

Environmental Assessment Report Project Application (MP09_0154)

7 Railway Street, Chatswood

Erection of a mixed use Residential / Commercial Building
with Basement Parking and Associated Publicly Accessible
Open Space

Submitted to
Department of Planning
On Behalf of Mirvac Projects Pty Limited

August 2010 ■ 09117

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This report has been prepared by: Jennie Buchanan

Signature



Date 16/08/10

This report has been reviewed by:

Clare Brown

Signature



Date 16/08/10

Statement of Validity

This Environmental Assessment has been prepared and submitted under Part 3A of the *Environmental Planning and Assessment Act 1979* (as amended) by:

Environmental Assessment

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Address	Level 7, 77 Berry Street North Sydney NSW 2060
In respect of	Project Application

Project Application

Applicant name	Mirvac Projects Pty Limited
Applicant address	Level 26, 60 Margaret Street, Sydney NSW 2000
Land to be developed	7 Railway Street, Chatswood NSW 2067
Proposed development	Erection of a mixed use residential / commercial building and associated public open space

Environmental Assessment	An Environmental Assessment (EA) is attached
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Certificate	I certify that I have prepared the content of this Environmental Assessment and to the best of my knowledge:
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- It is in accordance with the Environmental Planning and Assessment Act and Regulation.
- It is true in all material particulars and does not, by its presentation or omission of information, materially mislead.

Signature

Name	Jennie Buchanan
Date	16 August 2010

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- C** Director General's Requirements, including RTA, RailCorp and Willoughby City Council submissions
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- S** BASIX Report and Certificates & Section J Assessment
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A Sample Board and Physical Model have been submitted under separate cover.

Executive Summary

Purpose of this report

This Environmental Assessment Report (EAR) is submitted to the Minister for Planning pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is to fulfil the Environmental Assessment Requirements issued by the Director General for the preparation of an Environmental Assessment for a mixed use residential / commercial building at 7 Railway Street, Chatswood.

The report has been prepared by JBA Urban Planning Pty Limited, for the proponent, Mirvac Projects Pty Limited and is based on design information provided by Mirvac Design and supporting technical documents provided by the expert consultant team.

Overview of Project

This application seeks Project Approval for the following scope of works:

- Excavation of part of the site to the west of the North Shore Railway Line;
- Construction of a 7 level basement comprising:
 - 395 car parking spaces;
 - 16 motorcycle parking spaces;
 - 2 loading spaces (accommodates 2 x 8.8m truck);
 - Residential bicycle parking;
 - Residential storage;
 - Residential facilities including pool and gym;
 - Commercial bicycle parking, lockers and shower facilities; and
 - Plant room.
- Construction of a 43 storey mixed use residential, commercial and retail building comprising:
 - 304 apartments (35, 214m² Gross Floor Area (GFA));
 - 3,810m² commercial GFA; and
 - 140m² retail GFA.
- Construction of public and private open space, including embellishment of areas to the east and west and on top of the Railway Enclosure Structure (RES); and
- Stratum subdivision of existing lot into two stratum lots and strata subdivision of the residential stratum.

The site

The site is known as 7 Railway Street, Chatswood. It is located within the Chatswood Town Centre and has frontages to both Railway Street and Help Street. It has an area of 5,148.5m² (including accessway shared with Epica) and is currently vacant. The North Shore Railway Line bisects the site.

To the immediate north and east of the site are high rise residential buildings, to the north-west, west and south are commercial buildings.

The site is the subject of an operational consent which permits the construction of a 21 storey commercial tower.

Planning context

The following strategic planning documents and planning instruments are relevant to the application:

- NSW State Plan
- Urban Transport Statement
- Sydney Metropolitan Planning Strategy
- Draft Inner North Subregional Strategy
- Draft Willoughby City Strategy
- Draft Chatswood Centre Strategic Plan (2004)
- Sydney Region Environmental Planning No. 5 – Chatswood Town Centre
- State Environmental Planning Policy (Building Sustainability Index – BASIX) 2004
- State Environmental Planning Policy 55 – Remediation of Land
- State Environmental Planning Policy 65 – Design Quality of Residential Flat Development
- State Environmental Planning Policy (Infrastructure) 2007
- Draft Willoughby Local Environmental Plan 2009
- Willoughby Development Control Plan

The proposed development is consistent with the objectives of the draft Inner-North Subregional Strategy and Council's strategic documents in that it will provide high density development, new housing and employment and public open space within an area that is highly accessible by public transport and is in close proximity to employment opportunities, regional retail facilities and other day to day services.

The proposal is also generally consistent with desired future character of the Chatswood Town Centre in terms of density, ground level activation and public open space as outlined in the *Draft Willoughby Local Environmental Plan 2009*, however it does propose a variation to the land use and maximum height provisions. These variations are considered appropriate for the site for the following reasons:

- The proposed height of the building is in keeping with the well founded urban design principle of the city arc. The proposed building will provide a transitional height down from the approved residential buildings at Chatswood Railway Station down to the existing residential buildings to the north and the Pacific Highway;
- The proposed building height does not generate any unacceptable impacts in terms of view sharing and overshadowing;
- It has been demonstrated that there is minimal demand for commercial floor space within the Chatswood Town Centre and that this has been a consistent trend since 2001 and is unlikely to change in the near future given the high levels of competition from centres of North Sydney, St Leonards and Macquarie Park;
- In light of the above, a minimum of 3,600m² GFA (the proposal as submitted includes 3,810m²) of commercial floor space will provide a substantial contribution towards the employment target set for the Inner-North Subregion;
- The site presents an appropriate location for high density residential development.

Environmental impacts

The proposal has been reviewed by the specialist consultant team who have found that the proposal is acceptable and where environmental impacts have the potential to occur that they can be appropriately mitigated. Where mitigation measures are required, a commitment has been made to ensure that they are implemented either during the construction or operational phase. The findings of the Environmental Assessment are summarised below.

Structural Design

The proposed design and construction methodology has been informed by Geotechnical Engineers and Structural Engineers both of which have had previous involvement on the Pacific Place site and are therefore familiar with the specific design issues associated with constructing adjacent to a rail corridor. The proposal is consistent with the requirements of the Department of Planning's document *"Draft Interim Guidelines for Development near Busy Roads and Adjacent to Railway Corridors"*.

Amenity of Existing Surrounding Residents

Due to the greater building separation distances of the proposed building footprint versus the approved commercial building footprint the proposal is expected to improve the levels of privacy afforded to the residents of "Cambridge" (building separation increased from 19m up to 23m). The separation distance will also increase between the proposed building and the "Regency" development on Help Street (building separation increased from 42m up to 66m). The distance between the proposal and "Epica" remains the same.

The narrower tower form and smaller building footprint will alter the view corridors of some of the apartments within the Epica and Cambridge developments. In many cases the view corridors will be greater and will generate new views which would not have been obtainable under the approved commercial scheme. The proposal will result in the loss of southerly views from two of the upper level apartments in Epica, however this view loss is considered to be reasonable given that:

- The apartments have view corridors in excess of 180 degrees and the primary outlook from the main living areas of the apartments is to the east and west and these easterly and westerly views are not affected by the proposed development, and
- The views to the south are secondary distant views which will be detrimentally affected by the approved residential development above the Chatswood railway station.

Shadow diagrams have been provided which demonstrate that the proposal will not generate adverse shadow impacts on existing surrounding residential property on June 21 between the hours of 9am and 3pm in accordance with the requirements of the Willoughby DCP.

Amenity of Future Occupants

The proposed development will provide future occupants with a high level of amenity. The proposed apartments are of a flexible design, generous size, are capable of being naturally ventilated and will achieve appropriate levels of visual and acoustic amenity. Seventy percent of the proposed apartments will achieve 2+ hours of sunlight on June 21 and only 3% of the proposed apartments have a single aspect to the south. The proposal achieves compliance with SEPP 65 and the Residential Flat Design Code.

Environmental Amenity of Chatswood Mall

Shadow diagrams have been prepared which compare the shadowing impacts of the approved commercial building and the proposed building. The diagrams demonstrate that for much of the day on June 21 the Mall is already in shadow and that the proposal will not generate any adverse shadowing impacts on the Mall between the hours of 11.30am and 2pm (identified as the critical times by Willoughby City Council), in fact a small proportion of the mall will receive sunlight which was previously overshadowed by the commercial building.

Construction Management

A Construction and Environmental Management Plan (CEMP) has been prepared by Mirvac Constructions which will ensure that the proposed construction works will be undertaken in a manner that minimises impacts to surrounding residents and that is safe to pedestrians, cyclists and vehicles.

The CEMP contains a specific section in relation to Rail Corridor Management. Full time on-site supervision will be provided by geotechnical engineers during and after excavation works so as to ensure the structural integrity of the RES.

Traffic & Transport

Due to the close proximity of the site to a major public transport node, the proposed development provides a lower rate of on-site parking than the maximum stipulated within the Willoughby DCP. The use of sustainable forms of travel will be encouraged by the provision of bicycle parking and the preparation of a Sustainable Travel Plan that will be issued to owners of the apartments and commercial/retail spaces of the building. The proposal complies with both the Council and the Departments objective of reducing on-site parking in areas which are in close proximity to a major public transport node.

The proposal is not expected to have any unacceptable impacts on the operation of the surrounding road network and will have a lesser traffic generation rate than that of the commercial development previously approved on the site. All vehicles will be able to enter and leave the car parking in a forward direction and the proposed basement design will comply with the relevant Australian Standards.

Sustainable Development

The proposed development complies with the requirements of the BASIX rating tool and Section J of the BCA. The proposal includes the following sustainable design features:

- Rainwater capture and reuse for toilet flushing and irrigation;
- Installation of energy efficient fixtures and fittings;
- Use of high performance thermal materials;
- Centralised solar (gas boosted) hot water system;
- Centralised cooling system;
- Use of CO monitors and time clocks on common area ventilation;
- Use of motion sensors, zoned switching and time clocks for lighting in common areas; and
- Installation of shading screens.

Wind Assessment

The proposal is not expected to generate any adverse wind impacts on the pedestrian environment. Wind mitigation measures which are incorporated into the design of the building include the podium form, impermeable balconies and screens and louvres to balconies. Non-deciduous trees will also be planted within Railway and Help Streets. A setback is provided to the tower above the podium which aids in reducing wind pressure at ground level.

Solar Reflectivity Analysis

All facade glazing and materials will have a normal specular reflectivity of visible light of 20 percent or less. The proposed development will not generate any adverse glare that would impact on drivers, pedestrians, train drivers or surrounding dwellings and commercial buildings.

Drainage

The proposal includes on-site detention and water retention tanks and complies with the requirements of the Willoughby DCP.

Consultation

The proponent has undertaken consultation with representatives of the surrounding landowners, the local council, the Department of Planning, the Chatswood Chamber of Commerce and the local MP.

Conclusion

The proposed development is expected to provide the following public benefits:

- Construction of 304 new residential dwellings within a highly accessible location which cater for a range of household types;
- Creation of up to 250 new operational employment opportunities within the Chatswood Town Centre and up to 1,500 jobs during construction;
- Provision and embellishment of 3,371m² of new publicly accessible open space;
- Development of high quality design building on what is currently a vacant site that detracts from the Chatswood Town Centre and completion of the Pacific Place Precinct; and
- Payment of Section 94 contributions, subject to an off-set for ongoing maintenance of the publicly accessible open space.

In light of the above public benefits that will be delivered and in the absence of any adverse environmental impacts, the proposal is recommended for approval.

1.0 Introduction

This Environmental Assessment Report (EAR) is submitted to the Minister for Planning pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This is to fulfil the Environmental Assessment Requirements issued by the Director General for the preparation of an Environmental Assessment for a mixed use residential / commercial building at 7 Railway Street, Chatswood.

The report has been prepared by JBA Urban Planning Consultants Pty Ltd, for the proponent, Mirvac Projects Pty Limited and is based on design information provided by Mirvac Design and supporting technical documents provided by the expert consultant team.

This EAR describes the site, its environs and the proposed development, and includes an assessment of the proposal in accordance with the Director-General's Environmental Assessment Requirements under Part 3A of the EP&A Act. It should be read in conjunction with the information contained within and appended to this report.

A photomontage of the proposed development is provided in **Figure 1** below and architectural drawings are included at **Appendix A**.



Figure 1 – Indicative image of proposed building as viewed from the Pacific Highway looking south down Railway Street
Source: Mirvac Design

1.1 Planning History

The Pacific Place Masterplan development was approved as a staged development application under consent 1999/1812 (Masterplan Consent) on 12 February 2001 (see **Figure 2** below). The Masterplan consent approved six buildings across the site with a gross floor area of 99,965 square metres which included:

- 26,460 square metres of commercial office space (Building G – now known as 7 Railway Street),
- 870 square metres of retail space across the site,
- 548 residential apartments,
- A public precinct of 5000 square metres (adjacent to 7 Railway Street), and
- 1,139 car parking spaces.

As can be seen in **Figure 2**, a commercial tower was approved in the same general location where the residential building, the subject of this EAR, is now proposed. The commercial tower has not been built and the site remains vacant.

The Masterplan consent required the submission of separate development applications for the erection of each of the six building and the construction of associated works. Residential Buildings “B to E”. “Cambridge”, “Altura” and “Epica” were each granted subsequent development consent. The buildings have been constructed and are occupied.

The commercial tower is the subject of development consent No 2001/0600 which was granted on 20 January 2002 for the “Construction of a 21 storey commercial office building, retail shops, restaurant, basement car parking, and landscaped public precinct.” The development consent has been the subject of several modification applications relating to refinement of car parking, storm water detention, design changes to improve the relationship between the building and the public space and updates to the external façade, and to enable the subdivision of the site accommodating the commercial tower. The building was originally approved to a height of RL 189 but was reduced to a height of RL179 during one of the modification applications.

The application has been activated and remains operational.

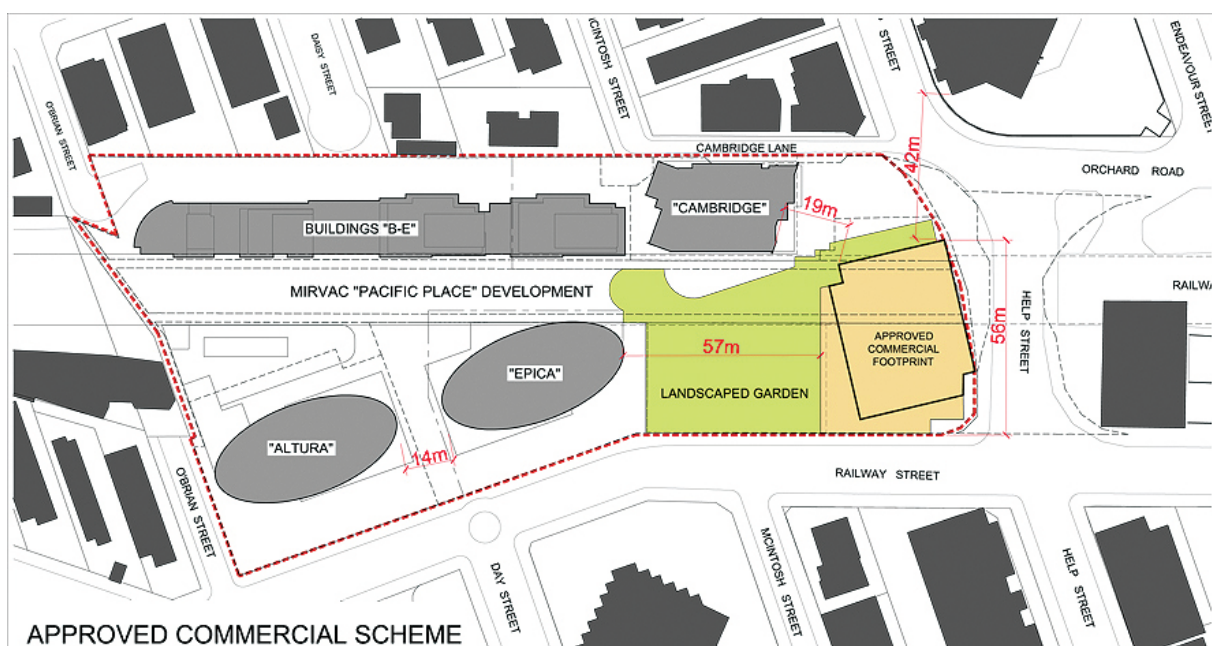


Figure 2 – Pacific Place Masterplan
Source: Mirvac Projects Pty Limited

1.2 Project Team

An expert project team has been formed to deliver the project and includes:

Proponent / Project Manager	Mirvac Projects Pty Limited
Architects	Mirvac Design
Urban Planning	JBA Urban Planning Consultants
Landscape	Aspect Studios
Quantity Surveyors	Mirvac Construction Pty Limited
Geotechnical / Contamination	Douglas Partners
Structural / Civil Engineering	Opus
Electrical / Telecommunications	Webb Pty Limited
Stormwater / Hydraulics	AECOM
BASIX	Vipac Pty Limited
Traffic and Transport	Colston Budd Hunt & Kafes
Mechanical	Shelmerdine Pty Limited
Fire Safety	DP Consulting Group Pty Limited
Accessibility	Morris Goding Pty Limited
Community Consultation	Elton Consulting
Surveyor	Denny Linker Pty Limited
Wind / Reflectivity	Windtech Consultants Pty Limited
Solar Access / Natural Ventilation	Windtech Consultants Pty Limited
Acoustic and Vibration	Renzo Tonin Pty Limited
Electrolysis	Cathodic Protection Services
Waste Management	JD McDonald
Vertical Transportation	Arup
BCA Consultant	McKenzie Group Consulting Pty Ltd

1.3 Environmental Assessment and Approvals Process

State Environmental Planning Policy (Major Development) 2005 (the Major Development SEPP) identifies development to which Part 3A of the EP&A Act applies, and for which the Minister is the consent authority. Clause 6 of the SEPP states that development, which in the opinion of the Minister is development of a kind referred to in Schedule 1 (Classes of Development), is declared to be a project to which Part 3A applies.

Clause 13 of Schedule 1 of the Major Development SEPP states that development for the purpose of residential, commercial or retail projects with a capital investment (CIV) of more than \$100 million are classified as Major Development to be assessed under Part 3A of the EP&A Act. The proposed development will have a CIV of more than \$100 million (Refer to the QS Certificate at **Appendix B**).

In accordance with Section 75B of the EP&A Act, and Clause 6 of the Major Developments SEPP, in July 2009 Mirvac Project Pty Limited requested that the Minister:

- declare the proposed mixed use development to be a Major Development subject to Part 3A of the EP&A Act; and
- issue environmental assessment requirements for the Project Application.

On 18 September 2009 the Minister declared that the proposal met the mandatory criteria under the Major Development SEPP and is a Project to be determined under Part 3A of the EP&A Act.

Following the above declaration, the Director- General issued his requirements for the assessment of the Project dated 10 November 2009 (Refer **Appendix C**). With regards to the proposed land use, the following requirements were issued:

“The EA shall address the relevant metropolitan, regional and local strategies in relation to the desired future mix of land uses, and provide justification for the amount of residential floor space being proposed. In this regard, it is considered that the development should provide a substantial component of commercial floor space.”

Subsequent to the receipt of the above requirements, Mirvac Projects Pty Limited requested further clarification as to what constitutes a ‘substantial component of commercial floor space’. The Deputy Director- General responded by letter dated 31 March 2010 (a copy is included at **Appendix D**) with the following:

“The Department has considered the context within which the subject DGR is to be considered and is satisfied that a commercial development comprising 3,600m² to 4,000m² would meet this requirement.

