bridge connecting the M2 Site with the RTA Site, spanning Delhi Road. Pedestrian access from the site to the Epping Road/Delhi Road intersection to allow an alternative access across Delhi Road utilising an existing pedestrian crossing and access across Epping Road (via existing signalised intersection) to open space and residential lands to the south west of Epping Road.	Access for pedestrians and bicyclists from Road 38 to Pittwater Road is proposed to be provided to connect North Ryde Station with residential land uses to the south of Epping Road, as well as regional bicycle connections.
Key intersections and access	**Northern intersection corner of Wicks Road and Waterloo Road:** allows for vehicular, pedestrian and bicycle traffic; signalised and will operate with full functionality, hence left-in, left-out, right-in, right-out, and straight through movements. **Southern intersection to Epping Road:** allows for vehicular, pedestrian and bicycle traffic; will operate with limited functionality, only providing left-in and left-out movements. **East intersection to M2:** TCA proposes to develop a road up to the boundary of the site to make provision for a future connection the M2; a left-in and left-out, non-signalised intersection.	**Northern intersection (corner of existing service road and Delhi Road):** allows for vehicular, pedestrian and bicycle traffic; the main entry to the site; will operate with limited functionality, hence left-in, left-out, right-in, right-out movements only. Intersection is signalised. **Eastern intersection to existing road on adjoining land:** allows for vehicular, pedestrian and bicycle traffic between the site and adjoining lands to the east of the site through to Julius Avenue; will act as the secondary access point to the site; will operate with full functionality, hence providing left-in, left-out, right-in, right-out and straight movements. **South-eastern intersection to service road:** It is proposed to connect the southern most portion of the site from Road 38 to a service road on the eastern boundary of the site, which provides access to the adjoining Microsoft development.
Development superlots	Subdivision of the site to allow a flexible divestment strategy. Indicative plans of the proposed subdivision pattern and potential staging will be provided as part of the Stage 1 Project Application.	N/A

The proposed intersections and access points are consistent with Council's Structure Plan for the Macquarie Park Corridor identified in the Macquarie Park DCP.

4.6. Sustainable Development and Climate Change

TCA aims to introduce a number measures to ensure that the development achieves high quality sustainable outcomes. Proposed sustainability measures will be investigated in consideration of TCA's Sustainability Objectives. The sustainability initiatives that are expected to be investigated in the preparation of the Concept Plan and Stage 1 Project Application include:

- Provision of adequate numbers of bicycle storage areas and end of trip facilities, dedicated cycle access and cycle paths.
- Adequate pedestrian paths and through links.
- Provision of natural stormwater filtration systems (e.g. raingardens).
- Provision of public art.
- Acoustic Impact Reports (for all residential development).
- Adequate solar access to communal open space.
- Integrated Waste Management Strategy.
- Site Contamination Assessments.
- Workplace Travel Plans (commercial sector only).
- Provision of Solar/Heat Pump/Natural Gas hot water systems only (prohibit electric hot water systems).
- Protection and rehabilitation of existing vegetation area (e.g. from stormwater inundation).
- Integrated Carbon neutral/low embodied Carbon Development Strategy.
- Compliance with relevant TCA Sustainability Targets & adaptation of any relevant component/s of TCA's Sustainable Design Guidelines V1.0 as deemed appropriate.

A number of these measures would also contribute to minimising the overall carbon footprint impact of the development. The Environmental Assessment will also explore potential measures to reduce emissions that may contribute to climate change.

5. Consultation

TCA has consulted with key stakeholders and authorities in order to progress the proposal, including:

- Ryde City Council
- Department of Planning;
- Office of Strategic Lands;
- Roads and Traffic Authority;
- Transurban;
- Private landowners of land adjoining Bundara Reserve; and
- ING.

TCA has acquired consents from the RTA, OSL and ING for inclusion and development of the relevant lands in the precinct.

Refer to **Appendix 3** for agreements.

In regards to discussions with Council Officers it is understood that Council did not have any in-principle objection to the proposal.

Further, consultation will take during the preparation of the Concept Plan and Stage 1 Project Applications.

6. Preliminary environmental assessment

6.1. Traffic and transport

The proposed concept identifies a number of new intersections, station access improvements and new streets. Arup were engaged to undertake a Transport Assessment in support of this PEA (refer to **Appendix 4**).

