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Environmental Assessment Report

Part 3A – Concept Plan Application – MP10_110

Residential Flat Development



74-76 Belmore Street, Ryde
(Also known as 8 Junction Street, Meadowbank)

Achieve Australia Limited

Prepared for: Achieve Australia Limited
Project No: 7666A
Date: August 2011



Environmental Assessment Report
Belmore Street, Ryde

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Certification

SUBMISSION OF ENVIRONMENTAL ASSESSMENT

Prepared under Part 3A of the Environmental Planning and Assessment Act 1979

PREPARED BY	
Name:	Don Fox Planning Pty Ltd
Address:	11 Dartford Road, Thornleigh, NSW, 2120
CONCEPT PLAN APPLICATION	
Applicant Name:	Achieve Australia Limited
Applicant Address:	Level 4, 2 Rowe Street, Eastwood NSW 2122
Land to be developed:	Lots 13 and 14 DP 4481, Lot 1 DP 921633, Lots 11 and 12 SP 51349, and Lot 1 DP 1109537, 74-76 Belmore Street, Ryde
Proposed development:	Residential Flat Development over 6 stages comprising 470 units in 6 buildings, including retention of existing heritage item.
ENVIRONMENTAL ASSESSMENT	An Environmental Assessment (EA) is attached which addresses all matters listed under Part 3A of the Environmental Planning and Assessment Act 1979.
CERTIFICATE	We certify that we have prepared the contents of this EA and to the best of our knowledge: <ul style="list-style-type: none"> it contains all available information that is relevant to the environmental assessment of the development to which the EA relates; and it is true in all material particulars and does not, by its presentation or omission of information, materially mislead. <div style="text-align: center;">   </div>
Signature:	
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Qualifications:	BSc MTCP BAppSc (Env.Plg) MPIA CPP MPIA CPP
Date:	11 August 2011 11 August 2011

Executive Summary

Introduction

This Environmental Assessment (EA) has been prepared on behalf of Achieve Australia Limited for a Concept Plan application under Part 3A of the Environmental Planning and Assessment Act, 1979 for a proposed residential flat building development at 74-76 Belmore Street, Ryde.

On 1 September 2010, the Minister's delegate formed the opinion that the proposal for a development comprising residential flat buildings varying in height from 4 to 8 storeys within residential blocks and retention of an existing heritage item is a development described in Schedule 1 of State Environmental Planning Policy (Major Development) 2005. The development has therefore been declared to be a project to which Part 3A of the Environmental Planning and Assessment Act, 1979 applies.

The Director General's Requirements (DGRs) for the preparation of the EA were issued on 16 September 2010. This EA addresses the environmental impacts of the key issues as detailed in the DGRs. This EA report also identifies proposed mitigation measures which form part of Achieve Australia's Statements of Commitment to the Concept Plan application.

The Subject Site

The subject site is known as 74-76 Belmore Street, Ryde and is large parcel of land of approximately 1.6ha located in the Meadowbank Employment Area (MEA). The site has three road frontages, Belmore Street to the northwest, Junction Street to the northeast and Porter Street to the southeast. The site falls in two directions, approximately half the site falls towards the north and the remainder falls towards the south.

There are numerous buildings across the site varying in age and condition. The buildings range in height from single to three storeys. *Tellaraga*, being a local heritage item identified in Ryde Local Environmental Plan 2010 stands centrally within the southern portion of the site. The building is a Federation cottage with unsympathetic additions that have been added over the years. Surrounding the house are memorial gardens and a gated entrance still exists to Belmore Street.

A significant natural feature of the site is the existing perimeter vegetation particularly along Belmore Street and Junction Street and to a lesser extent along Junction Street. Many of these trees are Camphor Laurels which although being classed as a noxious weed are retained to preserve the contribution they make to the Belmore Street streetscape.

Project Summary

The Concept Plan application is for a residential flat building development on the subject site comprising multiple buildings with basement car parking, open space areas and a recreation facility for future residents to be located within the former *Tellaraga*. The Concept Plan seeks approval for the following elements:

- 470 dwellings;
- A maximum gross floor area of 35,000m²;
- A maximum of 584 car parking spaces (residential and visitor);
- Building envelopes which set out height, footprint, setbacks and internal building separation;
- The location of basement car parking areas/envelopes;
- Vehicular access points; and
- Open space areas.

Consultation

Achieve Australia commenced discussions regarding development of the subject site with Ryde City Council in late 2008 when the then draft Ryde Local Environmental Plan (LEP) was placed on public exhibition. These early discussions focused on the planning controls for the site (current and proposed). At that time the draft LEP did not involve major changes to zonings or planning controls and was simply a like for like translation of the former Ryde Planning Scheme Ordinance into the LEP Standard Instrument format. The review of zonings and planning controls was to be deferred to a future draft LEP process which is now commencing.

Given that the vision for the site did not align with the current planning controls Council and Achieve Australia formed the view that the Part 3A provisions of the EP&A Act should be pursued for the site.

Following the declaration of the proposal as a Part 3A Project the Concept Plans were developed and further consultation was undertaken with Ryde Council, State agencies and the local community to seek their comments on the proposal. Comments from those agencies who responded have been addressed in the EA or the design of the Concept Plan.

Further consultation will take place as part of the formal exhibition of the Concept Plan application under Part 3A of the EP&A Act. Achieve Australia proposes that this will also take the form of a community information session.

Environmental Assessment

The EA addresses the environmental impacts of the key issues of the site as detailed in the DGRs and identifies proposed mitigation measures where relevant. The key issues addressed in this EA are:

- Relevant environmental planning instruments, policies and guidelines
- Built form and urban design
- Environmental and residential amenity
- Transport and accessibility impacts
- Ecologically sustainable development initiatives
- Developer contributions
- Land contamination
- European heritage impacts
- Aboriginal heritage impacts
- Water management and flooding
- Utilities and infrastructure works
- Flora and fauna impacts
- Noise and vibration impacts
- Waste management

Each of these issues is addressed in the body of the EA and where appropriate statements of commitment have been proposed to address potential impacts. A summary of each of the key issues is provided below:

Built form and urban design

The proposed building envelopes have been developed taking into account heritage curtilage, tree retention, building separation under the Residential Flat Design Code (RFDC) and the existing and likely future character of the surrounding area as anticipated in the Centres and Corridors Study of the Ryde Local Planning Strategy. A perimeter edge approach has been adopted enabling buildings

to address and interact with each street frontage whilst allowing a central landscaped open space area as a focus for internal facades.

The visual analysis has found that the buildings respond to the heights of the existing and emerging character of the MEA and the building setbacks and existing perimeter trees provides good screening of the majority of the building mass.

Environmental and residential amenity

The built form and urban design of the Concept Plan has been developed in the context of the Residential Flat Design Code to ensure that the building envelopes and site planning enables future building design to be capable of achieving high environmental and residential amenity. In particular the building envelopes and siting are designed having regard to future apartment layout, orientation, cross ventilation, views, car parking, storage, balcony design and architectural treatment. Wind impacts have also been assessed and found to be acceptable subject to minor ameliorative measures in one location within the site. The building siting has also taken into account the retention of existing vegetation and opportunities for new open space areas and landscaping to complement the future buildings and provide amenity for future occupants.

Transport and accessibility impacts

Transport and accessibility impacts are minimal given that the site is well serviced by public transport, including train and ferry services all within 800m and local and regional buses within 100m of the site. The public transport options provide good accessibility to employment and retail centres. The site is also within 1km of retail centres including Shepherds Bay and the higher order Top Ryde Shopping Centre. The site's good access to public transport is consistent with the objectives of the NSW State Plan, Metropolitan Plan and draft Inner North Subregional Strategy in relation to increasing housing density close to public transport and existing centres.

Traffic impacts have been found to be acceptable. Importantly, a transport assessment prepared in July 2007 to support the MEA Master Plan identified a number of traffic improvements and upgrades works necessary to support a change in land use. The nominated works (many of which have been completed) were found to cater for the traffic demands likely to be generated by this proposal.

Ecologically sustainable development initiatives

NBRS+Partners has prepared an Ecologically Sustainable Development Design Report that has been founded on Australia's National Strategy for Ecological Sustainable Development. The National Strategy establishes core objectives and guiding principles and the concepts have been interpreted to establish the objectives, initiatives and implementation methods for nine facets of ESD. The principles contained in the ESD Design Report are intended to achieve a benchmark equivalent to a 4 Star Green Star rating.

Developer contributions

It is anticipated that Achieve Australia will pay Section 94 contributions to Ryde Council on a stage by stage basis. The Concept Plan does not provide an opportunity to offer public benefits that would warrant entering into a voluntary planning agreement. However, if a VPA emerges as a viable and mutually agreeable option, then a VPA could be entered into in conjunction with one or more of the future Project applications or development applications

Land contamination

SMEC has carried out a Preliminary Site Investigation performed in accordance with Department of Environment, Climate Change and Water (DECCW) and National guidelines for the assessment and management of site contamination. The analytical results show that the concentrations of contaminants measured in the soil samples are low and well below criteria considered suitable for a high density residential land use with minimal opportunities for soil access, including high-rise apartments and flats. It is known that an above ground storage tank area was previously located on the site although a building is now constructed in its former location. Sampling under the building has not been carried out and SMEC recommends that further soil sampling targeting the above ground

storage tank should be undertaken at the time of redevelopment when the buildings are demolished. A statement of commitment is proposed to manage this issue.

Geotechnical investigations

SMEC has carried out a geotechnical investigation to inform future applications in terms of subsurface conditions, foundation design, excavation support and the presence of acid sulfate soil.

Further assessment of the excavation methods and mitigation measures such as noise and vibration impacts can be assessed and determined in subsequent Project applications or development applications. Similarly construction methods and drainage of groundwater from basements is more appropriately addressed in the subsequent Project applications or development applications.

SMEC has also reviewed the Acid Sulfate Soil maps provided on the DECCW NSW Natural Resource Atlas (NR Atlas) which shows that the site is located on land that is not expected to be affected by acid sulfate soils.

European heritage impacts

The subject site is identified as a heritage item under Ryde LEP 2009. NBRS + Partners has prepared a Statement of Heritage Impact which is supported by a Heritage Curtilage Study. The Heritage Curtilage Study has established the significance of the heritage item and in doing so established a heritage curtilage containing *Tellegara*, memorial gardens, entrance gate and driveway which have been adopted in the Concept Plan. The Heritage Curtilage Study has also recommended the removal of unsympathetic additions to *Tellegara*.

The Statement of Heritage Impact has assessed the Concept Plan against the significance and heritage curtilage and concluded that the Concept Plan respects as well as enhances the heritage significance of the item. Further assessment of the future design, material selection and colours will be necessary as well as the resolution of Block A to improve the views and vistas to *Tellegara*. This is proposed to be managed through a statement of commitment.

Aboriginal heritage impacts

Archaeological and Heritage Management Solutions Pty Ltd (AHMS) has undertaken a preliminary Aboriginal heritage assessment of the site. This involved a site inspection including observations of past soil disturbance, past uses of the property and a search of DECCW AHIMS database for registered Aboriginal sites within the subject site and nearby. There are no registered Aboriginal sites on the subject site and the nearest registered sites are on the banks of the Parramatta River. AHMS has also consulted with two Aboriginal stakeholders who have not identified any Aboriginal cultural or heritage values or issues associated with the site. The preliminary Aboriginal heritage assessment has identified that there were no known or potential Aboriginal sites, places or cultural values associated with the site and that further Aboriginal heritage investigation and/or impact assessment was not warranted.

Social impacts

GML Social Research has undertaken a social impact assessment of the Concept Plan considering both the likely social impacts and benefits of the proposed development. The social impact assessment has identified a number of potential impacts including dislocation of existing residents (noting that relocation of existing residents is taking place regardless of the site's future), displacement of day programs, population change, potential change in community character due to changed settlement patterns, potential loss of visual amenity, additional vehicle movements and parking issues, increased noise, increased demand for services, increased demand for disability and community care, impact on community facilities, impact on housing affordability and access and decline in community safety. Not all impacts are negative, and the social impact assessment has proposed measures to mitigate impacts where required.

Water management

Sparks Partners has prepared concept stormwater management plans. The site lies within two catchments, one draining south to Porter Street and the other draining north to the corner of Belmore Street and Junction Street. The stormwater concept is designed to direct site stormwater into the Council's piped system draining the two separate catchments.

Aquatica has developed a water management/ water sensitive urban design strategy for the development that integrates with and supplements the concept stormwater plan. The site stormwater drainage will be sized to convey 100 year storm event flows. The strategy incorporates on-site detention (OSD) and rainwater tanks for each building. The rainwater tanks will be used for landscape irrigation, grounds maintenance and car washing.

Water sensitive urban design is also incorporated into the stormwater strategy to meet Ryde Council's draft stormwater quality targets through the use of a bioretention system for the southern catchment and wetlands to treat stormwater from the northern catchment of the site.

Flooding

Sparks Partners has consulted with Ryde Council to ascertain the risk of localised flooding from overland flow in the area. Council has advised that overland flows near the subject site are contained within the road reserve (primarily the carriageway) at the intersection of Junction Street and Belmore Street and then flow over the school grounds. The subject site is therefore not affected by surface flow waters.

Utilities and infrastructure works

The existing capacity of utilities has been considered in consultation with the relevant agencies. In summary the following has been ascertained:

- No upgrades of the existing stormwater infrastructure will be required.
- Upgrades will be required to connect to the existing sewer in Porter Street and Belmore Street.
- A new water mains pipe will be required to connect with the water main in Belmore Street.
- Existing high voltage network mains will require alterations and additions to allow for two new 1000kv padmount kiosk substations on the subject site.
- Natural gas mains in the surrounding area will convey the gas loads required by the proposal.
- New lead-in provisions will be required for copper and fibre optic networks of Telstra, Optus plus one additional future carrier.

Tree management

Aside from the feature trees (including a Pin Oak and Camphor Laurel), the Concept Plan does not identify which trees will be retained or removed. This will be undertaken as part of the more detailed building design with future DAs or Project applications. However, an aboricultural assessment has been undertaken to identify tree protection zones (TPZs) to ensure building footprints are located clear of the TPZs where possible.

The majority of trees are located on the perimeter of the site. Council has expressed an interest in retaining the treed boulevard along Belmore Street which comprises predominantly Camphor Laurels. Whilst many trees are Camphor Laurels and are class 4 noxious weeds, the building footprints are kept clear of the TPZs to enable their retention where possible and thereby retain the treed character of Belmore Street and assist in providing a vegetated screen to future buildings.

A statement of commitment is proposed to require the retention of as many trees as possible and for future applications to include more detailed aboricultural assessment to ascertain which trees can be or should be retained or pruned.

Flora and fauna impacts

A Flora and Fauna Assessment has been carried out by Ambrose Ecological Services. This assessment has determined that native vegetation communities have been cleared and vegetated areas have a high component of exotic and introduced plantings, including a high number of Camphor Laurels that are listed as a noxious weed under the Noxious Weeds Act, 1993. No endangered or critically endangered ecological communities, or threatened flora species or populations were detected within the proposed development footprint of the subject site.

One nationally vulnerable fauna species, two nationally endangered fauna species and five nationally-listed migratory species might potentially use the treed canopy on the subject site for roosting or foraging. However, Ambrose Ecological considers the proposed development of the site would not significantly impact on the status of these species or their habitats.

Despite these findings, the assessment recommends mitigation measures for the future redevelopment of the site to manage tree removal, disturbance to fauna and their habitats and to implement protection measures for those trees which are retained. Statements of commitment have been proposed in relation to these mitigation measures.

Noise and vibration impacts

Acoustic Studio has undertaken an acoustic and vibration assessment of the proposed development which establishes the acoustic and vibration targets for noise from mechanical plant, noise impacts to future dwellings and internal communal spaces and identification of appropriate guidelines for construction noise management. Their assessment has established that a residential land use of the site is appropriate from an acoustic perspective.

The main source of noise generated by the development is predicted to be from mechanical services plant, in particular roof plant details of which are not known at Concept Plan stage. Acoustic Studio recommends that project specific environmental noise limits for new plant be derived for each of the buildings associated once the plant types and locations are known for each building.

An assessment of road traffic noise has also been carried out and internal noise level targets have been set for each building including criteria for windows closed and windows open. Further acoustic assessment will be required for each building to determine the implications of noise levels on the apartment facade and ventilation options. The acoustic assessment has determined that the acoustic impacts from road traffic noise are capable of being managed through building design.

In relation to construction noise impacts details of construction methodology has not been determined at Concept Plan stage and a statement of commitment is proposed to require construction noise and vibration management plans to be prepared for each future stage of the project

1 Introduction

1.1 Commission

Don Fox Planning (DFP) has been commissioned by Achieve Australia to prepare an Environmental Assessment (EA) for the proposed residential flat development at 74-76 Belmore Street, Ryde.

1.2 Purpose of this Environmental Assessment

This EA accompanies an application for concept plan approval under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the residential flat development. Section 2 provides a full description of the site and the surrounding context. Further, in accordance with Section 75M of the EP&A Act, this EA:

- Outlines the scope of the project and development options;
- Sets out the proposed staging of the development; and
- Addresses the matters contained in the Director-General's Environmental Assessment Requirements issued on 16 September 2010 (attached at **Appendix 1**). **Appendix 1** also contains a table which cross references where each of the requirements of the DGRs has been addressed.

1.3 Project Team

The preparation of the concept plan application has been a collaborative effort by a team of consultants listed in Table 1 below.

Table 1: The Project Team

THE PROJECT TEAM	
Architectural	NBRS & Partners Architects
Town Planning	DFP Planning Consultants
Landscape Architecture	McGregor Coxall
Surveying	Degotardi Smith and Partners
Visual Impact	Richard Lamb and Associates
Traffic and Transport	Halcrow
Acoustic	Acoustic Studio
Arborist	Tree Wise Men
Ecologist	Ambrose Ecological Services
Water Management	Sparks and Partners and Aquatica
Electrical Services	Haron Robson
Geotechnical and Contamination	SMEC
Aboriginal Heritage	AHMS
European Heritage	NBRS & Partners Architects
Social Planning	GML Social Research
Wind Impact	VIPAC Engineers and Scientists Ltd

1.4 Who is Achieve Australia?

Achieve Australia is an organisation formed from the merging of two not-for-profit Challenge Foundations, Hornsby Challenge and The Crowle Foundation on 1 January 2009. Both foundations have operated across Sydney for decades, and developed large residential centres for people with disabilities.

Achieve Australia is an approved service provider under a range of programs funded by the NSW Human Services, Ageing, Disability and Homecare, and programs funded by the Commonwealth Department of Education, Employment and Workplace Relations, and the Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs.

Achieve Australia supports people with a disability to live and work in the community with varying degrees of independence. People are supported to learn and maintain life and work skills, develop relationships, make choices about their lives and participate in community activities.

Achieve Australia services include:

- Accommodation Support
- Leaving Care
- Younger People in Residential Aged Care (pre-approval)
- Specialist Support Services
- Day Services
- Transition to Work
- Disability Employment Services
- Commercial Enterprises – Australian Disability Enterprises

2 Site Context

2.1 Location

The site is located in the suburb of Ryde, in the Ryde local government area (see **Figure 1**). The site is approximately 14 kilometres west of the Sydney CBD and 400m north of the Parramatta River.

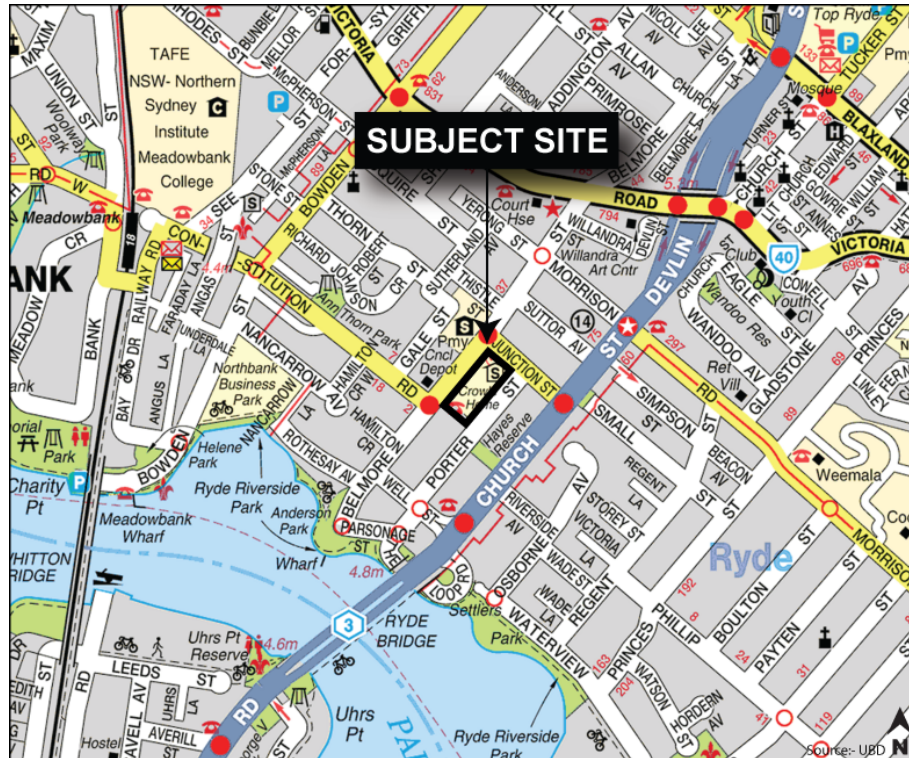


Figure 1 – Location Plan

2.2 Site Description

The subject site is known as 74-76 Belmore Street, Ryde (or as 8 Junction Street, Ryde), and has three street frontages including Belmore Street, Junction Street and Porter Street. The subject site comprises the following six parcels of land:

- Lot 13 DP 4481
- Lot 14 DP 4481
- Lot 1 DP 921633
- Lot 11 DP 51349
- Lot 12 DP 51349
- Lot 1 DP 1109537

The subject site has a combined area of 16,143m² and the following approximate dimensions:

- A frontage of 167m to Porter Street (eastern boundary).
- A frontage of 98m to Junction Street (northern boundary).
- A frontage of 164m to Belmore Street (western boundary).
- A length of 96m to the southern boundary.

A survey of the subject site is included at **Appendix 2**.

Figure 2 is an aerial photograph of the subject site. Key features of the site are described below:

- The site is located on the mid slope between Victoria Road and the Parramatta River and is a generally evenly graded site. There is a very slight rise running east-west approximately mid-way through the site. From this rise the site falls to the south and north (with slight crossfall from Porter Street to Belmore Street).
- A number of Achieve Australia-owned buildings are situated across the site ranging from one to three storeys in scale (note the white roofed building in the north western corner has been removed since the aerial photograph was taken). Many of the buildings are dilapidated and have outlived their useful purpose.
- A building located centrally on the site is identified as a heritage item under Ryde LEP 2010.
- Mature trees are located predominantly along the northern and western frontages, with scattered trees through the remainder of the site. These trees range in size, however are, in the main, large in size and provide significant shading and screening.
- The site has only one vehicular access point off Belmore Street. A further two vehicle access points are located in Porter Street, and another vehicle crossing is located off Junction Street.



Figure 2: Aerial photograph of subject site.

Achieve Australia currently operates a number of its services from the site. There is a residential centre currently housing 31 people with disability. A central kitchen and laundry also operates from the site servicing the residential centre.

Day services are also provided on site which is a service supporting people with disability to build meaningful life skills and connections to the community through facilitating their engagement in a range of activities such as; sports, recreational activities, art, music,

literacy and numeracy development. These activities generally operate during weekdays. Achieve Australia is in the process of relocating the Day Services due to the conditions of the existing buildings.

Figures 3 & 5 illustrate the street frontages of the site.



Figure 3: Belmore Street frontage looking south from the intersection with Junction Street



Figure 4: Junction Street frontage looking west



Figure 5: Porter Street looking south

2.3 Surrounds

The subject site is located in a transitional area between the industrial/employment area of Meadowbank on the lower slope towards Parramatta River and the residential areas occupying the upper slope leading back up to the ridge at Victoria Road. A contextual analysis has been prepared and is attached at **Appendix 3** to this EA.

Figures 6 to 12 illustrate the development adjoining the subject site.

To the west on the opposite side of Belmore Street are the Meadowbank Public School (**Figure 6**) and the Ryde Council depot. Both of these sites have predominantly one to two storey scale buildings with substantial areas of open space. Further south along Belmore Street is the recently completed residential flat building development as illustrated in **Figure 7** below.



Figures 6 & 7: Meadowbank Public School opposite and the recently completed residential flat building development to the south of the subject site.

To the north on the opposite side of Junction Street are detached single and two storey dwelling houses, as illustrated in **Figures 8 and 9** below.



Figures 8 & 9: Detached housing on Junction Street

To the east on the opposite side of Porter Street there is a small group of three single storey residential properties (including a small cluster of single storey villas) to the north and industrial buildings of two storey scale further south.



Figures 10 & 11: Residential and industrial development on the eastern side of Porter Street.

Immediately adjoining to the south are single storey industrial/warehouse buildings. This site has approval for a residential flat building development of up to 4 storeys in height. Slightly further to the south is a large residential flat development which is nearing completion. This development extends across the street block from Belmore Street to Porter Street. The buildings have a scale of 5 to 7 storeys at the northern end (refer **Figure 12**) dropping to a 4 storey in scale towards the Parramatta River.



Figure 12: Recently completed residential flat building to the south along Porter Street.