In reaching this conclusion, the Department has considered the current supply and demand trends evident in the Chatswood Town Centre and a quantum of 3,600m² to 4,000m² of commercial floor space would make a substantial contribution to office jobs growth in the Chatswood Centre to 2031 (estimated at up to 50% of the likely jobs growth) and also increase the amount of new office stock which has remained static over a considerable period of time.”

2.0 Site Analysis

2.1 Site Location and Context

The site, 7 Railway Street, is located within the Chatswood Town Centre, adjacent to the North Shore Railway Line. Chatswood CBD is a mixed use centre located approximately 8km north of the Sydney CBD (see **Figure 3**), well serviced by public transport with a central business / retail area of approximately 3 square km.

The site is located within walking distance of the Chatswood Railway Station and the main Chatswood Retail Precinct including Westfield Chatswood and Chatswood Chase shopping centres as shown in **Figure 4**. It is also in close proximity to several regional parks and day to day services such as schools, day care centres, entertainment facilities such as cinemas and restaurants, medical centres and the like.

2.2 Site Description

The site is legally described as Lot 6 in DP 1058962. It has been in the ownership of Mirvac Projects Pty Limited since 2000. A survey plan of the site has been prepared by Denny Linker and is included at **Appendix E**.

As can be seen from the site plan at **Figure 5**, the site is bounded by Railway Street to the west, residential development to the north and north-east and Help Street to the south and south-east. **Figure 5** also shows that the site straddles either side of the North Shore Railway Line and that a portion of the site is located above the Railway Enclosure Structure (RES). Access to the portion of the site on the RES is obtained via a public lift associated with the Cambridge building. Photos of the site are provided in **Figures 6 to 8**. The lift providing access to the top of the RES is shown in **Figure 9**.

The site has an area of 5,148.5m² and is vacant following the clearance of all structures which were demolished in 2002 in preparation for the construction of the commercial tower which was approved on the site but never built. However for the purposes of calculating floor space, the site is described as having an area of 4,913m². This is because the application for the construction of the Epica and Altura developments included the accessway in the site area (approximately 245.5m²) for the application and for the purposes of calculating floor space for the Epica development. It has therefore been excluded so as to prevent 'double dipping' for the purposes of calculating floor space ratio.

A through site pedestrian link has been constructed on the site underneath the RES which is shown in **Figure 10**. This link connects the eastern and western portions of the site at ground level.

The site slopes downwards towards the south from RL97.74m to RL95.05m, falling approximately 2.5m across the site. The site also has a slope from the west down to the east, falling 1.9 to 2.1m from RL95.3 at the western boundary to RL93.4m at the eastern boundary.

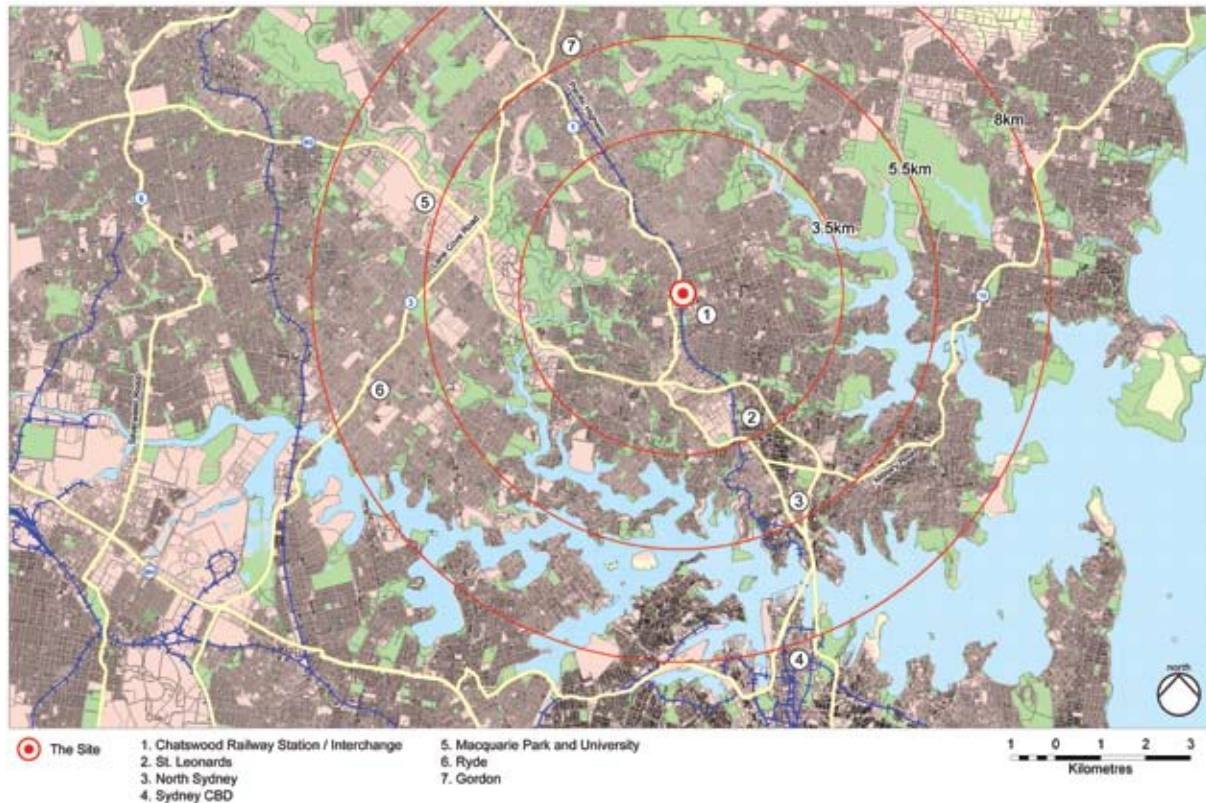


Figure 3 – Location of Chatswood within the Sydney Metropolitan Area



Figure 4 – Chatswood Key Landmarks



Figure 5 – The site



Figure 6 – The site as viewed from Railway Street looking south-east



Figure 7 – The site as viewed from Railway Street looking north-east at the intersection of Railway and Help Streets



Figure 8 – The site as viewed from Help Street looking north-west with the Zenith Towers in the background



Figure 9 – Lift providing public access to the RES



Figure 10 – Existing through site link under the RES

2.3 Property Affectations

The site is affected by a number of easements of particular interest to this application are:

- Easement (N) – “Right of Access Variable Width”
 - Allows residents of Epica access across the subject site to their waste storage and collection area.
- Easement (R) – “Easement for Public Access”
 - Allows for public access to the proposed park areas to the west and east of the RES and to the northern portion on top of the RES.
- Easement (W) – “Easement for Lateral Drive”
 - Allows public access through the RES.

A plan highlighting all of the property affectations is included at **Appendix F**. It is noted that Easement (R) only comes into effect on the issuance of the occupation certificate for development consent 20010600.

2.4 Surrounding Development

North

To the immediate north of the site are two residential flat buildings known as Altura and Epica (shown in **Figure 11**). Altura is a 25 storey (RL175m) building containing 137 apartments and Epica is a 32 storey (RL193m) building containing 221 apartments. The buildings sit upon a combined basement which is accessed via an entryway positioned between the two buildings. A second entrance is provided along the southern boundary of the Epica building which provides access to the waste storage and service areas for Epica. The entrance to the waste storage area is shown in **Figure 12**.



Figure 11 – Epica (foreground) and Altura (background)



Figure 12 – Vehicular access to Epica waste storage area

East

To the north-east of the site is a residential building known as Cambridge (Figure 13). Cambridge is a 25 storey building rising to a height of RL169.8m and containing 132 apartments. Several retail tenancies are provided at the ground level of the building and a childcare centre is provided at Level 4. Access to the childcare centre is via a public lift at the southern end of the site.

To the immediate east of the site a small public plaza of approximately 528m² (excluding the substation) which was delivered by Mirvac as part of the Cambridge development. The plaza is shown in Figure 14.



Figure 13 – Cambridge as viewed from Help Street



Figure 14 – Public Plaza located in front Cambridge

South

On the opposite side of Help Street is a commercial development known as 'Chatswood Central' or 1 – 5 Railway Street (**Figure 15**). The development comprises two commercial towers, the northern tower which is located opposite the site is a 12 storey commercial building. At the podium level of the building is a restaurant and a food court which is currently undergoing refurbishment.

Further south of the Chatswood Central development is Chatswood Railway Station which has recently been upgraded. Project approval has been granted for the construction of three residential towers above the station. The tallest of the three buildings will rise to a height of RL 263.8m (top of roof feature) while the second building will have a height of RL 249.3m (top of roof feature) and the third RL201.3m (top of roof feature). A total of 509 apartments will be provided within the three buildings. A photomontage of the approved residential buildings is provided at **Figure 16**.

On the eastern side of the station is the main pedestrian plaza, known as Chatswood Mall, which is associated with the main retail core of the CBD. The plaza is currently being upgraded by Willoughby Council with new paving and landscaping. The landscape plan for Chatswood Mall is shown in **Figure 17**.



Figure 15 – Chatswood Central development as view looking south down Railway Street



Figure 16 – A photomontage of the Chatswood Railway Station residential towers
Source: Cox Richardson

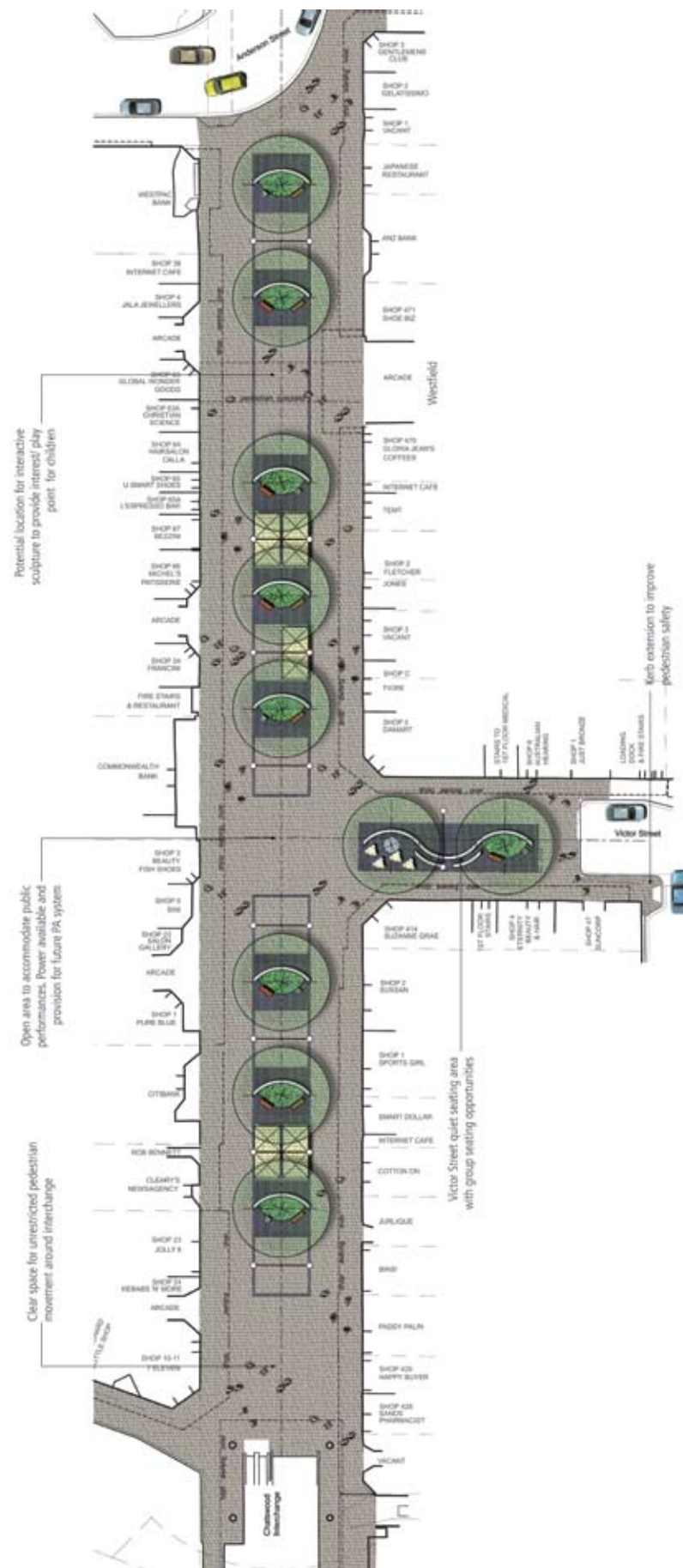


Figure 17 – Landscape Plan showing the works being undertaken at Victoria Mall
Source: Willoughby City Council

West

To the north-west of the site is the Zenith Tower commercial development which is formally known as 821 Pacific Highway, Chatswood however the main pedestrian entrance to the building is located on Railway Street. The development comprises two commercial towers rising to heights of up to RL193m. At the base of the development are several retail tenancies and a childcare centre is located above the podium on the Railway Street frontage. The development also contains a theatre which regularly holds theatre productions and meetings of community groups. A photo of the development as viewed from Railway Street is provided at **Figure 18**.

To the west of the site on the corner of Railway and Help Streets are an 8 storey commercial / retail building accommodating several restaurants and smaller commercial tenancies which is shown in **Figure 19**. Immediately north of that building is a two storey brick commercial building also shown in **Figure 19**.



Figure 18 – Zenith Tower development to the north-west of the site as viewed from Railway Street



Figure 19 – Commercial buildings to the west of the site as viewed looking towards the south-west

2.5 Summary of Site Opportunities and Constraints

The site presents the following opportunities:

- Large site area able to accommodate a commercially viable mixed use residential / commercial building footprint;
- Vacant with no existing structures requiring demolition;
- Close proximity of major public transport nodes, including Chatswood Railway Station and Chatswood Bus Interchange;
- No vegetation requiring protection on the site;
- No heavy contaminants present on the site;
- Prominent corner location; and
- Strong residential market in Chatswood CBD.

The follow constraints have been identified:

- North Shore Railway line bisects the site, requiring specific design responses in relation to structural design, acoustics and vibration;
- Victoria Mall is located to the south-east of the site thereby requiring consideration of overshadowing impacts;
- Weak commercial market conditions in Chatswood CBD and more broadly in Sydney's regional centres; and
- Taller development to the north and north-west overshadows the site during certain periods of the day.

3.0 Proposed Development

This section of the report provides a detailed description of the proposed development. It should be read in conjunction with the architectural plans at **Appendix A** and the landscape plans at **Appendix G**. In summary the following is proposed:

- Excavation of part of the site to the west of the North Shore Railway Line;
- Construction of a 7 level basement comprising:
 - 395 car parking spaces;
 - 16 motorcycle parking spaces;
 - 2 loading spaces (accommodates 2 x 8.8m truck);
 - Residential bicycle parking;
 - Residential storage;
 - Residential facilities including pool and gym;
 - Commercial bicycle parking, lockers and shower facilities; and
 - Plant room.
- Construction of a 43 storey mixed use residential, commercial and retail building comprising:
 - 304 apartments (35, 214m² Gross Floor Area (GFA));
 - 3,810m² commercial GFA; and
 - 140m² retail GFA.
- Construction of public and private open space, including embellishment of areas to the east and west and on top of the Railway Enclosure Structure (RES); and
- Stratum subdivision of existing lot into two stratum lots and strata subdivision of the residential stratum.

3.1 Design Objectives

As outlined in the design statement prepared by Mirvac Design (**Appendix H**) the proposal has been designed to achieve the following design objectives:

- Respond to the location and character and scale of the site;
- Provide high quality public and private open space;
- Provide for activation of the ground plane;
- Provide passive security of the public and private open space;
- Provide an appropriate active commercial edge at street level;
- Achieve an appropriate relationship with other buildings on the site and neighbouring sites in terms of separation, height, setbacks, amenity, and use of materials and urban form;
- Provide amenity for residents and neighbours;
- Reinforce the skyline profile of the Chatswood City Centre;
- Carefully address the east and west walls of the railway enclosure structure; and
- Build upon and enhance the principles set out in the masterplan.

3.2 Numerical Overview

Table 1 provides a numerical overview of the proposed development. The calculations have been undertaken in accordance with the Standard Instrument Template definitions where relevant.

Table 1 – Numerical Overview of the Development

Key Issue	Proposal
Area within Site Boundary	5,148.5m ²
Site Area for purposes of calculating Floor Space Ratio*	4,913m ²
Gross Floor Area	39,164m ²
Floor Space Ratio	8:1
Land Use Mix and Area:	
- Residential	35,214m ² (90%)
- Commercial	3,810m ² (9.5%)
- Retail	140m ² (0.5%)
Apartment Mix:	
- 1 bedroom	75 (25%)
- 2 bedroom	129 (42%)
- 3 bedroom	100 (33%)
Total	304
Height:	
- Storeys	43 (including plant level)
- Metres (AHD)	RL231
- Metres above ground level	135.3m
Parking Spaces	395 (including 31 accessible spaces)
Cycle Parking:	
- Motorcycle	16
- Bicycle	38 bicycle lockers and 29 bicycle racks
Landscaped Area:	
- Publicly Accessible Open Space	3,371m ² (69% of site area)
- Private Open Space	622m ² (13% of site area)

*Shared access with Epica excluded from site area for purposes of calculating FSR so as to prevent 'double dipping', refer to Section 2.2

3.3 Gross Floor Area and Land use

The proposed building has a Gross Floor Area (GFA) of 39,164m². The predominate use of the building will be residential, however retail floor space is proposed at ground floor to activate the street frontage and commercial space is provided within the podium. The use and GFA of each level of the building is provided in **Table 2**.

Table 2 – Land Use and Gross Floor Area by Level

Level	Use	Gross Floor Area per level (m ²)
Basement 2 – 7	Parking / Residential storage / Plant	0
Basement 1	Service / loading spaces Waste storage Commercial / retail shower/toilet bicycle parking	0
Level 1 (ground level)	Commercial and Residential Lobbies Retail tenancies Residential swimming pool and gym	575
Levels 2 – 4	Commercial	1,245
Level 5	Residential	920
Levels 6 – 14	Residential	954
Levels 15 – 24	Residential	913
Level 25	Residential / Plant	748
Level 26 – 42	Residential	910
Level 43	Plant	0

3.4 Building Height and Massing

The proposed building has an overall building height of RL231m AHD. The building comprises 43 storeys with upper most level accommodating building plant.

In terms of building massing the proposed tower design has been modulated by way of the provision of a podium and the splaying of the facades of the tower component as described below.

Podium

The podium of the proposed building is aligned to the street creating a clearly defined edge and base to the building. At the ground plane the footprint pulls in providing for a covered colonnade varying from 2 to 5 metres in depth and with heights from 3.8 to 5 metres.

The podium provides commercial floorplates of approximately 1,200m² GFA providing a minimum 3,600m² GFA in total, which will receive a high level of natural daylight. The floor plate is flexible and can accommodate a number of different tenancy configurations. The strata subdivision of the commercial floor plates will be the subject of a separate application.

Tower

The tower is composed of 3 changes of floor plate to provide diversity of apartment types and sizes. The changes in the floor plates are articulated in the elevations. The Architect describes the tower as comprising the following five elements:

1. The angled faces;
2. The pop outs on the southern façade;
3. The solid vertical elements with staggered openings;
4. The balconies; and
5. The roof element.