The assessment undertaken by Arup estimated that the proposed development would result in the following transport movements per specific mode:

- *6,000 entries to North Ryde Station over an entire weekday.*
- *4,500 people boarding bus services in the North Ryde area over an entire weekday.*
- *500 weekday bike trips for a range of different purposes.*

Recent travel counts taken for the ECRL and specifically North Ryde Station found that:

- *On average 1,050 passengers utilise North Ryde Station per day.*
- *On average 11,500 passengers utilise the ECRL on a typical weekday.*

Applying the above outcome from the Arup report to current patronage data therefore provides that approximately a total of 7,000 entries would likely occur at North Ryde Station once these lands within the North Ryde Station Precinct are developed. This does not factor in additional patronage which might be generated as a result of improved access to the station from nearby catchments.

The proposal includes a number of access improvements to North Ryde Station as well as the surrounding area. Access improvements are outlined in detail in Section 4.5 of this report. In regard to new and upgraded access infrastructure Arup support the following access, intersection and street arrangements.

Station Access Improvements

The primary station access improvements seek to improve connectivity across busy nearby roads including Delhi Road, Epping Road and the M2. Currently these roads form a barrier to effective access to the North Ryde Station from residential areas south and west of Epping Road and the TCA M2 Site. The following improvements are proposed:

- Pedestrian/cyclist bridge over Delhi Road.
- Pedestrian/cyclist bridge over Epping Road.
- At grade signalised pedestrian/cyclist crossing across Epping at Pittwater Road.

Development Access

Key intersections and access points have been placed to provide adequate vehicular, pedestrian and cyclist access to each of the respective development sites. Generally, these have been located to minimise the impact on the surrounding road network. The following main access points are proposed:

New Streets

The application will include the provision of key primary access streets within the development. Arup have reviewed the proposed structure and support the general location, widths and orientation of streets developed at this stage. Further detailed engineering and traffic impact assessment will need to be undertaken to determine specific road widths, road geometry and on-street parking at the Environmental Assessment stage of this project. The new streets will include:

- A main spine road providing access through the M2 site.
- Development of Road 38 as identified in Council's Macquarie Park Corridor DCP.
- A new internal access street between the North Ryde Station Northern and Southern Sites (TCA and ING owned land).