2.3.1 Surrounding Road and Public Transport Network

Road Network

The main surrounding road networks are:

- The north-south arterial route of Church Street/Devlin Street is located one block to the east of the site. Access to and from Church Street is achievable at several intersections with right turn movements at the signalised intersection of Junction Street. A loop road under the northern end of the Ryde Bridge provides access for south bound traffic to the eastern side of Church Street/Devlin Street and also provides access for traffic leaving Meadowbank heading south.
- The east-west arterial of Victoria Road is located further to the north of the site. Belmore Street provides access to/from Victoria Road (with right hand turn movements prohibited).
- The grade separate intersection of Victoria Road and Devlin Street provides for all traffic movements.

The surrounding roads of Junction Street, Bowden Street and Constitution Road are signalised in the immediate vicinity of the subject site. These signalised intersections allow for safe pedestrian access and are designed to operate as the main thoroughfares through the Meadowbank/Ryde suburb.

Public Transport

The site is well serviced by public transport including buses, trains and ferry. **Figure 13** illustrates public transport options within easy access of the subject site including the following:

- Trains at Meadowbank Station to the west of the subject site, which provide access along the Northern Line to the city via Strathfield or Hornsby to the north. The site is within an 800 metre radius of the train station (refer **Appendix 3**).

- Local and regional bus routes that operate through the area along Junction Street, Bowden Street and Constitution Road and Church Street and Victoria Road providing access to Top Ryde, Gladesville, Parramatta, Chatswood, city via Victoria Road, Rhodes and Sydney Olympic Park.
- In addition to the above bus services, a new Metrobus service - M41 (not shown on **Figure 13**) provides a north-south bus route connecting Macquarie Park with Hurstville. This bus service operates along Church Street with a bus stop located near the intersection with Junction Street approximately 100m from the site. This new strategic bus route provides connections to regional shopping centres such as Top Ryde, Macquarie Park, Rhodes and employment areas, particularly Macquarie Park and Rhodes and Macquarie University.
- Also not shown on **Figure 13** is the local “Top Ryder” community bus service that operates along Belmore Street with a bus stop outside the subject site. This free service operates from Monday to Saturday during off-peak hours providing access to Top Ryde shopping centre, Meadowbank, West Ryde or Eastwood Stations.
- Parramatta Rivercat ferry service which operates from Meadowbank Wharf providing services to Parramatta and Circular Quay.



Figure 13: Public Transport Network

Pedestrian and cycleway networks are also available in the immediate locality, particularly along the Parramatta River foreshore. The bicycle network map at **Figure 14** illustrates the local cycling and pedestrian networks.

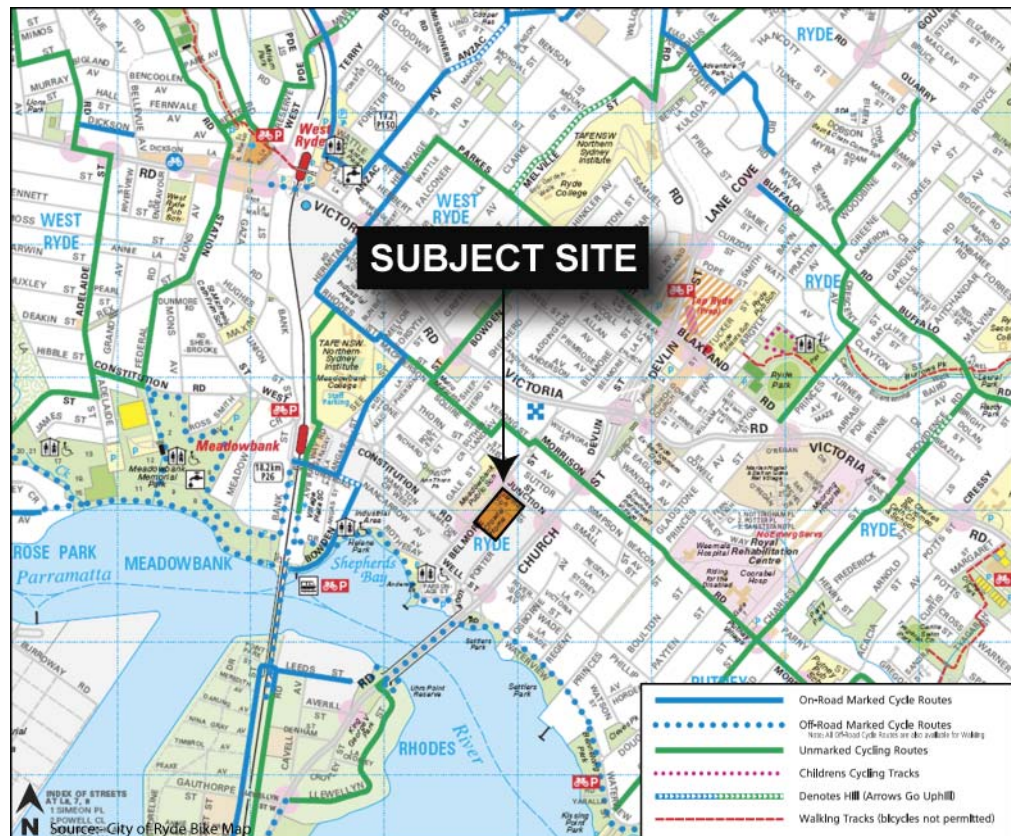


Figure 14 : Bicycle and pedestrian networks

2.4 Site Analysis

A site analysis plan prepared by NBRIS + Partners Architects is included within the Architectural plans attached at **Appendix 4**. This analysis identifies site constraints and opportunities and surrounding development, including:

- Heritage item and curtilage;
- Desirable view axes;
- Existing vegetation layout and projected foliage cover;
- Noise sources from road networks; and
- Surrounding transport links.

A contextual analysis of the wider area is provided in **Appendix 3**.

3 Evolution of the Concept

3.1 Early consultations with Ryde City Council

Achieve Australia commenced consultation with Council during the exhibition of the then draft LEP 2008. When draft LEP 2008 was exhibited, the height of buildings map nominated the maximum building height for the subject site as 9.5m. Ryde LEP 2010 was gazetted on 30 June 2010 and the maximum building height applying to the site remains the same as the draft instrument being 9.5m.

The heights proposed in draft LEP 2008 were of concern to Achieve Australia as they did not promote the opportunity for the redevelopment of the site, being a large land holding and the site presents characteristics which warrant consideration of higher building heights due to:

- A site size which is large enough to enable potential amenity impacts to be managed;
- The opportunity to encourage an extended curtilage for a local heritage item on the site by allowing flexibility in the distribution of development potential;
- A site context which includes minimal interface with existing and future low density residential and a locality which is changing with an increasing presence of medium to high density residential development;
- A location which is conveniently accessible to a range of public transport options and existing shops and facilities; and
- A site size that can efficiently provide for additional housing at higher densities to contribute to the growing housing needs of the Sydney region.

At the time when Council was preparing the draft LEP it was unaware that the subject site (comprising a number of allotments) was owned by the one organisation (being Achieve Australia), and that Achieve Australia had plans for the redevelopment of the site. Council suggested that Achieve Australia lodge a submission to the draft LEP and a submission was duly prepared on behalf of Achieve Australia and submitted to Council on 28 January 2009.

The Council considered a report to the Committee of the Whole on 6 May 2009 which contains a response to the submission (and possibly other submissions) on the issue of height. The response reads:

"The Section 65 Certificate issued by DoP required the Height of Buildings Map to be amended to reflect the heights permitted within the Meadowbank Employment Area (MEA) Master Plan and height approved by recent developments consent [sic] and Court decisions.

In the MEA Master Plan heights are provided in storeys and in cross sections. A conversion of storeys to metres to satisfy the Standard LEP occurred. The following is a summary of storeys to metres conversion for properties that apply to Meadowbank.

Storey	Metres
2	9.5
3	12.5
4	15.5
5	18.5

A review of height for Meadowbank should be considered upon preparation of an amending LEP or the comprehensive plan for the CoR [City of Ryde].” [page 10]

The issue of height was therefore deferred to a future LEP process after the Standard Instrument LEP is published.

Following the lodgement of the submission to the draft LEP a further three meetings were held with Council's planning staff to discuss the site and site specific planning parameters for the development of a site specific master plan. NBRS + Partners Architects prepared concept sketches for discussion with Council's planning staff and the following is a summary of the main issues raised by Council's staff during the subsequent meetings:

- Belmore Street should present as a treed boulevard
- Pedestrian access across the site
- Conservation of the heritage house
- Vehicle access points and parking
- Boundary setbacks
- Heights
- View corridors
- Concept sketches presented were seen as being compatible with development in the general area.

3.2 Refining of the Concept and Design Approach

The Concept Plan has been developed further since the early meetings with Council. Inputs from other specialist consultants have informed and refined the Concept Plan having particular regard to the following key factors.

- Defining a heritage curtilage around Crowle Home (formerly known as *Tellaraga*) and its gardens and establishing appropriate building scales to the heritage item. Further discussion is provided in Section 7.7 of this EA.
- Providing suitable setbacks to create tree protection areas and identifying significant feature trees that should be retained as part of the development. Further discussion is provided in Section 7.11 of this EA.
- Identifying the appropriate vehicular access points to the site. Further discussion is provided in Section 7.3 of this EA.
- Analysing the existing and likely future scale and character of buildings within the surrounding areas.
- Building separation for residential amenity taking into account the Residential Flat Design Code.

The comments provided by Council and refinements made with the above inputs has informed the location and form of the proposed building footprints and building envelopes to the scheme now proposed and presented in **Appendix 4** to this EA.

Further consultation has been undertaken with Ryde City Council in relation to the Concept Plans submitted with this Concept Plan application details of which are documented in Section 7.16.2 of this EA.

4 Evolution of Local Planning Controls

The evolution of the local planning controls is relevant and provides the planning framework within which the Concept Plan has been developed. This section of the EA

provides a brief summary of the development of the local planning controls over time, and more detailed discussion on each of the documents is provided in Section 6 of this EA.

Table 2: Overview of Local Planning Controls

June 2004	<p>Meadowbank Employment Area (Amendment No. 5)</p> <ul style="list-style-type: none"> Prepared to foster the redevelopment of the MEA as a mixed use area containing residential and employment land uses. The master plan envisages retaining the current land uses on the subject site. Subject site is nominated as having a 2 storey height control. Subject site has a 5m landscape setback control.
September 2007	<p>Draft DCP 2007 – Meadowbank Employment Area</p> <ul style="list-style-type: none"> Prepared to target the renewal and revitalisation of the MEA to transform the area into a transit-oriented, mixed use environment. Majority of the MEA nominated as residential with mixed use areas along the railway line and Church Street. Subject site is nominated for residential. Subject site is nominated to have a 4 storey height control at its northern end adjacent to Junction Street and the remainder of the site nominated at 6 storeys. Sites on the opposite side of Porter Street and Belmore Street nominated at 6 storeys. Illustrative sections indicate stepped building form at upper levels. 4m setbacks indicated on the subject site along Belmore Street, Porter Street and southern boundary. 6m setback to Junction Street. Public domain improvements proposed for the area. Porter Street proposed for widening and new pedestrian footpaths. <p>This draft DCP was exhibited in early 2008. Council then commenced preparation of the draft LEP (now LEP 2010) and the DoP directed Council not to amend zonings, densities and the like. Therefore the DCP was not adopted and put on hold for consideration with the comprehensive LEP.</p>
30 June 2010	<p>Ryde LEP 2010 and Ryde DCP 2010</p> <ul style="list-style-type: none"> LEP 2010 is a like for like translation of the former planning scheme into the LEP Standard Instrument format. No (or limited) change to zonings or development controls. Subject site retained its mixed use zoning. Subject site retains former 2 storey height control, now expressed as a 9.5m height control. The floor space ratio control map, minimum lot size map and residential density map do not detail controls for the subject site (or the wider Meadowbank Employment Area (MEA)). The height and floor space ratio controls for the MEA and the subject site will form part the draft LEP 2011 which is currently being prepared by Ryde Council.

August 2010	<p>Draft Ryde Local Planning Strategy</p> <ul style="list-style-type: none"> • Aims to guide future planning for the LGA and meet the State Government planning targets for the number of dwellings and employment opportunities and implement the relevant objectives and actions of the Metropolitan Strategy and of the Inner-North Subregional Plan. • Comprises several background studies including: <ul style="list-style-type: none"> ○ Centres and corridors ○ Small centres ○ Housing ○ Environment and open space ○ Cultural heritage ○ Employment ○ Transport. • The Local Planning Strategy and its background studies will guide the preparation of a new comprehensive LEP for the Ryde LGA. • Section 3.5 – Meadowbank, of the Centres and Corridors Study recommends residential land uses to replace the existing employment land uses in the MEA. In conjunction with the introduction of residential land uses is the introduction of height and floor space ratio controls for the MEA in order to facilitate additional housing. • Subject site is identified as a residential land use of medium built form with a transitional zone along the northern edge of the site. • FSR controls for the subject site are proposed to be 2.3:1 for the majority of the site and 2.0:1 along the northern edge. • Height controls for the subject site are proposed to be 6 storeys for the majority of the site and 4 storeys along the northern edge. • Local Planning Strategy has been adopted by Council.
November 2010	<p>Ryde Council adopts Ryde Local Planning Strategy and resolves to exhibit the strategy in conjunction with draft Ryde LEP 2011.</p> <p><i>DLEP 2011 was submitted to the Department of Planning on 23 December 2010 with a request that the Director General of the Department of Planning issue a Certificate to allow the formal exhibition of the draft Plan under the Environmental Planning and Assessment (EP&A) Act 1979. (Ryde Council's Website 19 January 2011).</i></p>

5 Proposed Development

The Concept Plan application is for a residential flat building development on the subject site comprising multiple buildings with basement car parking, open space areas and a recreation facility for future residents to be located within the former *Tellaraga* being a local heritage item identified in the Ryde LEP 2010.

The proposed Concept Plans are contained in **Appendix 4** of this EA. Detailed descriptions of the various elements of the Concept Plans are provided below.

5.1 Residential Flat Building Proposal

The proposed development comprises the following:

Table 3: Concept Plan Statistics

Building Detail	Description
Dwelling yield	<p>A maximum of 470 residential dwellings. The following indicative dwelling mix is nominated for the purposes of this Concept Plan:</p> <ul style="list-style-type: none">• 225 x 1 bedroom dwellings• 225 x 2 bedroom dwellings• 20 x 3 bedroom dwellings
Car parking provision	<p>A maximum of 584 car parking spaces including:</p> <ul style="list-style-type: none">• 490 residential car parking spaces (comprising 1 space for each 1 and 2 bedroom dwelling and 2 spaces for each 3 bedroom dwelling)• 94 visitor car parking spaces (at 1 per 5 dwellings)• In addition there is provision for the parking of small service vehicles off the existing driveway leading to the retained heritage item.
Gross floor area (GFA)	<p>A maximum GFA of 35,000m².</p> <p>The GFA equates to a floor space ratio (FSR) of 2.16:1</p> <p><i>Note: The GFA and FSR calculation has been based on the GFA and FSR definitions contained in Ryde LEP 2010).</i></p>

5.2 Building Envelopes and Primary Development Controls

The Residential Flat Design Code has been used as a reference tool in the design of the 'building envelopes' and the 'primary development controls' (including building height, building depth, building separation, setbacks and floor space).

As discussed in Section 3.2 of the EA, the location of the building envelopes has been developed taking into account a number of factors such as curtilage to the retained heritage item, tree retention zones and the existing and likely future character of the surrounding area.

The building envelopes are three dimensional within which each building can be designed. In accordance with the Residential Flat Design Code the building envelopes are up to 25% greater than the proposed maximum GFA of 35,000m² in order to provide flexibility in the future design of buildings to allow for modulation of the massing and articulation of each building.

The proposed building envelopes are thoroughly detailed in **Appendix 4**. Table 4 below details the proposed maximum heights for each of the proposed Blocks.

Table 4: Proposed building heights

Building Envelope (Block)	Proposed Maximum Heights (storeys)
Block A	2, 4, 6 and 7 storeys
Block B	2, 4, 6 and 7 storeys
Block C	4 and 6 storeys
Block D	4, 6 and 7 storeys
Block E	4, 6 and 7 storeys
Block F	1 storey

5.3 Basement Envelope

A basement envelope is proposed as illustrated in the plans at **Appendix 4**. A three level basement is proposed in the envelope down to a RL of 15.00. The basement envelope allows up to 3 levels of car parking, although excavation to the full depth for the extent of the basement envelope might not be required, depending on the detailed design. The basement depth reduces the footprint of the basement achieving positive design outcomes including:

- Confining the basement such that it is located predominantly under the building footprints and clear of the curtilage around the retained heritage item;
- Maximising deep soil landscaped areas to the front setback areas around the perimeter of the site and within the central courtyard space; and
- Maximising opportunities for tree retention, particularly around the perimeter of the site, feature trees and the retained memorial garden.

5.4 Open Space Areas

Architectural landscape concepts have been prepared by McGregor Coxall and are attached at **Appendix 5** to this EA.

The siting of the basement and building footprints has allowed for significant areas of open space to be provided throughout the site.

The main landscaped areas include:

- Front setbacks
- Central courtyard
- Retained memorial garden
- Opportunities for private open spaces for ground floor dwellings where feasible
- Roof top gardens for selected buildings

5.5 Vehicular and Pedestrian Access

Vehicular access

Two principal vehicle entrances are proposed to service the residential basement car parking areas, both located off Porter Street on the eastern edge of the site. Each access point will cater for two-way movements and have an indicative width of 12m.

The existing vehicular entrance from Belmore Street through the main gates to *Tellaraga* has been retained. The existing driveway and turning circle beside *Tellaraga* has been

retained as part of the heritage context and landscape element. This vehicular access point will provide infrequent service and delivery access to the site.

Pedestrian access and movement

Maximising connectivity with the street and the surrounding pedestrian network is a key objective of the Concept Plan design. Key attributes of the pedestrian access strategy are:

- Maximising the number of access points from the site to activate the streets.
- Opportunities for pedestrian entrances presenting to the street and pathways leading into the site from which access to other buildings can be achieved.
- Making provision for pedestrian access linkages to the adjacent pedestrian walkway on the site immediately adjoining the subject site to the south. This adjoining property is the subject of a development application with Ryde Council and includes a Planning Agreement that offers a through site pedestrian link that will be burdened with a right of way benefiting Council (i.e. the public). The Concept Plan proposes connections to this link which will increase pedestrian activity of the link and assist in the viability of the mixed use retail/commercial spaces adjoining the link and proposed as part of the adjoining development.
- Providing a permeable site (not a gated community) that will in turn provide for informal through site links. The through site link proposed as part of the adjoining development has a more logical connection in the wider street network and a further formal through site link across the subject site is not considered warranted.

A plan of the pedestrian access points and linkages is illustrated in the Concept Plans at **Appendix 4**.

5.6 Staging

The plans at **Appendix 4** illustrate the staging of the development. The development is expected to be undertaken in up to six stages as set out below.

- Stage 1 - Block C. Located in the north eastern corner of the site. This stage will include the construction of the first vehicular access to the site (shown as Block G) and will serve as future vehicular access to the Blocks B and D being the subsequent stages 2 and 3, respectively.
- Stage 2 – Block B. Located in the north western corner of the site at the corner of Belmore Street and Junction Street. Vehicular access will be via the basement access provided in Stage 1.
- Stage 3 – Block D. Located midway along Porter Street. Vehicular access will be via the basement access provided in Stage 1.
- Stage 4 – Block F. This stage is located in the centre of the site and includes the restoration of *Tellaraga* and its memorial gardens. It also involves the construction of the recreational facilities adjoining *Tellaraga*. This Stage might be amalgamated with an adjoining stage subject to determining the most appropriate construction methodology for the site.
- Stage 5 – Block A. Located on the southern end of Belmore Street. This stage will also involve the construction of the basement below Blocks A & E and second vehicular access point.
- Stage 6 – Block E. Located at the southern end of Porter Street.

Landscaping and servicing of each building will be provided on a stage by stage basis.

The staging is subject to review and some stages might be amalgamated depending on the best approach to construction and market demands. The plan also indicates that the

renovation of *Tellaraga* and the recreational building (Block F) as Stage 4. This might be amalgamated with one of the other stages, if appropriate.

6 Planning Provisions

This section of the EA addresses the relevant environmental planning instruments and guidelines to be addressed, as set out in the DGRs.

6.1 Objects of the EP&A Act 1979

Section 5 of the EP&A Act sets out the objects of the Act. The assessment provided in this EA generally addresses the objects of the Act. Table 5 provides commentary against each of the objects of the Act or a reference to the relevant section of the EA where the particular issue is addressed.

Table 5: Assessment against the Objects of the EP&A Act, 1979

Object	Commentary
(a) to encourage:	
(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,	As discussed in this EA, the Concept Plan proposes the retention of mature trees around the perimeter of the site and some feature trees located more centrally within the site. The Concept Plan also proposes the retention and re-use of the heritage item. The retention and conservation of these site attributes is consistent with this aim of the EP&A Act.
(ii) the promotion and co-ordination of the orderly and economic use and development of land	As discussed in Sections 4 and 6.10.4 of this EA, Ryde Council has prepared a local planning strategy which plans for the increased housing density for this locality and site. The Concept Plan is consistent with the strategic directions for the site.
(iii) the protection, provision and co-ordination of communication and utility services,	Section 7.10 of this EA demonstrates the consultation that has been undertaken with relevant utility providers to understand the improvements or augmentation required to existing utilities, which are manageable. The existing road network can cater for the proposed development without significant upgrades being required (refer Section 7.3) and the site is also well placed to take advantage of the existing public transport services available in the area.
(iv) the provision of land for public purposes	The Concept does not make provision for the provision of land for public purposes. Discussions will take place with Ryde Council regarding the possible transfer of a narrow strip of land along the Porter Street frontage which can widen the road reserve to provide a wider nature strip.

Object	Commentary
(v) the provision and co-ordination of community services and facilities, and	The Social Impact Assessment at Section 7.14 of this EA has considered existing community services and facilities such as schools, child care, medical services and support services provided by Achieve Australia for their clients accommodated on site. Generally there is capacity to accommodate additional demands generated by a future population. In addition, Section 94 contributions will be directed towards provision of community services and facilities. The development will be carried out over several stages and demands will therefore be incremental allowing time for additional services to be provided by the relevant providers if the demands warrant increased provision.
(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and	As noted above, existing trees, particularly around the perimeter of the site will be retained which is consistent with this objective of the Act.
(vii) ecologically sustainable development, and	The Concept Plan has proposed a number of ESD initiatives some of which are incorporated into the Concept Plan and others which are matters of detailed design and can be considered with future Project applications. Further discussion is provided in Section 7.4 of this EA.
(viii) the provision and maintenance of affordable housing, and	The Concept Plan proposes a mix of predominantly 1 and 2 bedroom dwellings. The housing mix will assist in promoting affordable housing in the middle ring suburbs of Sydney in a location with good access to public transport which in turn provides good access to retail facilities, employment areas and recreational areas.
(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and	Relevant Local and State agencies have been consulted in the preparation of the application. The Concept Plan will also be referred to relevant agencies during the exhibition period providing further opportunity for assessment and comment
(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment.	The exhibition of the application under the provisions of Part 3A of the EP&A Act will provide further opportunity for public involvement. Achieve Australia also proposes to hold a community information session during the exhibition of the application.

The proposal is considered to be consistent with the Objects of the EP&A Act.

6.2 State Environmental Planning Policy 65 – Design Quality of Residential Flat Development

The residential flat building envelopes have been designed having regard to the 10 design principles detailed in Part 2 of SEPP 65 and the Residential Flat Design Code. However, given that the proposal is a Concept Plan application, the application of the provisions of the Residential Flat Design Code is confined to that context. Further assessment under SEPP 65 and the Residential Flat Design Code would be required as part of the detailed design of future buildings.

In accordance with the provisions relating to development applications a design verification has been provided and is attached at **Appendix 6**. An assessment against the design quality principles set out in Part 2 of *State Environmental Planning Policy No 65—Design Quality of Residential Flat Development* is also provided at **Appendix 6**.

Generally, the Concept Plan proposes building envelopes that are designed and sited to ensure that future, more detailed applications are capable of achieving consistency with the SEPP 65 principles and Residential Flat Design Code. Further discussion of the provisions of the Residential Flat Design Code (as are relevant to the Concept Plan) is provided in Section 7.2 of this EA - Environmental and Residential Amenity.

6.3 State Environmental Planning Policy (Major Development) 2005

SEPP (Major Projects) is the principal instrument for nominating projects of State or regional environmental planning significance and declaring the Minister to be the Consent Authority for these projects under Part 3A of the EP&A Act.

Clause 6 of the Major Development SEPP provides that development that, in the opinion of the Minister, is of a kind described in Schedule 1 of the SEPP, is declared to be a project to which Part 3A of the EP&A Act.

In this instance, the proposal falls within a class of development for the purpose of a residential project with a capital investment value of more than \$100 million.

On 1 September 2010, the proposed residential development was declared to be a Major Project to which the provisions of Part 3A apply as the development meets the criteria of Schedule 1, Group 13 - residential, commercial or retail projects with a capital investment value exceeding \$100 million. The proposed development has an estimated capital investment value of approximately \$155 million.

6.4 State Environmental Planning Policy No. 55 – Remediation of Land

A Preliminary Site Investigation has been carried out by SMEC. Based on the preliminary assessment, it was considered that the site does not present a significant risk of harm to human health or the environment for the proposed residential use, subject to further testing in the location of a former above ground storage tank. Further discussion is provided in Section 7.5 of this EA.

6.5 State Environmental Planning Policy (Sydney Harbour Catchment) 2005

SREP (Sydney Harbour Catchment) 2005 is a deemed SEPP. The site is located within the Sydney Harbour Catchment, but is not identified as being within a 'Foreshores and Waterways Area', a strategic foreshore site, a heritage item or a wetlands protection area.