The southern end of the building is angled to the north, on the east and west sides. The glass lines follow the balconies stepping out to catch the sun. The balcony on the north-west corner unit is angled past the north-east balcony to achieve views to the ocean on the upper levels. The angled faces create a dynamic prow form when viewed from the north. The crease also serves to break down the east and west façades with a change of direction.

Pop outs are positioned on the southwest (levels 5 to 14) and southeast (levels 26 to 43) corners of the building. This has the effect of stepping the mass back from the corner of Railway and Help Streets over the podium as well as creating a sculptural roof feature which is fully integrated into the massing of the building. These elements of the design help to articulate the corner elements of the building as well as adding layering to the building, which further breaks up the massing of the building.

The solid elements on the façade are vertically modulated with staggered windows creating a dynamic textured fabric. This element creates a contrast with the horizontal modulation created by the slab edges and balcony up stands and creates vibrant and highly articulated facades.

The balconies of the proposed building further articulate the facades. They are defined by the slab edges, up stands and glass balustrades. Screening and shutters will provide protection from the sun and the wind.

The building occupies an important position both as a natural gateway into the centre of Chatswood and as a prominent addition to the highly visible skyline of Chatswood. The façade steps out on the southeast corner wrapping up and over concealing the plant room and lift overruns. This creates a distinct sculptural roof feature integrated into the massing of the building as per the requirements of the DCP and precinct Masterplan. This also acts as a marker at the corner of Railway and Help Streets signifying its role in the urban fabric.

3.5 Building Setbacks

The proposed building will have the following setbacks from Railway and Help Street:

- **Railway Street**
 - Ground Level: varies approximately 2.4m to 5.1m
 - Podium: built to the boundary except at the corner due to curve
 - Above podium: varies from approximately 3.5m to 5.6m, 600mm at curved corner on levels 5 to 14
- **Help Street**
 - Ground Level: varies approximately 1.5m to 3m
 - Podium: built to the boundary except at corner due to curve
 - Above podium levels 5 to 14: varies approximately 1.07m to 3.26m, 600mm at curved corner on
 - Above podium levels 15 to 25: varies approximately 1.58 to 4.6, 1.47 at curved corner
 - Above podium levels 26 to 43: varies approximately 1.02 to 4.6, 1.47 at curved corner

With regard to the RES, the building has been setback the following distances:

- 10.05m – Basement levels 6 and 7
- 0.75m – Basement level 5 up to basement level 3
- 0.75m – Basement level 2
- 1.7m up to 3.12m – Basement level 1
- 0.83m – Levels 1 to 4

(Note: Dimensions below are taken from RES wall, not RES piles, minus 700mm if dimension is required from RES piles)

From levels 5 to 43 the balconies of the eastern facing apartments will cantilever over the RES by up to 2.4m. It is noted that some of the balconies facing the railway line will be screened so as to prevent objects from being thrown onto the railway line. The balconies which have been screened are in accordance with the agreement reached with RailCorp (Refer to meeting minutes prepared by Mirvac Projects Pty Ltd at **Appendix I**).

3.6 External Materials and Finishes

The following external materials and finishes are proposed:

- Painted masonry;
- Clear float glass;
- Performance glass to the commercial floors and lobbies;
- Powder coated aluminium balustrades and window frames; and
- Powder coated aluminium louvres.

With regard to the proposed colour of the building the architect has stated the following:

"It is intended that the solid elements of the building including balcony up stands are a cool white. This colour has been chosen to enhance the contrast when viewed against the glass of the balconies and staggered window openings. It will also articulate the forms by the creation of shadow which will act as a second shade on the facades.

This will compliment the complex massing and enhance the textural qualities of the openings allowing for an elegant yet dynamic architectural expression. The balustrades and screens will be a silver toned colour."

A materials sample board and model have been submitted under separate cover.

3.7 Public Domain

Aspect Studios has prepared a landscaping scheme for the project. The landscape plans are included at **Appendix G** and the different aspects of the proposal are described below.

The public domain has been designed to create a 'meandering collection of discovery spaces and separate social break-out spaces' for office workers, visitors and residents. Sustainability has been a key consideration in the design of the public domain influencing the materials and plants chosen.

Help Street Plaza (Eastern Plaza)

This section of the public domain comprises the eastern facing wall of the RES and the adjoining public plaza area on Help Street. A raised passive recreation platform is located to the south of the pedestrian tunnel which will comprise lawn and permeable paving providing seating opportunity. A 1:20 ramp provides access to the upper grassed seating area. To the south of the seating area is a low lush garden which provides a buffer from Help Street.

A planting bed will be positioned along the base of the eastern facing wall of the RES which will support a row of vigorous twining climbers that will climb up a fabricated support structure sitting off the face of the wall. This will provide a 25m wide seasonally changing display, forming a dramatic backdrop to the public plaza. Climbers are the preferred design option as they will provide the greatest deterrent to graffiti. The eastern plaza is shown in **Figure 20**.

Railway Street Public Open Space (Western Plaza)

The principal place of public open space is described as the 'Western Plaza'. The plaza will comprise a lower plaza which is generally level and provided with seating and planting. As you move eastwards into the space it begins to rise upwards into a variety of terrace spaces eventually leading to a final steel stair ascent up to the RES structure. The terraces will be masonry in construction and will provide a variety of colours and textures which will be determined during the detailed design of the project.

The journey will be complemented by a variety of plant groupings changing in texture, form and colour as you move through the site. The selection will largely comprise native species but all specimens will be selected for their ease of care, hardiness, low water requirements and be safe for park users.

The west facing wall of the RES will be treated similar to the east facing wall with a mass planting of vigorous colourful twine varieties as shown in **Figure 21**.



Figure 20 – Eastern Plaza
Source: Aspect Studios



Figure 21 – Western plaza
Source: Aspect Studios

Open Space above RES (Upper Plaza)

The upper plaza is divided into a publicly accessible open space area (northern component) and a private open space area (southern component) however the overall design will appear unified from the buildings overlooking the space.

Northern Portion

The public open space will be directly accessible from the western plaza and also the lift associated with the Cambridge development. The space will comprise a number of smaller social spaces to sit which will be accessed via a variety of timber and paved paths. The spaces are situated to benefit from varying seasonal conditions. The general ground plane is 0.4m above the roof height of the RES with some additional rendered block raised planter beds to enhance a sense of enclosure to some areas when seated.

To the east of the north portion of open space is the existing Sandcastles Child Care Centre in Cambridge. The childcare centre will be separated from the open space by an existing palisade fence.

Whilst this space is nominated as being publicly access in accordance with the request of Willoughby Council, Mirvac Project Pty Limited and several residents of the existing buildings within the Pacific Place development have identified that this poses a serious safety risk and question whether or not public use of this is the best outcome. This issue is discussed further in the safety and security discussion at Section 5.7 of this report.

Southern Portion

The southern portion of the RES will comprise a communal open space area for residents of the building. It is set out with extensive lawn and BBQ deck areas with planting continued from the northern area. A 1.8m palisade fence will separate the two areas of open space with gates provided so that residents can access the public open space.

Uncovered Rail Corridor

The existing barrier to the southern edge of the RES will be retained so as to meet pedestrian bridge over rail line standards. To further discourage people from congregating near the southern edge of the structure, paths and recreation areas have been setback from the boundary between 3.5m and 6.7m and vegetation will be planted in the setback zone (see **Figure 22**).

Pedestrian Connection

The pedestrian through site link connects the eastern and western plazas at ground level. The space will be hard paved and well lit so as to provide safety and visibility. In order to maintain safety and security, the link will be closed at night.

Public Art / Interpretative Elements

The proposed vine structures on the eastern and western facades of the RES have been designed such that they will appear as rail tracks, thereby interpreting the railway line that the RES encloses.

In preparing the design of the spaces, the landscape architects have also been cognisant that many of the surrounding residents will be looking down over the space. The proposed scheme therefore proposes a mosaic design which will appear attractive to not only those using the space, but also the residents looking down over the space.

The unique composition, colours and textures incorporated into the landscape design make the public open space a 'public art' contribution in itself.

Maintenance

The landscaped areas, whilst publicly accessible will be maintained by building management of 7 Railway Street. A commitment has been made at Section 6 of this report which requires the preparation of a maintenance manual prior to the issue of a final occupation certificate.



Figure 22 – Proposed landscaping above RES
Source: Aspect Studios

3.8 Access and Transport

Vehicular Access

Vehicular access to the basement is to be provided through an existing driveway entry already built on the site which, through an access easement, also provides access to the service and loading bay area of the adjacent Epica building. As shown on drawing PA1007 (**Appendix A**) a new entrance will be made in the southern elevation of the Epica podium to provide access into the proposed basement of the building.

The driveway to the Epica service and loading bay was designed to enable access to the future 7 Railway Street development and as part of the construction of the basement for 7 Railway Street, there will be a requirement to remove a temporary wall which was installed in the Epica service and loading bay area, in order to create the access to the basement of 7 Railway Street.

Pedestrian Access

Pedestrian access to the building will be provided by way of lobby areas on the ground floor level of the building. The residential lobby is located on the northern elevation of the building so as to provide surveillance and activation of the public open space 24 hours a day.

The commercial lobby entrance is provided on the Railway Street façade so as to give as much exposure as possible to the commercial tenancies.

Separate lift cores will service the commercial and residential components of the building. The commercial lift core will service Basement Level 1 up to Level 4, whilst the residential lift will service all of the levels of the building except commercial levels 2, 3 and 4. As outlined in the statement provided by Arup at **Appendix J** the lifts will comply with the relevant Australian standards.

Parking Spaces

A total of 395 parking spaces and 16 motorcycle parking spaces are proposed. Residential parking spaces are located on Basement level 2 down to Basement Level 7. Commercial, retail and residential visitor spaces are located on Basement Level 1.

The above spaces include 31 adaptable spaces which will be allocated to the adaptable apartments within the building during the strata subdivision of the building.

Servicing

A loading area is proposed on Basement Level 1 which can accommodate two 8.8m long trucks (Council Garbage Truck). The head height clearance of the service area is dictated by the existing clearance provided into the Epica service area which is 3.5m. All vehicles will be able to enter and exit the site in a forward direction.

Bicycle Facilities

29 bicycle parking rail/racks and 38 bicycle lockers are provided for residents and commercial employees on Basement Level 1. Separate shower facilities are also provided for employees of the commercial tenancies in an area adjacent to the cycle parking.

3.9 Waste Management

A Waste Management Plan has been developed by JD MacDonald Waste Management Consultants (**Appendix K**), which ensures full compliance with the provisions for waste management and minimisation in the Willoughby Development Control Plan 2006, relevant Australian Standards, the Building Code of Australia and other industry guidelines. Waste generation rates have been calculated according to the formula outlined in the WDCP 2006, and these projections have been used to develop the waste storage areas for the project.

It is proposed that a Waste Caretaker be employed on a full-time basis with provisions for a part-time position to also be filled for weekends, public holidays and in lieu of the full-time position during annual leave periods. The caretaker's duties will include general maintenance and cleaning of garbage rooms, and storage areas, sorting recycling, coordinating waste collection and collecting residential recycling from the garbage chute intake rooms. A waste compaction apartment will be utilised for residential waste, and will operate at a 3:1 compaction ratio.

Residential apartments will be serviced by a centrally located garbage chute for general waste, with a chute intake room on each residential level. This chute will discharge into an automatic compaction apartment located in the residential garbage rooms on Basement 1, and then for storage into twenty-four (24) 240L mobile garbage bins.

In addition to general waste, two recycling containers will be located in the garbage chute intake rooms on each residential level, and these will be emptied as required by the waste caretaker into thirty-eight (38) x 240L mobile bins located in the garbage room on Basement 1. A nominated private waste contractor will be responsible for the collection of residential waste and recycling, with twice-weekly collection of general waste and recycling.

Retail and commercial tenants will be responsible for storing their waste and recycling in-house until the end of the day, when they will be required to transport the waste to the garbage containers in the dedicated commercial and retail garbage room on Basement 1. Garbage will be stored in the garbage room using four x 240L general waste bins and four x 240L recycling bins. Commercial and retail waste and recycling will be collected by a nominated private waste contractor via the loading dock on Basement 1 at least twice per week for commercial waste and every three to six days for retail waste.

3.10 Utilities and Services

Hydraulic

Aecom Australia Pty Limited has been appointed to design the hydraulic services for the project (refer **Appendix L**). They have confirmed that the services will be designed in accordance with normal engineering practices and the BCA. The design of services will also be in accordance with:

- AS 3500 - National Plumbing and Drainage Code;
- AS 2419 - Fire Hydrant installations;
- AS 2441 - Fire Hose reels;
- AS 5601 - Gas Installations; and
- Relevant Willoughby Council Development Control plans.

Electrical Services

WEBB Australia Consulting Engineers (Webb) (see **Appendix M**) has contacted Energy Australia who confirmed that a new substation is required to meet the demand of the new development. A space for the substation is shown on drawing PA 1008 at **Appendix A**.

Telecommunication and television services are already supplied in the area and will be available to the development.

Fire Services

DP Consulting Group Pty Limited has informed the design process in relation to fire services. As outlined in their report at **Appendix N**, the following fire systems will be required:

- Sprinkler protection throughout to BCA E1.5,
- Emergency warning intercom and evacuation system to BCA 4.9,
- Fire alarm control and indication system to BCA E2.2, and
- Fire extinguishers to BCA table E1.6.

Mechanical Services

Shelmerdines Consulting Engineers (See **Appendix O**) has reviewed the proposed design and confirms that the building will be constructed in accordance with:

- Australian Standards AS1668.1:1998, AS1668.2:1991 & AS3666.1
- BCA, Parts E2.2, & NSW F4.5(b), Section J Clause J3.5, Part J5 and NSW Clause J8.2

The car park ventilation will be designed in accordance with AS1668.2:2002, as an alternate solution, to reduce fan energy consumption.

The mechanical services design will also include the following initiatives to minimise energy consumption:

- The apartments will be air conditioned via reverse cycle, water cooled, package apartments, in a day/night zone arrangement.
- The car park ventilation fans shall be controlled via variable speed drives and a CO/NO2 monitoring system.
- Cooling tower fans and condenser water pumps shall utilise variable speed control.

3.11 Signage

No high level signage is proposed. Under awning signage which identifies the lobbies and retail spaces will be the subject of a separate application.

3.12 Subdivision

Stratum Subdivision

Denny Linker has prepared stratum subdivision plans for the development which are included at **Appendix P**. It is proposed that the commercial/retail and residential elements of the building will be subdivided into separate stratum lots.

In lieu of Easement (R) which currently exists on the title, Easement 1(D) will be created allowing for public access to the parks to the west and east of the RES and to the north portion on top of the RES.

A draft management plan is also included at the same Appendix which outlines the following:

- Composition and Operation of Building Management Committee and Managers
- Shared Facilities and Special Areas, including garbage rooms, car wash bay, common access ways etc
- Maintenance, Repair and Upgrade and Architectural Code
- Financial Matters
- Dispute Resolution and Notices

Strata Subdivision

It is also proposed to strata subdivide the residential apartments. The strata subdivision plans are included at **Appendix Q** and are accompanied by a draft strata management statement.

3.13 Building Code of Australia

McKenzie Consulting Group has undertaken a preliminary assessment of the proposal compliance with the Building Code of Australia (BCA) (**Appendix II**). They note that alternative solutions will be required.

McKenzie Consulting Group note that the documentation will need further detailing regarding architectural design specifications, service design and the like, however these matters can be suitably assessed at the Construction Certificate stage and are not expected to have a material affect on the design of the building.

3.14 Section 94 Contributions and Public Benefits

Mirvac Projects Pty Limited proposes to pay Section 94 contributions for the project in accordance with Willoughby Council's Section 94 Plan. At the time of writing this report (July 2010), the proposed development is estimated to generate a total contribution of approximately \$3.86 million. **Table 3** outlines a breakdown of the contribution rates under each of the Section 94 plans applying to the site.

Table 3 – Estimated Section 94 Contributions

Contribution Plan	Contribution Generated by the Proposal
Open Space, Recreation and Community Facilities	\$3,684,271.94 - \$1.1 million offset for ongoing maintenance and up keep of public open space as outlined below
Childcare	\$356,304.44
Road and Traffic / Traffic Management	\$908,921.84
Car Parking	N/A
Drainage (area estimated 4,000m2)	\$12,080.00
Sub-total	\$4,961,578.22
Total including off-set	\$3,861,578.22

Public Open Space Off-Set

In addition to the above Section 94 contributions which are payable, it is noted that Mirvac Projects Pty Limited will also be providing a significant contribution in the form of the provision and embellishment of 3,371m² of public open space. The cost of providing and embellishing the space is estimated to be \$3.12 million.

Mirvac Projects Pty Limited have offered to dedicate the public open space to Council, however Council have indicated that they do not want ownership of the land. The ongoing maintenance of the public space is estimated to be \$1.1 million and will be at the expense of the owners corporation of 7 Railway Street.

In light of this it is requested that some recognition is made of this public benefit and a reduction / offset of \$1.1 million is sought in relation to the Section 94 contributions payable under the Open Space, Recreation and Community Facilities Section 94 Plan. The offset would be used to set up a sinking fund for the owners of 7 Railway Street which will go towards the maintenance and upkeep of the public open space.

Should Willoughby City Council be willing to accept the dedication of the space no offset will be sought.

3.15 Future Applications

Future applications will be lodged for:

- Signage;
- Strata subdivision and fit out of the commercial tenancies; and
- Fit out and operation of the ground floor retail tenancies.

4.0 Planning Framework and Context

This section of the report provides an assessment of the proposal's compliance with the relevant legislation, strategic plans, Environmental Planning Instruments and Guidelines. This section should be read in conjunction with the Tables of Compliance at **Appendix R**.

4.1 Legislation

Environmental Planning and Assessment Act, 1979 (EP&A Act)

Clause 5 of the EP&A Act outlines the following objectives:

- (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,*
 - (ii) *the promotion and co-ordination of the orderly and economic use and development of land,*
 - (iii) *the protection, provision and co-ordination of communication and utility services,*
 - (iv) *the provision of land for public purposes,*
 - (v) *the provision and co-ordination of community services & facilities, and*
 - (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*
 - (vii) *ecologically sustainable development, and*
 - (viii) *the provision and maintenance of affordable housing, and*
- (b) *to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
- (c) *to provide increased opportunity for public involvement and participation in environmental planning and assessment.*

The proposed development is consistent with the objectives of the EP&A Act in that it:

- provides mitigation measures which will ensure the proper management of the development thereby promoting the social and economic welfare of the community;
- proposes the efficient and orderly use of the land;
- includes land which will be available for use as public open space;
- includes environmental protection measures which will ensure the protection of both environmental and residential amenity;
- complies with BASIX requirements and thereby provides an ecologically sustainable development; and
- provides a range of housing types and thereby a range of product for different income levels and family types.

The application will be determined by the Department of Planning however Willoughby Council will be involved by way of consultation. Public participation will be provided by way of meetings held by Mirvac Projects Pty Limited and will occur through the formal consultation process required under the EP&A Act and Major Development SEPP.

4.2 Strategic Planning

NSW State Plan

The NSW State Plan aims to support jobs and attract business investment to NSW, as well as improve quality of life in NSW's cities by providing attractive places to live, work and visit. In addition, the State Plan sets new targets and actions to increase the supply of affordable housing for low and moderate income households. Under the State Plan, the Director-General of the Department and Minister for Planning have direct responsibility for achieving these objectives.