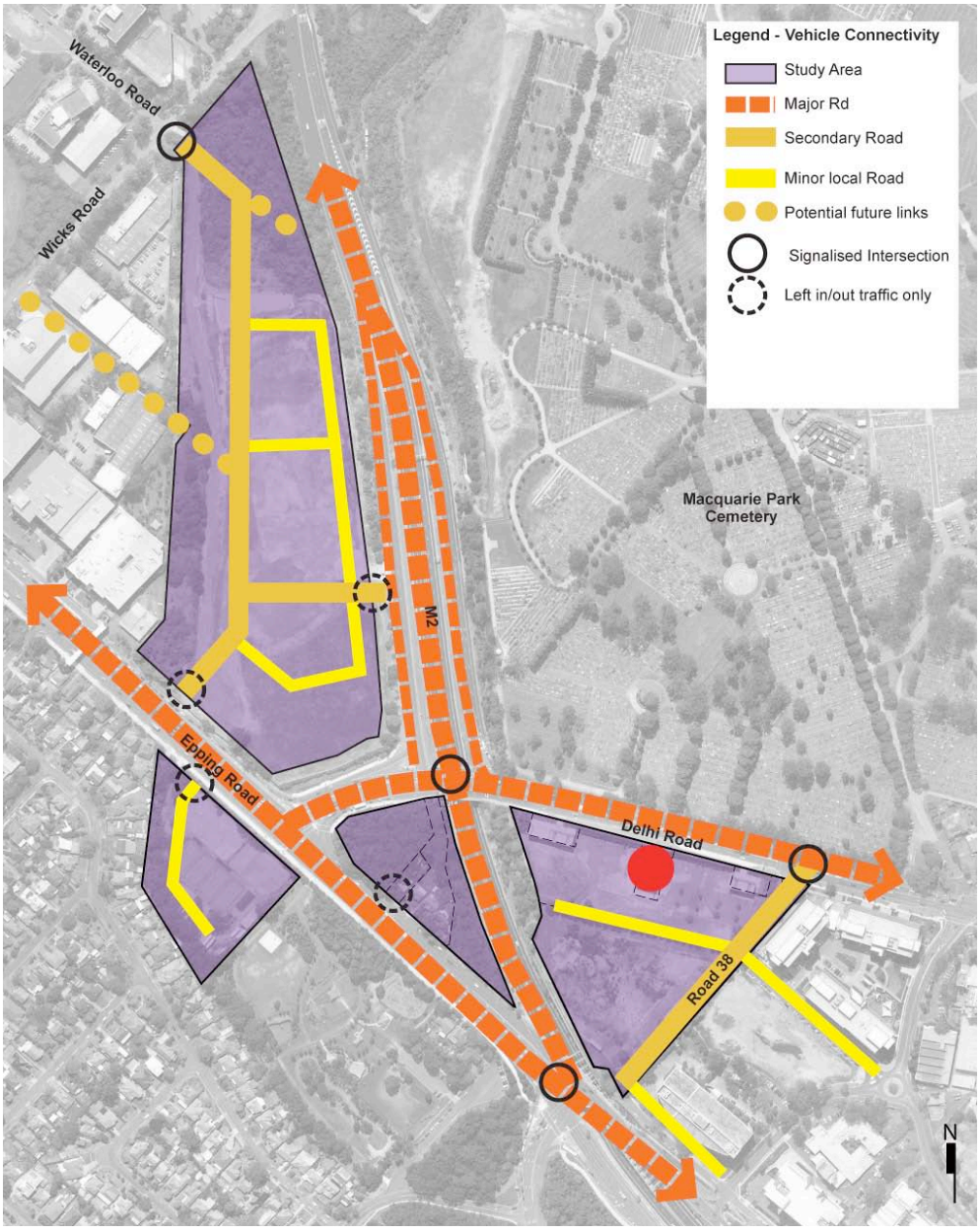
M2 Site

- Northern intersection corner of Wicks Road and Waterloo Road.
- Southern intersection to Epping Road.
- Intersection on eastern boundary to M2.
- Pedestrian access from site to Epping Road and Delhi Road intersection.

North Ryde Station Site

- Road 38 and Delhi Road intersection.
- Intersection on eastern boundary of site from proposed Road 38 to existing service road that currently services the adjoining Stockland property.
- Provision of access from proposed south-eastern most point of Road 38 to RTA owned service road that currently provides access to adjoining Microsoft building.

Figure 11: Proposed vehicular access improvements, key intersections and new streets



Source: Architectus

6.2. Traffic Generation from Proposed Development

The traffic assessment undertaken by Arup identifies that the proposal is likely to generate approximately 1,500 vehicular trips in a weekday peak hour period.

A detailed traffic impact assessment will be prepared as part of the Environmental Assessment for the Concept Plan and Stage 1 Project Application, in order to address any potential impact of vehicular movements generated by the proposal on nearby streets and intersections.

In addition, the Proponent will investigate the appropriate rate of car parking for the proposed development in light of its location in close proximity to North Ryde Station and in consideration of TOD principles.

6.3. Construction traffic

A construction traffic impact assessment will be prepared as part of the Environmental Assessment for the Concept Plan and Stage 1 Project Application in order to address any potential impact of construction vehicular movements on nearby streets and intersections.

6.4. Economic and Social Assessment

TCA has undertaken preliminary investigations into the potential economic impacts generated from the proposal including creation of on-site jobs and retail expenditure. Potential benefits include:

- The proposal is likely to generate an estimated 5,440 construction jobs over the life of the development.
- It is estimated that 2,144 on-site jobs would be created once the development is complete.
- The on-site retail expenditure from the estimated 2,144 workers is calculated to be approximately $2.5 million.
- This retail expenditure is additional to the potential on-site retail expenditure expected to be generated by the on-site resident population, which totals approximately $19 million.

The proposed development is considered to provide significant regional and local social benefits, including:

- Creating liveable communities.
- Providing diverse housing.
- Providing open space and recreational uses.
- Providing appropriate mixed-use development close to the station.
- Providing pedestrian and bicycle connectivity to surrounding area and North Ryde Station.