Clause 13 of the SREP contains a set of planning principles for the Sydney Harbour Catchment to be considered in the preparation of environmental planning instruments and development control plans in the preparation of environmental studies and master plans for the purposes of the EP&A Act. In this instance, the Concept Plan is considered to be similar to that of a master plan and the principles of Clause 13 have been considered in the EA as set out in Table 6.

Table 6: Assessment against principles contain in clause 13 of the Sydney Harbour Catchment SREP

Object	Commentary
(a) development is to protect and where practicable, improve the hydrological, ecological and geomorphological processes on which the health of the catchment depends	Water sensitive urban design has been incorporated into the stormwater strategy to meet Ryde Council's draft stormwater quality targets through the use of a bioretention system for the southern catchment and wetlands to treat stormwater from the northern catchment of the site. Further discussion is provided in Section 7.9 of this EA.
(b) the natural assets of the catchment are to be maintained and, where feasible, restored for their scenic and cultural values and their biodiversity and geodiversity	The Concept Plan retains the existing trees around the perimeter of the site. Whilst the majority of these trees are not native they do contribute to the natural and scenic environment of the area.
(c) decisions with respect to the development of land are to take account of the cumulative environmental impact of development within the catchment	The Concept Plan has taken into account surrounding overland flows, and the capacity of the existing stormwater infrastructure. Further discussion is provided in Section 7.9 of this EA.
(d) action is to be taken to achieve the targets set out in <i>Water Quality and River Flow Interim Environmental Objectives: Guidelines for Water Management: Sydney Harbour and Parramatta River Catchment</i> (published in October 1999 by the Environment Protection Authority)	WSUD measures are incorporated into the Concept Plan and proposed landscaping. The proposal will meet Ryde Council's draft stormwater quality targets. Further discussion is provided in Section 7.9 of this EA.
(e) development in the Sydney Harbour Catchment is to protect the functioning of natural drainage systems on floodplains and comply with the guidelines set out in the document titled <i>Floodplain Development Manual 2005</i> (published in April 2005 by the Department)	The Concept Plan has taken into account surrounding overland flows. Further discussion is provided in Section 7.9 of this EA.
(f) development that is visible from the waterways or foreshores is to maintain, protect and enhance the unique visual qualities of Sydney Harbour	A visual impact assessment has been carried out by Richard Lamb and Associates. Their assessment is found in Appendix 7 . The impacts from the Parramatta River, foreshore areas and bridges over the river have been found to be negligible.
(g) the number of publicly accessible vantage points for viewing Sydney Harbour should be increased	Not applicable.
(h) development is to improve the water quality of urban run-off, reduce the quantity and frequency of urban run-off, prevent the risk of increased flooding and conserve water	The Concept Plan has taken into account surrounding overland flows, and the capacity of the existing stormwater infrastructure. Rainwater storage tanks will be provided for each building. Further discussion is provided in Section 7.9 of this EA.

Object	Commentary
(i) action is to be taken to achieve the objectives and targets set out in the <i>Sydney Harbour Catchment Blueprint, as published in February 2003 by the then Department of Land and Water Conservation</i>	WSUD measures will assist in controlling pollutants and sediments from the completed development. Sediment and erosion control plans can be provided with construction certificates on a stage by stage basis.
(j) development is to protect and, if practicable, rehabilitate watercourses, wetlands, riparian corridors, remnant native vegetation and ecological connectivity within the catchment	Not applicable.
(k) development is to protect and, if practicable, rehabilitate land from current and future urban salinity processes, and prevent or restore land degradation and reduced water quality resulting from urban salinity	SMEC has reviewed the Acid Sulfate Soil maps provided on the DECCW NSW Natural Resource Atlas (NR Atlas) which shows that the site is located on land that is not expected to be affected by acid sulfate soils.
(l) development is to avoid or minimise disturbance of acid sulfate soils in accordance with the <i>Acid Sulfate Soil Manual</i> , as published in 1988 by the Acid Sulfate Soils Management Advisory Committee	

6.6 State Environmental Planning Policy (Infrastructure) 2007

Traffic considerations

Subdivision 2 of Division 17 of the Infrastructure SEPP relates to development in or adjacent to road corridors and road reservations. Clause 104 relates to “*development on a site that has direct vehicular or pedestrian access to any road—the size or capacity specified opposite that development in Column 2 of the Table to Schedule 3.*”

A total of 470 dwellings are proposed and therefore Division 17 applies, if the proposal were a development application. Clause 104(3) requires the following matters to be considered if the application were a DA:

- consultation with the RTA (which has been undertaken)
- site accessibility;
- movement of people to and from the site and the extent of multi-purpose trips;
- the potential to minimise the need for travel by car; and
- potential traffic safety, road congestion or parking implications of the development.

A traffic and parking assessment has been undertaken by Halcrow addressing these matters and is discussed in Section 7.3 of this EA.

Acoustic considerations

Clause 102 applies to development of a building for a residential use that is on land in or adjacent to the road corridor for a freeway, a tollway or a transitway or any other road with an annual average daily traffic volume (AADTV) of more than 40,000 vehicles (based on the traffic volume data published on the website of the RTA) and that the consent authority considers is likely to be adversely affected by road noise or vibration. The maps provided

on the RTA web site indicate that Church Street (at Junction Street) has an AADTV in 2005 of greater than 80,000 vehicles. Clause 102 therefore applies.

Clauses 87 and 102 both require that the development consider guidelines that are issued by the Director-General for the purposes of this clause and published in the Gazette. In this instance the relevant guideline is “*Development Near Rail Corridors and Busy Roads – Interim Guideline*”.

Clauses 87 and 102 also require, in the case of a development for the purposes of a building for residential use, that the consent authority must not grant consent to the development unless it is satisfied that appropriate measures will be taken to ensure that the following LAeq levels are not exceeded:

- (a) in any bedroom in the building—35 dB(A) at any time between 10 pm and 7 am,
- (b) anywhere else in the building (other than a garage, kitchen, bathroom or hallway)—40 dB(A) at any time.

Acoustic impacts have been considered in the Acoustic Report prepared by Acoustic Studio which is discussed in Section 7.13 of this EA.

6.7 NSW State Plan

In 2010 the NSW State Government released the NSW State Plan, “*Investing in a Better Future*”, which sets long term goals for state services such as education, health, transport, policing, planning, environmental protection, community services and others.

Relevant priorities and targets which apply to the proposed development under the NSW State Plan are addressed in Table 7 below.

Table 7 – Assessment of Relevant Provisions under the NSW State Plan

Priority	Target	Comment	Compliance
Better Transport and Liveable Cities			
Improve the Public Transport System	<p>Increase the share of commuter trips made by public transport:</p> <ul style="list-style-type: none"> To and from Sydney CBD during peak hours to 80% by 2016; and Increase the proportion of total journeys to work by public transport in the Sydney Metropolitan Region to 28% by 2016. 	The proposed development is located in close proximity to a designated transport corridor and public transport services including trains, buses and ferries providing frequent public transport access to major employment and shopping centres including Sydney CBD, Macquarie Park, Top Ryde, Rhodes and Parramatta and other regional areas. The easy access to public transport for commuters will increase patronage to assist in achieving the targets of the NSW State Plan.	Yes

Priority	Target	Comment	Compliance
Increase the Number of Jobs Closer to Home	Increase the percentage of the population living within 30 minutes by public transport of a city or major centre in Metropolitan Sydney.	The subject site is located within 30 minutes by public transport of Sydney CBD, Macquarie Park and Rhodes being major employment centres. The proposal provides an additional 470 dwellings within easy and convenient access to trains, busses and ferries, increasing the percentage of the population living within 30 minutes of a major centre accessible by public transport.	Yes
Improve Housing Affordability	In the Sydney Metropolitan Region and the Central Coast: Provide capacity for 640,000 new dwellings between 2004 and 2031 including 445,000 in existing urban areas and the remaining 195,000 in Greenfield locations.	The proposal seeks to provide an additional 470 residential dwellings within the Sydney Metropolitan Region within an existing urban area. Some of the proposed dwellings will be retained by Achieve Australia to house people with a disability and therefore provide access to housing within an established urban area and the services and facilities available. The proposal will also provide an opportunity for households to access apartment housing which will be more affordable than dwelling houses in the surrounding area. The housing will be provided in an area well serviced by public transport and access to employment, shopping centres and recreational facilities.	Yes

6.8 Sydney Metropolitan Strategy 'City of Cities' / Plan 2036

In 2005 the NSW State Government released the Sydney Metropolitan Strategy "City of Cities", a 25 year plan for the Sydney Metropolitan Region which aimed to support growth while supporting social and environmental impacts.

In December 2010, the NSW State Government released the Sydney Metropolitan Plan 2036, which updates and integrates the 'City of Cities' strategy into a new 25 year Metropolitan Plan for the Sydney Region based on integration between land use, urban planning and transport planning. The new Sydney Metropolitan Plan 2036 seeks to maintain the course for a sustainable city by limiting urban sprawl, protecting valuable land resources, encouraging more development near public transport and reducing the need for car travel.

The DGRs require the aims and objectives of the Sydney Metropolitan Strategy “City of Cities” to be addressed. However, following the release of the Sydney Metropolitan Plan 2036 in December 2010 the provisions of the Metropolitan Strategy have been updated and integrated with those of the Metropolitan Plan. The relevant provisions of the Sydney Metropolitan Plan 2036 are discussed below.

Table 8 – Assessment of Relevant Provisions under Sydney Metropolitan Plan 2036

Objective	Action	Comment	Compliance
Strategic Direction A – Strengthening the City of Cities			
A2 – To achieve a compact, connected, multi-centred and increasingly networked city structure.	A2.1 – Consider consistency with the City of Cities structure when assessing alternative land use, infrastructure and service delivery investment decisions.	The proposal is consistent with the City of Cities structure by locating housing close to public transport providing access to major centres such as the Sydney CBD, Top Ryde shopping centre, Macquarie Park, Rhodes, Parramatta. The site's location provides good access to employment, shopping, recreational and education supporting the objective of compact cities.	Yes
A3 – To contain the urban growth footprint and achieve a balance between Greenfields growth and renewal in existing urban areas.		The proposal will provide additional housing within an existing urban area of Meadowbank, thereby contributing to the target for at least 70 percent of Sydney's growth to be in existing urban areas.	Yes
Strategic Direction B – Growing and Renewing Centres			
B1 – To focus activity in accessible centres.	B1.3 – Aim to locate 80 per cent of all new housing within the walking catchments of existing and proposed centres of all sizes with good public transport.	The subject site is located along a transport corridor with bus services to Macquarie Park employment centre, shopping centre and university to the north and other centres to the south. The site is also accessible to other bus routes, trains and ferries providing links to other centres within the Sydney region. The site is also within walking distance of Shepherds Bay shopping centre and close to Top Ryde shopping centre meeting day to day shopping needs of future residents. The provision of an additional 470 dwellings within walking distance to public transport and nearby centres is considered to comply with Action B1.3.	Yes

Objective	Action	Comment	Compliance
B3 – To plan for new centres and instigate a program for high quality urban renewal in existing centres serviced by public transport.	B3.3 – Provide for the protection and adaptive reuse of heritage items in centres undergoing urban renewal.	The proposed concept plan has been designed to retain and protect the existing heritage listed item (“ <i>Tellaraga</i> ”) and its curtilage. The house will be re-used as part of the residential development potentially providing part of the recreational facilities for the development.	Yes
Strategic Direction D – Housing Sydney’s Population			
D1 – To ensure an adequate supply of land and sites for residential development.	D1.1 – Locate at least 70 per cent of new housing within existing urban areas and up to 30 per cent of new housing in new areas.	The proposed development is located within the existing urban area of Meadowbank, and will provide for an additional 470 dwellings through the re-development of urban land.	Yes
Strategic Direction G – Tackling Climate Change & Protecting Sydney’s Natural Environment			
G5 – To achieve sustainable water use.	G5.2 – Ensure integrated water cycle management for new release areas and sites for urban renewal.	The concept plan provides for an integrated water management/water sensitive urban design strategy that supplements the concept stormwater plan. The WSUD will meet Ryde Council’s draft stormwater quality targets through the use of a bioretention system for the southern catchment and wetlands to treat stormwater from the northern catchment of the site. Further discussion is provided in Section 7.9 of this EA.	Yes

Objective	Action	Comment	Compliance
Strategic Direction H – Achieving Equity, Liveability and Social Inclusion			
H3 – To provide healthy, safe and inclusive places based on active transport.	H3.1 – Design and plan for healthy, safe, accessible and inclusive places.	The proposed concept plan provides for a framework of high quality buildings, open space and pedestrian networks that will provide an accessible pedestrian network through the site connecting with the surrounding area. The site planning site provides for apartment buildings that address the street and internal courtyard providing casual surveillance of public and private areas.	Yes

6.9 Draft Inner North Subregional Strategy

The Draft Inner North Subregional Strategy (Strategy) applies to the Ryde local government area. The key actions and directions of relevance to the site and the project are briefly outlined below. The locality borders the adjoining area to which the draft Inner West Subregional Strategy applies. **Figure 15** is an extract from both strategies illustrating the 'structure plan' for the region.

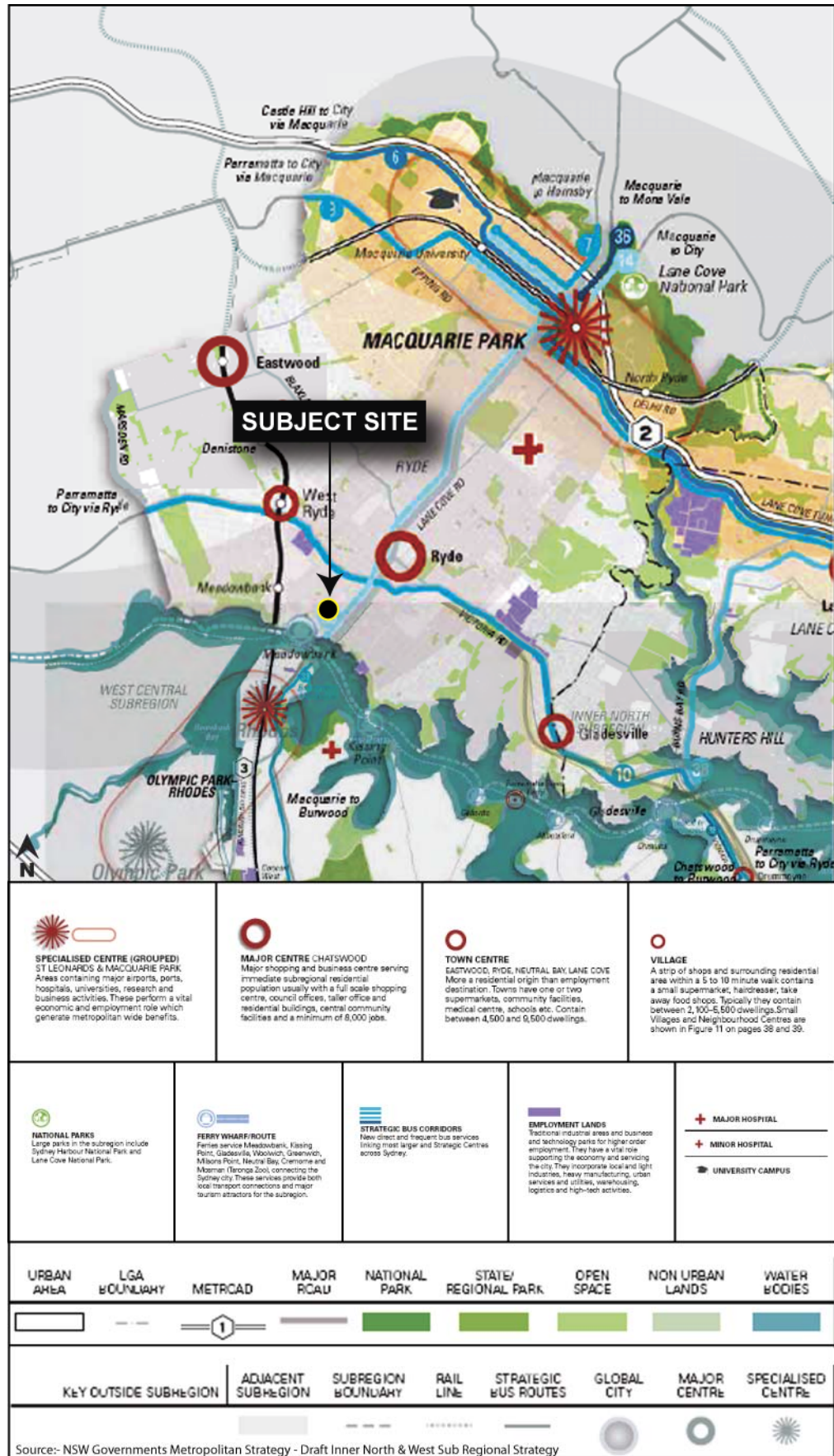


Figure 15: Extract from the Draft Inner North and Inner West Subregional Strategy Structure Plans

Economy and Employment

The Strategy sets an employment target of an additional 60,000 jobs by 2031 of which 21,000 are proposed for Ryde LGA.

The Strategy identifies seven strategic employment lands precincts in the Inner North Subregion that should be retained for industrial purposes. Meadowbank is not identified as one of the precincts. Meadowbank is identified as a 'mixed use area' in the Strategy and the Ryde LEP 2010 is consistent with this aspect of the Strategy (as discussed in Section 6.10 of this EA). The Strategy notes that Ryde Council has prepared a master plan for the area as a mixed use precinct, serviced by ferries and Meadowbank Station. The master plan has been incorporated into Ryde Development Control 2010 Plan and the Ryde Local Planning Strategy has further refined the planning controls proposed to apply to this area. Further discussion is provided in Section 6.10.4 of this EA.

The Council's Local Planning Strategy (Centres and Corridors Study, August 2010, Section 3.5 Meadowbank) concludes that Ryde LGAs employment target will be exceeded by other employment areas in the LGA and the need to retain employment floor space in Meadowbank is not required. The Local Planning Strategy is therefore planning for residential development to replace the current employment land uses in the area. This has already commenced.

The Concept Plan is consistent with the strategic planning direction for this land (and the wider Meadowbank Employment Area) as it transitions from former industrial and employment uses to a predominantly residential area.

Centres and Corridors

The site is located approximately 1km from Top Ryde which is categorised as a Town Centre under the Strategy and provides a recently opened regional shopping centre which possibly elevates its status to a Major Centre within the Strategy's hierarchy. This centre is readily accessible by car and public buses operating along Church Street or the local shopper bus operating within the immediate area.

The site is also located approximately 750 metres from Meadowbank which is categorised as a small village under the Strategy. However, since the preparation the draft Strategy, the Shepherds Bay shopping centre has opened (providing two supermarkets and specialty shops) which would be classed as a stand-alone shopping centre under the Strategy. This shopping centre is located approximately 800m from the site.

As indicated on **Figure 15** (above), the site is also proximate to the Rhodes shopping area which is nominated as a Specialised Centre under the draft Inner West Subregional Strategy. This centre is readily accessible by car, public transport and cycle paths.

Housing

The Strategy sets a target of an additional 12,000 dwellings for the Ryde LGA by 2031. An 'Action' of the Strategy is for 60-70% of new housing to be accommodated in existing urban areas, focused around centres and corridors to take advantage of existing services such as shops and public transport. The subject site is well placed to the Town Centre of Top Ryde and Shepherds Bay Shopping centre as well as being located close to a railway station and ferry wharf and within 100m of a "Strategic Bus Corridor" identified in the Strategy along Church Street. The M41 MetroBus which has recently commenced operation.

One of the Actions relating to housing is for councils to plan for sufficient zoned land to accommodate their local government area housing targets through their Principal LEPs. Ryde Council has prepared a new LEP for the LGA consistent with the Standard Instrument, however the new LEP is a 'like for like' transfer of existing provisions into the Standard Instrument format and did not review zones to plan for housing growth.

The Local Planning Strategy prepared by Council addresses housing. In particular the Centres and Corridors Study (Section 3.5 Meadowbank) recommends a residential land use to replace the existing employment land uses. In conjunction with the introduction of residential land uses is the introduction of height and floor space ratio controls for the MEA in order to facilitate additional housing.

On 7 December 2010, Council resolved to adopt the Local Planning Strategy and to exhibit the Local Planning Strategy when draft LEP 2011 is publicly exhibited.

Transport

The Strategy notes that the site is bound by four strategic transport corridors offering different forms of public transport options including:

- Church Street/Devlin Street as a strategic bus corridor (immediately to the east);
- Victoria Road as a strategic bus corridor (to the north);
- Ferry Wharf and route (to the south); and
- Train line and station (to the west).

The site is well placed to take advantage of the public transport options available within close proximity to the site.

6.10 Local Planning Controls and Strategies

6.10.1 Ryde Local Environmental Plan 2010

Ryde LEP 2010 was gazetted on 30 June 2010. The proposed development is defined as a residential flat building under the LEP.

Zoning and permissibility

The subject site is zoned B4 Mixed Use under Ryde LEP 2010. This zone permits a broad range of uses, including the following:

“Boarding houses; Building identification signs; Business identification signs; Business premises; Child care centres; Community facilities; Educational establishments; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Office premises; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Retail premises; Roads; Seniors housing; Shop top housing; Waste or resource transfer stations; Any other development not specified in item 2 or 4” [our emphasis].

Item 4 – prohibited development - does not identify residential flat buildings (RFBs) as being a prohibited use and RFBs are therefore a permissible use within the B4 Mixed Use zone.

Zone Objectives

The objectives of the B4 – Mixed Use zone are:

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To create vibrant, active and safe communities and economically sound employment centres.
- To create safe and attractive environments for pedestrians.
- To recognise topography, landscape setting and unique location in design and land-use.

The Concept Plan provides for a residential development in a locality that is undergoing a transition from industrial type land uses to predominantly residential land uses, consistent with the Ryde Local Planning Strategy (Section 3.5 - Meadowbank of the Centres and Corridors Study).

The introduction of a residential use will locate housing within walking distance of existing business and retail uses and also within walking distance of public transport (trains, ferries and buses) thereby contributing to maximising use of existing transport infrastructure. The site is well located to local bike routes connecting to other areas within the region.

The Concept Plan proposes a permeable approach to site planning and strong street addresses to create a legible urban structure and promote a safe pedestrian environment.

For the above reasons, the Concept Plan is considered to be consistent with the zone objectives.

Part 4 – Principal Development Standards

The subject site has a maximum building height limit of 9.5m. The floor space ratio control map, minimum lot size map and residential density map do not detail controls for the subject site (or the wider Meadowbank Employment Area (MEA)). The land is identified as being within the MEA on the Centres Map. However Ryde LEP 2010 does not contain any provisions for this Centre.

The height and floor space ratio controls for the MEA and the subject site will form part the draft LEP 2011 which is currently being prepared by Ryde Council.

Preservation of trees or vegetation

An arboricultural assessment of the existing trees has been carried out by Tree Wise Men. A copy of their report is attached at **Appendix 8** and is discussed in Section 7.11 of this EA.

The proposed building footprints are located to keep substantially clear of the majority of trees to enable their retention and thereby retain the treed character of Belmore Street and Junction Street and assist in providing a vegetated screen to future buildings.

Aside from feature trees, the Concept Plan does not identify which trees will be retained or removed. This will be undertaken as part of the more detailed building design with future DAs or Project applications. However, it is noted that 36 trees are Camphor Laurels which are Class 4 noxious weeds under the Noxious Weeds Act, 1993. A further 2 trees are also Class 4 noxious weeds which do not require approval to remove under DCP 2010.

A statement of commitment is proposed to require the retention of as many trees as possible and for future applications to include more detailed arboricultural assessment to ascertain which trees can or should be retained.

Heritage Conservation

Clause 5.10 relates to the Heritage conservation. Two of the parcels (Lot 1 DP921633 and Lot 11 DP51349) are identified as a local heritage item under the Ryde LEP 2010. Heritage Impacts are addressed in Section 7.7 of the EA.

Acid Sulfate Soils

The Acid Sulfate Soils Map indicates the site is within Class 5 land.

Clause 6.1(3) provides that development consent must not be granted for the carrying out of works below 5 metres Australian Height Datum and by which the watertable is likely to be lowered below 1 metre Australian Height Datum on adjacent Class 1, 2, 3 or 4 land, unless an acid sulfate soils management plan has been prepared for the proposed works in accordance with the *Acid Sulfate Soils Manual*.

The Concept Plan indicates that the lowest level of the basement envelope is RL 15.00 AHD and therefore well above 5m AHD. This clause is not considered to apply.

Earthworks

The relevant objective of clause 6.2 – Earthworks is:

- “(a) *to ensure that earthworks for which development consent is required will not have a detrimental impact on environmental functions and processes, neighbouring uses, cultural or heritage items or features of the surrounding land,*”

The basement envelope has been located having regard to a number of factors including, the curtilage of the heritage item on the site, as well as its memorial gardens, existing trees particularly keeping clear of the tree protection zone identified by the arborist and neighbouring properties. The approach to the siting of the basement is considered to be consistent with the objective of clause 6.2(a).

Summary

The development is permissible within the B4 – Mixed Use zone which applies to the land. The site is subject to a height control of 9.5m. The LEP does not contain any other principal development standards such as floor space ratio. However, the development controls applying to the land will form part of the draft LEP 2011 which is currently being prepared by Ryde Council. Aside from the building height development standard which is under review, the proposal is generally consistent with the relevant provisions of Ryde LEP 2010.

6.10.2 Meadowbank Employment Area Master Plan (Amendment No. 5)

The Meadowbank Employment Area (Amendment No. 5) was adopted on 22 June 2004 and has been amended on several occasions, the most recent being Amendment No. 5 on 17 April 2007.