In relation to the above, the NSW State Plan provides the following key actions:

- increase the percentage of the population living within 30 minutes by public transport of a city or major centre in Metropolitan Sydney; and
- provide capacity for 640,000 new dwellings between 2004 to 2031, including 445,000 in existing urban areas.

The proposed development will achieve the objectives as the proposed dwellings are located within the established Chatswood urban area and are within 5 minutes walking distance of the major Chatswood transport nodes. It is estimated up to 1,500 construction jobs and up to 250 new operational jobs will be created.

Urban Transport Statement

The NSW Urban Transport Statement outlines the State Government's priorities and initiatives for addressing current and future transport challenges, across and within Sydney, with a focus on passenger transport. The Statement is informed by the NSW State Plan and the Metropolitan Strategy, and compliments the State Infrastructure Strategy.

The Urban Transport Statement provides for the upgrade of a number of key transport corridors, implementation of new traffic management technologies, new bus priority program and an increase in rail capacity.

The proposed location of high density residential and commercial development in proximity to the Chatswood railway station supports the vision of the Urban Transport Statement. As does the provision of bicycle parking and the reduced provision of off-street parking.

Sydney Metropolitan Planning Strategy

The Sydney Metropolitan Strategy outlines seven key strategies for the development of Sydney over the next 25 years. The strategy sets specific targets for increasing housing and jobs in the major centres of Sydney. These targets are further detailed within the subregional strategies which form a tier of strategic planning under the Sydney Metropolitan Strategy. Compliance with the Draft Inner North Subregional Strategy is detailed below.

Draft Inner North Subregional Strategy

The Draft Inner North Subregional Strategy (Draft Strategy) provides strategic planning direction for the inner north region of Sydney. Chatswood is identified as a Major Centre under the Draft Strategy which is defined as a:

Major shopping and business centre serving immediate subregional residential population usually with a full scale shopping mall, council offices, taller office and residential buildings, central community facilities and a minimum of 8,000 jobs.

The Draft Strategy identifies Chatswood CBD as a mixed use centre located approximately 8km north of the Sydney CBD, well serviced by public transport with a central area of approximately 3 square km.

Between 2006 and 2031 it was anticipated that Chatswood would continue to develop as a key employment, retail and residential location and become a focus for cultural activities in the sub-region. Willoughby City Council is aiming to strengthen the commercial role of Chatswood to deliver an additional 95,000sqm of office space over the next 20 years. The Council has plans to strengthen the retail role of the CBD with a target increase in retail floor space of 40,000sqm. The centre has been prescribed an employment capacity target of 7,300 additional jobs by 2031.

As a major centre, Chatswood will continue to provide additional housing near the centre to cater for growth. The attraction of Chatswood as a place to live, work and visit has been enhanced through the completion of the Epping-Chatswood Interchange, and the Civic Place development scheduled for completion in early 2011, which will include theatres and other cultural facilities.

The proposal complies with the objectives and targets of the draft Strategy in that it:

- will deliver 304 new residential apartments within the Inner North subregion;
- will deliver up to 250 new operational jobs and approximately 1,500 construction jobs within the Inner North subregion;
- provides the above new dwellings and jobs within an established centre which is well serviced by public transport services;
- provides a range of housing types for different household types and income levels; and
- provides a new area of accessible open space which is available for public use.

A further discussion on the proposed land use and compliance with the employment targets is provided in Section 5.3 of this report.

Draft Willoughby City Strategy

At its meeting on 7 September 2009, Council resolved to exhibit the Draft Willoughby City Strategy (Draft Willoughby Strategy) which provides a long-term vision and plan for the future of Willoughby LGA to help guide the Council's decision making and planning for the next 15 years. The objectives outlined in the Strategy are to:

- Meet the demand for housing for an increasing population which include satisfying the housing needs for an increasingly ageing population.
- Protect local residential amenity.
- Promote well designed, ecologically sustainable development whilst maintaining the special character of neighbourhoods.
- Integrate adaptable measures into all new housing design.
- Implement affordable housing strategies.
- Provide growth in areas where housing densities are appropriate to the infrastructure and serviced and where quality living amenity for residents.
- Implement high density land uses within and around existing centres where appropriate infrastructure and services are located.
- Support and promote Willoughby as a major employment location, a place of economic growth and commerce within metropolitan Sydney, and attractive place for customers.
- Strengthen Chatswood as a place where people want to visit, work, live and invest.

The proposed development will meet these objectives in that it:

- provides new housing and job opportunities in the Chatswood Centre which is the most appropriate location within the LGA for increased residential densities;
- includes accommodation which is capable of being adapted to suit future occupants;
- has been designed to minimise impacts on surrounding development;
- makes the best use of existing services and infrastructure within the Chatswood CBD; and
- includes design features such as public open space which will enhance the Chatswood CBD making it a more attractive place for people to live and work.

Draft Chatswood Centre Strategic Plan (2004)

The Draft Chatswood Centre Strategic Plan (2004) (Draft Chatswood Strategic Plan) identifies the vision for the Chatswood Town Centre to:

- Be a vibrant and multi-functional business district serving a local and regional role;
- Provide for city living;
- Be environmentally sustainable;
- Be characterised by visually interesting buildings and places with a diversity of activity at street level;
- Provide pleasant landscaped areas and public spaces for passive recreation and outdoor eating;
- Provide safe and easy access for all members of the community; and
- Be a centre where residential and commercial users complement each other.

As the proposed development is of high architectural quality, environmentally sustainable, includes attractive landscaping and public domain and exhibits Crime Prevention Through Environmental Design principles, it is considered that the proposal is consistent with the draft Chatswood Centre Strategic Plan.

4.3 Environmental Planning Instruments

This section provides an assessment of the proposal for compliance with the relevant Environmental Planning Instruments.

Sydney Region Environmental Planning No. 5 – Chatswood Town Centre (SREP 5)

The site is zoned 3(c2) Business Commercial zone under SREP 5. Residential, commercial and retail uses are permissible with development consent within the zone.

SREP 5 limits the maximum FSR on the site to 5:1 and the maximum permissible height of RL179m. With a maximum FSR of 8:1 and a maximum height of RL231m the proposed application seeks a variation to these development standards.

Whilst SREP 5 is now a deemed SEPP it is noted that clause 15 of the *Environmental Planning and Assessment Regulation 2000* (replicated below) permits the continued application of *State Environmental Planning Policy No. 1 – Development Standards*. It is therefore within the power of the Minister of Planning to approve a development proposal which involves a variation to the development standards applying to the site.

“15 REPs deemed to be SEPPs—interpretation

(1) A provision of a regional environmental plan that becomes a SEPP on 1 July 2009 does not prevail over any other environmental planning instrument because the plan becomes a SEPP on that date if it would not have prevailed over that instrument before that date.”

Justification for the proposed height of the building is provided at Section 5.2 of this report whilst a discussion on the proposed FSR of the development is provided at Section 5.4.

The Tables of Compliance at **Appendix R** provide a full assessment of the proposal's compliance with all of the relevant provisions of SREP 5.

State Environmental Planning Policy (Building Sustainability Index – BASIX) 2004

All new residential development in NSW is required to submit a BASIX certificate demonstrating compliance with the water and energy saving targets in SEPP BASIX. A BASIX certificate is provided at **Appendix S**.

State Environmental Planning Policy 55 – Remediation of Land (SEPP 55)

When assessing an application for development, the consent authority is required to consider whether the site on which development is proposed is contaminated and whether remediation is required to ensure the site is appropriate for the proposed use. A statement on contamination, prepared by Douglas Partners is included at **Appendix T** and demonstrates that the site is suitable for the proposed residential, commercial, retail and public open space uses which are to be provided on the site.

State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65)

All Residential Flat Building development in NSW is required to demonstrate compliance with the ten design principles in SEPP 65, as well as demonstrate how the Rules-of-Thumb in the associated Residential Flat Design Code (RFDC) can be achieved. A SEPP 65 compliance statement has been prepared by Mirvac Design (see **Appendix U**) which outlines the proposals compliance with SEPP 65. A further discussion on the proposal's compliance with the key rules of thumb outlined in the RFDC is provided in Section 5.8 of this report.

State Environmental Planning Policy (Infrastructure) 2007

The proposed development is captured by the Infrastructure SEPP due to the number of apartments that are proposed and also the close proximity of the development to the North Shore Railway Line.

In relation to “Subdivision 2 – Development in Rail Corridors” of the Infrastructure SEPP the “*draft Interim guidelines for development near busy roads and adjacent to railway corridors*” is relevant.

This document is addressed in the following reports:

- Traffic Impact Assessment at **Appendix V**;
- Noise and Vibration Report at **Appendix W**; and
- Structural Design Report at **Appendix X**.

In addition to the above, Mirvac has met with Railcorp and agreement has been reached regarding the treatment of balconies which face to the south and south-east near the railway line. The meeting minutes at **Appendix I** show which balconies are required to be treated and the plans at **Appendix A** have been prepared in accordance with this direction.

It is noted that Mirvac Projects Pty Limited has undertaken development in close proximity to the RES during the construction of the other elements of the Pacific Place Masterplan site and therefore has extensive experience in dealing with the issues associated with construction in close proximity to a railway corridor.

In relation to “Clause 104 – Traffic Generating Developments”, the Traffic Impact Assessment prepared by Colston Budd Hunt and Kafes (**Appendix V**) addresses this issue and makes specific reference to the Roads and Traffic Authority’s document “*Guide to Traffic Generating Development*”.

Willoughby Local Environmental Plan 1995

It is noted that this EPI does not currently apply to the site.

4.4 Development Policies and Guidelines

Willoughby Development Control Plan

Part I.6 of the Willoughby Control Plan 2006 (WDCP) outlines specific controls for the Railway Street site (Pacific Place) relating to:

- Building form, location and massing (discussed at Section 5.2 of the EAR);
- Streetscape (discussed at Section 5.6 of the EAR);
- Signage (discussed at Section 3.11 of the EAR);
- Pedestrian links (discussed at Section 3.7 of the EAR);
- Mobility (discussed at Section 5.14 of the EAR);
- Maximum parking rates (discussed at Section 5.13 of the EAR);
- Solar access (discussed at Sections 5.8, 5.9 and 5.10 of the EAR);
- Wind mitigation (discussed at Section 5.11 of the EAR);
- Reflectivity (discussed at Section 5.12 of the EAR);
- Environmental sustainability (discussed at Section 5.16 of the EAR);
- Waste (discussed at Section 3.9 of the EAR);
- Open space & landscaping (discussed at Sections 3.7 and 5.6 of the EAR);
- Mix of land uses and housing types and sizes (discussed at Sections 3.2 and 5.3 of the EAR).

A detailed assessment of the proposal’s compliance with the WDCP is provided in the Tables of Compliance at **Appendix R**.

4.5 Draft Planning Controls

Willoughby City Council has recently exhibited the draft *Willoughby Local Environmental Plan 2009* (Draft LEP 2009) for public comment. **Table 4** summarises the key changes to current planning controls applying to the site.

Table 4 – Comparison of existing and proposed planning controls

Key Control	Current Control	Proposed Control	Comment
Zoning	3(c2) Business Commercial zone	B3 Commercial Core	Residential Flat Buildings are currently permissible on the site but will no longer be permissible if the draft instrument were to be gazetted in its current form.
FSR	5:1	10.5:1	The 10.5:1 assumes that certain conditions are met relating to the provision of open space, the proposed development meets these conditions.
Height	RL179m	90m	

Mirvac Projects Pty Limited made a formal submission on the draft LEP which is included at **Appendix Y** for the Department's information.

5.0 Environmental Assessment

This section of the report assesses and responds to the environmental impacts of the Concept Plan proposal. It addresses the matters for consideration set out in the Director-General's Environmental Assessment Requirements (DGRs).

The draft Statement of Commitments complements the findings of this section.

5.1 Director General's Environmental Assessment Requirements

Table 5 provides a detailed summary of the individual matters listed in the Director General's Environmental Assessment Requirements (DGRs) and / or identifies where each of these requirements has been addressed in this report and the accompanying technical studies.

Table 5 – Director General's Environmental Assessment Requirements

Director General's requirements	Location in Report / Application
Relevant EPI's policies and Guidelines to be Addressed	
- Objects of the EP&AA Act 1979	- Section 4.1
- NSW State Plan, Urban Transport Statement	- Section 4.2
- Draft Inner North Sub-regional Strategy	- Section 4.2
- Sydney Regional Environmental Plan No. 5 (Chatswood Town Centre)	- Section 4.3 and Appendix R
- SEPP55 Remediation of Land	- Section 4.3 and Appendix T
- SEPP65 Design Quality of Residential Flat Development	- Sections 4.3 and 5.8 and Appendix U
- Interim Guidelines for Development near Rail Corridors and Busy Roads (Department of Planning 2008)	- Section 4.3 and Appendices V, W & X
- Willoughby City Council planning controls and policies	- Sections 4.3, 4.4, 5.2, 5.3 and 5.4 and Appendix R
Built Form	
- Variations to built form controls	- Section 5.2 and Appendices H and R
- Height Study	- Section 5.3 and Appendix H
- View Analysis	- Section 5.9
- Siting Options	- Section 5.2 and Appendix H
Land Use	
- Metropolitan, regional and local strategies	- Section 4
- Mix of land uses	- Section 5.3 and Appendices R and Z
Urban Design/ Public Domain	
- Design quality	- Sections 3.4 and 5.2 and Appendix H
- Through-site pedestrian access	- Section 3.7
- Provision of public open space	- Section 3.7 and Appendix G

Director General's requirements	Location in Report / Application
Environmental and Residential Amenity	
- Solar Access	- Section 5.8 and 5.9 and Appendices U, CC and DD
- Acoustic Privacy	- Section 5.18 and Appendix W
- Visual Privacy	- Section 5.9 and Appendix U
- Wind Impacts	- Section 5.11 and Appendix EE
- SEPP 65	- Section 5.8 and Appendix U
Transport and Accessibility	
- Transport & Accessibility Impact Assessment	- Section 5.13 and Appendix V
Ecologically Sustainable Development	
- BASIX	- Section 5.16 and Appendix S
- Section J BCA	- Section 5.16 and Appendix II
Contributions	- Section 3.14
Drainage	- Section 5.17 and Appendix JJ
Utilities	- Section 3.10 and Appendices J through to O
Noise and Vibration Assessment	- Section 5.18 and Appendix W
Statement of Commitments	- Section 6
Consultation	- Section 5.22

5.2 Built Form

Height

The proposed development with an overall height of RL231m is considered to relate well to the context of the existing and approved development in the Chatswood Centre. As shown in the section image prepared by Mirvac Design (see **Appendix A** and **Figure 23**) the proposal is the missing link in the transition of building heights down from the approved residential towers over Chatswood Station to Epica and Altura. The photomontage which shows the view of the Chatswood skyline from Beauchamp Park further demonstrates that the building will positively contribute to the skyline (see **Figure 24** and **Appendix A**).

The proposal is consistent with a long standing urban design principle where building height limits are set such that an arc is formed across the CBD / major centre skyline which clearly delineates where the 'heart' of the CBD / major centre is located.

The proposed non-compliance with the maximum height controls as contained with SREP5 (a variation of 52m is proposed to the control in SREP 5) and the draft Willoughby LEP 2009 (a variation of 45.3m is proposed to the draft control) is considered acceptable for the following reasons:

- The proposed building height is consistent with the urban design / city arc principle outlined above;
- The additional height does not generate additional overshadowing on Chatswood Mall between the hours of 11.30am and 2pm on June 21 when compared to the commercial building already approved on the site;
- The additional height does not generate overshadowing on existing surrounding residential properties between the hours of 9am and 3pm on June 21;
- The proposal remains consistent with the general objectives contained within SREP 5 (it is noted that there are not any specific height objectives), in particular:
 - The proposal improves the environmental and aesthetic quality of the Chatswood Town Centre by redeveloping a vacant site,
 - The development provides high density residential in the Chatswood Town Centre, giving effect to urban consolidation objectives, and
 - The proposal provides residential development which supports public transport use, shopping and recreational facilities and will contribute to the vitality of the centre particularly outside of business hours.
- The proposal remains consistent with the objectives of the height control as contained within the draft Willoughby LEP 2009, in particular:
 - The proposed development is in harmony with the bulk and scale of surrounding buildings and the streetscape
 - The proposed development does not result in any loss of privacy, adverse overshadowing on a residential property or visual intrusion
 - The proposed development is of a high architectural quality
 - The proposed development achieves a reasonable level of view sharing from adjacent developments

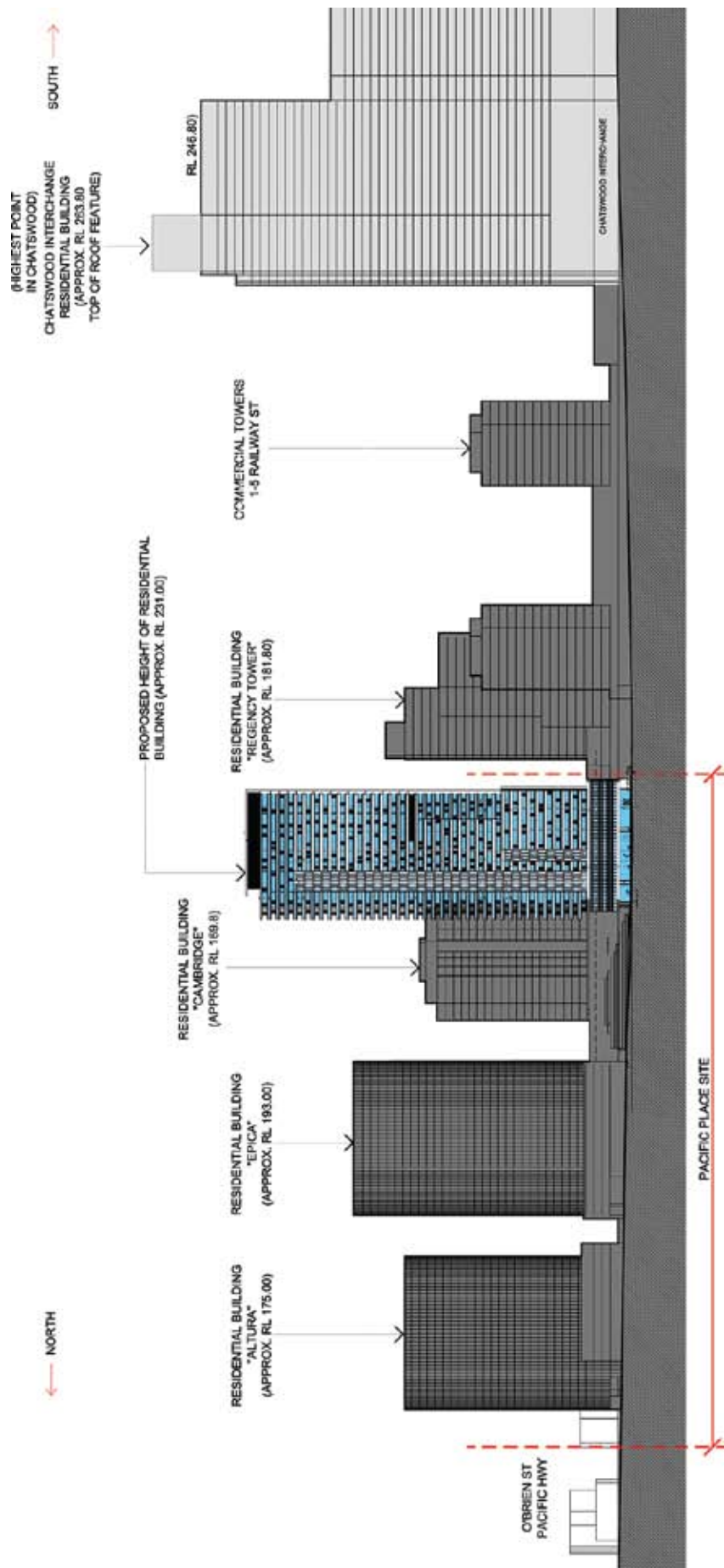


Figure 23 – Western elevation of Railway Street Chatswood CBD
Source: Mirvac Design



Figure 24 – Chatswood CBD Skyline as viewed from Beauchamp Park
Source: Mirvac Design Pty Limited

Bulk and Scale

Whilst the building is taller than that of the commercial building which was originally approved on the site, it is noted that the building footprint has been reduced and as such the proposal presents a more slim line tower with greater setbacks from the surrounding buildings. The building thus appears less bulky and dominant at the pedestrian scale and provides greater relief to the surrounding buildings.