In preparation of the Concept Plan, it is proposed to undertake a demand assessment for social services and community facilities generated by the development having regard to existing facilities in the Macquarie Park Corridor and surrounding area. The assessment would include but not be necessarily limited to schools, child care centres, medical facilities, community facilities and community services. The result of the assessment would determine the nature of social and community services to be provided within the proposed North Ryde Station Precinct development or for which relevant contributions would be paid.

6.5. Biodiversity

6.5.1. Flora and Fauna

TCA engaged EcoLogical Australia Pty Ltd (EcoLogical) to undertake an assessment of potential constraints, opportunities and impacts on flora and fauna on that part of the North Ryde Station Precinct containing natural bushland and known threatened fauna species (i.e. the M2 Site and Bundara Reserve). Importantly, Bundara Reserve is not included in the Precinct and this application. In regards to the M2 Site, the study found that:

"The majority of the site has limited or no native remnant vegetation value and possess no evident ecological constraints to the conceptual design or ingress or egress from the site…",

and,

"This ecological assessment has also identified and documented the heavily weed infested and degraded state of the vegetation communities in the northern portion of the M2 site. The vegetation for a distance of approximately 30m north of the pond is so heavily degraded and weed affected (almost 100% weeds) that it also provides little if any ecological constraint to design concepts that might involve extending the development footprint to this part of the site…"

The assessment also identifies that in previous fauna assessments undertaken on the M2 Site by EcoLogical and other expert consultants that the Red-Crowned Toadlet (RCT), which is listed as a threatened species in the TSC Act was observed in the area. The sightings of the RCT occurred on an adjoining property to the west of the M2 Site, in an area that is heavily disturbed and consists of a sealed bitumen access road and concrete dish drain separating the properties. The assessment found that:

"…habitat for the species is moderate to poor quality with a high level of disturbance and considerable weed infestation."

The recommendations from the report include:

M2 Site

- *Incorporate leading practice design principles such as WSUD into the Masterplan concept.*
- *Include within design considerations a 'green corridor' as stepping stones throughout the site to provide connectivity across the site and between other offsite vegetation. This corridor should be at least 10 metres in width but this may be varied and combined with other WSUD and detention structures open space and landscaping. Generally the wider a corridor is the more likely it is of being functional and the site would appear to be capable of supporting a 10-30 metre buffer that could be varied north south across the site.*
- *Endeavour to link on site water management to the green corridor theme if possible as this will likely result in colonisation and/or its increased use.*
- *Develop and implement a Vegetation Management Plan (VMP) for the vegetation that extends from approximately 30 metres north of the existing pond. This management plan should incorporate NOW guideline concepts as well as appropriate management regimes for the vegetation community determined to be present.*
- *Note that there are limited ecological constraints existing to tree removal on the southern two thirds of site but there may be some restriction on tree removal to the north of the site subject to assessment of potential use by microbat species.*
- *Long term survival of the existing RCT population element on the subject land is unclear and would likely require active management to maintain. This may include habitat creation within the landscape design options of open space or green space areas in an adjacent to the western boundary of the M2 site.*
- *Any disturbance to vegetation in the northern third of the site arising from intersection/ road design, or other possible proposal considerations such as pedestrian and/or cycleway access and stormwater detention will require further ecological assessment.*

TCA would undertake additional ecological investigations as part of the Concept Plan and Stage 1 Project Application to further assess any potential impacts on the RCT.

Refer to **Appendix 5** for Ecological Assessment.

6.5.2. Porters Creek

Porters Creek is located in the northern vegetated area of the M2 Site, adjacent to Wicks Road. An initial investigation was undertaken in order to determine whether the creek is a nominated watercourse. Cardno on behalf of TCA reviewed the NSW Office of Water (NOW) database, *"NSW Stream Order Dataset (2009)"* over the M2 Site area. It was found that the database does not nominate this section of Porters Creek as a watercourse. Specifically, Cardno identified the following:

> *"While the creek has defined banks, it appears from aerial photography that it is piped further downstream and its vegetation does not connect to upstream or downstream vegetation; both factors which would limit its ecological value and are consistent with its not being categorised."*

It is the intent of TCA to retain and enhance the existing vegetation around the creek. There is an existing Part 3A Permit (known as a 'Controlled Activity Permit') to carry out the crossing works at Porters Creek, which was obtained as part of the ECRL development. However, Cardno state that this would not cover any further works proposed as part of a new development proposal.