The MEA Master Plan “*establishes the framework to guide future land use and redevelopment over a twenty-year period. In particular, it seeks to increase the viability of the Employment Area by broadening its traditional industrial character to include a vibrant mix of light industry, housing, retail and recreation activities.*”

The MEA Master Plan has been inserted into DCP 2010 with additional controls included relating to public domain interface, architectural characteristics, noise and vibration attenuation and car parking. The provisions of the MEA Master Plan are addressed in Section 6.10.3 below.

It is important to recognise that Council has recently adopted the Ryde Local Planning Strategy which will guide the preparation of the Ryde LEP 2011, a comprehensive LEP for the Ryde LGA. As part of the Local Planning Strategy, Ryde Council has adopted the Centres and Corridors Study. Section B.4 of the Study notes that the MEA Master Plan is under review. A review of the controls arose out of the Employment Lands Assessment: Meadowbank 2007 which concluded that existing retail and commercial employment nodes are providing an adequate mix of retailing and employment opportunities. The MEA Draft DCP 2007 was prepared on this basis and proposed residential land uses with increased heights and FSRs. The progression of the Draft DCP was deferred when Council commenced the preparation of the recently published Ryde LEP 2010. The studies conducted in 2007, the draft MEA DCP and the recently adopted Local Planning Strategy all indicate that Council is moving away from the current controls contained in the MEA Master Plan. The planning controls proposed for the subject site increase the height and floor space controls contained in the current MEA Master Plan.

6.10.3 Development Control Plan 2010

Ryde DCP 2010 was adopted by Council on 16 June 2010 and came into effect on 30 June 2010 concurrently with Ryde LEP 2010. DCP 2010 is effectively a revision of Ryde DCP 2006. The sections of the DCP relevant to the Concept Plan application and corresponding commentary are provided in Table 9 below.

Table 9: Consistency with Ryde DCP 2010

Provisions	Comments
Part 3.4 – Residential Flat Buildings and Multi-Unit Housing (not within the low density residential zone)	
<i>In the event of any inconsistency between Part 3.4 and Part 4.2, the latter will prevail pursuant to Section 1.3 of DCP 2010.</i>	
Density	These provisions under Part 3.4 of DCP 2010 are inconsistent to those of Part 4.2 (MEA Master Plan). Part 4.2 therefore prevails and these provisions are not applicable to the proposal.
Height	
Front, Side and Rear Setbacks	
Parking	
Materials to be of natural textures and colouring	
Front boundary fence not to exceed 1m in height; other boundary fences not to exceed 1.8m in height.	Fencing is not proposed as part of the Concept Plan application and will form part of future Project applications or DAs.
Clothes line accommodation shall be provided at a rate of 7.5m of line per dwelling	<p>The building envelopes are designed to allow for clothes drying lines on the roof top of some buildings as an ESD initiative to reduce the need for clothes driers within the apartments. Being on the roof tops they will not be visible from the apartments or adjoining properties.</p> <p>The rate of clothes line provision can addressed with future Project applications or DAs on a stage by stage basis.</p>
All noise producing plant such as ventilation equipment, swimming pool motors, air conditioners and the like are to be installed to Council's satisfaction	The acoustic effects of plant and equipment can addressed with future Project applications or DAs on a stage by stage basis.
Garbage storage area of masonry with concrete floor required	The design of garbage storage areas can be addressed with future Project applications or DAs on a stage by stage basis.

Provisions	Comments
Part 4.2 – Meadowbank Employment Area (MEA) Master Plan	
Precinct 9 – existing uses to continue.	The proposed Concept Plan proposes a residential land use. As noted above, the strategic plan for the area will see a change in land use to residential. The current use comprises educational and residential uses operated by Achieve Australia. The residential use will be retained on the site and educational and training functions will be relocated (regardless of this Concept Plan application). Whilst the Concept Plan does not propose the continuation of the current use, the Concept Plan is consistent with the planning direction for the site and the MEA.
2 storey height control	The Concept Plan proposes heights ranging from 2 storeys to 7 storeys. The Ryde Local Planning Strategy proposes heights of 4 storeys at the northern edge of the site and 6 storeys for the remainder. Details discussion regarding the approach to height and scale is provided in Section 7.1 of this EA.
5m front setback control	The 5m landscape setback control applies along the Belmore Street and Porter Street frontages. The Concept Plans propose: <ul style="list-style-type: none"> An 8m setback to Belmore street in order to provide a tree retention zone along this frontage. This more than meets the Master Plan requirement. A 5.5m setback to the majority of Porter Street, reducing to 4.5m at the southern end where the site boundary steps in slightly.
New tree planting along Belmore Street, Junction Street and Porter Street.	The Concept Plan provides front setbacks that enable either retention of existing trees or additional landscaping. The retention of the existing trees along Belmore Street and Junction Street would not allow sufficient space for further street tree planting due to the spread of the canopy of the retained trees. Street tree planting can be accommodated along Porter Street where land is proposed to be transferred to Council to increase the width of the verge.
Heritage Item	The Master Plan identifies the site as being an item of heritage significance. The heritage item and gardens are retained. Section 7.7 of this EA addresses heritage impacts.

Provisions	Comments
Part 7.1 – Energy Smart, Water Wise	
Maximise solar access to rooms and areas that are used most	The building envelopes have been designed and located to maximise solar access to the facades of buildings. Future Project applications or DAs will detail the room placement and address solar access to habitable spaces and private open space areas of apartments and common open space areas.
Ceiling/roof to be fitted with insulation	Details of insulation proposed for any building will be contained within future applications for individual buildings. Sustainable materials and features will be incorporated into the design of the residential flat buildings to reduce energy consumption.
Plumbing fittings to be water efficient	Sparks and Partners have prepared preliminary design statements for hydraulic services within the development, inclusive of water supply. This report details that Wels 4 1/2 / 3litre dual flush WC cisterns and Wels rated water efficient tap ware will be utilised in the fit out. These are also included in the statement of commitments in relation to ESD measures of the development.
Part 7.2 – Waste Management	
Comprehensive and completed Waste Management Plan	The proposal is for a Concept Plan application. A Waste Management Plan is more appropriately addressed prior to the issue of a construction certificate for each stage of the development.
Identify waste storage areas and rooms across site on plans	<p>Specific details of the waste storage areas within buildings and around the subject site will be identified on plans within future submissions.</p> <p>Sufficient waste storage will be provided across the site so as to provide individual waste storage areas within each unit, communal bulk waste storage areas for each building, and adequate access for removal of waste via waste disposal services.</p>
Part 8.1 – Construction Activities	
Provide Erosion and Sedimentation Control Plan with submission	Sediment and erosion control plans and soil and water management plans can be provided with future Project applications or DAs on a stage by stage basis.
Provide Soil and Water Management Plan	

Provisions	Comments
Part 8.2 – Stormwater Management	
Stormwater Management plan to be provided identifying compliance with controls	Sparks Partners has prepared concept stormwater management plans, and Aquatica has developed a water management/ water sensitive urban design (WSUD) strategy for the development that integrates with and supplements the concept stormwater plan. The WSUD is designed to meet Ryde Council's draft stormwater quality targets through the use of a bioretention system for the southern catchment and wetlands to treat stormwater from the northern catchment of the site. Further discussion is provided in Section 7.9.
Part 9.3 – Car Parking	
1 bed: $225 \times 1 = 225$ 2 bed: $225 \times 1.4 = 315$ 3 bed: $20 \times 1.6 = 32$ Visitor: $470 / 4 = 118$ <u>Total = 690 car spaces</u>	<p>Item 4 of the DGRs requires the EA “to demonstrate a minimal approach to on-site car parking having regard to the site’s accessibility to public transport. “</p> <p>The Concept Plan has included basements which are appropriately sized in order to accommodate 584 residential and visitor car parking spaces. The site’s good access to public transport (buses, trains and ferries) provides the justification for a lower car parking provision than the DCP requires. This approach is consistent with the DGRs. The rationale behind the car parking provision discussed in more detail in Section 7.3 of this EA.</p>
Parking areas to be designed in accordance with AS 2890.1 and AS 2890.2	The basement envelopes have been sized to ensure that compliance with the Australian Standards including disabled car parking spaces is capable of being achieved. Details will be submitted with future detailed Project or development applications.
Part 9.6 – Tree Preservation	
Proposal complies with Clause 5.9 – Preservation of Trees or Vegetation under Ryde LEP 2010	An arboricultural assessment of the existing trees has been carried out by Tree Wise Men. A copy of their report is attached at Appendix 8 and discussed in Section 7.11 of this EA.
If tree removal is required, must demonstrate that an alternative design is not feasible and retaining trees is not possible in order to achieve adequate clearance between tree and buildings.	The proposed building footprints are located to keep substantially clear of the majority of trees to enable their retention and thereby retain the treed character of Belmore Street and Junction Street and assist in providing a vegetated screen to future buildings.
A Tree Management application is required if any tree is to be pruned or removed under the proposal	Aside from feature trees, the Concept Plan does not identify which trees will be retained or removed. This will be undertaken as part of the more detailed building design with

Provisions	Comments
If any tree is dangerous, listed on the significant tree register, requires further Council attention, or forms part of a number of trees to be removed, an Arborist Report is required by a qualified Arborist.	<p>future DAs or Project applications. However, it is noted that 36 trees are Camphor Laurels which are Class 4 noxious weeds under the Noxious Weeds Act, 1993. A further 2 trees are also Class 4 noxious weeds which do not require approval to remove under DCP 2010.</p> <p>A statement of commitment is proposed to require the retention of as many trees as possible and for future applications to include more detailed aboricultural assessment to ascertain which trees can or should be retained or pruned.</p>

6.10.4 Ryde Local Planning Strategy - Centres and Corridors Study

The Ryde Local Planning Strategy has been prepared to guide future planning for the LGA and meet the State Government planning targets for the number of dwellings and employment opportunities and implement the relevant objectives and actions of the Metropolitan Strategy and of the Inner-North Subregional Plan. The Local Planning Strategy and its background studies will guide the preparation of a new comprehensive draft LEP 2011 for the Ryde LGA.

The Local Planning Strategy comprises several background studies which have progressively been considered and adopted by Council at meetings during 2010. The various components of the Local Planning Strategy include:

- Centres and corridors
- Small centres
- Housing
- Environment and open space
- Cultural heritage
- Employment
- Transport.

Of particular relevance to this site is Section 3.5 - Meadowbank of the Centres and Corridors Study. At Council's meeting on 3 August 2010, the Council resolved as follows:

- “(a) That Council endorse the Centres and Corridors Study to proceed to targeted consultation with
- Landowners affected by changes recommended to planning controls as identified in Tables 1, 3 and 4 of the report of the Team Leader Strategic Planning dated 14 July 2010
 - Relevant City of Ryde Advisory Committees and Working groups
- Subject to the Meadowbank Employment Area being restricted to a maximum height of 6 storeys
- (b) That the recommendations contained in the Centres and Corridors Study be used to Draft Comprehensive Local Environmental Plan 2011.
- (c) Following targeted consultation a further report be submitted to Council prior to the Centres and Corridors Study being publicly exhibited together with a Draft Local Environmental Plan”

Note: Tables 1, 3 and 4 of the Council's report do not relate to the Meadowbank Employment Area.

The Council has therefore endorsed the Centres and Corridors Study which will inform the preparation of the forthcoming draft Ryde LEP 2011.

Section 3.5 of the Centres and Corridors Study specifically relates to the MEA including the subject site. This Section recommends that residential land uses replace the existing employment land uses in the MEA. In conjunction with the introduction of residential land uses is the introduction of height and floor space ratio controls for the MEA in order to facilitate additional housing. **Figure 16** on the following page contains extracts from Section 3.5 illustrating the built forms, heights and floor space ratios proposed for the area.

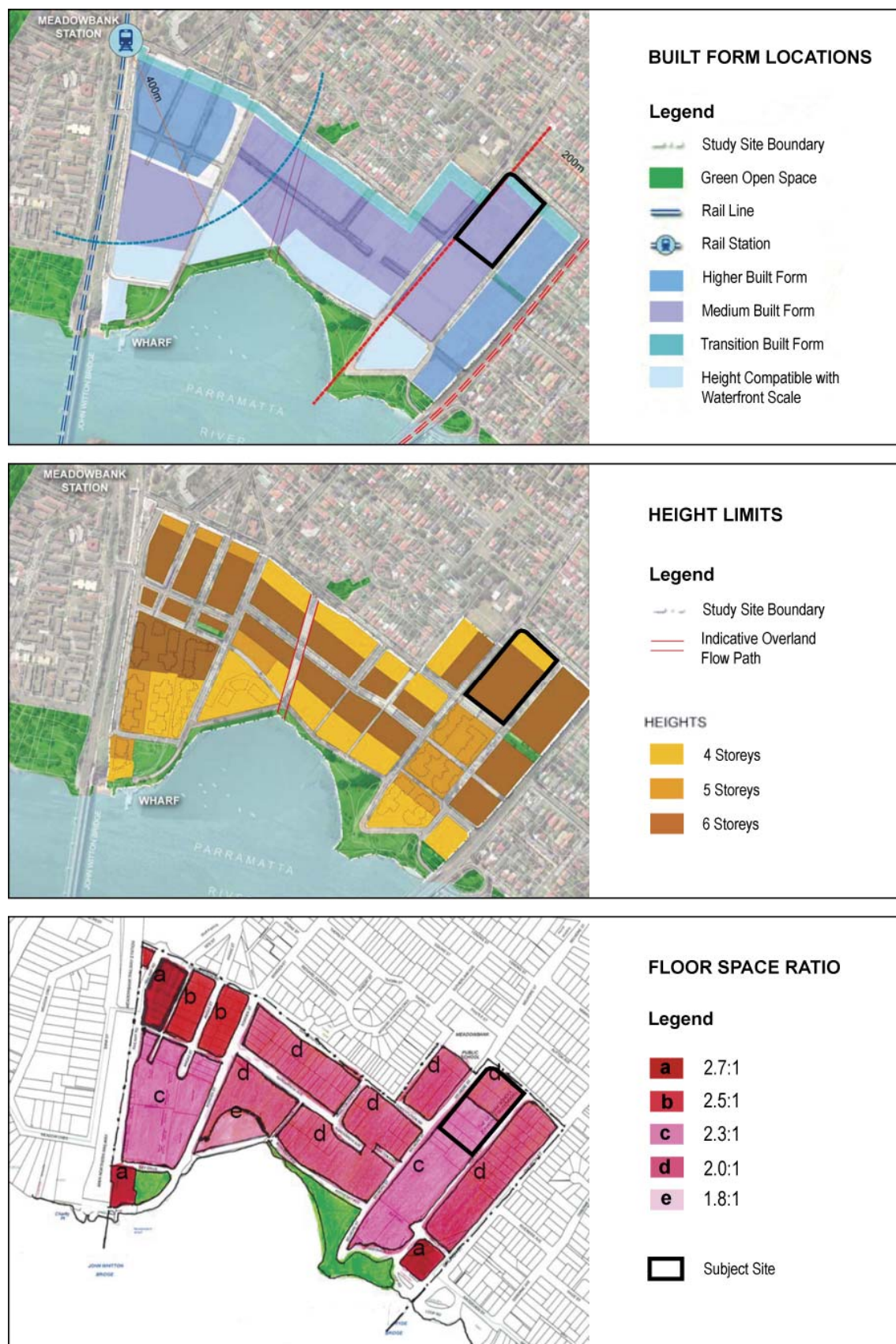


Figure 16: Extract from Section 3.5 of the Centres and Corridors Study

As illustrated in **Figure 16** (on the previous page) Section 3.5 of the Centres and Corridors Study recommends the following controls of relevance to the subject site:

- The subject site is identified as a residential land use of medium built form with a transitional zone along the northern edge of the site.
- The FSR controls for the subject site are proposed to be 2.3:1 for the majority of the site and 2.0:1 along the northern edge.
- Height controls for the subject are proposed to be 6 storeys for the majority of the site and 4 storeys along the northern edge.

The Concept Plan proposes a residential land use consistent with the Local Planning Strategy. The FSR of the site has been averaged across the site but within the ranges proposed for the site. In particular, the building envelopes along northern edge of the site reduce in height to provide a transition in scale to the detached housing form on the opposite side of Junction Street.

The main variation between the Concept Plan and the height controls in Section 3.4 of the Centres and Corridors Strategy is the 6 storey control. The Concept Plan proposes various heights which respond to various attributes of the site and the objective of modulating scale. Four of the buildings have a 7th storey and these have been selected where they have the least impact. Detailed discussion on height and the rationale behind the various heights proposed in the Concept Plan is provided in Section 7.1 of the EA.

7 Environmental Assessment

This section provides an environmental assessment of the proposed development and specifically addresses the key issues of the DGRs issued on 16 September 2010.

7.1 Built form and urban design

As discussed in Section 3.2 of this EA, the proposed building envelopes have been developed taking into account a number of factors such as curtilage to the retained heritage item, tree retention zones, building separation under the Residential Flat Design Code (RFDC) and the existing and likely future character of the surrounding area as anticipated in the Centres and Corridors Study of the Ryde Local Planning Strategy.

The combination of these factors has led to a perimeter edge building footprint focused around a central landscaped courtyard and the retained heritage item. The perimeter edge site planning approach is consistent with the approach taken for the residential buildings to the south (completed and approved developments). The perimeter edge approach ensures that each building has a street address enabling pedestrian access to each block from the street maximising street activation.

A total of five blocks have frontage to the streets, each with generous separation to break down the mass within the streetscape, allow views into and through the site and provide a structure for future pedestrian access points and a permeable site.

A large central courtyard is achieved which is substantially clear of the proposed basement envelopes providing an open space area of generous area and proportions for deep soil landscaping.

7.1.1 Height Analysis

An analysis of existing building heights has been undertaken and informed the Concept Plan. **Figure 17** is an analysis of existing building heights. This illustrates that the predominant height is single and two storey buildings, with some three storey buildings. The seven storey heights south along Belmore Street illustrate the emerging trend in heights for the MEA.



Figure 17: Height Analysis - Existing

Figure 18 illustrates the heights proposed under the Concept Plan in the context of the heights proposed under the Centres and Corridors Study and heights proposed on nearby properties (e.g. the site immediately to the south) and the 5-6 storey building on the south-western corner of Belmore Street and Constitution Road as proposed under Concept Plan MP90_0219). This illustrates the continuation of the emerging trend in heights for the MEA, in particular the predominant height moves towards buildings of 5 to 7 storeys. The heights proposed under the Concept Plan ranging from 2 to 7 storeys is consistent with the future height of buildings proposed for the MEA as it redevelops to an urban area.

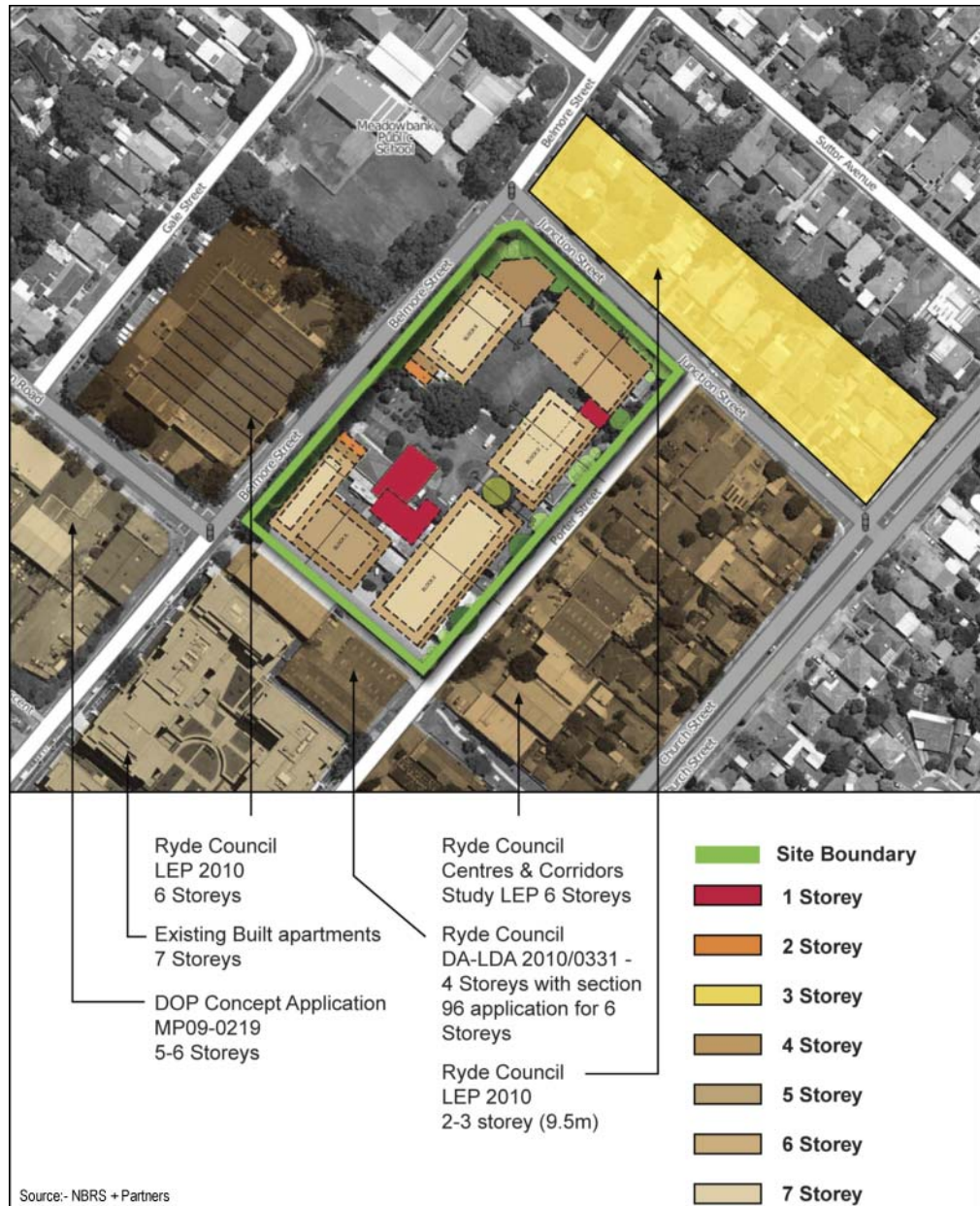


Figure 18: Height Analysis - Proposed

Further discussion on height for each building and its immediate context including visual impact is provided in the following section.

7.1.2 Building envelope rationale

The rationale behind each building envelope is set out below. Block G is not discussed as this is an envelope relating to a basement car parking entrance.