As shown in the siting options in **Figures 25 and 26**, several design options have been explored. The proposed building is the preferred option for the following reasons:

- The smaller building footprint (approved scheme had a building footprint of 2,125m² – the proposed scheme has a footprint of approximately 1,500m²) allows for the provision of a larger area of open space (see **Figures 27 and 28** for a comparison of the approved and proposed schemes);
- The development does not span over the RES and therefore does not require as much structural engineering and eliminates many of the complex potential issues that would come about as a consequence of that construction (See **Figures 29 and 30**);
- The smaller building footprint provides a greater separation distance between the proposed building and the apartments located in Cambridge and Regency developments (see **Figure 28**);
- A slimmer profile is presented to the north (see **Figure 28**);
- View corridors for many apartments in the Pacific Place development are increased or improved (See Section 5.9.3); and
- The design facilitates SEPP 65 compliance for solar access by minimizing south facing apartments compared to a residential building constructed over the Railway Enclosure Structure (See **Figure 30**).

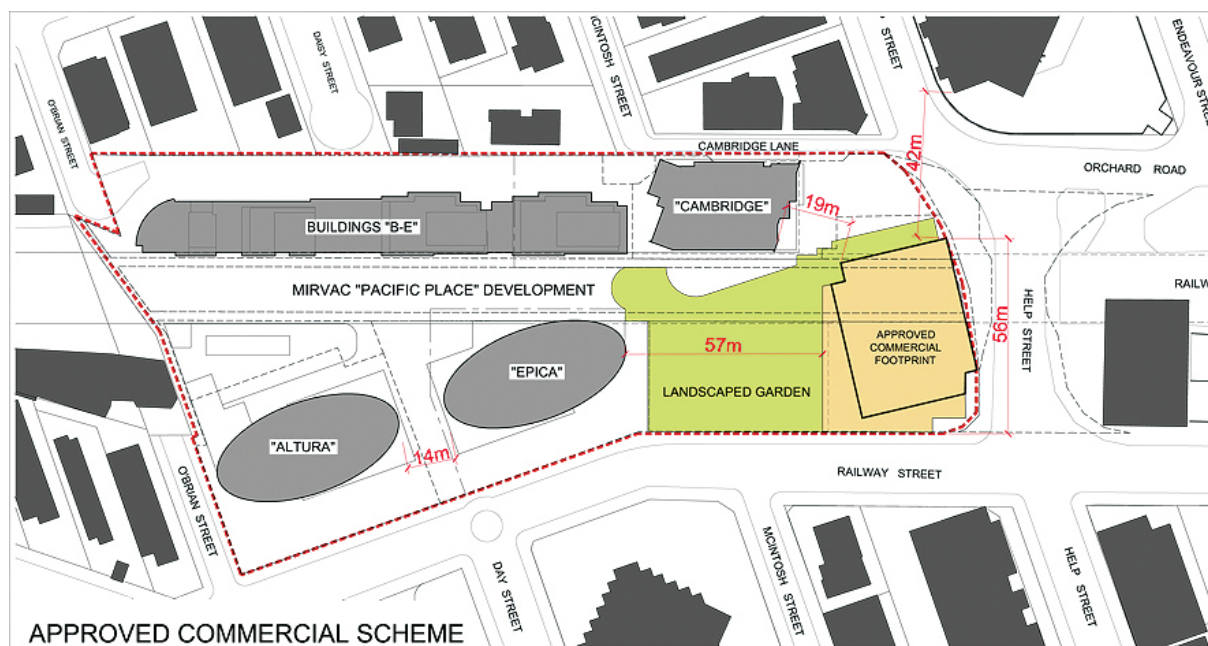


Figure 25 – Site Option 1, Approved Commercial Building Envelope
Source: Mirvac Design Pty Limited



Figure 26 – Site Option 2, Proposed Residential Building Envelope
Source: Mirvac Design Pty Limited

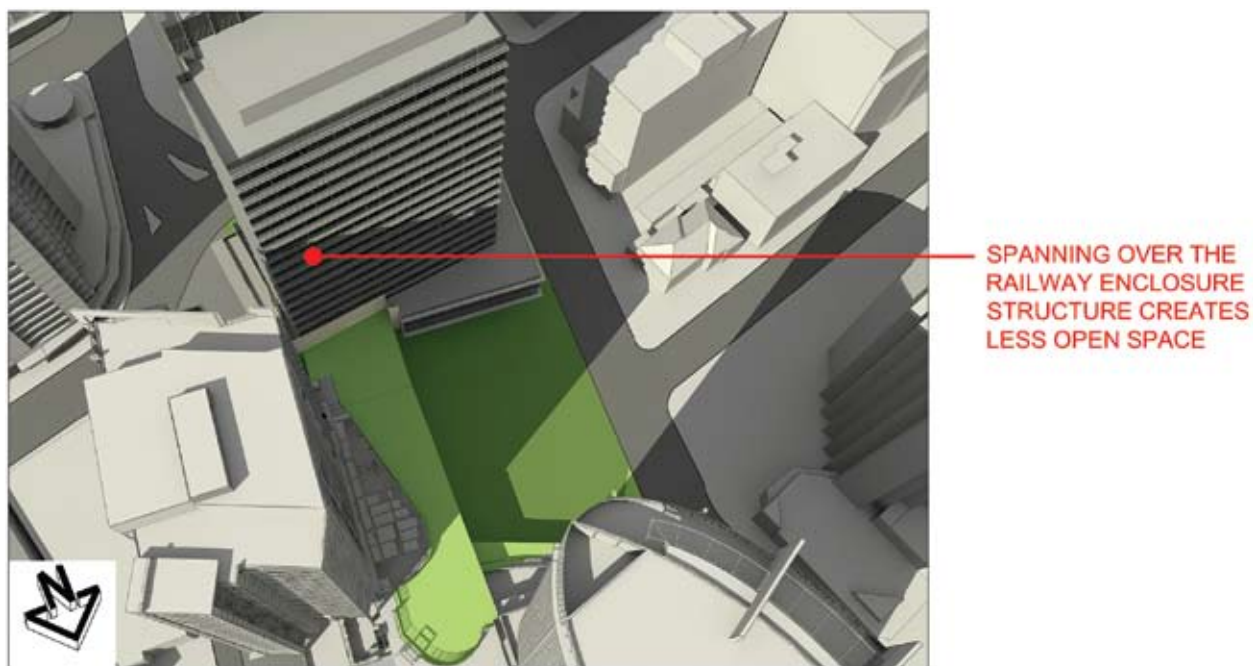


Figure 27 – 3D image of approved commercial building as viewed looking towards the south
Source: Mirvac Design

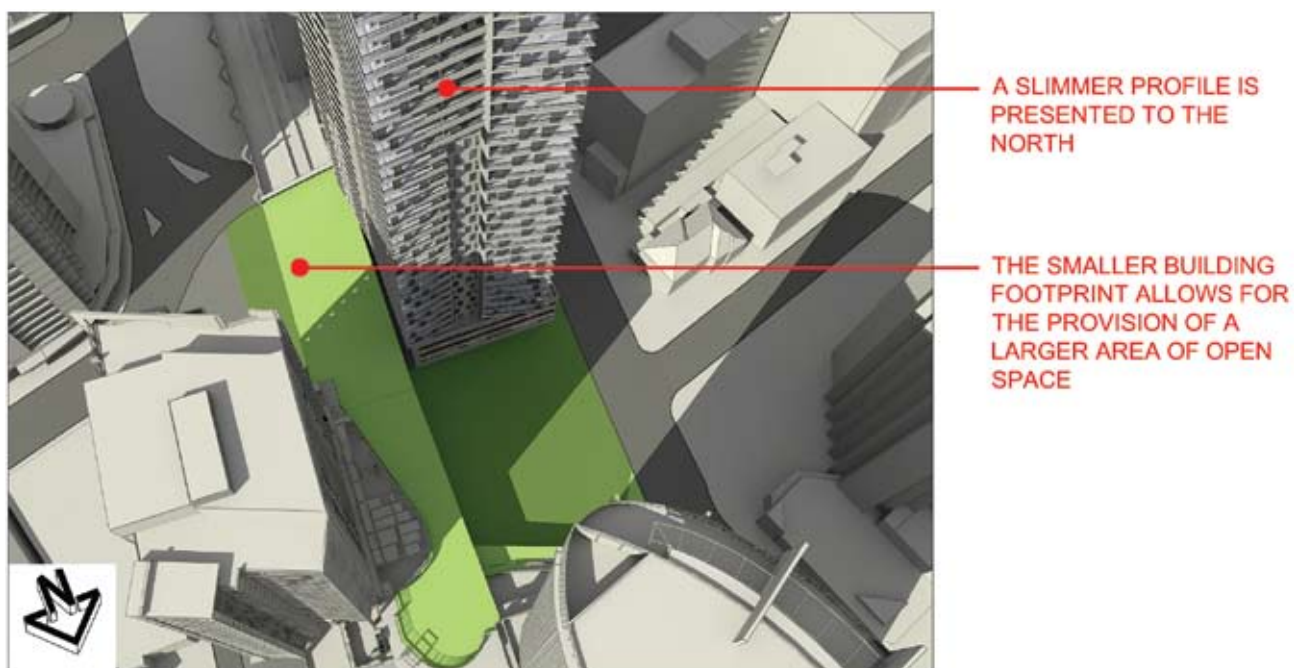


Figure 28 – 3D image of proposed residential building as viewed looking towards the south
Source: Mirvac Design

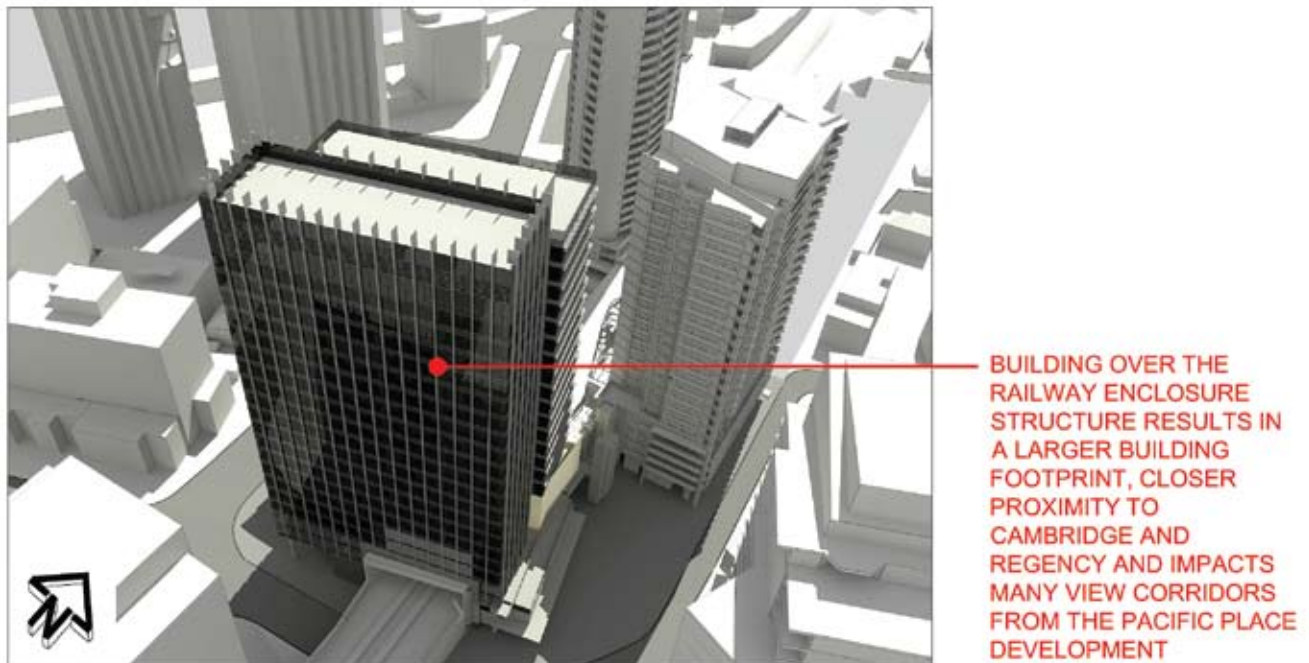


Figure 29 – 3D image of the approved commercial building looking towards the north
Source: Mirvac Design

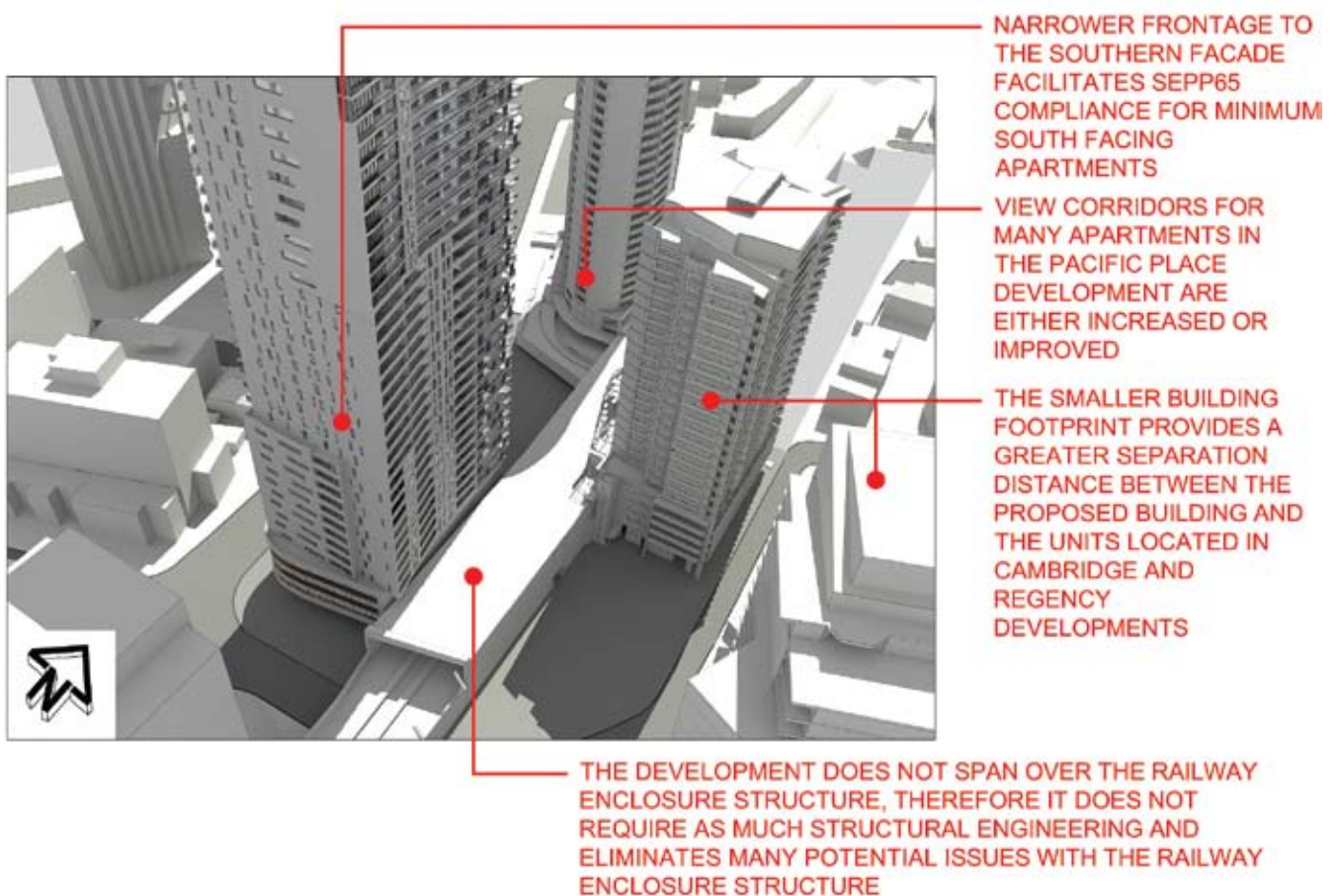


Figure 30 – 3D image of the proposed residential building looking towards the north
Source: Mirvac Design

5.3 Land Use

The development of a mixed use residential / commercial building is currently permissible on the site under the zoning provisions of SREP 5. It is noted that the Council is seeking to prohibit residential development on the site and is proposing to rezone the site to B3 – Commercial Core. Council advises it is proposing this change so as to meet the commercial office targets of the draft Inner-North Subregional Strategy.

In order to support an application seeking to change the approved commercial use on the site to residential use Mirvac Projects Pty Limited commissioned Urbis Pty Limited to prepare an Economic Study (see Appendix NN) to accompany the Preliminary Environmental Assessment (PEA) submitted to the DoP in July 2009.

The economic report demonstrated that:

- There is a high level of competition from existing commercial centres in North Sydney, St Leonards/Crows Nest and Macquarie Park (North Ryde);
- Macquarie Park is the most competitive with Chatswood and has a distinct advantage as land has been significantly cheaper and available;
- In 2009 Chatswood had an estimated 295,000m² of office floorspace, of which 253,000m² was occupied. While occupancy improved gradually up to 2001, it has dropped away markedly since then with vacancy of around 42,000m² in 2009;
- Chatswood had a total commercial vacancy rate of 14.2% in July 2009, the highest among Sydney's commercial centres. Over the past two decades, vacancy has varied considerably, generally between 5% and 15%;
- High vacancy rates have been driven by:
 - The recent economic slowdown that has hit the entire Sydney market; and
 - The impact of Macquarie Park which has provided significant competition.
- Rental, incentive and vacancy levels in Chatswood are not currently at a level that would sustain construction of new office floorspace; and
- The negative net absorption of office space in Chatswood is symptomatic of a location that is losing market share, in particular to Macquarie Park. North Ryde/Macquarie Park has absorbed 231,000m² since 2005, or 74% of the total demand of the inner-north region over that time.

Council, in their response to the PEA questioned whether or not the assessment prepared by Urbis was impartial and as such Mirvac Projects Pty Limited commissioned Leyshon Consulting Pty Ltd to undertake an independent review of the Urbis assessment. Leyshon's review is included at **Appendix Z**.

The review found that the Urbis report employed an effective methodology to determine the likely underlying demand for additional office space in Chatswood and considered the Property Council of Australia Office Market Report (2009) used by Urbis to be the best source of data available on the issue.