Therefore, if the creek was categorised as a watercourse by the NSW Office of Water, a Controlled Activity Permit would be required for any works within 40m of its banks.

In addition, Cardno states that:

> *"Because the creek is not identified as a watercourse, there is likely to be some flexibility in regards to constructing detention storage and water quality treatment areas within the corridor. As discussed, ….there is a significant opportunity to combine rehabilitation of the vegetated area around Porters Creek with water quality and quantity treatment areas… The benefits of such an approach will be the ability to create a sustainable feature within the site which protects the downstream environment, is aesthetically pleasing, can be used by the community and enhances the ecological value of the currently degraded area."*

In reviewing the classification of Porters Creek, Cardno also investigated the potential needs for Asset Protection Zones (APZs) for bushfire protection. Further investigation of the need for APZs would be undertaken in consultation with Department of Environment, Climate Change and Water (DECCW)

Refer to **Appendix 6** for Civil Engineering Investigation.

6.6. Flooding, Stormwater Drainage and Detention

TCA engaged Cardno (NSW/ACT) Pty Ltd (Cardno) to undertake an analysis of constraints related to flooding, stormwater drainage and detention. In order to undertake the assessment Cardno carried out the following actions:

1) **Flooding** - obtained relevant Council maps for the site and its surrounds indicating the simulated flood events for November 1984 and February 1990. Council advised that these maps had not been rationalised and as such should not be used as a reliable source of flood data.

2) **Flooding** – obtained recent flood map from Council, for the site indicating low, medium and high flood risk precincts. The flood extents were determined from the *Bewsher*

Macquarie Park Floodplain Management Study & Plan (April 2010). The flood extents are defined as follows:

a) Low - Probable Maximum Flood (PMF).

b) Medium - 1 in 10 year (or 1% AEP) flood.

c) High - areas of high depth or velocity respectively.

Council noted that this information was in a draft format at this stage.

3) **Flooding and Stormwater Drainage** – Cardno met with relevant Council staff on 7 October 2010.

4) **Stormwater Detention** – Cardno reviewed Council's DCP Part 8.2 Stormwater Management and ran a Drains hydraulic model to determine approximate detention storage volumes.

The findings of the assessment included:

Flooding

- The main areas of flood affectation are within the vicinity of Porters Creek, adjacent to Wicks Road.
- A small amount of flood affected land has been identified at the southern end of the North Ryde Station Site – Southern (ING site - Lot 160 DP1136651). Flood affectation would not pose a significant constraint given the significant drop to the M2 motorway directly south of the identified flooding.

Stormwater Drainage

- A Drains model representing the site was prepared to determine the discharges, which would be generated from the developed site and the detention storage requirements.
- It is considered that after the provision of detention storage, the existing piped drainage network would have capacity to collect runoff from the development site.
- The westernmost parcels would require extension of drainage lines to the site.

Stormwater Detention

- Above ground detention storage areas can typically be combined with water quality treatment areas.
- Below ground detention storage systems would be able to be located below roads, open space areas, car-parking areas or within building basements. These would logically be combined with rainwater tanks. Exact locations will be subject to the detailed design process.
- The approximate detention storage volume and areas per site, over the precinct were determined by Cardno with the application of Drains hydraulic model. Refer to Table 5. The approximate storage areas were determined based on the following:
  - Council's detention storage requirements.
  - Site areas and slope of land.
  - Approximate impervious areas post development which is assumed conservatively to be 85%.

Table 7: Stormwater detention areas

Site	Catchment Area (Ha)	Pre-Developed Discharge (Q100)	Post Developed Discharge (Q100)	Required Detention Storage Volume (m^3)	Detention Storage Area (m^2) Assuming Average Depth of 0.8m
North Ryde Station Site	3.2	725 L/s	1,920 L/s	1,250	1,570
M2 Site	9.16	1,320 L/s	4,390 L/s	4,200	5,250
RTA Site	0.72	230 L/s	435 L/s	200	250
OSL Site	1.48	360 L/s	883 L/s	535	670

6.7. Water Quality and Water Sustainable Urban Design

TCA proposes to include appropriate water quality and Water Sensitive Urban Design (WSUD) measures as per standard urban development industry and Council requirements.