Table 10: Building envelope rationale

Block A

Height	<p>Proposed heights vary from 2 storeys to 4, 5, 6 and 7 storeys.</p> <p>The building envelope is sited to be clear of the heritage curtilage and the heights scale down to 2 storeys along Belmore Street opening up the view to <i>Tellaraga</i> providing it with a strong street presence. The same approach and stepping of height occurs for Block B.</p> <p>The taller components of 5, 6 and 7 storeys are located further south where the heights will be comparable to the scale of buildings further south along Belmore Street. The building height and stepping of building form has also been designed having regard to shadow impact within the development site and to the site adjoining to the south (the subject of DA before Ryde Council for up to 6 storeys). The design of the adjoining building does not rely upon its northern elevation for solar access or outlook and has minimal use of windows to the north, and blade walls provide screening over the Concept Plan site.</p> <p>The Belmore Street elevation (Appendix 4) illustrates the scale and stepped form relative to the remainder of the site and how this scaling down of building form opens up the view/vista to <i>Tellaraga</i>. The scale of a future building relative to the existing and future height and scale of buildings on the western side of Belmore Street is appropriate having regard to likely scale of buildings opposite, separation and retained trees breaking down the massing.</p> <p>The building envelope is stepped in form along all edges to reduce the apparent height and scale of a future building and to moderate the mass of a future building. It also provides for greater degree of separation between upper levels.</p>
Front setback	<p>A front setback of 6m is proposed to enable the retention of trees along the Belmore Street frontage. This setback is greater than the 5m setback proposed for the residential flat building proposed on the adjoining site. The setback increases to 8m for the 7th storey.</p> <p>The trees capable of being retained within the front setback will provide an effective visual screen ensuring that the building height and scale will not be readily apparent within the streetscape. The proposed buildings would be less visible than the recently completed buildings further south along Belmore Street.</p>
Envelope Separation	<p>The envelope is located outside or greater than the heritage curtilage established for the heritage item (refer to Section 7.7 of this EA). This provides for at least a 12m separation from main component of <i>Tellaraga</i>.</p> <p>A lesser separation of 4m is proposed to Block F which will house recreational facilities thereby not giving rise to privacy issues for apartments in Block A.</p> <p>Separation distances between Block A and E range from 12m between the 4 storey elements to 20m between the 5 and 7 storey elements. These separations are consistent with the RFDC.</p>

Block B

Height	Block B takes a similar approach to height as Block A with lower heights closest to the heritage curtilage progressively increasing to 7 storeys then dropping to 4 storeys at the corner of Belmore Street and Junction Street. The 4 storey height at this corner is proposed to reduce height at the visible street corner and reduce scale as the site transition to the lower scale R2 - Residential zone on the opposite side of Junction Street.
Front setback	<p>A setback of 8m is proposed to Belmore Street to provide for tree retention. The setback is greater than for Block A due to the larger trees in this section of the site. As for Block A the retained trees are of a comparable height to the height of the proposed building envelopes providing an effective screen.</p> <p>The 7 storey element increases its setback to 12m from Belmore Street and the generous setback continues as a splayed alignment then changing to a 6m setback to Junction Street, again to allow for tree retention along this frontage.</p>
Envelope Separation	<p>A 12m separation is proposed to the heritage curtilage, providing a separation in the order of 30m to <i>Tellaraga</i>.</p> <p>An internal separation across the internal courtyard in the order of 30m at ground level increasing to nearly 40m at the upper floors more than meet the RFDC building separation rules of thumb.</p> <p>A separation of 6m is proposed between the 4 storey elements between Blocks B and C increasing to 9m for the 6 storey elements of each block. This separation is consistent with the RFDC.</p>

Block C

Height	<p>The principle of a 4 storey scale to Junction Street is continued from Block B through to Block C. The 4 storey component is located at the northern end of the building to provide a lower scale adjacent to the detached housing on the opposite side of Junction Street. This transitioning of scale is consistent with the approach outlined in the Centres and Corridors Study.</p> <p>The building height increases to 6 storeys which is setback 16m from the Junction Street boundary.</p> <p>The building height and stepped form ensures that shadows will not affect the properties opposite until 1pm - 2pm during the winter solstice providing in excess of 3 hours of sunlight at mid winter. The height will also ensure that future residential buildings will not be shaded until 2pm at the winter solstice allowing future residential redevelopment to be capable of achieving solar access criteria. (Refer to shadow diagrams in Appendix 4).</p>
Front setback	<p>A front setback of 6m is proposed to Junction Street again to allow for retention of trees which are of a comparable height to the proposed building envelopes. The 6 storey component is setback 16m from Junction Street.</p> <p>The 6m setback continues along the Porter Street frontage, with the 6 storey component setback 8m. A narrow strip of land along Porter Street is proposed to be transferred to Council to increase the road reserve width along Porter Street consistent with the remainder of the street. This will reduce the technical setback, but the intended urban design outcome will not change.</p>

Envelope Separation	<p>Junction Street has a road reserve of approximately 20m and this alone provides a large degree of separation from boundary to boundary. Assuming a 6m setback to the houses, combined with the 6m proposed front setback and the 20m road reserve there is at least a 32m separation between building forms.</p> <p>Building separation to Block B is discussed above and complies with the RFDC.</p> <p>The separation to Block D is less than the 18 metres separate recommended in RFDC for buildings of 5 to 8 storeys. However, the building separation is for internal courtyards. The space between buildings C and D is not an internal courtyard. Walls to either building could contain non-habitable rooms in which case the separation requirements reduce to 9 or 13m and would be the subject of future detailed design. The envelopes would be capable of meeting these requirements for the short wall lengths.</p>
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Block D

Height	<p>Block D takes a stepped form, comprising 4 storeys then progressively stepping up to 6 and 7 storeys. This continues through to Block E. Blocks D and E are comparable to the scale of buildings further south along Belmore Street and the DA currently being considered by Ryde Council on the property immediately to the south. The proposed heights will provide a similar scale to the existing development.</p> <p>The proposed heights are also comparable with the 6 storey heights recommended in the Centres and Corridors Study. Section B on Drawing MP11-A at Appendix 4 illustrates the comparable relationship with the future scale of buildings planned for Porter Street.</p> <p>The building height and stepping of building form has also been designed having regard to shadow impact to the existing development on the opposite side of Porter Street. The building height and stepped form ensures that shadows would not affect the properties opposite until 1pm (front yards) and 2pm (houses) during the winter solstice providing at least 3 hours of sunlight at mid winter. The height will also ensure that future residential buildings will not be shaded until 1pm at the winter solstice allowing future residential redevelopment to be capable of achieving solar access criteria. (Refer to shadow diagrams in Appendix 4).</p>
Front setback	<p>A front setback of 6m is proposed increasing to 8m for the 6th storey and 16m for the 7th storey. As noted above, a narrow strip of land along Porter Street is proposed to be transferred to Council to increase the road reserve width along Porter Street consistent with the remainder of the street. This will reduce the technical setback, but the intended urban design outcome will not change.</p>
Envelope Separation	<p>The separation between Blocks C and D is discussed above.</p> <p>Blocks D and Block E separated by 6m for the 4 storey elements increasing to 12.5m for the 6 storey element and 20.5m for the 7 storey element. This space is not an internal courtyard being partly vehicular entrance. The separation for the 4 and 7 storey components is consistent with the RFDC between habitable spaces. The separation between the 6 storey components is appropriate where the interface is habitable/non-habitable. Given that the elevation to Block D is a south facing wall and less likely to contain habitable spaces, this principle of the RFDC should be capable of being achieved subject to detailed design.</p>

Block E

Height	Block E is similar in form, height and setback to Block D and has the same rationale to its height and front setback with regarding to streetscape, future built form and shadow impacts. The shadow impacts demonstrate that shadows do not affect the adjoining properties until about 1pm. Whilst the adjoining development is currently industrial, the proposed heights would allow future residential development contemplated in Ryde City Council's strategic planning policies would be to be capable of achieving solar access criteria.
Front setback	
Envelope Separation	<p>Block E is clear of the heritage curtilage and provides at least a 12m separation to <i>Tellaraga</i>.</p> <p>The separation to Block F is approximately 2m. However Block F is a single storey non-residential envelope. Block F is flexible in its design so as not to affect the amenity of the ground floor dwellings in Block E.</p> <p>The siting of Block E has also taken into account the future residential flat building development on the site to the south. A 7m setback is proposed to the 6 storey component increasing to 11m at the 7th storey. The building on the adjoining site is proposed to have a setback from the common boundary of between 3 to 5m. This provides a combined separation of 10m to 16m. The adjoining building is designed to minimise windows and habitable spaces facing the northern boundary and uses blade walls and other screening devices to control view directions. The northern elevation of the proposed building presents as non-habitable spaces. The proposed building separations are therefore consistent with the RFDC.</p>

Block F

Height	Block F is a single storey envelope. However it has a taller floor to ceiling height provision reflecting its future recreational use. The envelope location and height has been sited having regard to the heritage assessment.
Front setback	Not applicable.
Envelope Separation	The envelope separation controls are not readily applicable as the use of Block F is non-residential. Nevertheless, the separation to ground floor dwellings of future apartments in Blocks A and E is adequate so as not to compromise the amenity of the future apartments.

Visual Impact

Richard Lamb and Associates (RLA) undertook an independent assessment of the potential visual impacts of the proposed development. A copy of their report is attached at **Appendix 7**.

The assessment has investigated the existing visual character and resources of the site and the surrounding context to identify the visual opportunities and constraints. This included an assessment of not only the immediate context, but also the visual catchment of the locality extending to potential strategic viewing points from the bridges over the Parramatta River, Victoria Road and surrounding heritage items as well as potential viewing opportunities from surrounding residential streets.

Their assessment includes a series of 10 photomontages showing before and after representations of the massing of the proposed building envelopes. These have been taken from the immediately adjacent streets, nearby streets of Constitution Road, Osborne

Avenue and Simpson Street as well as more distant views from Ryde Bridge and southern bank of Parramatta River in Rhodes. These photomontages are based on building envelopes and are not representative of the final building form. The mass of future buildings will be less than building envelopes. Modulation of the mass and articulation of facades will further reduce the visual effects illustrated in the photomontages.

An extract which summaries RLA's findings is provided below.

"The potential visual effects of the proposal were analysed and it was found that the proposal will have a moderate and a positive effect on the character of the site and the surroundings. It does not have any significant negative effect on the views to and from the heritage items or views between the heritage items.

The proposed development will have moderate to high compatibility with the existing, emerging and desired future character of the site and the surroundings as envisaged by the MEA Master Plan in Ryde DCP 2010. It is of similar nature to recently constructed and approved developments in the locality such as Faraday Park, Shepherds Bay and Bay One residential developments. It is responsive to the adjacent developments on the bounding streets with regard to building heights.

The proposed development is in line with the urban design principles, general development controls and precinct specific development controls with regard to views and vistas, foreshore access, visual and pedestrian linkages, street setbacks and street heights, vegetation retention and enhancement, provision of open spaces and adaptive reuse of buildings that are given in the MEA Master Plan in Ryde DCP 2010.

Subject to appropriate strategies and commitments with regard to urban design and residential amenity at the detailed design stage, the proposed development will not result in any significant potential visual and related amenity impacts, including visual privacy and view blocking."

Summary

The proposed building envelopes have been developed taking into account heritage curtilage, tree retention, building separation under the Residential Flat Design Code (RFDC) and the existing and likely future character of the surrounding area as anticipated in the Centres and Corridors Study of the Ryde Local Planning Strategy. A perimeter edge approach has been adopted enabling buildings to address and interact with each street frontage whilst allowing a central landscaped open space as a focus for internal facades.

The visual analysis has found that the buildings respond to the heights of the existing and emerging character of the MEA and the building setbacks and existing perimeter trees provides good screening to the majority of the building mass.

7.2 Environmental and residential amenity

The built form and urban design (discussed above) has also been developed in the context of the Residential Flat Design Code to ensure that the building envelopes and site planning enables future building design to be capable of achieving the more detailed design aspects of the Code such as apartment layout, orientation, cross ventilation, views, car parking, storage, balcony design and architectural treatment.

The main features of the design and how they respond to the provisions of the Residential Flat Design Code (as are of relevance to the Concept Plan) are discussed below.

In terms of Part 01 - Local Context, the Concept Plan exhibits the following attributes:

- Building envelopes that address building height, building depth, building separation, street setbacks and floor space.
- Building height that reflects the future character of the area (particularly to the south) with reduced scale to the north to provide a transition to the detached housing on the northern side of Junction Street.
- Modulation of the building envelopes that will create a built form that progressively steps back upper levels to reduce bulk, massing and shadow impacts.

- Building envelopes that are adequately sized to provide for adequate building depth (wall to wall of 18m) with additional room for articulation such as provision of balconies.
- Building separation that increases with building height to achieve residential amenity in terms of solar access, privacy as well as provide good solar access to the proposed open spaces and landscaped areas.
- Street setbacks consistent with or greater than the surrounding setback character. The street setbacks also provide for a tree retention zone to retain the existing street landscape character.

In terms of Part 02 - Site Design the Concept Plan exhibits the following:

- A site analysis has been undertaken and the Concept Plan responds to the opportunities and constraints of the site and surrounds.
- Opportunities for significant open space provision including deep soil landscaping as a central focal point to the site and perimeter landscaping in the form of a front setback zone capable of accommodating retained trees.
- Opportunities for private open space in the form of ground floor courtyards, balconies or terraces on the upper levels where the built form steps.
- Building separation and orientation to maximise residential amenity in terms of access to views or outlook and solar access to facades (refer to shadow diagrams at **Appendix 4**), open space and adjoining properties.
- Opportunities for planting on structure such as basements that extend beyond the building footprint, terraces or roof tops.
- A stormwater strategy that provides for water re-use, on-site wetlands and bio-retention to manage and improve water quality before it leaves the site.
- Building siting that promotes casual surveillance of both the public and private domain and maximises the number of building entry points with direct access to streets.
- Building separation that provides for maximising privacy within the development, adjoining development and generous separation to adjacent detached housing in the order of 25m for Porter Street and 32m for Junction Street.
- Basements that accommodate all residential car parking reducing impact on the landscape opportunities for the site.
- Minimising the number of vehicular entry points reducing streetscape impacts.
- Site planning and building layout that reflect the pattern of development south along Belmore Street

In terms of Part 03 - Building Design the Concept Plan exhibits the following:

- An indicative apartment mix that can accommodate a range of household types.
- Building envelopes designed to accommodate balcony depths of at least 2m.
- Building heights that have been designed to accommodate floor to ceiling heights of 2.7m to habitable rooms.
- Building envelopes that maximise the ability to design apartments to achieve solar access, daylight access and cross ventilation.

Many of the remaining building design provisions of the Residential Flat Design Code are more detailed planning issues such as apartment layout, balcony design, circulation,

storage, facade and roof treatment that are matters for future detailed Project or Development Applications.

Potential wind impacts have been considered by Vipac Engineers and Scientists Ltd and their report is attached at **Appendix 21**. They have performed a desktop analysis. The analysis is not based on modelling as the plans are conceptual and future buildings are subject to further design and planning. They have examined the proposed building forms and heights, surrounding development, existing and retained vegetation and prevailing wind patterns. Four wind comfort and safety thresholds have been considered including unsafe; acceptable for walking, acceptable for standing and acceptable for siting. The criteria applied for this proposal is the *acceptable for walking* criterion for the ground level public areas of the site. Their assessment has concluded that “*the proposed development is not likely [to] generate wind conditions in excess of the recommended criteria*” subject to measures being adopted to mitigate potential wind impacts in the gap between Buildings E and F. This can be further considered at the detailed design stage.

7.3 Transport and accessibility

Halcrow has prepared a Transport and Accessibility Impact Assessment for the Concept Plan, a copy of which is attached at **Appendix 9**. The assessment has considered the following matters in accordance with the DGRs:

- The existing road network including traffic flows and intersection operation and the traffic generation impacts of the proposal;
- Vehicular access points and car parking provision; and
- Public transport and pedestrian/cycle networks.

As part of Halcrow's assessment traffic surveys of existing intersection flows were undertaken to verify the traffic surveys undertaken by Urban Horizon and to obtain data for each of the intersections specified by the RTA in the DGRs.

7.3.1 Traffic implications

As part of the MEA master plan a transport assessment was undertaken by Urban Horizon (2007) for Ryde Council. This included a number of traffic surveys of existing conditions which were then used to analyse the implications of future development in the area. The Urban Horizon report recommended a number of traffic improvements to accommodate traffic growth for the transition of the MEA from industrial to mixed land use.

The Master Plan Transport Assessment assessed the implications to the transport network work of increased traffic flows as a result of the redevelopment envisaged under the Master Plan planning controls. The conclusions of the Transport Assessment are contained in Halcrow's report at **Appendix 9**. Importantly, Urban Horizon concluded that the magnitude of the forecast traffic generation in the Master Plan is such that no upgrades to the road network are required over and above those already proposed by Ryde Council in its 2005 MEA Works Program (which are attached to Appendix D of Halcrow's report).

The development scenarios considered in the Urban Horizon Transport Assessment has been used in the preparation of the *City of Ryde Draft Centres and Corridors Study* (2010). Halcrow therefore note that the development scenarios considered as part of the Master Plan Transport Assessment represent the current basis for traffic and transport planning within the Master Plan area. Furthermore, Halcrow consulted with Council officers as part of their assessment and Council advised that the Master Plan Transport Assessment (Urban Horizons 2007) was to be used as the basis for any assessment of future traffic generation within the Master Plan area. Halcrow's assessment therefore considers the traffic implications of the proposed Achieve Australia site development beyond that which was planned for in the Master Plan.

Based on the development potential of the Achieve Australia site under the Master Plan the estimated number of dwellings is approximately 184 dwellings. Therefore the Urban Horizon assessment has already taken into account traffic generation for that approximate number of dwellings. Traffic impacts have therefore been assessed for the increase above this base level and additional traffic generated by the Concept Plan proposal has been added to the forecasted future road network flows assessed in the MEA Transport Assessment.

The traffic generation from the site under the Urban Horizon assessment is estimated to be 74 vehicle trips per peak hour. Halcrow estimate that the peak hour traffic flows generated from the site will increase from 74 to 141-155 vehicles trips per hour. These additional traffic flows have been added to the future road network flows and distributed to the surrounding roads.

Halcrow undertook a SIDRA analysis to model intersection performance. The SIDRA analysis indicates no significant change to future intersection operation as a result of the proposed Concept Plan development. However changes in Level of Service were recorded at the following locations:

- Victoria Road / Bowden Street: LoS C to LoS D
- Constitution Road / Bowden Road : LoS A to LoS B

Notwithstanding the above, all intersections in the surrounding road network would continue to operate at similar levels to those for the Meadowbank Employment Area development scenario with the additional traffic generated by the Concept Plan development.

A LoS of B is *good with acceptable delays and spare capacity* and LoS D is *operating near capacity*. On this basis, Halcrow has concluded that the existing transport infrastructure as envisaged as part of the MEA Master Plan can adequately accommodate the additional traffic generation of the site.

7.3.2 Car parking provision

The City of Ryde DCP 2010 identifies the MEA as a transit orientated community where train, ferry, walking and cycling will become key forms of transport for residents and workers. In line with this objective, the DCP specifies maximum parking rates for development within the Meadowbank Employment Area. Table 11 sets out the maximum car parking provision under the DCP.

Table 11: Ryde DCP and proposed car parking provision

Dwelling type	DCP Car Parking Rate (max)	Proposed Dwellings	Required car parking (max) (as per DCP)	Proposed car parking
1 Bedroom Unit	1.0 spaces / unit	225	225	225
2 Bedroom Unit	1.4 spaces / unit	225	315	225
3 Bedroom Unit	1.6 spaces / unit	20	32	40
Visitor Parking	1 space / 4 units	470	118	94
TOTAL			690	584

The maximum allowable car parking provision is 690 car parking spaces. However, in view of the site's accessibility to public transport (including buses, trains and ferries) the car

parking provision has been lowered to a rate of 1 car parking space for each 1 and 2 bedroom dwelling. Car parking for the three bedroom dwellings (of which there are only 20) has been proposed at a rate of 2 spaces per dwelling owing to the likely higher car parking requirement. The visitor car parking rate has also been lowered to 1 space per 5 dwellings in line with the Roads and Traffic Authority Guidelines for Traffic Generating Development. The total car parking provision is therefore 584 car parking spaces.

Halcrow undertook traffic surveys of several completed residential developments in the MEA to obtain site specific traffic generation rates for residential land uses in the MEA to determine the influence of the locality, population characteristics and proximity to public transport on traffic generation rates. The surveyed sites were included 100 – 102 Belmore Street and the development fronting The Loop Road. The traffic generation rates for medium density residential within the MEA were found to be between 0.3 and 0.33 trips per unit which is lower than the generic RTA rates of 0.4 trips per unit. The lower vehicle trip rate is attributed to the proximity to public transport and to a lesser extent employment and other urban facilities. This has validated that approach to a lower car parking provision than the Ryde DCP controls.

As noted by Halcrow, this is consistent with the Department of Planning and Department of Transport's support for reduced parking provisions as stated in the DGRs.

7.3.3 Vehicular access

In accordance with the Ryde DCP controls, car parking for the proposed development will be provided in basement car parking. Vehicle access to the basement car parking will be provided from Porter Street which Halcrow notes is a lower order road than the site's other road frontages (Junction Street and Belmore Road).

Halcrow considers that the vehicle access via Porter Street is consistent with Porter Street's function as a local access road. The use of Porter Street will remove potential conflicts associated with the use of Junction Street and Belmore Street for vehicle access.

In terms of the location of the proposed vehicle access driveways, Halcrow considers that they provide satisfactory sight distances along Porter Street for both vehicles and pedestrians. They also note that the southern driveway access to the car park has been set away from the proposed through site pedestrian / cycle link between Porter Street and Belmore Street to avoid potential conflicts.

7.3.4 Pedestrian / bicycle connectivity

The existing bicycle routes in the vicinity of the site as illustrated in Council's Bike Plan are shown in Figure 7 of Halcrow's Transport and Accessibility Impact Assessment at **Appendix 9**. The Bike Plan shows both shared off road and on road facilities located along the foreshore with connections to the ferry terminal and railway station.

Pedestrian footpaths are provided along the site's frontage to Belmore Street and Junction Street. These paths connect to Victoria Road and Church Street bus routes as well as to Meadowbank railway station via Constitution Road, all within walking distance.

The MEA Master Plan also outlines an access structure for the area (see Appendix C of Halcrow's assessment report). This Master Plan included the provision of a new pedestrian / cycle access between Belmore Street and Church Street. This pedestrian / cycle link has, in part, been constructed and is located just south-east of the site and provides another access route to Church Street. This will be further enhanced with the pedestrian link proposed as part of the development application on the adjoining property to the south. These are located diagonally opposite each other and jointly provide a good mid-block pedestrian link for the locality.

Bicycle parking can be provided within the development and detailed as part of future development applications or Project applications.

7.4 Ecologically sustainable development (ESD)

NBRS+Partners has prepared an Ecologically Sustainable Development Design Report which is attached at **Appendix 10**. The ESD Design Report has been founded on Australia's National Strategy for Ecological Sustainable Development. The National Strategy establishes core objectives and guiding principles and the concepts have been interpreted to establish the objectives, initiatives and implementation methods for nine facets of ESD as set out below. The principles contained in the ESD Design Report are intended to achieve a benchmark equivalent to a 4 Star Green Star rating.

1. Innovation To respond to the site and utilise ideas or technology into the development.
2. Management To implement management plans that can be used for design briefs to guide future stages of the design
3. Emissions To guide materials selection with low embodied energy and guide residents to be mindful of the environmental performance of buildings. These implementation strategies target the construction and operational phases.
4. Ecosystems To manage existing natural environments and enhance the future natural elements of the site. This has been substantially incorporated into the design by locating building envelopes that allow for the retention of existing trees and providing areas for future landscaping.
5. Community To promote community interaction within the development. This has been accommodated in the Concept Plan by the open spaces and provision for a recreation/resident community building. The community is also considered through the provision of adaptable housing and disabled access provision.
6. Water To reduce water demands of future buildings, and improve stormwater quality leaving the site and reduce stormwater flows leaving the site. The stormwater quality and quantity elements are built into the Concept Plan through bioretention and wetland areas and the OSD tanks. The implementation strategies will largely relate to operational aspects of the future buildings.
7. Energy To reduce the usage of external energy. The Concept Plan is designed to create building envelopes that allow for apartments to be planned with good solar access and ventilation opportunities. The implementation methods will set a range of matters to be considered in future applications, primarily related to the operational phase of the development.
8. Materials To guide materials selection with low embodied energy and long life. These will be matters for future applications.
9. Waste To encourage reduction in waste both during construction and operational phases of the development.

7.5 Contamination

SMEC has carried out a Preliminary Site Investigation, a copy of which is attached at **Appendix 11**. The objectives of the investigation were to provide advice on the potential for environmental liabilities due to site contamination for a high density residential land use. The investigation was performed in accordance with Department of Environment, Climate

Change and Water (DECCW) and National guidelines for the assessment and management of site contamination.

SMEC noted that the site appears to have been used for residential purposes prior to the 1950s, after which it was used for accommodation and learning facilities. SMEC also notes that there is no evidence of potentially contaminating facilities or installations at the time of their inspection, although minor filling of the site has taken place. They are also aware that an above ground storage tank was previously located in the southern corner of the site in an area now occupied by a small building.

SMEC sampled soil in seven locations across the site. The analytical results show that the concentrations of contaminants measured in the soil samples are low and well below criteria considered suitable for a high density residential land use with minimal opportunities for soil access, including high-rise apartments and flats.

SMEC notes that due to the presence of the building the sample locations targeting the above ground storage tank area could not be ideally positioned.

Their Preliminary Site Investigation has concluded that:

- It is likely that the site will be suitable for the proposed residential redevelopment.
- Further soil sampling targeting the above ground storage tank should be undertaken at the time of redevelopment when the buildings are demolished to determine if the soils are impacted with petroleum hydrocarbons. Should any unacceptable soil impacts be identified due to the above ground storage tank, they would most likely be isolated and confined to the near surface soil, and therefore could be readily remediated.
- Should any soil be required to be removed from the site during redevelopment the natural soil and rock could potentially be beneficially reused as clean backfill on other sites. However, the fill material on the site and also any hydrocarbon impacted spoil identified in the vicinity of where the former above ground storage tank may not be suitable for reuse.

The Draft Statement of Commitments contain commitments relating to further soil sampling and use of fill in the vicinity of the former above ground storage tank.

7.6 Geotechnical Investigations

SMEC has carried out a geotechnical investigation, a copy of which is attached at **Appendix 12**. The purpose of the investigation was to inform future applications in terms of subsurface conditions, foundation design, excavation support and the presence of acid sulfate soil.

Ten boreholes were drilled to provide an understanding of the subsurface conditions. SMEC has determined that the site consists of topsoil, fill, silty clays overlying weathered shale and sandstone. The sandstone was generally encountered at depths of 10 metres. Excavation is likely to encounter all soil and rock types. Conventional excavators are anticipated to be suitable for depths of up to 4m and removal of rock will probably necessitate rock excavation equipment. Based on the borehole samples, SMEC expects ground water to be encountered.

Further assessment of the excavation methods and mitigation measures such as noise and vibration impacts can be assessed and determined in subsequent Project applications or development applications.

Due to the depths of excavation necessary to accommodate the proposed multi-level basement SMEC has also provided preliminary guidance on matters such as batters, temporary support of excavated areas, support of adjoining structures, groundwater flow in to basement excavation and foundation design. These detailed matters are more

appropriately addressed in the subsequent Project applications or development applications.

7.6.1 Acid Sulfate Soils

SMEC has also reviewed the Acid Sulfate Soil maps provided on the DECCW NSW Natural Resource Atlas (NR Atlas) which shows that the site is located on land that is not expected to be affected by acid sulfate soils.

7.7 Heritage

Ryde LEP 2010 identifies “Crowle Home” occupying Lot 1, DP 921633 and Lot 11, DP 51349 (8 Junction Street, Ryde) forming part of the subject site as a heritage item of local significance. **Figure 19** illustrates the part of the site identified as a heritage item.