In conducting the review Leyshon Pty Limited had access to the PCA Report to January 2010 which estimated that the net vacancy rate for Chatswood in the past 12 months had risen from 13% to 18%. Since 2001 Leyshon notes that there has been a negative absorption of office floor space in Chatswood. The report states that *"...the Chatswood office market has been going backwards consistently since 2001 and there is no sign, based on PCA data, that this trend is likely to be reversed in the near future."*

According to the Property Council of Australia's Office Market Report for the six months ending July 2010, released in August 2010, *"Chatswood fell back further, with the vacancy rate rising from 17.8% to 19.2%, with demand of minus 3,868m²".* The vacancy rate in Chatswood is the highest vacancy seen since January 1993.

Historical and current data clearly demonstrates that there is increasing competition in the commercial office market within the Sydney Region and in particular the Sydney North sub-region. This has led to an increasing vacancy rate in commercial floor space in Chatswood CBD and intended development proposals for commercial strata office buildings being abandoned without being acted upon such as Investa's proposal for 10 Help Street Chatswood.

Mirvac has been actively seeking a commercial pre-commitment for the site since the original commercial Development Approval in early 2002. During this 8 year period proposals were made to numerous tenants including IBM, 3 Mobile (now Hutchison), Kimberly-Clark and Vodafone. However, Mirvac has been unable to secure a pre-commitment. The leasing or sale of commercial floor space within the proposed residential development will be uneconomical and unviable for Mirvac due to lack of demand for commercial space, continuing high vacancy rates and the need to compete with high levels of incentives being offered in the market. However, Mirvac is proposing a minimum commercial component of 3,600m² as part of the development in satisfaction of the Director-General's requirements.

The proposed commercial floor space when occupied will generate up to 250 new operational jobs. The construction of the building will generate up to 1,500 construction jobs and as such will contribute towards the employment target within the Willoughby LGA. The DoP, in their letter dated 31 March 2010 (included at **Appendix D**), considers this amount of commercial floor space to be a reasonable and viable contribution given the current floor space vacancy of the Chatswood Centre.

In light of the above assessments, it is considered that the employment targets set for the Willoughby LGA could be optimistic and do not account for the commercial trends that have been occurring since 2001. A mixed use development on the site will provide the highest and best use of the site, and will make a positive contribution towards the housing and employment targets set for the inner-north subregion.

5.4 Floor Space

The proposed development has an overall Floor Space Ratio (FSR) of 8:1 which exceeds that permissible under SREP 5 (5:1).

Notwithstanding the above, it is noted that under the draft Willoughby LEP 2009 the maximum FSR permitted on the site is proposed to increase to 10.5:1 subject to the following being provided:

Draft Clause 4.4(15)

"Despite subclause 2, for land within B3- Commercial Core , west of the North Shore Rail Line in Chatswood in Area 8, development consent may be granted for purposes of erection and use of a building on the land that exceeds 5:1 only where:

- (a) the site area exceeds 2,500 square metres, and*
- (b) the floor space ratio will not exceed 10.5:1, and*
- (c) a minimum of 40% of the site is available for landscaping, publicly accessible space and through site links (site coverage does not exceed 60%)."*

The proposal meets the above prerequisites in the following way:

- the site has an area of 4,913m²
- the proposed FSR does not exceed 10.5:1
- 3,993m² (81 %) of the site will be landscaped, including part of the building under the podium, of which 3,371m² will be publicly accessible

In light of the Council's clear intention to increase the density of development permitted on the site, the non-compliance with the maximum FSR contained within SREP5 is considered reasonable.

5.5 Urban Design

Building Articulation

As noted in Section 3.4 the building will comprise a tower element sitting above a podium base. The podium has been designed to meet the street alignment and provide a strong corner element to the intersection of Railway and Help Streets as well as maintaining a pleasant pedestrian environment.

The tower has been articulated and modulated in the following five ways:

- angled faces
- pop outs on the southern façade
- solid vertical elements with staggered openings
- balconies
- integrated roof element.

The above design elements will complement one another and will ensure that the building is of high architectural merit and provides a positive contribution to the Chatswood Town Centre skyline.

Setbacks

The proposed building setbacks are described in Section 3.5 of the EAR. The proposal is considered to improve upon the approved commercial building in that it provides greater separation to the Cambridge building and is better offset to the Regency development.

Appropriate setbacks have been provided to the RES and design measures have been proposed to ensure its structural adequacy.

5.6 Public Domain / Landscaping

Public Open Space and Through Site Link

The proposed development provides 3,371m² as publicly accessible open space. This is an additional 866m² compared to the approved commercial scheme which proposed 2,505m² of public open space.

Whilst the publicly accessible areas include spaces above the RES and as a through site link, Mirvac Projects Pty Limited has serious concerns regarding the safety of these spaces. This concern was reiterated by Pacific Place residents during community consultation sessions, particularly in relation to the provision of public access above the RES. The residents concerns related to the greater ease of access the public would have to the existing private open space that is provided on the RES further north of the site and therefore the greater ease of access people would have into the residential apartments from this level.

Mirvac Projects Pty Limited has consulted with Professor Peter Weber who reviewed early plans of the proposed publicly accessible open space on top of the RES and through site link. In his review (included at **Appendix MM**) he concluded that:

“The space on top of the railway enclosure structure would be best utilised as communal open space serving exclusively the proposed new residential units and existing Pacific Place Community, however, the space could also have some limited value as public open space subject to a new access point on its western side being provided, and with an appropriate management plan in place...”

As public space it would have limited use no matter how well landscaped and would almost certainly need to be secured after dark in accordance with a management plan.

As communal space it could without doubt be a very attractive amenity for existing and future residents who could have ready access from the third or fourth level of the proposed new apartment building, with the precedent of the successful communal area serving the existing new developments to the north in mind. Communal use appears to be the most sensible option, -a valuable facility accessible to the entire population of Pacific Place, being approximately 2,500 residents, rather than a public space of limited value.”

In light of the above concerns Mirvac are suggesting two solutions to this issue. In relation to the open space above the RES:

- Designate the space a communal open space for residents of the Pacific Place / 7 Railway Street development (estimated to be approximately 2,500 people), or
- Close the space off at night so as to reduce security risks at night time.

With regard to the through site link, Mirvac are reasonably supportive of the link with a management plan implemented to close the link off at night time. Mirvac propose that the building manager for 7 Railway Street would be responsible for shutting the gates at night and reopening them in the morning.

5.7 Crime Prevention Through Environmental Design

Mirvac Design has undertaken a Crime Prevention through Environmental Design (CPTED) review of the proposed development (**Appendix AA**). The key CPTED Principles are Surveillance, Territorial Enforcement and Space Management. The specific areas assessed and key measures to ensure safety are summarised below.

Shared access driveway and Underground Carparks

In order to control entry into the basement and on different levels of the basement a roller shutter which is operated by remote control and an intercom system for visitors will be installed. A roller shutter will also be installed to separate the commercial and residential parking spaces to prevent unauthorised entry.

Access by tradesmen and the like will be controlled by building management.

The vehicular entrance and all levels of the basement will be well lit and clearly signposted to ensure surveillance. Access to the commercial and residential parts of the building will also be controlled through the different lift cores and the use of a key / swipe card or the like. Fire stairs will be alarmed to discourage unauthorised use.

Through site link

Mirvac has previously raised safety concerns in relation to the provision of the through site link. At the request of Council the link has been provided in the scheme and will be constructed with good light and durable surfaces. The issue of safety of users of the walkway link during the evening hours will be addressed by restricting access to the through site link at night. This will likely be achieved by erecting gates at either end of the link. The building manager will be responsible for the management of the through site link.

Public open space (ground level and above RES)

Public open space on the site has been designed to maintain site links and to minimise opportunities for vandalism. The areas will be well lit at night and the boundaries between private and public space will be clearly demarcated.

However, due to the height of the landscaped area above the RES (being approximately 12m above the Railway Street footpath) it will not be readily visible and presents a security risk as there will be limited opportunities for natural surveillance. Due to its lack of visibility it is also questionable as to how often the space will be used by pedestrians and workers in the area.

During public consultation sessions local residents raised serious concerns in relation to allowing the general public up on the RES and the increased security risk this causes for residents of the Pacific Place development.

Notwithstanding the above the proposal includes the area above the RES as an area of public open space in accordance with the request of Council. In light of the increase security risk at night it is proposed that access to the space will be limited to daylight hours.

The Proponent requests that the DoP give serious consideration to this aspect of the proposal and whether or not it is in the public interest to provide this area as public open space.

Residential Amenities

Access to common facilities such as the pool and gym will be via key access. The facilities have been placed on the ground level with a glass façade and will be subject to natural surveillance of pedestrians walking past the space.

Residential Tower

Access into the residential tower will be restricted by key. An intercom system will be installed in all apartments to allow authorised visitors access within the building. All common areas will be well lit and fire stairs will be alarmed.

Commercial Podium

Access to the commercial tenancies will be restricted by key. All common areas will be well lit and fire stairs will be alarmed.

5.8 Residential Amenity of Future Occupants

Mirvac Design has prepared a SEPP 65 assessment for the project (**Appendix U**) which outlines how the proposed development complies with the SEPP 65 Design Principles and also the 'Rules of Thumb' of the *Residential Flat Design Code* (RFDC). The key elements of compliance are summarised below.

5.8.1 SEPP 65 Design Principles

The proposed development is consistent with the 10 design principles in that:

- The proposed high density development is consistent with the high density character and CONTEXT of the immediate area and reflects the close proximity of the site to a major transport node;
- The proposal provides an appropriate transitional built form SCALE between the approved towers over the Chatswood Railway Station and the existing residential buildings to the north, north-east and east of the site and commercial buildings to the north-west of the site;
- The proposal presents an appropriate podium / tower BUILT FORM, defining the street alignments and public domain and positively contributing to the skyline of the Chatswood CBD;
- The DENSITY of the development is consistent with the close location of the development to a major public transport hub, retail centre and employment opportunities;
- The proposed development includes several SUSTAINBLE design features which will reduce water and energy consumption and complies with the minimum BASIX requirements;
- Both publicly accessible and private open space is proposed which is subject to an integrated LANDSCAPE scheme;
- All of the apartments will achieve a high level of AMENITY including high levels of solar access, natural ventilation, a range of apartment sizes and types and flexible floor layouts;
- The development has been designed in accordance with the principles of Crime Prevention Through Environmental Design thereby ensure that the development presents a high level of SAFETY AND SECURITY;
- The proposal will positively contribute to the SOCIAL context of Chatswood through the provision of:
 - 304 new dwellings within an accessible location,
 - a range of housing types and affordability,
 - 31 adaptable apartments,
 - new job opportunities, and
 - a significant piece of public domain.
- The proposed building is of a contemporary AESTHETIC which will positively contribute to the Chatswood Town Centre and will infill a vacant site which currently detracts from the centre.

5.8.2 Residential Flat Design Code Rules of Thumb

Natural Ventilation

Windtech Pty Ltd undertook an assessment of the designs and prepared a Natural Ventilation Statement (**Appendix BB**) based on the objectives of SEPP65 and the Residential Flat Design Code (RFDC). Analysis of the development on an apartment-by-apartment basis on general ventilation principles found that 49.3% of apartments were considered to have either Excellent or Good natural ventilation due to the north-south orientation of the development.

Notwithstanding the above, Windtech has considered alternative treatment options which will enable the development to meet the minimum 60% required by SEPP 65. In particular Windtech has reviewed wind tunnel tests results for other developments which they have previously assessed and found that single aspect apartments are able to meet the requirements for natural ventilation if the following design elements are provided:

- The external surface of the single aspect apartment needs to be at approximately 45 degrees to the direction of one of the predominant wind directions (for the Sydney region these are the north-easterly or southerly winds)
- The façade of the single aspect apartment needs to be stepped by about 2metres or more. The setback needs to be such that it can generate a positive pressure on one side of the apartment and a neutral or negative pressure at the other side of the apartment.

The report indicates that design-specific wind tunnel analysis would be required to confirm whether this was applicable to this development as each site is different due to building façade profiles, topography and surrounding buildings.

However, based on the above criteria being met, Windtech are of the opinion that the proposed development would potentially achieve 68.7% of apartments being capable of natural ventilated. A commitment has been made at Section 6 of this report which requires wind tunnel testing to be undertaken prior to the issue of a Construction Certificate for above ground works.

It is noted that due to the close proximity of the site to the North Shore Railway line, to achieve the required level of acoustic amenity, most of the apartments will require acoustic treatments, including acoustic seals. It is therefore likely that most apartment occupants will rely upon mechanical ventilation so as to achieve the desired acoustic amenity rather than seek to live in a naturally ventilated environment.

Solar Access

As outlined in Windtech's Solar Access Analysis at **Appendix CC**, 70% (214 out of 304 apartments) of the proposed apartments will receive more than 2 or more hours of direct sunlight between 9am and 3pm in mid-winter to both the main living area and private open space. Only 10 of 304 apartments (3%) have a single aspect to the south which more than complies with the recommendations of the RFDC.

The apartments have depths ranging from 6.5m to 9m. The majority of apartments are not more than 9m deep, where kitchens are located over 8m from the façade line, windows have been configured so as to optimise sunlight into the apartment. Single aspect apartments are provided with wide frontages and screening to ensure thermal comfort, and all other apartments are located on the corners of the building to optimise natural ventilation and daylight access.

Building Separation

The building is located to ensure that it is scaled to support the desired area character with appropriate massing and spaces between the buildings. The building is located approximately 57 metres from the Epica apartment building to the north, and approximately 23 metres from Cambridge apartments to the north-east. Generally, apartments in the Cambridge Apartments building are not oriented towards the proposed building, and the proposed development incorporates privacy screens on north-east facing balconies to minimise any potential privacy issues.

Apartment Size

The apartments are generously sized and all comply with the minimum apartment floor space guidelines outlined in the RFDC. 304 apartments are incorporated in this proposal, of which 25% have 1 bedroom, 42% have 2 bedrooms and 33% have three bedrooms. Each level of the proposed building contains a mix of apartment sizes and are accessible via a lift, and this ensures a range of choices to suit the needs of future occupants.

Storage

Storage for all apartments is provided at the levels recommended in the RFDC, with a minimum of 6 m³ for 1 bedroom apartments, 8m³ for 2 bedroom apartments, and 10m³ for 3 bedroom apartments.

5.9 Residential Amenity of Surrounding Dwellings

5.9.1 Overshadowing

The shadow diagrams at **Appendix DD** demonstrate that the proposed development will not generate adverse overshadowing on existing surrounding residential properties between the hours of 9am and 3pm on June 21.

Due to the revised positioning of the building the overshadowing impacts are improved between the hours of 9am and 3pm on June 21 as the proposal no longer overshadows the Regency development during this period.

5.9.2 Visual Privacy

The proposed building is generally not expected to have adverse impacts on the visual privacy of neighbouring residents. The apartments within Epica are oriented east / west and as such do not have a direct outlook towards the proposed building. Notwithstanding this the proposed development maintains a separation distance of approximately 57 metres from tower to tower which is more than double the minimum distance required by the Residential Flat Design Code (24m).

With regard to Cambridge, a separation distance of 23m is proposed, whilst this is 1m less than the minimum distance stipulated in the RFDC, it is noted that the setback proposed is substantially greater than that which was approved as part of the commercial development where a separation distance of only 19m was provided. It is also noted that the balconies and outlook of the apartments on the western façade of Cambridge are offset from the proposed building and as such the apartments within the two buildings do not have a direct outlook towards one another, thereby affording a greater level of privacy.

5.9.3 View Loss

It is noted that the Pacific Place Masterplan had regard to the layout of buildings across the entire masterplan site and as such the buildings have been orientated to provide the greatest level of amenity to each building. The proposed development improves on the approved commercial building layout as it provides a smaller building footprint and thus a greater building separation distance from Cambridge and having a positive impact on views. Notwithstanding this there will be some changes to the views obtained from surrounding apartments when compared to the impacts of the approved commercial building, in some cases the views will improve and in others the view will be reduced.

Epica

The apartments within Epica are generally orientated to the east and west. The apartments with an easterly aspect have views across Chatswood towards the harbour and the headlands. The apartments with a westerly aspect have views towards Homebush bay, western Sydney and distant views of the Blue Mountains.

The majority of the apartments do not have an outlook to the South. Exceptions to this are the two apartments which are located at the southern end of the two top most habitable levels of the building. As can be seen in the photo of the southern elevation of Epica (**Figure 31**) there are two secondary windows which have a southerly aspect. From these windows distant views of the Sydney CBD and other major centres are obtained however the primary views are towards the south-east and south-west as shown in **Figures 32** and **33**.

The impact of the proposed development on the southerly views from Epica can be seen in **Figures 34** and **35**. **Figure 34** shows the existing view from the upper levels of Epica with the original approved commercial building (approved January 2002) and the approved residential towers above the Chatswood Railway Station (approved August 2005) superimposed. Whilst **Figure 35** shows the impact of the proposed building.

The view impact is considered to be reasonable for the following reasons:

- The apartments have 180 degree views from the east to the west;
- The primary views from the living areas and balconies of the apartments are to the east / south-east and west / south-west and will not be affected by the proposed development;
- The views to the Sydney CBD are secondary distant views and not iconic views; and
- The views to the Sydney CBD will be largely obscured by the approved residential towers over the Chatswood Railway Station.

Figures 36 and **37** provide a comparison of the views obtained from the "03" apartments within the lower levels of Epica. As can be seen, the proposal will have a positive impact on the views obtained from these apartments as the view corridor will increase from 9 degrees to 21 degrees as a result of the reduced building footprint.

In summary, the proposed change to the building design from the approved commercial building will have a positive impact on many of the apartments in Epica. Only two apartments on the upper level which will lose their southerly views, however the primary views of those apartments range from the east to the south-east and south-west to the west and these view corridors will be preserved and are unaffected by the proposed development.