The WSUD measures would involve design in a manner that is sensitive to the water cycle, and includes initiatives such as:

- The reduction in the use of potable water.
- The encouragement of infiltration to groundwater.
- The capturing of stormwater for non-potable uses.
- The management of runoff quantities and frequencies from the site in a manner which replicates pre-development conditions.
- The management of the quality of runoff, in order to minimise detrimental impact on downstream waterways.

WSUD can be achieved in by a variety of methods, and the suitable selection of a suite of treatments is generally dependent upon the particular constraints and proposed land-uses of each individual site.

Potential measures that can be adopted by the proposed development are discussed in more detail in the Cardno Civil Engineering Investigation report found at **Appendix 6**.

In addition, the assessment report prepared by Cardno identifies the approximate water quality treatment area, (e.g. gross pollutant traps and bio-retention areas) required to meet Council's water quality for runoff in accordance with DCP 2010, Part 8.2 – Stormwater Management. The approximate water quality treatment area as determined by Cardno is provided in Table 8.

Table 8: Required treatment area

Site	Catchment Area (Ha)	Required Quality Treatment Area (m²)	Opportunity Combined Detention Storage
North Ryde Station Site	3.2	725 L/s	1,920 L/s
M2 Site	9.16	1,320 L/s	4,390 L/s
RTA Site	0.72	230 L/s	435 L/s
OSL Site	1.48	360 L/s	883 L/s

Note: Refer to Figure 3 in Cardno report for specific sites.

6.8. Provision of Servicing Infrastructure

Cardno was engaged by TCA to undertake an assessment of existing utilities and servicing infrastructure. The assessment was prepared to determine whether the existing infrastructure has sufficient capacity to service the proposed development. A discussion on each type of infrastructure is provided below.

Water

Assessment of the available potable water capacity to the North Ryde Station Precinct found that there is sufficient capacity in the existing network surrounding the site. Specifically, the Civil Engineering Investigation report prepared by Cardno states that:

> *"The site falls within Sydney Water's identified "Major Infill Sites" in its Growth Servicing Plan. The Plan states of the corridor that "The development can be serviced by connection to existing infrastructure. Sydney Water will need to deliver works to its trunk system to cater for the cumulative effect of development in the medium term.""*

The assessment also concluded that based on the size of the development, a watermain extension of a larger size will be required to provide sufficient pressures to the site. A possible scenario, which would provide ample capacity, is the provision of a 300mm diameter watermain extension from an existing 750mm diameter main in Cox's Road.

Electricity

The assessment undertaken by Cardno concluded that the total load for all precincts equates to 20.17MVA. A maximum demand for the development is likely to be in the order of 16MVA assuming a diversity factor of 0.8. Cardno have estimated that this load would require a minimum of four new 11kV feeders from a zone substation plus sixteen by 1MVA kiosks or indoor type substations.

In particular, Energy Australia advised that:

> *"The closest Zone Substation (ZS) available for connection is the Macquarie Park ZS, located at the corner of Waterloo Road and Eden Park Drive, approximately 300m away from the site. This ZS is rated at 114 MVA, with current usage at 100MVA. (Connect believes that the 100MVA usage figure probably allows for some development within the proposed development sites). Given that there is a new ZS proposed at Top Ryde and at Epping, that the Macquarie Park ZS is able to be upgraded and that the proposed development is likely to*

be staged, Energy Australia advised that connection to the Macquarie Park ZS would most likely be feasible."

Gas

In investigating servicing of natural gas to the precinct Cardno contacted Jemena for advice on existing location of gas mains, connections and capacity. The assessment found that:

"... the existing High Pressure Secondary (1050kPa) network adjacent to this site currently has capacity to supply the proposed development. (Jemena*) also advised that pressure reduction station(s) from this gas main would be required to reduce the pressure to acceptable residential/light commercial use prior to reticulation to individual sites."*

Sewer

The assessment undertaken by Cardno identified that there is a significant amount of sewer infrastructure surrounding and within the site. The investigation also found connection sewer mains close to or within most of the site areas. In addition, even though detailed modelling was not available it was concluded that the existing mains will have capacity to service the site without any significant upgrade based on the following:

- the sizes of the existing mains;
- that much of the site has been developed and serviced in the past; and
- an approximation of the sewer flow rates generated from the proposed development.