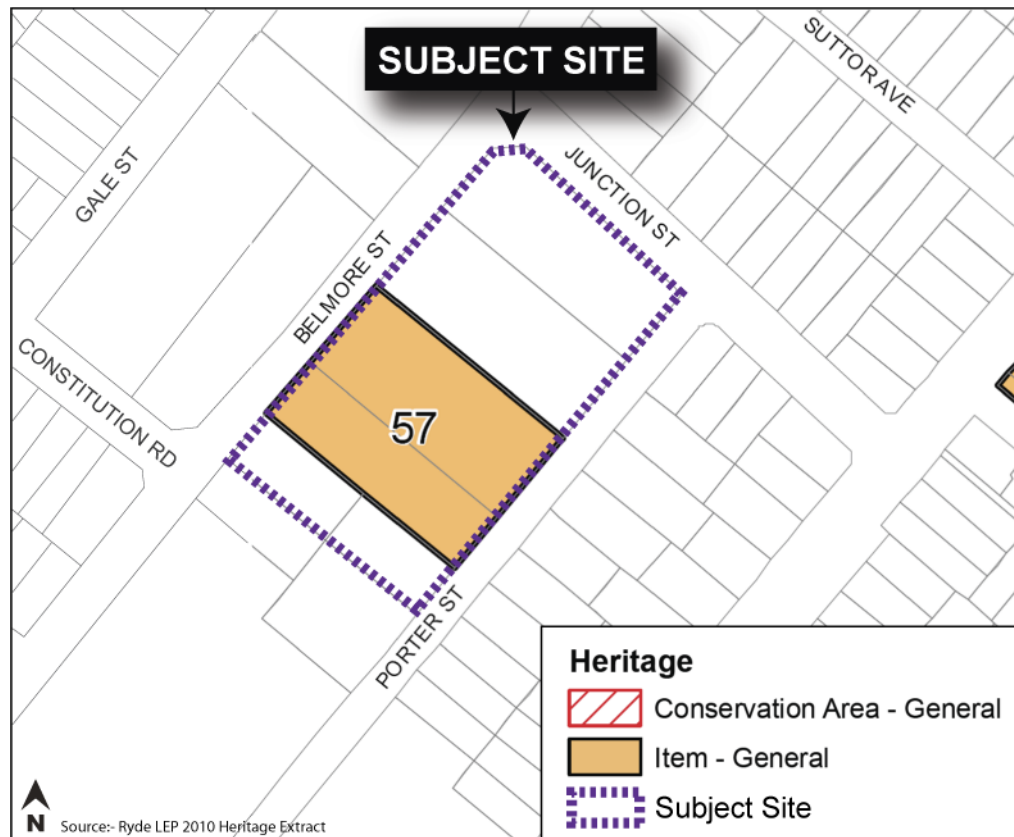


Figure 19: Heritage Item

NBRS + Partners has prepared a Statement of Heritage Impact (SoHI) for the subject site which is attached at **Appendix 13** to this EA. This SoHI is supported by a Heritage Study and Curtilage Assessment also prepared by NBRS + Partners and attached at **Appendix 13**. The study included researching the history of the site, examining the physical evidence and undertaking an analysis of the cultural heritage significance of the item using the methodology and guidelines set down by the NSW Heritage Office, including the NSW Heritage Manual and in particular the document entitled *Assessing Heritage Significance (2001)* prepared by the NSW Heritage Office. The results of this analysis and assessment led to the establishing of a curtilage to the heritage item which has been incorporated into, and informed the design of, the Concept Plan.

7.7.1 Heritage Significance

Ryde LEP 2010 refers to the heritage item as “Crowle Home (house)”. The house itself was formerly known as *Tellaraga*. The Heritage Study and Curtilage Assessment prepared by NBRS + Partners considered the cultural heritage significance of the item based on the evaluation criteria contained in the NSW Heritage Manual (which they note are compatible

with those included in the Burra Charter). Assessment of significance has been based on historical evolution; historic associations; aesthetic values; social value; technical/research value; rarity and representativeness. The following statement of cultural significance has been made by NBRS + Partners for *Tellaraga*:

"The Federation cottage and associated gardens, known as the Crowle Home, and formerly known as "Tellaraga", is located at 8 Junction Street, Ryde. It is a place with historic and aesthetic heritage significance at local level. The place has historic significance for its associations with the early subdivision patterns and residential development of Ryde. A Federation style cottage was constructed in 1904 as the residence for George Australia Denning and his family. From 1901 until 1944, associated gardens, paddocks and outbuildings developed as part of the family residence. From 1952 until the present, the property was occupied by the Crowle Foundation, a group dedicated to the accommodating and providing care and employment for people with intellectual disabilities. The Foundation has associations with William Alfred Leopold Crowle a prominent philanthropist. During the Crowle Foundation occupation associated buildings with little heritage significance were constructed. The cottage and landscape elements, including circular drive, gateposts, palisade fence, tree plantings and Crowle war memorial garden are elements that remain and contribute to the historic and aesthetic significance of the place."

7.7.2 Curtilage Study

The Heritage Study and Curtilage Assessment establishes a curtilage for *Tellaraga* in order to identify a suitable area of land to maintain the context of the estate in its cultural landscape setting. To assist in defining the heritage curtilage, NBRS + Partners has referred to the Heritage Office guidelines *Heritage Curtilage* (1996).

Figure 20 illustrates the heritage curtilage established in the Heritage Study to retain the heritage significance of the place. The heritage curtilage has been adopted in the preparation of the Concept Plans.

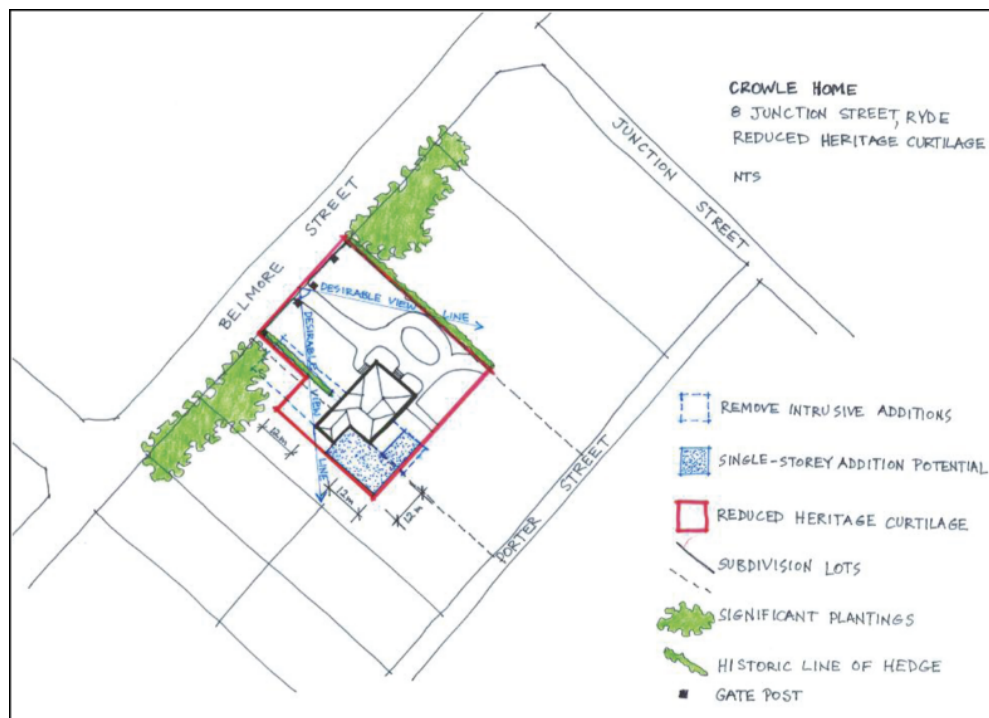


Figure 20: Heritage Curtilage established by NBRS+Partners

In addition to establishing a heritage curtilage, NBRS + Partners has made further recommendations with respect to the heritage item which have been adopted in the Concept Plan. Table 12 below reproduces the recommendations and provides commentary explaining how the Concept Plan responds to the recommendations.

Table 12: Concept Plans response to Heritage Study recommendations

NBRS + Partners Recommendation	Comment
<p>Recommendation 1</p> <p>The original fabric of the single-storey Federation cottage, "Tellaraga", later known as Crowle House, should be retained and conserved in accordance with its significance.</p>	<p>The Concept Plan retains <i>Tellaraga</i>. The conservation of the building will be further detailed in future Project or development applications. A statement of commitment has been proposed to this effect.</p>
<p>Recommendation 2</p> <p>The principal views and vistas to "Tellaraga" are from the gateway and drive entry located on Belmore Street and the Memorial garden. These views to the cottage should be retained as part of the reduced curtilage.</p>	<p>The principal views and vistas to <i>Tellaraga</i> have been retained in the Concept Plan by providing a large separation between the building envelopes along Belmore Street. This allows the gateway and driveway access and view corridor to be retained.</p>
<p>Recommendation 3</p> <p>The principal view and vista from "Tellaraga" is from the cottage verandah looking east to the circular drive and north east to the garden setting. These views and vistas should be retained as part of the reduced heritage curtilage.</p>	<p>The circular driveway and memorial gardens are retained within the heritage curtilage enabling the principal views and vistas from the cottage verandah looking east and north east to be retained.</p>
<p>Recommendation 4</p> <p>The palisade fence and gateposts are significant boundary markers and evidence of the historic curtilage of the place. They should be retained and conserved as part of the reduced heritage curtilage to interpret the entry to the place.</p>	<p>The Concept Plan provides for the retention of the palisade fences and gateposts. A statement of commitment has been proposed to this effect.</p>
<p>Recommendation 5</p> <p>The circular drive is a major landscape <i>element</i> and should be retained within the reduced curtilage as shown in Figure 39.</p>	<p>The Concept Plan retains the circular driveway</p>
<p>Recommendation 6</p> <p>The Memorial Garden, laid out in 1946, is located northwest of the cottage and adds to the historic significance of the place and should be retained as part of the setting of the Federation cottage and as a memorial to Crowle, founder of the Crowle Foundation.</p>	<p>The Concept Plan retains the memorial garden.</p>
<p>Recommendation 7</p> <p>Two additions adjoin the single-storey "Tellaraga", EF Ward Building to the south and the Dulcie Johnson Hall to the north. These additions are intrusive and mar the heritage significance of the cottage. These additions should be removed and the original North Elevation reinstated.</p>	<p>The Concept Plan proposes the removal of the two additions to <i>Tellaraga</i>. A statement of commitment is proposed to reinstate the north elevation.</p>
<p>Recommendation 8</p> <p>Tree plantings along the Belmore Street frontage form part of the setting of "Tellaraga" and should</p>	<p>The Concept Plan provides for the retention of the existing trees along Belmore Street.</p>

NBRS + Partners Recommendation	Comment
be retained although they do not form part of the reduced heritage curtilage.	

7.7.3 Assessment of Heritage Impact

The Heritage Study and Curtilage Assessment establishes the significance and curtilage for the heritage item. The SoHI assesses the impact of the Concept Plan upon the Heritage Item based on the NSW Heritage Office publication *Statement of Heritage Impact, 2002*. The SoHI has found that the Concept Plan does not adversely affect the identified heritage significance of the property.

The SoHI has determined that the Concept Plan respects as well as enhances the heritage significance of the item for the following reasons:

- The cultural significance has been respected by retaining and conserving significant heritage fabric associated with the heritage item including the cottage, its landscape elements and gardens, circular drive, gateposts, palisade fence, tree plantings and Crowle war memorial garden.
- The memorial gardens, boundary markers and plantings along Belmore Street which are significant landscape elements will be retained and conserved.
- Significant views and vistas have been retained and conserved.
- The intrusive two-storey additions that adjoin *Tellaraga* (EF Word Building and Dulcie Johnson Hall) are proposed for removal. This will enhance views of the heritage significant place.

Arising from NBRS + Partners' assessment the following two aspects of the Concept Plan have been identified as requiring further and more detailed review with the subsequent Project applications or development applications:

1. *Care needs to be taken in the design, material selection and colours of the proposed residential blocks to ensure the proposed elements do not visually dominate the heritage item and landscape elements. This aspect of the proposal will be addressed in the subsequent phases of the development application process. This includes the proposed Block F which abuts the lesser significant areas of "Tellaraga".*
2. *Views and vistas to "Tellaraga" from Belmore Street gates have been compromised by Block A minor encroachment on the "Desirable View Line" as recommended in the Reduced Heritage Curtilage. Heritage advice was given to reduce the length of the north-eastern wing of Block A in accordance with the recommended desirable view line and reduce the height of the levels. However, this was discounted at this stage because the concept plan is associated with building envelope. It is the intention to resolve the issue at design development stage and was mitigated by retention of significant views south to the "Tellaraga" and east along the circular drive."*

These more detailed matters have been incorporated in the draft Statement of Commitments.

NBRS + Partners has also considered the demolition of the remaining buildings on the site and tree removal and replacement. Generally, they note that the existing buildings have little heritage significance and their planning and layout makes them difficult to adaptively reuse. In terms of tree removal they note that the trees to be removed have little heritage significance and low retention value (as determined by the Aboricultural Implications Assessment by Tree Wise Men). Trees with high retention value will be retained.

7.8 Aboriginal heritage

Archaeological and Heritage Management Solutions Pty Ltd (AHMS) has undertaken a preliminary Aboriginal heritage assessment of the site and a copy of their report is attached at **Appendix 14**.

The DGRs require that the EA shall address Aboriginal Heritage in accordance with the Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation 2005. They also require that where it is likely the project will impact on Aboriginal Heritage, adequate community consultation should take place regarding the assessment of significance, likely impacts and management/mitigation measures.

The 2005 Guideline provides guidelines for both impact assessment and consultation. The Guideline has 6 steps. The first step is a preliminary assessment and if there is determined to be no impact then no further assessment is required.

The preliminary Aboriginal Assessment has undertaken a preliminary assessment involving a site inspection including observations of past soil disturbance, geology, past use of the property and a search of DECCW AHMS database for registered Aboriginal sites within the subject site and nearby. There are no registered Aboriginal sites on the subject site and the nearest registered sites are on the banks of the Parramatta River.

The preliminary Aboriginal Assessment has identified that *"there were no known or potential Aboriginal sites, places or cultural values associated with the site and that further Aboriginal heritage investigation and/or impact assessment was not warranted because:*

- 1. The subject site has been heavily disturbed as a result of its land use history and the impact of the current structures, services and landscaping.*
- 2. The site has extensive areas of previous cutting/excavation, filling and landscape modification which would have removed and/or destroyed any Aboriginal archaeological deposits or objects that may have once been located there;*
- 3. No Aboriginal objects/sites or landscape features of interest were identified in the subject site;*
- 4. Neither of the two local Aboriginal stakeholder groups, including the Metropolitan Local Aboriginal Land Council consulted during the course of study, identified that there were Aboriginal cultural or heritage values or issues associated with the site; and*
- 5. Although a few old trees were located within the subject site, none appeared to exhibit evidence of Aboriginal cultural modification. Most of the trees on the subject site appeared to be cultural plantings and have been regularly trimmed."*

AHMS has also consulted with two local Aboriginal stakeholders including the Metropolitan Local Aboriginal Land Council and the Parramatta City Council Aboriginal and Torres Strait Islander Advisory Committee. Both stakeholders have not identified Aboriginal cultural or heritage values associated with the site.

The assessment undertaken by AHMS has incorporated all the necessary reporting required in Step 1 of the 2005 Guidelines, as required by the DGRs. No further assessment is required in subsequent stages of the Project.

7.9 Drainage and Flooding

7.9.1 Drainage

Sparks Partners has prepared concept stormwater management plans which are contained in their report attached at **Appendix 15**.

They have ascertained that the site lies within two catchments, one draining to Porter Street south and the other draining to the corner of Belmore Street and Junction Street.

The proposed stormwater concept is therefore designed to direct site stormwater into the Council's piped system draining the two separate catchments.

Aquatica has developed a water management/ water sensitive urban design strategy (**Appendix 16**) for the development that integrates with and supplements the concept stormwater plan. The main principles of the stormwater strategy are:

- Connection to Council's stormwater infrastructure
- On-site stormwater drainage will be sized to convey 100 year storm event flows
- On-site detention (OSD) tanks will be provided for each building catering for a total volume of approximately 51m³
- Rainwater harvesting tanks will be provided for each building in addition to the OSD tanks. The rainwater will be used for landscape irrigation, grounds maintenance and car washing.
- Treatment of stormwater run off to meet Ryde Council's draft stormwater quality targets by removing 85% of total suspended solids, 65% of total phosphorous and 45% of total nitrogen.
- Stormwater targets will be achieved through the use of a bioretention system for the southern catchment. These will be located along the southern and eastern boundaries of the site (as shown on the stormwater concept plans). This will operate by filtering stormwater through a vegetated soil filter removing pollutants through settling, absorption biological uptake.
- Two wetlands will also form part of the landscape to treat stormwater from the northern catchment of the site. This will operate by removing pollutants through settling, absorption biological uptake from aquatic plants.

McGregor Coxall landscape architects have also incorporated bioretention systems and wetlands into the landscape concept. A statement of commitment is proposed to require future Project applications or DAs to provide further details regarding the stormwater and WSUD designs and to achieve the abovementioned water quality targets.

7.9.2 Flooding

Sparks Partners has consulted with Ryde Council to ascertain the risk of localised flooding from overland flow in the area. Council has advised that overland flows near the subject site are contained within the road reserve (primarily the carriageway) at the intersection of Junction Street and Belmore Street and then flow over the school grounds. The subject site is therefore not affected by surface flow waters. The Stormwater Concept Plans at **Appendix 15** illustrate the location of the overland flows in the vicinity of the subject site.

Sparks Partners also advised (from consultation with Council) that the proposed OSD tanks and proposed volumes will not have an adverse impact on the Council's downstream drainage infrastructure.

7.10 Utilities

The existing capacity of utilities has been considered in consultation in with the relevant agencies and documented in **Appendices 15** and **17** relating to hydraulic, fire protection and electrical services, respectively. In summary the following has been ascertained:

Stormwater

Sparks Partners has consulted with Ryde Council regarding connections to the existing public stormwater infrastructure. Council has no objection to the extension of the Council's existing drainage system to enable the site to connect to the existing drainage infrastructure. No upgrades of the existing infrastructure will be required. (Refer to **Appendix 15**).

Water and Sewer

The site does not have frontage to appropriately sized water and sewer mains, however these do exist further along Belmore Street and Porter Street. Preliminary advice indicates that the following upgrades will be required:

- A new sewer pipe (DN225) for a length of approximately 60m to connect with the existing sewer in Porter Street.
- A new sewer pipe (DN225) for a length of approximately 30m to connect with the existing sewer in Belmore Street; and
- A new water mains pipe (DN150) for a length of approximately 30m to connect with the water main in Belmore Street.

Aside from these connections there are no upgrades required to existing infrastructures. (Refer to **Appendix 15**)

Electricity

Haron Robson has estimated the likely maximum electricity demand that would be generated by the development. They have advised that the existing high voltage network mains will require alterations and additions to allow for two new 1000kv padmount kiosk substations. These will be accommodated within the subject site and located close to the front boundary in accordance with Energy Australia's requirements. (Refer to **Appendix 17**)

Gas

Sparks Partners has consulted with Jemena Gas Networks (NSW) Ltd regarding the availability and capacity of natural gas for the project. Jemena has advised that the natural gas mains in the surrounding area will convey the gas loads required by the proposal. Copies of correspondence are contained in Sparks Partners report provided in **Appendix 15**.

Telecommunications

Haron Robson has advised that new lead-in provisions will be required for copper and fibre optic networks of Telstra, Optus plus one additional future carrier. (Refer to **Appendix 15**)

7.11 Tree survey

Tree Wise Men has undertaken an aboricultural assessment of the site to assist in defining the footprint of the proposed building envelopes. The assessment has recorded all trees located predominantly outside of the proposed building envelopes. A total of 109 trees have been assessed. There are other trees on site (as identified on the survey) which have been assessed for the ecological value (refer Section 7.12 of this EA) but were not considered to be capable of retention for the practical location of building envelopes and are therefore not included in the aboricultural assessment.

A copy of the Aboricultural Implications Plan and accompanying schedule is attached at **Appendix 8**.

The tree assessment has assessed each tree utilising the following variables:

- Identifying a nominal Tree Protection Zone (TPZ) which has assisted in validating the proposed building envelopes. The TPZ is defined with nominal dimensions and encroachments in up to 10% of the TPZ is generally acceptable without assessment and if works (such as excavation, fill, construction) occur within the TPZ such works should be restricted to an area of less than 25%.
- Safe useful life expectancy (SULE)
- A significance rating (SIG) ranging from 1 to 4 (refer to table below)

- A retention value to each tree. These are rated as 'A', 'B', 'C' and 'D' (refer to table below).

Of the 109 trees assessed, Tree Wise Men has nominated the SIG and Retention Values as follows:

	Number of Trees
Significance Rating	
1 – represents trees with 'exceptional' significance	1
2 - represents trees with 'high' significance	3
3 - represents trees with 'moderate' significance	36
4 - represents trees with 'low' significance	69
Retention Value	
A - represents trees that should be retained	4
B – represents trees that could be retained	31
C – represents trees that could be removed	73
D – represents trees that should be removed	1

The Aboricultural Implications Plan illustrates the TPZ for each tree regardless of its SULE, significance rating or retention value. The Plan at **Appendix 8** illustrates the general outline of the building envelope, the TPZ and retention value for each tree. The following observations are drawn from a comparison of the Concept Plans and the Aboricultural Implications Plan which confirms the suitability of the building footprint:

- There are very few trees that either should be retained or have an exceptional or high significance value.
- Of the 4 trees with Retention Value A, two are retained and nominated as "feature trees" on the Concept Plans. These are the Pin Oak located between Block D and E and a Camphor Laurel located in the centre of the site.
- The other two trees of Retention Value A are located on the northern boundary of the site. One is a Camphor Laurel and the other a Pin Oak. The TPZ of the Pin Oak is located outside of the building footprint. The TPZ of the Camphor Laurel is located partly within the proposed building footprint and further aboricultural assessment would be required to assess potential impacts within the nominated TPZ.
- The majority of the trees are located around the perimeter of the site. These have either a Retention Value of B or C and the majority of those trees including their TPZs are located outside of the proposed building footprint.
- 36 of the 109 trees are Camphor Laurels which Class 4 noxious weeds under the Noxious Weeds Act, 1993. A further 2 trees also Class 4 noxious weeds.

Summary

The most significant trees are retained and substantially located outside of the building footprints. The Pin Oak and Camphor Laurel nominated as 'feature trees' on the Concept Plans will be retained. A statement of commitment is proposed to this effect. Further aboricultural assessment would be required for the Camphor Laurel located along the Junction Street boundary.

The majority of trees are located on the perimeter of the site. Council has expressed an interest in retaining the treed boulevard along Belmore Street which comprises predominantly Camphor Laurels. Whilst many trees are Camphor Laurels and are class 4 noxious weeds, the building footprints are being kept substantially clear of the TPZs to enable their retention and thereby retain the tree character of Belmore Street and assist in providing a vegetated screen to future buildings.

Aside from the feature trees, the Concept Plan does not identify which trees will be retained or removed. This will be undertaken as part of the more detailed building design with future DAs or Project applications. A statement of commitment is proposed to require the retention of as many trees as possible and for future applications to include more detailed aboriginal assessment to ascertain which trees can be or should be retained.

7.12 Flora and fauna

Ambrose Ecological Services has carried out a Flora and Fauna Survey and Assessment which is attached at **Appendix 18**. The flora and fauna assessment:

- identifies key flora and fauna habitats within the subject site;
- reviews flora and fauna literature and databases relevant to the subject site;
- describes the methodology and results of the flora and fauna surveys;
- addresses potential impacts on flora and fauna and their habitats resulting from the proposed development;
- proposes appropriate impact mitigation measures; and
- provides an assessment of the likelihood of significant impacts on threatened species and populations, and endangered ecological communities, according to Section 5A of the NSW *Environmental Planning and Assessment Act, 1979* (EP&A Act), NSW *Threatened Species Conservation Act, 1995* (TSC Act) and Commonwealth *Environmental Protection and Biodiversity Conservation Act, 1999* (EPBC Act) to ascertain if a Species Impact Statement (SIS) under the TSC Act or an application for development under the EPBC Act was necessary.

Ambrose Ecological Services has undertaken a site survey and also relied upon the Tree Survey carried out by Tree Wise Men. Ambrose Ecological Services has examined 113 trees on the site. It should be noted that Tree Wise Men assessed 109 trees. The difference is attributed to Tree Wise Men focusing on providing advice regarding the establishment of building footprints/envelopes and some trees were excluded from their assessment as they are likely to be required to be removed. Ambrose Ecological Services has also included additional trees as part of the overall flora and fauna assessment.

Flora Species

Ambrose Ecological Services notes that original vegetation on the subject site was most likely Sydney Sandstone Ridgetop Woodland. However, they also note that the native vegetation communities have long been cleared and vegetated areas have a high component of exotic and introduced plantings. The most abundant canopy tree on the subject site is the Camphor Laurel which is listed under the *Noxious Weeds Act 1993* as a noxious weed species in the Ryde LGA.

Ambrose Ecological Services has established that of the Critically Endangered or Endangered Ecological Communities that occur within the Ryde LGA, none have been found to occur on or adjacent to the subject site.

Ambrose Ecological Services has also determined that Threatened Plant Species and Populations (recorded within a 5km radius of the subject site) and their habitat

requirements have not been detected, or are likely to occur, on the subject site. They have also determined that there are no listed endangered plant populations in the Ryde LGA.

Of the flora species that are considered threatened in northern Sydney, Ambrose Ecological Services has determined that none occur on the subject site.

Fauna Species

The flora and fauna assessment has determined that the site contains potential marginal foraging habitat for the Gang-gang Cockatoo, Powerful Owl, Grey-headed Flying-fox, and Eastern Bentwing-bat. None of these species was detected during the site inspection by Ambrose Ecological Services, however the Flora and Fauna Assessment also includes a seven-part test of Significance for these species. The seven-part test concluded that the proposed development would not significantly impact on the status of NSW threatened fauna or their habitats and therefore Species Impact Statements are not required for these species.

Ambrose Ecological Services considers that the site represents only a negligible proportion of the total habitat available to rare fauna species in northern Sydney and migratory species listed under the EPBC Act. Ambrose Ecological Services also consider that the proposed development would not significantly impact on the status of the rare or migratory species or their habitats.