Figure 31 – Southern elevation of Epica

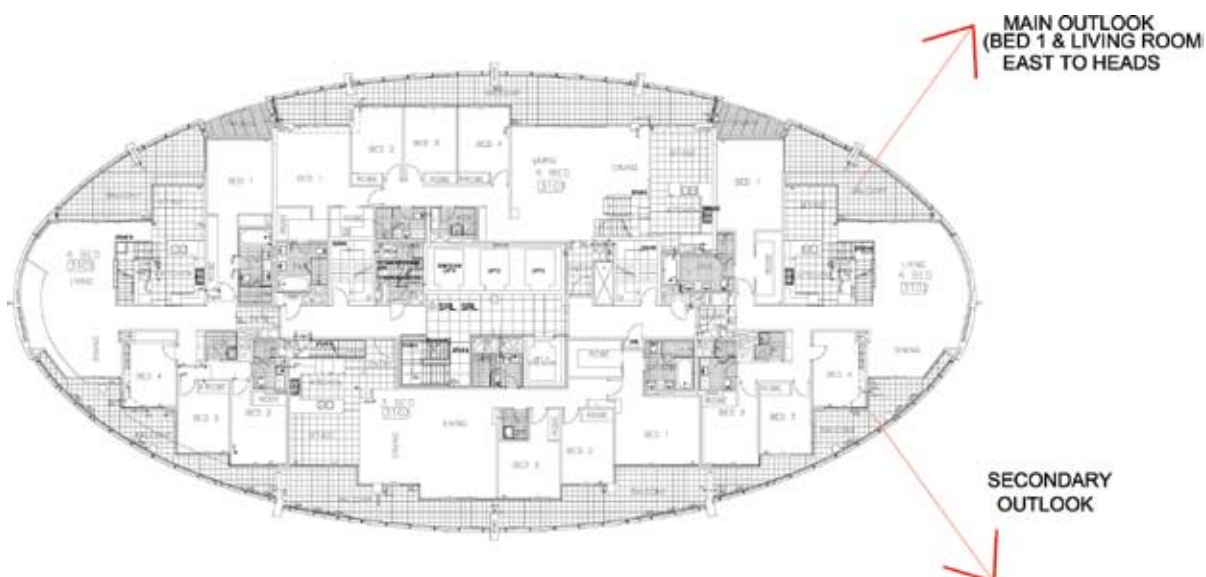


Figure 32 – Indicative floor plan of Levels 30 and 31 Epica
Source: Mirvac Projects Pty Limited

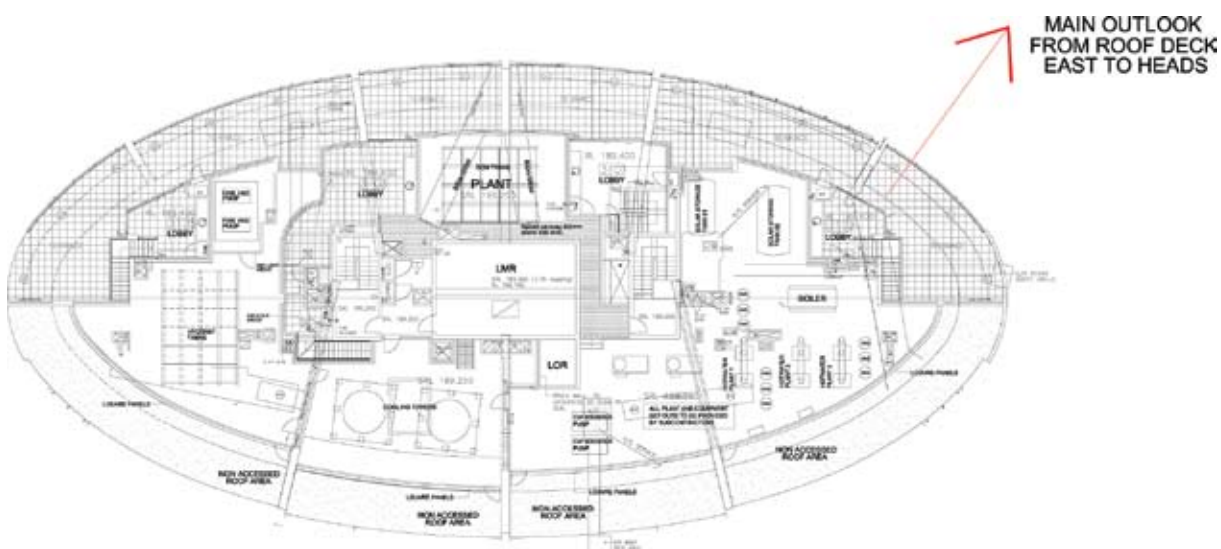


Figure 33 – Floor plan of Level 32 Epica (roof terraces)
Source: Mirvac Projects Pty Limited

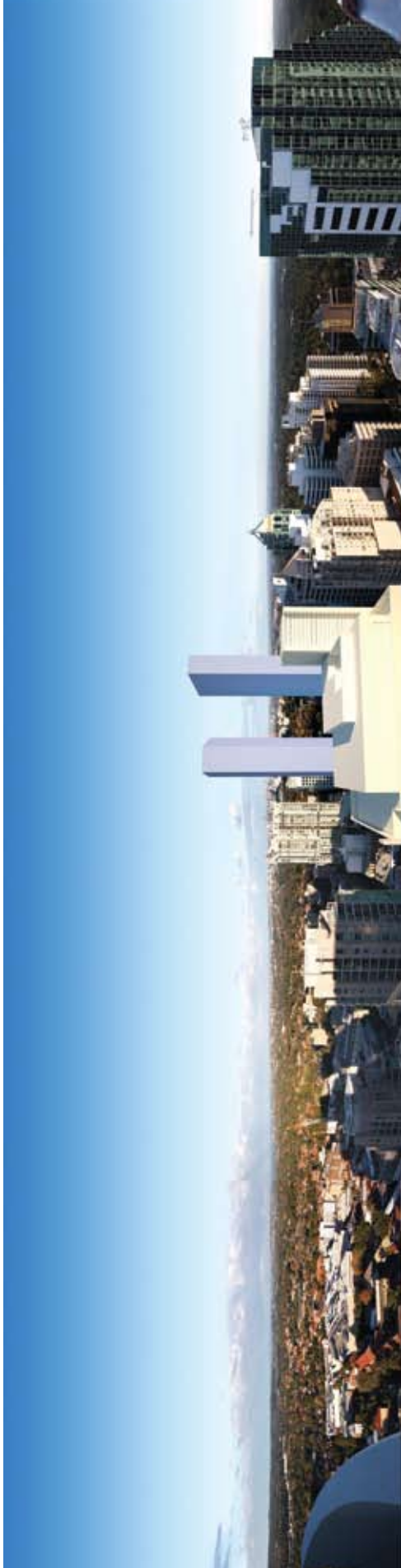


Figure 34 – Southerly view from the upper levels of Epica with original approved commercial building and approved towers over Chatswood Railway Station
Source: Mirvac Projects Pty Limited



Figure 35 – Proposed southerly view from the upper levels of Epica
Source: Mirvac Projects Pty Limited

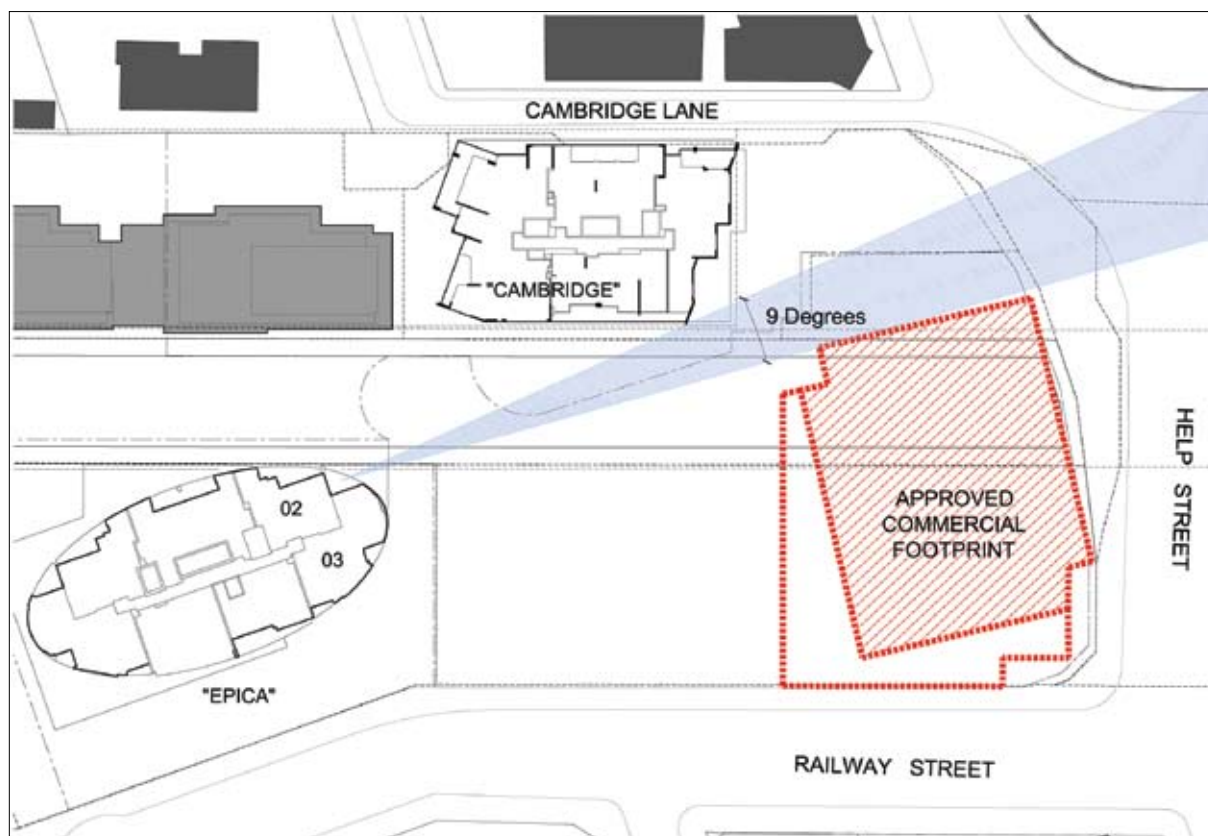


Figure 36 – Approved view corridor “03” apartment within Epica (up to Level 27)
Source: Mirvac Design Pty Limited

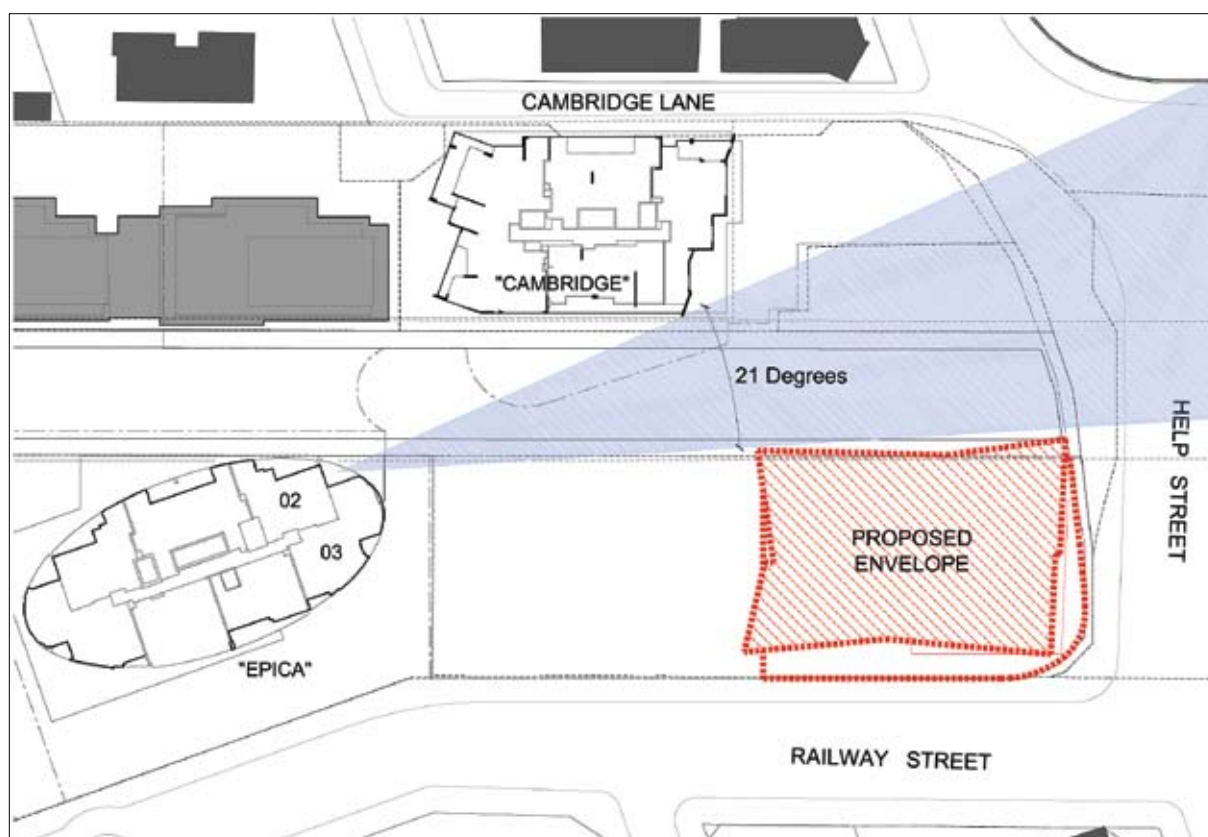


Figure 37 – Proposed view corridor “03” apartment within Epica (up to Level 27)
Source: Mirvac Design Pty Limited

Cambridge

The apartments within Cambridge are positioned on a repeating 6 apartment template. The apartments numbered "07", "06", "05" and "01" have an outlook over the site. The "07" apartments have a westerly aspect, the "06" apartments have a westerly and southerly aspect, the "05" apartments have a southerly aspect and the "01" apartments have a northerly outlook with a secondary view to the south-west.

In relation to the "06" apartments there is no change to the view from these apartments as the outlook from the living areas is towards the west and north-west, however it is noted that the proposed development will improve their amenity by way of a greater setback between the two buildings.

With regard to the "05" apartments, the changes to the development result in a greater setback and therefore enlarge the view corridor obtained from these apartments. **Figures 38 and 39** demonstrate that the view corridor from these apartments will increase from 42 degrees to 60 degrees (+ 18 degrees).

Figures 40 and 41 provide a comparison on the view corridors of the "07" apartments. As can be seen the primary view to the west from these apartments will remain unchanged. A secondary view will be maintained, however this will be provided in a new direction towards the south / Sydney CBD as compared to the approved scenario where the secondary view was towards the south-west. The overall width of the view corridors from these apartments will remain the same.

Finally, **Figures 42 and 43** provide an analysis of the impact on the "01" apartments. As can be seen the proposal will affect the secondary views of these apartments, the view corridor will split into three view corridors and thus these apartments will obtain views to the south which were not going to be available under the approved commercial scheme. The proposal will reduce the combined view corridor from 24 degrees down to 21degrees, however the primary views to the north will remain unaffected by the proposed development.

Regency

There will be no impact on the views of the apartments within the Regency development when comparing the impacts of the approved commercial building and the proposed building. This is because the Regency development rises to a height of RL 181. At a height of RL 179 the commercial building would have obscured the views from the Regency apartments towards the north-west and any view past the site would be then obscured by the Zenith Towers which rise to a height of RL193.

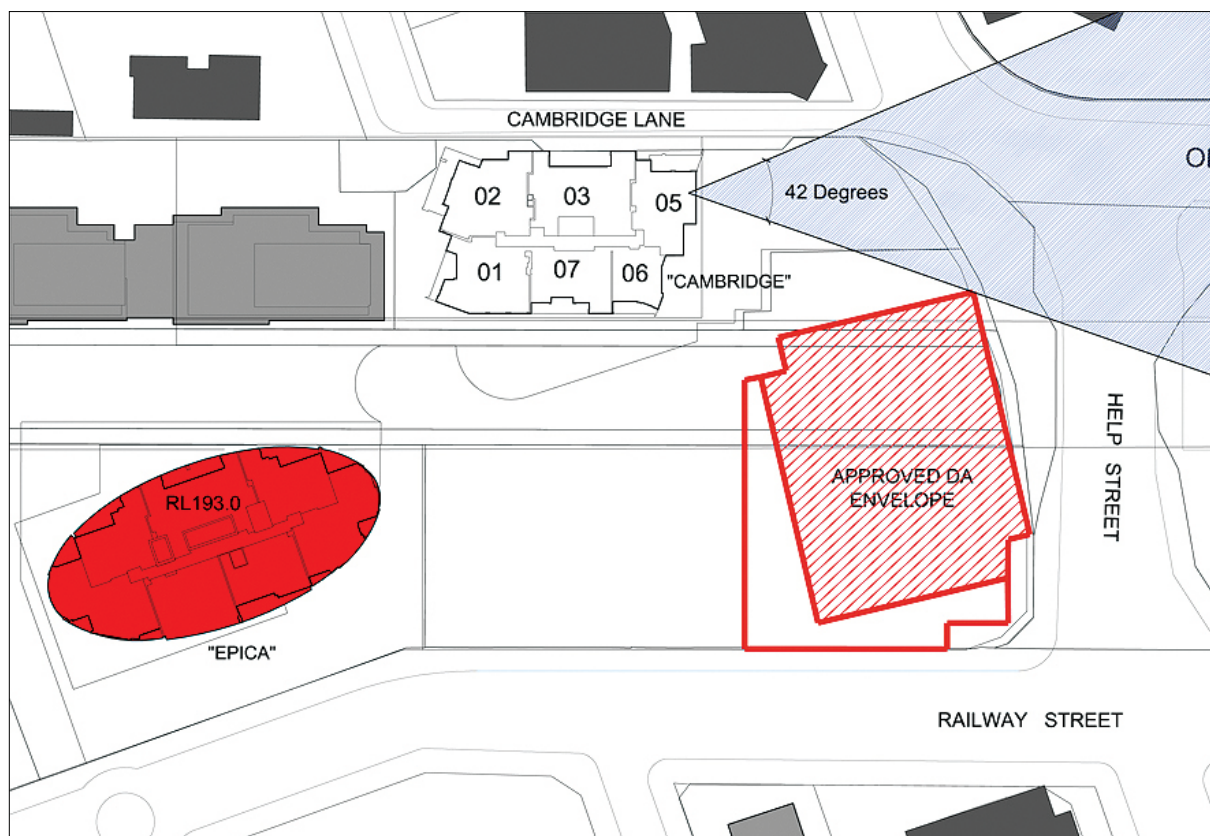


Figure 38 – Approved View Corridor: Cambridge “05” apartments
Source: Mirvac Design Pty Limited

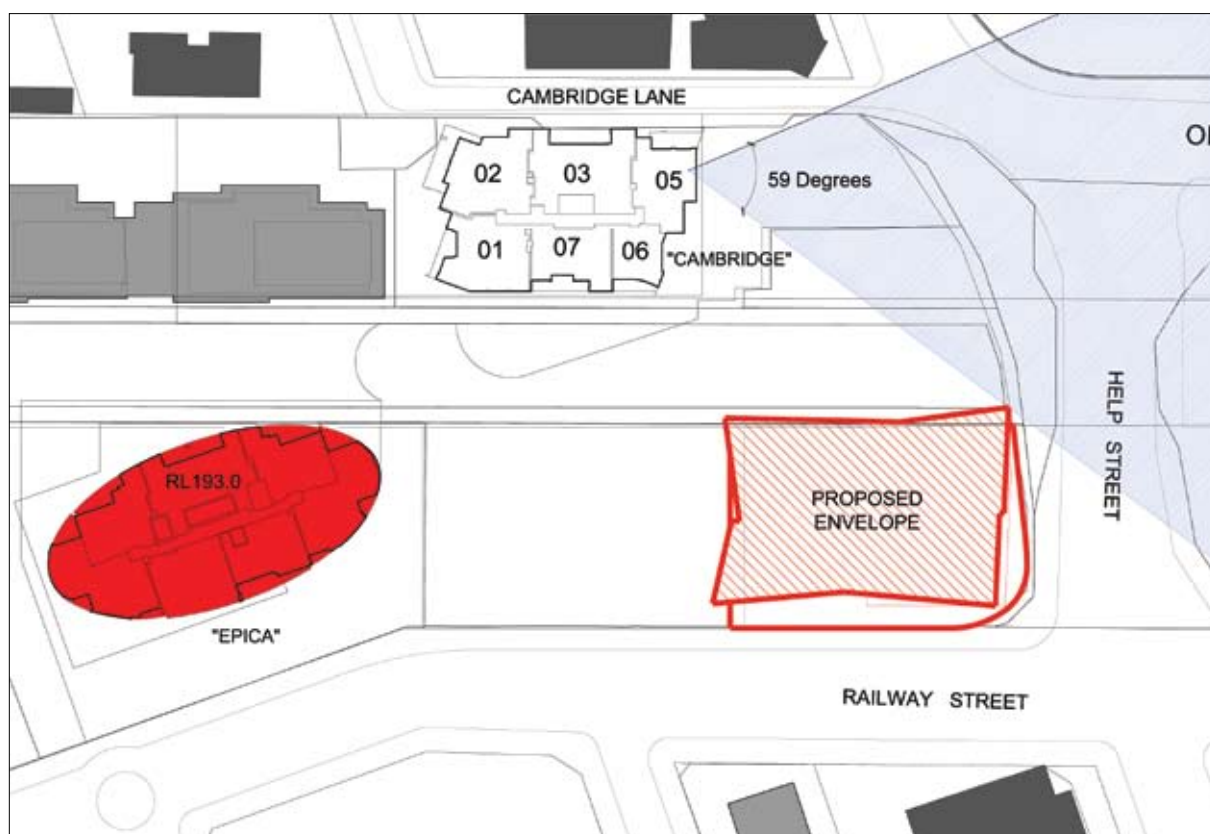


Figure 39 – Proposed View Corridor: Cambridge “05” apartments
Source: Mirvac Design Pty Limited