Further investigations will be undertaken as part of the detailed Concept Plan and Stage 1 Project Application.

Telecommunications

Investigations into availability of telecommunications servicing the site found that:

- Telstra will no longer supply copper telephone cable to green field development sites.
- From 1st June 2010 Telstra will offer high speed fibre optic cabling to all new dwellings and the provision of high speed broadband by Telstra would be developer funded.
- The development may be serviced by the proposed Federal Government roll out of the National Broadband Network (NBN), which is aimed at providing fibre optic cables to 90% of all Australian dwellings over the next eight years.
- The cost associated with the works in relation to the NBN roll out is difficult to predict. However, it is our understanding that the pit and pipe network within new developments is to be funded by the developer, while the fibre within the site and lead-in (backhaul) works would be provided by the NBN. Notwithstanding, this is yet to be confirmed by the Federal Government.

The assessment concluded that:

"Given the location of the site within an existing highly developed area, it is likely that telecommunications services would be readily available, with the only probable question being in relation to the nature of the service provided and the funding arrangements."

6.9. Contamination

M2 Site and North Ryde Station Site

Remediation and validation has been undertaken for the M2 Site (refer to **Appendix 7** for validation letter), with confirmation that the land is suitable for residential purposes. The North Ryde Station Site has been subject to preliminary assessment however detailed assessment would be required as part of the Concept Plan application and Stage 1 Project Application in order to confirm if there are any contamination areas of concern. While the M2 Site will be used as a construction site for the M2 upgrade, the terms of the construction lease are such that the site must be remediated at completion of its use as a construction site, with appropriate validation that the site is suitable for residential purposes.

Other Government sites

Other sites in the precinct will need to be assessed for any contaminants and remediation action plans prepared if remediation of the sites is required. This assessment will be undertaken as part of the Environmental Assessment for the project.

North Ryde Station Site

The North Ryde Station Site – Southern that is owned by ING has been subject to extensive investigations. The findings of the assessment include:

- The results of the initial July 2002 assessment undertaken showed that the concentrations of chemical contaminants in the soil were low and below criteria considered suitable for a commercial/industrial land use. Further, the results showed that an underground petroleum storage system (UPSS) and below ground grease trap that were in use at the time had not significantly leaked. However, the main building on the site was identified to contain asbestos materials.
- Since July 2002 the main buildings at the site have been demolished and the UPSS and grease trap have been removed. A site inspection undertaken for a sampling program in 2009 showed that apart from the former UPSS and grease trap no additional potential contamination sources were identified at the site.
- The results of the targeted soil sampling program show that concentrations of chemical contaminants in soil in the vicinity of the former UPSS and the former grease trap are low and below criteria considered suitable for a commercial/industrial land use. Further, sampling in and around the footprint of the building showed no asbestos impacts in the soil following demolition of the building.
- Based on the results of the July 2002 assessment and the 2009 targeted soil sampling program, the site is considered to be suitable for an ongoing commercial/industrial land use.

Further assessment is proposed to be undertaken to validate the site for residential/open space land use purposes.

6.10. Epping to Chatswood Rail Link Corridor

The ECRL corridor traverses both the M2 and North Ryde Station Site. Development in the vicinity of the ECRL is guided by the *ECRL Underground Infrastructure Protection Guidelines* which provide the engineering and statutory requirements.

In general the placement of buildings has been made to avoid the ECRL corridor. While no detailed engineering assessment has been undertaken, the extent of basements has avoided

sensitive tunnel reserves as identified in the corridor protection guidelines. Further engineering testing will be undertaken as part of the Environmental Assessment for the project.

6.11. Noise

Three major heavily trafficked roads, including the M2, Delhi Road and Epping Road either form the boundary of or divide the North Ryde Station Precinct. In addition, the North Ryde Station Site – Northern and M2 Site are affected by the ECRL corridor, within which the railway operates. TCA therefore proposes to undertake relevant acoustic assessments in line with the *Department of Planning Guidelines for Development Near Busy Roads and Railway Lines* as part of the Concept Plan and Stage 1 Project Application to determine the background noise levels, vibration impacts and any potential mitigation measures required to achieve standard DECCW noise and vibration criteria for the proposed land uses.