One nationally vulnerable fauna species (under the EPBC Act), the Grey-headed Flying-fox may potentially use the treed areas of the subject site for foraging or roosting. Ambrose Ecological Services has determined that there are no Grey-headed Flying-fox roosts on the subject site or in neighbouring properties. They also note that in the Sydney area, the favoured food trees of Grey-headed Flying-foxes are Swamp Mahoganies and Old Man Banksias, but they will also eat the pollen and nectar of other species of *Eucalyptus*, *Angophora* and *Corymbia*. No favoured food trees are present on the subject site. Ambrose Ecological Services therefore concludes that the proposed development is unlikely to impact on the local or national status of the Grey-headed Flying-fox or its habitats.

Two nationally endangered fauna species (under the EPBC Act), the Swift Parrot and Regent Honeyeater, may potentially use the treed areas of the subject site for foraging or roosting. Ambrose Ecological Services note that Swift Parrots and Regent Honeyeaters are, at best, likely to be very occasional vagrants to the subject site and adjacent areas. The removal of trees from the subject site will not limit resources available to Swift Parrots or Regent Honeyeaters. Therefore, the proposed development will not negatively impact on the national status of these species, or their habitats.

Ambrose Ecological Services has also considered the potential impact on nationally listed migratory species (under the EPBC Act). They note that the tree canopies on the subject site provide potential marginal foraging habitat for the Black-faced Monarch, Satin Flycatcher, Rufous Fantail, Swift Parrot and Regent Honeyeater. Ambrose Ecological Services considers that these species are, at most, very occasional vagrants to the locality and areas of potential habitat available to them on the subject site are negligible. Therefore, the proposed development would not significantly impact on the status of these species or their habitats. In addition they also noted that Fork-tailed Swifts and White-throated Needle-tails may occasionally fly high over the subject site and these species would similarly not be impacted by the proposed development.

Summary and Mitigation Measures

The Flora and Fauna Assessment has determined that native vegetation communities have been cleared and vegetated areas have a high component of exotic and introduced plantings, including a high number of Camphor Laurels that are listed as a noxious weed under the Noxious Weeds Act, 1993. There are no endangered or critically endangered

ecological communities, or threatened flora species or populations were detected within the proposed development footprint of the subject site.

One nationally vulnerable fauna species, two nationally endangered fauna species and five nationally-listed migratory species might potentially use the treed canopy on the subject site for roosting or foraging. However, Ambrose Ecological considers the proposed development of the site would not significantly impact on the status of these species or their habitats.

Despite these findings, Ambrose Ecological Services recommends mitigation measures for the future redevelopment of the site for the following phases of the development of the site:

1. Pre-demolition and pre-construction
2. Demolition and Construction Periods
3. Post-construction Period

The mitigation measures recommended by Ambrose Ecological Services are included as statement of commitment in Section 9 of this EA.

7.13 Noise and vibration

Acoustic Studio has undertaken an acoustic and vibration assessment of the proposed development. The assessment has examined potential impacts to existing residential properties in the area, future dwellings on the subject site, and external road noise impacts upon future dwellings. The assessment also establishes the acoustic and vibration targets for noise from mechanical plant, noise impacts to future dwellings and internal communal spaces and identification of appropriate guidelines for management of construction noise. A copy of their report is attached at **Appendix 19**. The assessment has established that a residential land use of the site is appropriate from an acoustic perspective.

In carrying out this assessment, the following policies and standards have been referenced by Acoustic Studio.

- *NSW Industrial Noise Policy* (EPA INP), Environmental Protection Authority, January 2000
- *AS 1055.2-1997: Acoustics – Description and measurement of environmental noise. Part 2: Application to specific situations*, Standards Association of Australia
- *AS/NZS 2107-2000: Acoustics - Recommended design sound levels and reverberation times for building interiors*, Standards Association of Australia
- *Environmental Criteria for Road Traffic Noise*, Environmental Protection Authority (EPA ECTRN), May 1999
- *Assessing Vibration: A technical guideline*, Department of Environment and Conservation NSW, February 2006
- *Meadowbank Employment Area Master Plan contained within Part 4.2 of the City of Ryde Development Control Plan 2010*
- *SEPP (Infrastructure) 2007*
- *NSW Department of Planning's Development Near Rail Corridors and Busy Roads – Interim Guideline*

7.13.1 Environmental noise impacts to the existing environment

Potential noise sources generated by the development have been determined to be traffic noise and noise from mechanical services plant, in particular roof plant.

Traffic noise

Traffic noise impacts have been established using the Environmental Criteria for Road Traffic Noise (ECRTN), May 1999, published by the Environmental Protection Authority (EPA) of NSW (now the NSW Department of Environment, Climate Change and Water). Acoustic Studio note that from their traffic noise levels measured around the site the existing traffic noise conditions already exceed the stated noise criteria during each time period.

Based on the increased traffic flows from the development as estimated by Halcrow (refer **Appendix 19**), Acoustic Studio has determined that expected increase in traffic noise impacts generated from additional vehicle trips would be limited to 1dB and therefore not change significantly from the existing condition.

Mechanical services

Acoustic Studio set out that the limits for mechanical plant noise levels generated by the new buildings will need to be derived from advice and guidance provided in:

- Protection of the Environment (Operations) Act 1997; and
- The Industrial Noise Policy (INP) of the NSW Environmental Protection Authority (now Department of Environment, Climate Change and Water).

Roof plant is not known at Concept Plan stage. Acoustic Studio recommends that project specific environmental noise limits for new plant be derived for each of the buildings once the plant types and locations are known.

In addition, roof top plant can be enclosed or screened as required and the Concept Plan drawings make allowances for roof structure in the overall building height in order to accommodate future plant. If necessary, additional environmental noise control methods may include in-duct attenuators, acoustic louvres for plant rooms, and enclosures for noisy plant items.

Acoustic Studio considers that with such noise control measures in place, the environmental noise limits will be met at all affected receiver locations.

Acoustic Studio has also considered mechanical services vibration and has concluded that vibration transmission from mechanical plant to nearby properties is expected to be imperceptible, and well under the AS 2670.2 criteria. All plant will need to be provided with vibration isolation.

7.13.2 Road traffic noise impacts

Acoustic Studio undertook noise surveys during October and November 2010 at the site and surrounding areas at various times of the day and night to generate a profile for the existing noise environment. The dominant continuous noise source affecting the site is road traffic on Church Street, Belmore Street, Junction Street and Porter Street. They do not anticipate traffic generated by the proposal to significantly change traffic noise levels.

In establishing the internal noise levels for future dwellings Acoustic Studio has considered the following policy documents:

- Meadowbank Employment Area Master Plan contained within Part 4.2 of the City of Ryde Development Control Plan 2010;
- SEPP (Infrastructure) 2007;
- AS2107:2000 - Acoustics—Recommended design sound levels and reverberation times for building interiors; and
- NSW Department of Planning's Development Near Rail Corridors and Busy Roads – Interim Guideline.

The internal noise level targets set for each building is set out in the table below. These targets take into account road traffic noise (current and additional generated by a future residential development) as well as noise from air-conditioning. The levels include criteria for windows closed and windows open. Of the above policy documents referenced in setting the noise level targets, only the *Development Near Rail Corridors and Busy Roads – Interim Guideline* considers criteria for both windows closed and windows open. The table below contains internal noise level targets for the apartments for both window open and window closed conditions. This is to ensure that the future design of the buildings can minimise the use of mechanical ventilation where possible to maximise the ESD performance of the building as well as save on construction and operational costs.

Table 13: Internal background noise level targets

Room type / Space	Recommended internal noise level, dBLAeq	
	Lower	Upper
Apartment Living Areas	40 at any time (50 windows open)	n/a
Apartment Sleeping Areas	35 from 10pm to 7am (45 windows open)	n/a
Communal (and Community Spaces) (AS2107:2000)	45	55

Further acoustic assessment will be required for each building to determine the implications of noise levels on the apartment facade and ventilation options. The future assessment will include :

- Further measurement of background noise levels around the site (as required).
- Further measurement of traffic noise levels around the site (as required).
- Consideration of the required internal noise levels in the living areas and sleeping areas of the apartments.
- Calculations to determine requirements for façade construction (particularly glazing) and natural ventilation to achieve acceptable internal noise levels.

Although, further acoustic assessment is required for the future buildings, Acoustic Studio has been able to make the following observations about the likely implications for the design of the facades:

- Glazing required for the majority of the apartment façades will be determined by the requirement to control noise from external traffic.
- It is expected that there will be no specific acoustic performance requirements which will demand high-performance glazing for any of the apartments in order to control road traffic noise.
- There may be some restrictions on operable windows for some elevations particularly those south-eastern facing apartments (Blocks C, D and E), and on the upper levels. This is as a result of the need for rooms with no air-conditioning or mechanical ventilation to achieve internal noise levels assuming windows are open.
- Bedroom internal noise levels are to be achieved at night (between 10pm and 7am) when traffic noise levels have reduced. This will need to be considered in determining the restrictions on operable windows for each building.

In relation to the communal spaces (e.g. foyers, lobbies) Acoustic Studio believe that target noise levels can be achieved without the need for high performance glazing.

In conclusion the acoustic assessment has determined that the acoustic impacts from road traffic noise are capable of being managed through building design.

7.13.3 Construction noise impacts

The DGRs require an assessment of the potential noise impacts from demolition and construction of the development. The proposal is seeking Concept Plan approval and details such as a construction program, construction methods, type of construction or earthworks equipment have not been determined, nor capable of being determined prior to constructors understanding the type of structure involved. Acoustic Studio recommends that a construction noise and vibration management plan be prepared for each stage of the project. This approach will allow such management plans to take into account adjoining properties that currently exist as well as future residential buildings that might be occupied on the subject site when latter stages are constructed.

The construction noise and vibration management plan will need to determine applicable criteria together with best noise and vibration control practices to be observed during the construction of the proposed development. In preparing the construction noise and vibration management plan, Acoustic Studio has identified the legislation, codes and standards that will need to be referenced in preparing such a plan, including:

- The Department of Environment, Climate Change and Water (DECCW) *"Interim Construction Noise Guideline"*, 2009
- The Department of Environment, Climate Change and Water (DECCW) *"Assessing Vibration: A Technical Guideline"*, 2006
- Environment Protection Authority (EPA, currently DECCW) *"Environmental Noise Control Manual"*, 1994
- Standards Association of Australia *"AS 2436-198: Guide to Noise Control on Construction, Maintenance & Demolition Sites"*, 1981
- Standards Association of Australia *"AS 2670.2-1990: Evaluation of human exposure to whole-body vibration – Part 2: Continuous and shock-induced vibration in buildings (1 to 80 Hz)"*, 1990
- British Standards Institution *"BS 6472:1992 – Evaluation of human exposure to vibration in buildings (1 Hz to 80 Hz)"*, 1992
- Protection of the Environment Operations Act 1997

A statement of commitment is proposed to require construction noise and vibration management plans to be prepared for each future stage of the project.

7.14 Waste

The DGRs require the following matters concerning waste to be addressed:

- Identify, quantify and classify the likely waste streams to be generated during construction and operation;
- Describe the measures to be implemented to manage, reuse, recycle and safely dispose of this waste;
- Describe the measures to be implemented to manage the disposal of nuclear waste, if required; and
- Describe the measures to be implemented to manage the disposal of contaminated and potentially contaminated biological and sewage waste, if required.

The project is Concept Plan only and whilst the project will ultimately involve demolition of structures or excavation of the land, the Concept Plan application is not seeking approval to carry out such works and they would form the part of further applications. A waste management plan would more appropriately be prepared as part of future applications involving the demolition or construction of buildings. A statement of commitment has been included to require the preparation of a waste management plan for each stage of the project.

In relation to nuclear waste the use of the premises for residential accommodation and vocational or training (or its previous use as a German school) is unlikely to have involved the generation of nuclear or biological waste. A statement of commitment has been proposed to require demolition work to be carried out in accordance with AS 2601 and if required a Work Plan and a Hazardous Substances Audit and Management Plan will be prepared in accordance with AS 2601.

Sewage waste is managed via a connection to the sewer and not special measures are required in this instance.

7.15 Social Impacts

The site at present accommodates 31 residents with disability. Achieve Australia proposes that the future accommodation development on the site will include some housing for people with disability. GML Social Research has undertaken a Social Impact Assessment (SIA), a copy of which is attached at **Appendix 20**. This has considered social impacts for the wider community as well as the existing and future residents. In addition this section of the EA also incorporates inputs from Achieve Australia, particularly in relation to operational aspects of their organisation and programs.

7.15.1 Methodology

The SIA has considered the likely social impacts and benefits of the proposed development. The methodology used to prepare the SIA is generally as follows:

Profiling

Community profiles were compiled to provide baseline data about the socio-demographic characteristics of the community and to understand growth trends. Community profiling included details about age, gender, occupation, income, family formation, employment and social trends.

Prediction

The types and extent of changes that might occur as a result of the development were considered. This involved:

- analysis of the likely size and composition of the new residential community;
- assessment of the impact of the incoming population on local infrastructure and service demand and supply;
- interviews with key local services about the potential service demand and supply issues arising from the incoming population, and
- reviewing relevant planning documents and liaising with Ryde Council's Social Planner.

Assessment

The negative and positive direct and indirect impacts of the proposed development on the current and surrounding communities were analysed. The analysis considered:

- community consultation feedback;

- balancing positive impacts in the wider community against potential adverse impacts in the primary locality;
- the significance of the impacts given the priorities, policies and programs of Ryde Council and the NSW Government, and
- comparative ranking of social issues and impact level ranking procedures.

Mitigation

Having identified potential impacts, the SIA also examines how they could best be managed. This involved:

- looking at ways to maximise positive and minimise negative impacts; and
- developing strategies for monitoring and managing the impacts if the development proceeds.

7.15.2 Dislocation of existing residents

As noted in the SIA, Achieve Australia conducted information sessions for immediate family members of people receiving support from Achieve Australia and other interested stakeholders in August and October 2010. A total of 11 sessions were conducted, designed to provide advanced information on Achieve Australia's broader strategic plan and how the redevelopment of the site fits with the implementation of the strategy. These advanced information sessions have been necessary as some of the changes for the site are occurring irrespective of this Concept Plan application. In particular, some residents are being relocated to new accommodation to better suit their individual needs and the day programs are also planned to be relocated to another site in order to meet the requirements of the Disability Services Act.

Although Achieve Australia is currently implementing a strategy for the relocation of existing residents, the SIA has also considered the relocation of existing residents. At the time of preparing this report, 31 residents are accommodated on the site.

Current disability policy and legislation supports the principle that people with disability should, so far as possible, live in and be part of the community rather than live in institutional care. In light of this policy and legislative approach, Achieve Australia has commenced a program of relocating existing residents to more appropriate community housing. Achieve Australia has been consulting with the residents and their families to ensure that they participate in decision making about future accommodation and support requirements.

Achieve Australia is implementing a Housing Strategy with a view to achieving best value from its capital facilities and full social inclusion for residents in accommodation support services.

The Project is a key component of the Strategy. It is proposed that the future accommodation on the site will include some housing for people with disabilities in the future dwellings. A co-housing model of accommodation is being considered whereby accommodation for people with a disability would be integrated throughout the completed development. It is anticipated some of the existing residents may be suited to living in this form of housing, while other residents with higher support needs will need to be accommodated in other homes within Achieve Australia's Community Living Services.

GML Social Research considers that the proposal *"has the potential to deliver a positive social outcome by improving the current accommodation standard and providing housing for people with disabilities in a manner that fully integrates within the wider residential community. As the re-development of the Crowle Home facility is part of a wider Housing Strategy by Achieve Australia, full implementation will result in an overall increase in the availability of accommodation services for people with disabilities."*

The amended DGRs require the preparation of a relocation strategy. Achieve Australia is currently implementing a strategy for the relocation of existing residents and this will continue for the remaining residents. A relocation strategy has been prepared with input from Achieve Australia and is outlined below:

Relocation Strategy:

Consultation	Continued one on one consultation and communication with residents and their families to develop the most appropriate relocation option for their needs and jointly develop Individual Transition Plans.
Timing	<p>Timing the relocation of residents to ensure residents are relocated once appropriate alternative accommodation is available.</p> <p>Achieve Australia is able to provide for a staged development of the site. Such a staged development will mean that the current residential buildings can be de-commissioned over time on a staged and planned basis in keeping with the plans for the whole site. Some residents may elect to remain on the site for a longer period into the site development program. If this occurs, Achieve Australia will support residents who elect to remain through a staged process.</p>
Relocation Assistance and Transition Planning	<p>Assistance to residents will be provided through the continued consultation with residents and families.</p> <p>Access to Achieve Australia's accommodation services will be available to existing residents as part of a planned transition process.</p> <p>Transition Plans will be established for every individual to be relocated. An individual transition plan is the means by which residents work through the various elements of a move to a new home. These plans involve family members and/or primary carers and address such issues as a gradual introduction to the new home and existing residents in the home if applicable. Socialisation work is undertaken to enable the resident to gain familiarity with the new home environment. The resident will be introduced to new staff and planning will occur in regards to any changes to a person's services such as their doctor, their access to their workplace or their day programs. The transition plan endeavours to identify every aspect of the change of living circumstances for the resident as well as their family members. The transition plan is a document which is developed and added to over the period of the transition, which can take up to three months or more. The receiving staff team and the existing staff team all become involved in and familiarised with the transition plan.</p> <p>Transitions to new homes will be managed by the staff of Achieve Australia. The staff of the new homes in the community will be an integral part of the transition to the new accommodation setting.</p>
Protocols to ensure existing residents are not disadvantaged	<p>Protocols to ensure that residents are not disadvantaged include;</p> <ul style="list-style-type: none"> The development of comprehensive Transition Plans for each resident in order to provide a thorough assessment of the transition planning process on an individual basis, detailing issues such as the process of deciding where and with whom each person lives, the timing and circumstances of the transition, the acquisition arrangements for the home into which the person will transition, the preparation of the receiving entity i.e. Achieve Australia's Community Living Accommodation

	<p>Service to successfully and empathically plan and accept people who are moving through a transition process.</p> <ul style="list-style-type: none"> • Pre-transition socialisation involving the new home, the new staff, the resident and the resident's family through a process of familiarisation with the aim of ensuring that the resident and the resident's family are comfortable and satisfied with the transition arrangements. • Following transition there is an intensive period of support to ensure that the resident and their family settle into their new supported accommodation environment.
Other	<p>Achieve Australia continues to participate in the NSW Government's initiative to fund the closure of Large Residential Centres (LRC). Achieve Australia's participation is as one of 14 NGOs who are required to transition the residents of large congregated settings to more appropriate community housing. The LRC project of the NSW Government was reconfirmed under Stronger Together Two funding initiatives as a key plank of the Government's Social Inclusion stance for people with disability. Achieve Australia stands ready to continue this important work with the State Government.</p> <p>Since the Richmond Report of 1989 and the introduction of the Disability Services Act (NSW) in 1993, the use of a congregated care model for people with disability has been possible only through agreed transition planning to ultimately close such Large Residential Centres. Crowle Foundation submitted its own transition plan to this effect in the mid-nineties.</p> <p>Achieve Australia is and remains committed to the transition of the remaining residents of the site.</p>

7.15.3 Assessment of Impacts

The potential impacts considered are identified in the table below. The table also incorporates the mitigation measures recommended by GML Social Research.

Table 14: Assessment of social impacts

Social Impact	Comments	Significance	Measures/Comment
Dislocation of existing residents	31 people with disability currently live on the site and will need to be relocated in order for the development to proceed. For many the move will present increased opportunities for independent living and community participation	HIGH	<p>Achieve Australia is working with the residents and their families to ensure that their individual needs and preferences are respected.</p> <p>Some residents may return to live in apartments on the site as stages of the development are completed.</p>

Social Impact	Comments	Significance	Measures/Comment
Displacement of day program participants	<p>Approximately 100 people with disability attend day programs on the site.</p> <p>A substantial capital investment is needed to upgrade the premises in line with the requirements for this purpose.</p> <p>Legislative and funding requirements specify that that day programs should not be co-located with residential services.</p>	HIGH	<p>Achieve Australia has purchased an alternative property from which to operate their day programs.</p> <p>A new site will create opportunities to offer more vocationally orientated programs for people with disability and to establish partnerships with external training providers such as TAFE NSW.</p>
Population change	<p>Proposal will increase the local population by approximately 634 persons.</p>	HIGH	<p>Mitigation is not required.</p> <p>The proposed development will contribute positively to the housing targets set in the City of Ryde <i>Draft Centres and Corridors Study</i>. This study indicates that there is potential for an additional 2539 new dwellings within the B4 zone in the Meadowbank Employment Area. The City of Ryde has a target of 12,000 new dwelling by 2031 under the <i>Metropolitan Plan</i>.</p>
Potential change in community character due to changed settlement patterns	<p>The incoming population potentially will comprise 46 children, 317 adults of working age and 271 adults over 55 years.</p> <p>It is likely that the incoming population will introduce to Ryde (South) more couples without children and a more ethnically diverse population than existed in 2006.</p>	HIGH	<p>Mitigation is not required.</p> <p>The potential impacts are offset by the creation of a vibrant multi-age community that offers transit-oriented housing at a modest price point.</p> <p>Resulting positive shift in the dependency ratio for the Ryde (South) area.</p>
Potential loss of visual amenity	<p>Ensure community values and local amenity is not disrupted.</p>	HIGH	<p>Retention of existing established boundary trees on Belmore and Junction Street frontages.</p> <p>Underground car parking.</p> <p>Preservation and restoration of heritage items on the site.</p> <p>Aesthetically pleasing design that complements the local environment.</p>

Social Impact	Comments	Significance	Measures/Comment
Additional vehicle movement and parking issues around the development site	Potential resident concerns about extra traffic in proximity to Meadowbank Public School and into low density residential areas.	MEDIUM	Underground parking spaces for all units incorporated in the development. Adequate provision for resident and visitor parking on site. Entry and egress only via driveways in Porter Street.
Increased noise generated by development	Resident concerns about acoustic intrusion into the neighbourhood.	MEDIUM	Meet BCA acoustic privacy requirements. Retention of boundary trees provides some additional acoustic protection for neighbours.
Increased demand for services due to larger population	Schools and community services in the area have indicated that they have additional capacity to absorb incoming population. Childcare centres have current vacancies and there is no waiting time for community care services such as meal on wheels and home visiting services. Community transport services are the only area of unmet service need.	MEDIUM	Local schools and childcare centres are able to absorb the additional demand from the development. Maybe some requirement for additional 0- two year old children, but the effect will be very small. Achieve Australia will provide its own transport services (minibus) for residents with disability.
Increased demand for disability and community care services		MEDIUM	Achieve Australia has committed to providing continuity of care for their existing clients at Crowle Home. 10% of dwellings in the development will be built to AS4299 Adaptable Housing standards, enabling residents to 'age in place'. This may have some long term flow on effect to community care services, but no more than predicted for an ageing population.
Impact on demand for community facilities	Cumulative effects of development in the area may increase requirements for community halls, parks and sporting facilities.	MEDIUM	Section 94 developer contributions will be sufficient to mitigate effects specific to the proposed development.
Impact on housing affordability and access	Potential decline in housing affordability which could lead to social dislocation.	MEDIUM	Increase in housing supply likely to achieve small reductions in housing purchase costs. Rental affordability will depend upon the numbers of investors who purchase properties. Achieve Australia intend to rent at least some of the properties retained by the organisation to the general public.

Social Impact	Comments	Significance	Measures/Comment
Decline in community safety	Higher density housing is associated with increased crime.	MEDIUM	An assessment of the final designs against the 'Crime Prevention through Environmental Design' principles will be undertaken.

7.15.4 Adequacy of existing services etc for disabled / disadvantaged residents

Achieve Australia is considering a co-housing model of accommodation whereby accommodation for people with disability would be integrated throughout the completed development. The residents that could be housed by Achieve Australia in the future development would therefore be integrated into the wider community and would utilise services and facilities available to the whole community. As noted in Table 14 above, the SIA has considered the increased demand for services due to larger population, disability and community care services and community facilities. No specific demands were identified as needing to be provided for the future residents of the development.

Similarly, the needs of all future residents would also be met by the open space provided as part of the overall development. The common landscaped, passive recreational areas and the recreational room proposed in Block F will be designed to be accessible for people with a disability. Access to common facilities will be provided in accordance with Australian Standard AS1428.1:2009 – Design for Access and Mobility Part 1 – General requirements for access – new building work. The on-site open space and recreational spaces will therefore be accessible to all future residents.

Where the individual needs of disabled or disadvantaged residents are not met by the existing social infrastructure or on-site facilities, Achieve Australia will continue to provide services through its programs for future residents who have been placed by Achieve Australia within the development. This could include use of the following services and programs operated by Achieve Australia out of other facilities:

- Specialist Support Services including clinical and registered nurses, behaviour support, communication skills, social network.
- Day Programs such as sports, recreational activities, visual and performing arts, music, skills learning and development, literacy and numeracy development, as well as other education and training courses.
- Transition to Work program which provides school leavers with disability the opportunity to develop their employability skills, gain qualifications and secure employment.
- Disability Employment Services to assist jobseekers with a disability, injury or health condition to develop a career path, learn job interview skills, build a professional resume, apply for jobs, be matched to jobs or receive individualised training on the job. Achieve Australia also assists with enrolment in training courses, traineeships and apprenticeships and offer ongoing support to their clients to keep them in the workplace.

Access to the range of services provided by Achieve Australia will continue to be available for the existing residents as well as future residents with disability and will therefore not place additional demands on existing social infrastructure.

These are all services and programs that are currently offered and provided by Achieve Australia to a wide group of people with disability who participate in the programs, not as a part of their relationship with Achieve Australia necessarily, but as people who are accessing relevant services that best meet their needs.

7.15.5 Housing choice and affordability for the disabled and disadvantaged

Achieve Australia is a Not For Profit organisation and as such does not distribute profits to shareholders. Part of Achieve Australia Strategic Plan 2010 – 2012, is a Housing Strategy. This Concept Plan application is a means of implementing the Housing Strategy and Achieve Australia proposes to allocate a number of dwellings to be used as part of the accommodation support functions operated by Achieve Australia.