6.12. Heritage

The subject sites within the precinct have all been significantly disturbed. During construction works for the ECRL project, a non-indigenous heritage item (well/cistern) was identified on the M2 Site and an initial assessment was undertaken. The assessment found that the Heritage Office did not require a Section 140 permit under the provisions of the *Heritage Act 1977* as the item was to be protected prior to detailed assessment at the end of the project.

TCA proposes to undertake relevant indigenous and European heritage investigations (including consideration of the well/cistern previously identified) to confirm whether there are any known or potential items of significance within the precinct and if so, to address the likely impacts of the proposal on those items.

7. Conclusion

The PEA provides preliminary environmental and planning considerations to guide the preparation of Director General Requirements (DGRs) for the proposed SSS, Concept Plan and Stage 1 Project Application for the North Ryde Station Precinct.

TCA is well placed to undertake the strategic planning and development of a Concept Plan for the future development of lands surrounding North Ryde Station, given the following:

- It has demonstrated experience and knowledge in delivering complex integrated land use and transport projects.
- A desire to deliver a high quality transit oriented development outcome to support North Ryde Station, for which it was responsible for constructing.
- Through delivery of various complex integrated projects it has developed relationships with key State Government agencies including RailCorp, RTA and Department of Planning. These agencies are key stakeholders in this application.
- TCA has also developed a good working relationship with City of Ryde Council through the delivery of the ECRL and participation in Council's strategic planning for the Macquarie Park Corridor.
- As a result of TCA's responsibility for delivery of the ECRL development works, TCA has accumulated significant knowledge of the Precinct and has a thorough understanding of the existing constraints.
- A detailed understanding of the strategic land use and transport issues in the Precinct, which influence access and connectivity to the North Ryde Station and the most appropriate connections required to encourage greater utilisation of the station.

The benefits of the proposed development are as follows:

- Provision of a mixed use development within 800 metres of the North Ryde Station, providing a range of uses including residential, employment, retail and community facilities. This type of development will provide North Ryde with a 'sense of place', through the creation of a centre with appropriate densities and facilities.
- Introduction of residential land uses at higher densities around North Ryde Station to encourage more sustainable public transport usage, by creating North Ryde as both an origin and destination station, and a population which can utilise the station, rail line and facilities both day and night.
- Through the whole of Precinct approach, provision of a development outcome which best integrates North Ryde Station with surrounding areas, through appropriate land use, development form and mix, and pedestrian and bicycle connections.
- Provision of liveable and active public domain spaces for the community that integrate with proposed land uses and North Ryde Station.
- Recognition of the value of environmental attributes within the Precinct with the proposed rehabilitation of the riparian corridor on the M2 Site and the integration of this area with other proposed high quality open spaces within walking distance for residents and on-site employees.

Given the associated benefits of the proposal and CIV we request that:

- The Minister form an opinion in accordance with Clause 6 of the *State Environmental Planning Policy (Major Development) 2005* (Major Development SEPP) that the proposed development is a development of the kind described in Schedule 1 of the Major Development SEPP, so that the proposal is declared to be a project to which Part 3A of the *Environmental Planning & Assessment Act, 1979* (the Act) applies. In forming this opinion we request that the Minister also specifically nominate TCA as the Proponent.
- The Minister form an opinion in accordance with Clause 8 of the Major Development SEPP that the site is a State Significant Site (SSS), therefore, allow the site to be listed in Schedule 3 of the Major Development SEPP.
- The Minister authorise the preparation of a Concept Plan pursuant to section 75M(1) of the Act.
- The Minster authorise the preparation of a Project Application for Stage 1 of the proposal pursuant to section 75E(1) of the Act.
- The Director-General of the Department of Planning (DoP) prepare Director-General's requirements (DGRs) for the preparation of an Environmental Assessment in accordance with section 75F(2) of the Act.
- The DG provide the proponent with requirements for the preparation of the State Significant Site Study in accordance with DoP's *Guideline for State Significant Sites under the Major Project SEPP.*

Appendix 1

Letter from the Department of Planning

Appendix 2

North Ryde Station Precinct Master Plan

Appendix 3

Stakeholder Agreements

Appendix 4

Traffic Assessment Report

Appendix 5

Ecological Assessment Report

Appendix 6

Civil Engineering Report

Appendix 7

M2 Contamination Validation Letter