As noted in the SIA, it is not known at this time how many of the incoming population will be people with disability and the future housing needs of individual occupants are not predicated here. However, Achieve Australia is committed to ensuring that the proposed development includes residential supported accommodation for people with disability - as already mentioned in this report. It is further expected that Achieve Australia will be the provider of the accommodation support under these proposals. To provide a true element of community housing access, 10% of the dwellings will be designed as "adaptable housing" to suit the needs of individual residents, some of whom may be in supported accommodation. Through its ownership proportion of the final development, Achieve Australia will be able to maintain adaptable housing thus ensuring that the accommodation can be made flexible in design in order to support the changing needs of the (supported) residents. This approach will provide Achieve Australia with the flexibility to adapt a dwelling to suit a resident's needs.

The Concept Plan will ultimately enable the site to be redeveloped, thereby freeing up capital for Achieve Australia to further develop its range of disability services and programs. This would enable Achieve Australia to fund its other accommodation services and programs, thereby providing improved housing of choice and a much better security of tenure for residents (with disability) either on the subject site or in other locations.

In terms of affordability, the SIA notes that the Concept Plan could potentially reduce housing costs by increasing the supply of housing stock into the area. New dwellings are expected to be of a high quality at a modest price point, improving affordability to the wider community.

Achieve Australia's Vision is to develop ownership of housing stock in order to improve housing quality and security of tenure for its supported residents more generally. Achieve Australia utilises a large number of rented housing properties. Achieve Australia's long term plan is to fund the replacement of rented homes with owned homes through purchasing and construction of suitable homes for the purposes of supported accommodation in the coming 5 to 10 years. The integration of supported accommodation is an example of the way in which Achieve Australia will continue to develop the widest possible mix of housing arrangements in order to be able to offer people with disability the widest possible choice of accommodation type, whilst at the same time being in concert with the intent of the Disability Services Act and that of the NSW Government, families and community expectations generally.

Residents and their families may have the opportunity to invest in housing stock, resulting in even more security of future housing circumstances for individuals and their families. Achieve Australia is a Registered Housing Provider under the auspices of NSW Register of Community Housing and as such will continue to work towards the provision of community housing for people supported by Achieve Australia and people with disability more generally.

7.16 Consultation

Achieve Australia has already consulted with the following local and state agencies, organisations and community.

7.16.1 Consultation with existing residents

As noted in the SIA, prepared by GML Social Research (**Appendix 20**) Achieve Australia conducted information sessions for immediate family members of people receiving support from Achieve Australia and other interested stakeholders in August and October 2010. A total of 11 sessions were conducted over four days with some 90 attendees. The sessions were designed to provide advanced information on Achieve Australia's broader strategic plan and how the redevelopment of the site fits with the implementation of the strategy.

The management team of Achieve Australia conducted a series of individual family meetings with 30 families. The discussions at these meetings, held from August to November 2010 included;

- A detailed explanation of the reasons for Achieve Australia's commitment to move the current group of residents to community living.
- A firm undertaking that individual transition plans would be developed and that families would be encouraged to be involved to any degree that they wished in the transition process.
- That accessibility for families to their family member will be enhanced through supported accommodation being provided in a home setting.
- That the current residential centre at Crowle Home was not able to adequately meet the needs of the group of people whose average age is 59 years old (2011). Complexities relating to health and mobility were issues all contributing to the fact that they require a different model of supported accommodation to that which is able to be provided at Crowle Home. Notably, families agreed with the assessment of the lack of suitability of the current building infrastructure at Crowle Home.
- That the level of care in supported accommodation in a community home will be a higher and more individualised level of care than that which can be provided at Crowle Home.
- That supported accommodation in a community living model will be better able to meet individual's needs and aspirations in regards to social inclusion.
- That Achieve Australia is committed to improving the circumstances of the residents who currently have to contend with common bathrooms, common dining facilities, and common recreational facilities in a built environment that is not conducive to adequately meeting individual needs and Social Inclusion.

This advanced consultation has been necessary as some of the changes for the site are occurring irrespective of the Concept Plan application. In particular, some residents are being relocated to new accommodation to better suit their individual needs and the day programs are also planned to be relocated to another site in order to meet the requirements of the Disability Services Act.

7.16.2 Ryde Council

Ryde Council was consulted in 2009 when the then draft Ryde LEP 2010 was placed on exhibition. It was as a consequence of these consultations that the Part 3A application process was agreed as the appropriate planning process for the site.

As documented in this EA, targeted discussions have also taken place with various divisions of Council relating to traffic issues, stormwater issues and social impact assessment.

7.16.3 Utility and Service Providers

As discussed in Section 7.10 of the EA, various utility providers - water, sewer, gas and electricity - have been consulted in relation to the capacity of various infrastructure to service the development. Section 7.10 of the EA provides more detail.

The Social Impact Assessment (**Appendix 20**) has also consulted with local service providers (including schools, child care and medical practitioners) to determine the adequacy of those services for the incoming population. Existing facilities were found to meet expected demands.

7.16.4 Community Consultation

Further consultation will take place as part of the formal exhibition of the Concept Plan application under Part 3A of the EP&A Act. Achieve Australia proposes that this will also take the form of a community information session.

8 Developer Contributions

It is anticipated that Achieve Australia will pay Section 94 contributions to Ryde Council on a stage by stage basis. A voluntary planning agreement is not proposed to accompany the Concept Plan at this stage. However, if a VPA emerges as a viable and mutually agreeable option, then a VPA could be entered into in conjunction with one or more of the future Project applications or development applications.

9 Draft Statement of Commitments

Table 15: Draft Statement of Commitments

Commitment Number	Commitment	Timing
Soil Contamination		
1	<p>Achieve Australia commits to undertaking further soil sampling targeting the former location of the above ground storage tank in the southern corner of the site to determine if the soils are impacted with petroleum hydrocarbons.</p> <p>If unacceptable soil impacts are found at levels that do not make this portion of the site suitable for residential use with minimal opportunities for soil access, then Achieve Australia commits to the remediation of the area and the preparation of a site audit statement following completion of the remediation.</p>	<p>The sampling will be undertaken at the time of redevelopment when the buildings in the southern corner are demolished.</p> <p>If contaminants are found in excess of the levels suitable for residential use with minimal opportunities for soil access that requires remediation then the site audit statement will be prepared prior to the issue of a construction certificate for buildings in that location.</p>
Geotechnical		
2	Achieve Australia commits to further geotechnical assessment of the site to determine the most appropriate excavation methods and mitigation measures such as noise and vibration impacts.	To be undertaken prior to the issue of a construction certificate for the buildings on a stage by stage basis.
Tree Management		
3. Tree retention	<p>Achieve Australia commits to the retention of the following feature trees identified on the Aboricultural Implications Plan prepared by Tree Wise Men, dated 19 November 2010 (Revision A):</p> <ul style="list-style-type: none"> i. The Pin Oak labelled as Tree 92 ii. The Camphor Laurel labelled as Tree 105 <p>Achieve Australia also commits to designing future buildings within the nominated building footprint zones so as to retain as many trees as possible elsewhere on the site. Future applications for earthworks or construction of buildings will be accompanied with more detailed aboricultural assessment to ascertain which trees can be or should be retained or pruned.</p>	Details of retained trees are to be indicated on future Project Applications or Development Applications involving earthworks or construction of residential buildings.

Commitment Number	Commitment	Timing
4. Tree management	<p>Achieve Australia commits to the following mitigation measures for trees or shrubs that will be removed or pruned,</p> <ul style="list-style-type: none"> i. Trees will be checked beforehand for the presence of active nests of birds (that is, those nests containing fertile eggs or nestlings) and arboreal mammals (such as possums). These plants will not be removed or pruned until animals that are nesting in them have completed their breeding cycle. ii. Trees will be checked for animals before and after felling or pruning. Injured animals will be taken to a local vet or the local wildlife rescue service should be notified. iii. Removal of vegetation from the subject site will be conducted with minimal disturbance to the soil. 	<p>Prior to the commencement of demolition, earthworks or construction for items (i) and (ii).</p> <p>During the course of earthworks and construction for item (iii).</p>
5. Replanting	Achieve Australia commits to the use locally-native plant species in the future landscaping of the subject site.	Details to be included on the landscape plans for future Project applications or Development Applications for the proposed residential buildings.
Acoustic		
6. Plant and equipment	Achieve Australia commits to undertaking further acoustic assessment for each building on a stage by stage basis to determine the specific environmental noise limits for new plant once the plant types and locations are known for each building. Achieve Australia also commits to utilising environmental noise control methods such as in-duct attenuators, acoustic louvres for plant rooms, and enclosures for noisy plant items, if required to meet the determined environmental noise limits.	Further assessment to be undertaken for each building on a stage by stage basis when plant has been selected and prior to the issue of an occupation certificate for each building.

Commitment Number	Commitment	Timing
7. Dwelling	<p>Further acoustic assessment will be required for each building to determine the implications of noise levels on the apartment facade and ventilation options. The future assessment will take into account the internal background noise level targets set out in Table 9 of the <i>Concept Plan Acoustic Report</i>, dated 12 April 2011 and prepared by Acoustic Studio include:</p> <ul style="list-style-type: none"> • Further measurement of background noise levels around the site (as required). • Further measurement of traffic noise levels around the site (as required). • Consideration of the required internal noise levels in the living areas and sleeping areas of the apartments. • Calculations to determine requirements for façade construction (particularly glazing) and natural ventilation to achieve the internal noise levels. 	Further acoustic assessment is to be undertaken as part of each future Project or development application and on a stage by stage basis.
Construction and Environmental Management Plan		
8. Management Plan	<p>Achieve Australia commits to preparing a Construction and Environmental Management Plan to:</p> <ul style="list-style-type: none"> • Address potential noise and vibration impacts for the construction of each future stage of the development having regard to the legislation, policies and guidelines current at the time of preparing the management plan(s). • Determine the most appropriate excavation methods having regard to the surrounding properties • Manage construction traffic including truck routes. 	Construction and Environmental Management Plan(s) are to be prepared on a stage by stage basis and submitted with the construction certificates for each stage of the project including construction certificates for earthworks and building construction.
9. Construction and demolition waste	<p>Achieve Australia commits to construction and demolition wastes being managed to prevent accidental discharge of chemicals or other pollutants into waterways and vegetation down-slope of the subject site. Demolition and construction materials will not be stored in garden areas of the subject site once construction has been completed so that the risk of weed outbreaks is minimised.</p>	During the course of earthworks and construction.

Commitment Number	Commitment	Timing
Stormwater / WSUD		
10. Water quality	Achieve Australia will commit to meeting the water quality targets as set out in the WSUD Concepts prepared by Aquatica, dated 23 February 2011, and attached as Appendix 16 to the EA.	Details to be incorporated into the stormwater designs and submitted with future development applications or Project applications relating to the construction of the residential buildings.
11. WSUS monitoring	Achieve Australia commits to the WSUD and water quality measures being monitored on a regular basis to ensure maximum performance.	During the course of construction and for 6 months after completion of the final stage.
12. Future plans	Achieve Australia commits to preparing detailed stormwater plans generally in accordance with the stormwater concepts contained in the <i>Design Statements for Hydraulic and Fire Protection Engineering Services</i> report dated 17 February 2011 prepared by Sparks Partners and incorporating WSUD concepts prepared by Aquatica, dated 23 February 2011.	Details to be submitted with future development applications or Project applications relating to the construction of the residential buildings.
ESD Measures		
13. ESD guiding document	Achieve Australia will use the <i>Environmentally Sustainable Design Report</i> , dated 24 March 2011, prepared by NBRSPartners to guide the future ESD initiatives for the subsequent stages of the Project.	ESD initiatives incorporated into each stage of the development will be documented as part of future Project applications or development applications, on a stage by stage basis.
14. Further studies	Achieve Australia will undertake further energy use studies and investigate environmental engineering solutions throughout the design development process. As part of this process additional ESD measures will be explored to supplement the passive measures incorporated into the building design. This process will aim to ensure that buildings exceed section J BCA requirements.	Further investigations and feasibility testing of other ESD measures will be undertaken prior to issue of the construction certificate for each building.
15. Tap ware	Achieve Australia commits to the installation of 4 1/2 / 3litre dual flush WC cisterns and Wels rated water efficient tap ware throughout the development.	Details to be submitted prior to the issue of a construction certificate for each building and on a stage by stage basis.
16. Rainwater tanks	Achieve Australia commits to installing rainwater harvesting tanks for each building with a combined capacity of approximately 910m ³ and to reuse the water for irrigation of landscaped areas, maintenance of grounds and car washing.	Details to be submitted prior to the issue of a construction certificate for each building and on a stage by stage basis.

Commitment Number	Commitment	Timing
Social		
17. Resident relocation	Achieve Australia commits to work with the existing on-site residents and their families to ensure that their individual needs and preferences are respected when determining where and how to relocate the existing residents. This might include some residents returning to live in the apartments on the site as stages of the development are completed.	On-going until all existing residents are re-housed.
18. CPTED	Achieve Australia commits to carrying out a CPTED analysis of future buildings.	Details to be provided at Project Application (or development applications) on a stage by stage basis.
Accessibility		
19. Adaptable housing	Achieve Australia commits to providing 'adaptable housing' at the rate of 10% of the total dwellings and to be distributed around the development. The adaptable housing will be provided in accordance with Australian Standard AS4299 – Adaptable Housing.	Details are to be documented in relevant Project applications or development applications on a stage by stage basis.
20. Access to common areas	Achieve Australia commits to all dwellings and common areas to be accessible for persons with a disability. Access will be provided in accordance with Australian Standard AS1428.1:2009 – Design for Access and Mobility Part 1 – General requirements for access – new building work.	Details to be provided at Project Application (or development applications) and Construction Certificates on a stage by stage basis.
Cultural Heritage		
21. Retention of Tellaraga	Achieve Australia commits retaining <i>Tellaraga</i> including its original fabric and to conserve the building in accordance with its significance as detailed in the <i>Heritage Study</i> (September 2009) prepared by NBRS + Partners. Achieve Australia also commits to the removal of the two additions known as Dulcie Johnson Hall and EF Ward Building.	Details of the building's retention and conservation and removal of the two additions will be detailed in future Project or development applications for that Stage of the Project.
22. Retention of other element	Achieve Australia commits to retaining of the following features of the site: 1. The circular driveway; 2. The memorial gardens; 3. The palisade fences and gateposts along Belmore Street; and 4. The existing avenue of trees along Belmore Street, where practical.	Details of the retained features will be detailed in future Project or development applications for that Stage of the Project.

Commitment Number	Commitment	Timing
23. Materials selection	Achieve Australia commits to further heritage input to inform the design, material selection and colours of future residential buildings to ensure the proposed elements do not visually dominate the heritage item and landscape elements.	Design details, material selection and colour palette will be documented in future Project or development applications
24. Review of northern end of Block A	Achieve Australia commits to reviewing the northern end of Block A to ensure that future buildings are contained within the building envelope so as not to encroach on the "Desirable View Line" as illustrated in Figure 2 of the Statement of Heritage Impact prepared by NBRSPartners, dated 7 March 2011.	Design details will be documented in future Project or development applications.
Car parking design		
25. Australian Standard	Achieve Australia commits to car parking areas ramps, grades, aisles and manoeuvring areas to be designed to comply with AS2890.1 and AS 2890.2.	Details will be documented with future detailed Project or development applications for each stage of the development (excluding stand-alone applications for earthworks, civil or infrastructure works).
Waste Management		
26. Hazardous substance audit and management plan	Achieve Australia commits to all demolition work will being carried out in accordance with AS 2601 and if required a Work Plan and a Hazardous Substances Audit and Management Plan will be prepared in accordance with AS 2601	To be submitted before demolition of the buildings.
27. Waste management plan	Achieve Australia commits to establishing waste management procedures and preparing a waste plan for the demolition and construction phases of the development	Documentation to be submitted prior to the issue of a construction certificate on a stage by stage basis.

10 Project Justification and Conclusion

This Environmental Assessment (EA) has been prepared on behalf of Achieve Australia Limited for a Concept Plan application under Part 3A of the Environmental Planning and Assessment Act, 1979 for a proposed residential flat building development at 74-76 Belmore Street, Ryde.

Local and sub regional planning

The site is located within the Meadowbank Employment Area. The local planning controls applying to the MEA have been under review for many years. The review points to a change from the industrial/warehouse uses to a mixed use area with residential and commercial land uses. Accompanying the change in land use is a review of the planning controls for the MEA including controls such as height and floor space ratio.

In September 2007, Council placed on exhibition draft DCP 2007 for the MEA which proposed the renewal of the area to a mixed use character and proposed an increase in height controls of 4 storeys for the subject site and 6 storeys on adjacent sites. The progress of the DCP was placed on hold whilst Council prepared its Standard Instrument LEP which was published in June 2010, but this did not amend zonings or densities.

Subsequent to the publishing of Ryde LEP 2010, Council resolved to prepare a Comprehensive LEP which would review controls such as density and building height. Ryde Council has prepared the Ryde Local Planning Strategy to inform and guide the preparation of the comprehensive LEP. The Strategy aims to guide future planning for the LGA and meet the State Government planning targets for the number of dwellings and employment opportunities and implement the relevant objectives and actions of the Metropolitan Strategy and of the Inner-North Subregional Plan. The Centres and Corridors Study (a component of the Strategy) recommends residential land uses to replace the existing employment land uses in the MEA. The Study also proposes the introduction of height and floor space ratio controls for the MEA in order to facilitate additional housing. The subject site is identified as a residential land use of medium built form with a transitional zone along the northern edge of the site. The controls proposed for the site include:

- FSR controls of 2.3:1 for the majority of the site and 2.0:1 along the northern edge.
- Height controls of 6 storeys for the majority of the site and 4 storeys along the northern edge.

In November 2010, Ryde Council adopted the Ryde Local Planning Strategy.

Ryde Council has also prepared draft Ryde LEP 2011 which is a comprehensive LEP and incorporates the recommendations from the Ryde Local Planning Strategy including the FSR and height controls in the Centres and Corridors Study. The draft LEP is awaiting a Section 65 certificate and when received the draft LEP and Ryde Local Planning Strategy will be placed on public exhibition.

The Concept Plan application is consistent with the local planning controls that have evolved in recent years. The Concept Plan has been prepared having regard to the change in land use and planning controls and is consistent with the FSR control (averaged across the site) and largely consistent with the height control, with the exception of the 7 storey elements. These variations are considered to be acceptable on merit having regard to the future character of the area which is already evident with the recently completed residential flat building development immediately to the south as well as the future heights as demonstrated in the view analysis in the EA. A view impact analysis has been undertaken and the impacts have been found to be acceptable in the context of the surrounding built form and the retained trees around the perimeter of the site which have a large visual absorption capacity.

Environmental impacts

The EA has addressed the environmental impacts of the Concept Plan application and identified proposed mitigation measures where relevant. The main findings of the EA in relation to the key environmental issues required to be addressed in the DGRs are:

- **The built form and urban design** proposed in the form of the building envelopes responds to the emerging character of the area and the future direction of the local planning controls. The building footprints and envelopes are sited having regard to the streetscape, surrounding development, retention of perimeter trees and the retention of the heritage item (*Tellaraga* and its memorial gardens and entrance gates).
- **Environmental and residential amenity** has been considered in planning by reference to Residential Flat Design Code. The building envelopes, their siting and separation have been designed to ensure that future buildings are capable of achieving high environmental and residential amenity. Wind impacts have been found to be acceptable subject to minor ameliorative measures between Buildings E and F which can be further considered at detailed design stage.
- **Transport and accessibility impacts** are minimal given that the site is well serviced by public transport, including train and ferry services all within 800m and local and regional buses within 100m of the site. The public transport options provide good accessibility to employment and retail centres. The site is also within 1km of retail centres including Shepherds Bay and the higher order Top Ryde Shopping Centre. The site's good access to public transport is consistent with the objectives of the NSW State Plan, Metropolitan Plan and draft Inner North Subregional Strategy in relation to increasing housing density close to public transport and existing centres.
- **Traffic impacts** have been found to be acceptable. Importantly, a transport assessment prepared in July 2007 to support the MEA Master Plan identified a number of traffic improvements and upgrades works necessary to support a change in land use. The nominated works (many of which have been completed) were found to cater for the traffic demands likely to be generated by this proposal.
- **Ecologically sustainable development initiatives** have been incorporated into the Concept Plan. The buildings envelopes and siting of buildings are designed to facilitate the attainment of the ESD principles for future dwellings (e.g. solar access, cross ventilation). Other elements such as rainwater tanks, bioretention and wetlands are also incorporated into the design. The proximity to public transport provides an excellent opportunity to promote reduced car usage. In line with the site's good access to public transport, the Concept Plan proposes a car parking provision lower than the Ryde DCP maximum provision. In addition, the Concept Plan is supported with a ESD Design Report which establishes objectives, initiatives and implementation methods with an overriding intention to achieve a benchmark equivalent to a 4 Star Green Star rating. A statement of commitment has been proposed to carry forward this intention into future planning.
- **Land contamination** has been assessed with the preparation of a Preliminary Site Investigation which concluded that concentrations of contaminants measured in the soil samples are low and well below criteria considered suitable for a high density residential land use with minimal opportunities for soil access, including residential flat building. It is known that an above ground storage tank was previously located on the site although a building is now constructed in its former location. Further soil sampling targeting the location of the above ground storage is managed through a statement of commitment.

- **European heritage impacts** have been assessed. The site is identified as a heritage item under Ryde LEP 2009. A Statement of Heritage Impact has been prepared which is supported by a Heritage Curtilage Study. The Heritage Curtilage Study has established the significance of the heritage item and a heritage curtilage containing *Tellegara*, memorial gardens, entrance gate and driveway all of which are designed into the Concept Plan. The Statement of Heritage Impact has concluded that the Concept Plan respects as well as enhances the heritage significance of the item. Further assessment of the future design, material selection and colours will be necessary as well as the resolution of Block A to improve the views and vistas to *Tellagara*. This is proposed to be managed through a statement of commitment.
- **Aboriginal heritage impacts** have been assessed through the preparation of a preliminary Aboriginal heritage assessment of the site. The assessment has found that there are no known or potential Aboriginal sites, places or cultural values associated with the site and that further Aboriginal heritage investigation and/or impact assessment was not warranted.
- **Water management impacts** can be managed, and concept stormwater management plans have been prepared which are also supported by a water management/ water sensitive urban design strategy. The site stormwater drainage will be sized to convey 100 year storm event flows. The strategy incorporates on-site detention (OSD) and rainwater tanks for each building. The rainwater tanks will be used for landscape irrigation, grounds maintenance and car washing. Water sensitive urban design is also incorporated into the stormwater strategy to meet Ryde Council's draft stormwater quality targets through the use of a bioretention system for the southern catchment and wetlands to treat stormwater from the northern catchment of the site.
- **Flooding impacts** have not been found to affect the subject site. Consultation with Ryde Council has ascertained that the risk of localised flooding from overland flow is contained within the road reserve (primarily the carriageway) at the intersection of Junction Street and Belmore Street and does not impact the subject site.
- **Utilities and infrastructure works** have been assessed and some minor upgrades will be necessary to sewer, water and electricity. New lead-in works will be required for telecommunications. The site can connect to existing stormwater infrastructure without the need for upgrades.
- **Flora and fauna impacts** have been assessed and found that native vegetation communities have been cleared and vegetated areas on the site have a high component of exotic and introduced plantings, including a high number of Camphor Laurels. No endangered or critically endangered ecological communities, or threatened flora species or populations have been found. The flora and fauna assessment recommends mitigation measures to manage tree removal, disturbance to fauna and their habitats and to implement protection measures for those trees which are retained. Statements of commitment have been proposed in relation to these mitigation measures.
- **Noise and vibration impacts** have been assessed in terms of impacts from road noise as well as potential impacts from future plant and equipment both within the site and to neighbouring properties. The assessment has established that a residential land use is appropriate from an acoustic perspective. Internal noise level targets have been set for each building to manage traffic noise. Further acoustic assessment will be required for each building to determine the implications of noise levels on the apartment facade and ventilation options. The acoustic assessment has determined that the acoustic impacts from road traffic noise are capable of being managed through building design. Environmental noise limits for new plant

are recommended for future buildings once the plant types and locations are known for each building. Statements of commitment are proposed to require further assessment at future stages of the project.

- **Social impacts** of the Concept Plan have been assessed inclusive of likely social impacts and benefits. A number of potential impacts have been identified. In particular the Concept Plan will, over time, displace current services and residential accommodation provided on the site. However, Achieve Australia is undertaking a program of relocating existing residents regardless of the site's future and a new site has been acquired to accommodate the day programs operated by Achieve Australia. Not all impacts of the Concept Plan were identified as being negative. Some impacts are already addressed through the design (such as tree retention which in turn assists with visual impacts).

The Concept Plan is not considered to be contrary to the public interest having regard to the Concept Plan being largely consistent with the direction that Ryde Council is heading with its local planning. Further, the Concept Plan is also consistent with the NSW State Plan, Metropolitan Plan and the draft Inner North Subregional Strategy. The Concept Plan will provide additional housing within close proximity to public transport and assist in Ryde Council achieving the housing targets for the Ryde LGA as set in the draft Inner North Subregional Strategy.

The public interest has also been considered at a more local level particularly with the retention of *Tellaraga* (a heritage item), the memorial garden and its surrounds. The Concept Plan also proposes the removal of unsympathetic additions and increasing the visibility of *Tellaraga* from Belmore Street. The mature trees around the perimeter of are to be retained thereby maintaining the treed character of the area and streetscapes.

The assessment of the above issues as documented in the EA and supporting reports provides the necessary justification for the Concept Plan.