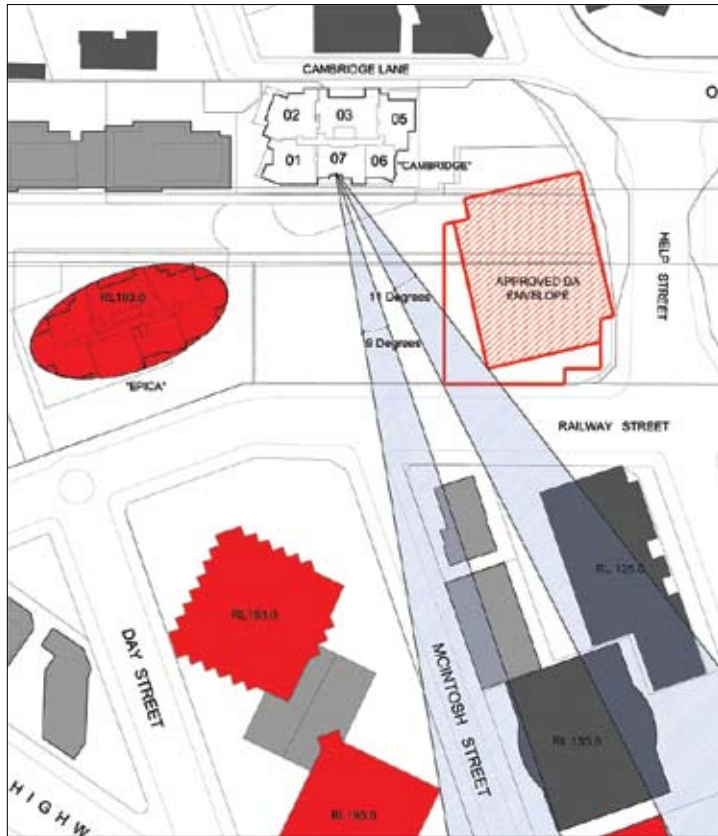


Figure 40 – Approved View Corridor: Cambridge “07” apartments
Source: Mirvac Design Pty Limited

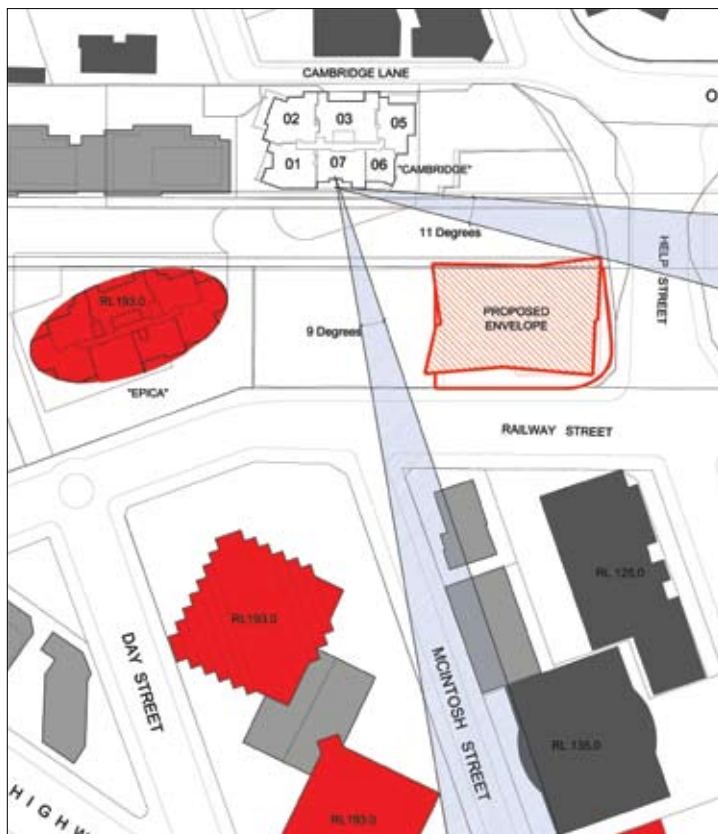


Figure 41 – Proposed View Corridor: Cambridge “07” apartments
Source: Mirvac Design Pty Limited

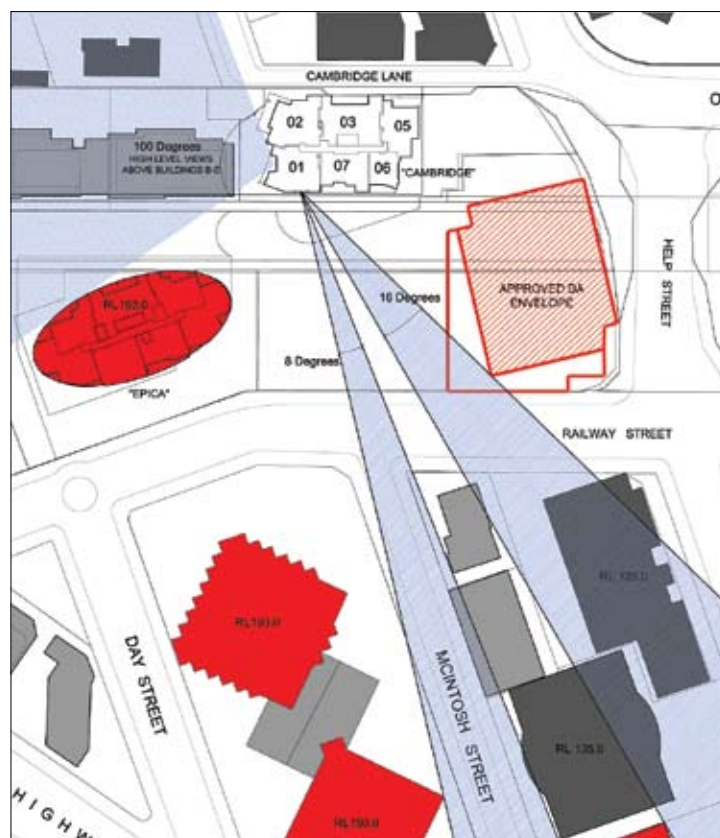


Figure 42 – Approved View Corridor: Cambridge “01” apartments
Source: Mirvac Design Pty Limited

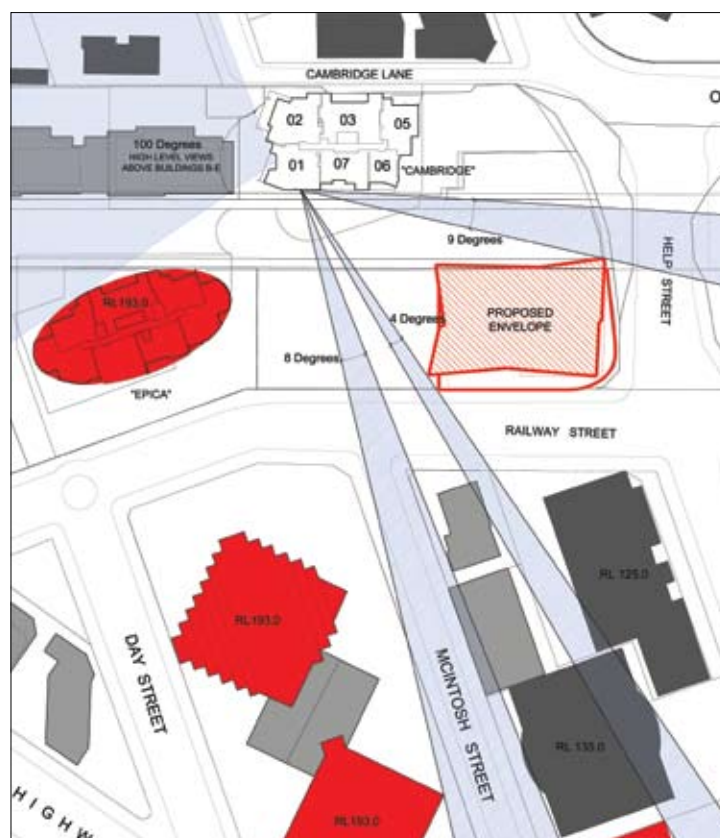


Figure 43 – Proposed View Corridor: Cambridge “01” apartments
Source: Mirvac Design Pty Limited

5.10 Environmental Amenity of Chatswood Mall

Mirvac engaged Denny Linker to survey roof parapet heights of the existing buildings on the northern edge of Chatswood Mall. With this information Mirvac Design was able to determine the existing shadowing on Chatswood Mall and compare this to the shadowing from the original approved commercial building (RL 189), the modified commercial building (RL179) and the shadow impact of the proposed development (RL 231). The shadow diagrams are included at **Appendix DD** from 1pm to 2pm. Note prior to 1pm the proposed development does not cast a shadow in the direction of Chatswood Mall and as such no diagrams have been provided for the period of 11.30 – 1pm.

Chatswood Mall was defined as the area between the end of the glass structure above the escalators to the railway interchange at Orchard Road, down to the corner of Anderson Street and Victoria Ave.

The analysis reveals that during the critical period of 11.30am and 2pm on the winter solstice (the critical period identified by Council) that the proposed development will cast the same or less shadow across the Chatswood Mall than the approved development. Much of the shadow of each building would fall within the shadow cast by other existing buildings adjacent to or closer to the Mall than the proposed residential tower.

5.11 Wind Assessment

Windtech Consultants Pty Ltd has undertaken an examination of the architectural drawing and reviewed wind tunnel test results for the approved commercial scheme, and has subsequently prepared a Pedestrian Wind Environment Statement (**Appendix EE**).

The report finds that three principal wind directions potentially affect the proposed development, namely North-Easterly, Southerly and Westerly wind, and analyses the likely interactions between these winds and the proposed building morphology.

Windtech consider that overall the impacts of these winds are likely to be quite low, however several recommendations are made in order to mitigate the effects of any adverse wind conditions:

- Placement of densely foliating trees along the Help Street and Railway Street pedestrian footpaths adjacent to the proposed development;
- Scattered planting in the public open space in the northern part of the site to reduce the wind impacts of such a large open space;
- Use of impermeable balustrades of the private balconies; and
- Installation of full-height louvered screens on the western edge of balconies on the north-western corner of the building.

The recommendations have been incorporated into the proposed design and as such Windtech consider that the balconies and places of publicly accessible open space will be suitable for their intended use.

Notwithstanding the above, Windtech recommends further wind tunnel testing of these recommendations to evaluate their effectiveness, a commitment has been made to this effect at Section 6 of this report.

5.12 Solar Reflectivity

The solar reflectivity analysis conducted by Windtech Consultants Pty Ltd (**Appendix FF**) investigates the potential impact of solar glare on the safety of drivers and pedestrian comfort. Four (4) study points were assessed using a calibrated camera as shown in **Figure 44**. Points 1 and 2 represent critical sightlines of drivers heading east along Help Street whilst Points 3 and 4 represent drivers heading west along Help Street.

The analysis found that there would be no adverse impacts to either drivers or pedestrians as a result of this proposed development at Points 1 and 2. This is primarily because for adverse glare to occur the sun would need to be between 0° and 5° . At these low angles, the surrounding buildings are sufficiently tall enough to block incident light from hitting the portion of the buildings façade which is within the zone of sensitive vision.

For point 3, no part of the development falls within the zone of sensitive vision and as such no adverse glare will be generated to drivers or pedestrians.

Point 4 is similar to points 1 and 2 in that the surrounding buildings provide sufficient protection from the sun when it is at the critical angle which would cause adverse glare, hence no adverse impacts will occur for drivers and pedestrians heading in the westerly direction.

Windtech's assessment also considers the potential for adverse glare to impact on the vision of train drivers heading north. For light to be reflected to drivers of trains heading north, the angle of inclination of the sun would need to be between 0° to 5° . At these low heights, the surrounding buildings are sufficiently tall enough to block incident light from hitting the southern aspect façade of the lower levels of the proposed development therefore no adverse glare will result.

Based on the previous experience of the consultants and on the requirements of the Willoughby City DCP 2006, Windtech recommends that all facade glazing should have a maximum normal specular reflectivity of visible light of 20 percent. A commitment to this effect is made at Section 6 of this report. Compliance with this recommendation will ensure that there are no adverse solar glare impacts on either drivers, pedestrians or on the occupants of neighbouring buildings.

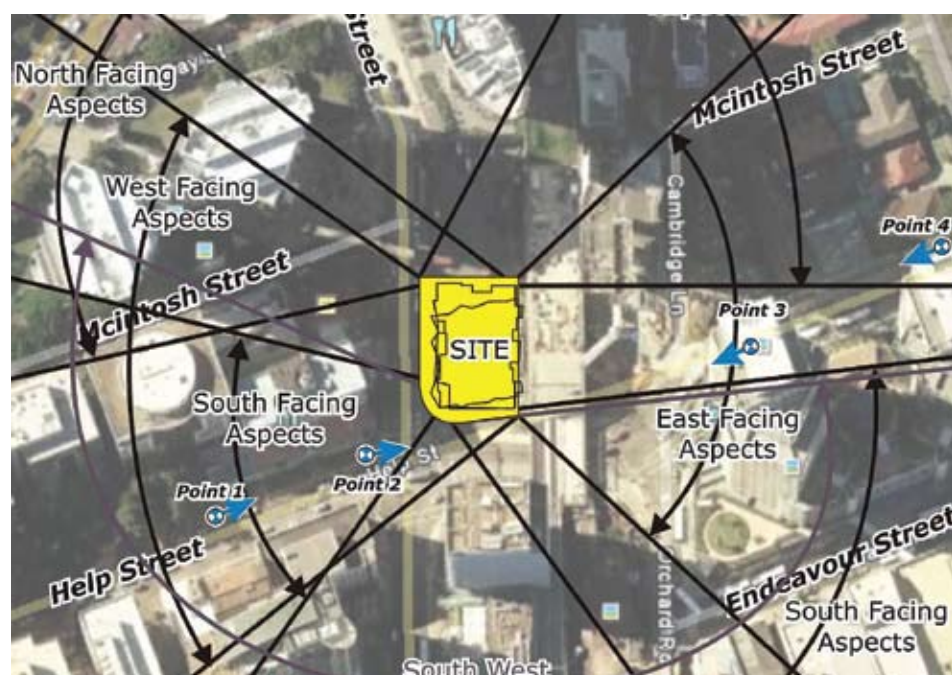


Figure 44 – Reflectivity assessment points
Source: Windtech

5.13 Transport and Accessibility

Colston Budd Hunt and Kafes Pty Ltd (CBHK) has prepared a transport and accessibility impact assessment for the proposed development. Their report is included at **Appendix V** and is summarised below.

Car Parking Spaces

As outlined in **Table 6** the Willoughby DCP permits a maximum provision of 458 car spaces on the site. The proposed development provides 395 spaces and is compliant with the DCP. The reduced provision is considered to be consistent with both Council's and the Departments policy of reduced parking provision on sites which are highly accessible by public transport and in close proximity to employment and day to day services.

In addition to the 395 car parking spaces, 16 motorcycle spaces will be provided.

Table 6 – Maximum Parking Provision Rate

Type	Proposal	Provision rate	Maximum Spaces Permissible
Residential			
1 bedroom apartment	75 apartments	1 space / apartment	75
2 bedroom apartment	129 apartments	1 space / apartment	129
3 bedroom apartment	100 apartments	1.25 spaces / apartment	125
Visitor	304 apartments	1 space / 4 apartments	76
Commercial			
Commercial GFA	3,810m ²	1 space per 75m ²	51
Retail			
Shop / tenancy	2 shops	1 space per shop	2
Total			458

Bicycle Parking

The DCP requires the following allocation of bicycle parking spaces:

- Residential:
 - 1 bicycle locker per 10 apartments plus 1 bicycle rail / rack per 12 apartments
- Commercial:
 - 1 bicycle locker per 600m² plus 1 bicycle rail/rack per 2,500m²
- Retail:
 - 1 bicycle locker per 450m² plus 1 bicycle rail/rack per 150m²

Taking into account the above provision rates the proposed development generates a requirement for the provision of 38 bicycle lockers and 29 bicycle racks. Bicycle parking is provided in accordance with this requirement.

Traffic Generation

The residential traffic generation of the proposed development is based on the Roads and Traffic Authority's document "Guide to Traffic Generating Development" which recommends a trip generation rate of 0.24 to 0.29 vehicles per hour per apartment two-way (sum of arrivals and departures).

For the retail/commercial component, CBHK have based the commercial trip generation rate on other similar commercial buildings located on the north shore and close to public transport and have estimate some 0.3 to 0.4 vehicles per hour per parking space during the morning and afternoon peak periods. Based on the above trip generation rates the proposed development would generate some 80 to 100 vehicles per hour two-way during peak periods.

CBHK has compared the above trip generation with that of the approved commercial development on the site. With 28,144m² of commercial floor space and car parking for 219 vehicles, the commercial building was expected to generate some 110 to 180 vehicles per hour two-way during peak periods. Hence the proposed development is expected to generate fewer trips than that which has previously been found to be acceptable on the site.

In addition to the above, CBHK note that in the original assessment they undertook for the overall development of the approved Pacific Place masterplan site they estimated that the commercial development would generate some 160 vehicles per hour two-way during peak periods and found that the surrounding road network would continue to operate satisfactorily.

For the purposes of their assessment CBHK adopted the higher rate of 100 vehicles per hour two-way during the morning and afternoon peak periods. The results of their assessment show that there will be some small increases in traffic flows, however these are lesser than that which was generated by the previously approved commercial development. CBHK conclude that the surrounding road network will continue to operate at the same levels of service with similar average delays compared to today.

Car Park Access and Design

In accordance with the approved Masterplan for the site, access to the proposed development will be provided from Railway Street, via a shared driveway with the adjacent Epica Building. The shared driveway will provide access to the Epica

Building service area and to the basement parking and service area for the proposed development. The entry/exit driveway will be on the title of 7 Railway Street and easement rights have been granted to Epica.

CBHK has reviewed the proposed car park design and are of the opinion that the proposed access arrangements are appropriate and will cater for the swept paths of cars and service vehicles in accordance with the relevant Australian Standards.

They have also reviewed the proposed car parking dimensions and note that these also comply with the relevant standards.

Sustainable Transport and Implications for Non-car Travel Modes

Notwithstanding that the traffic generation of the development is acceptable, in order to encourage the use of more sustainable forms of transport, it is proposed that a Sustainable Travel Plan will be prepared and issued to purchasers. The STP will:

- encourage public transport by residents and tenants through the provision of information, maps and timetables;
- raise awareness of health benefits of walking and cycling (including maps showing walking and cycling routes);
- encourage cycling by providing safe and secure bicycle parking, including lockers and change facilities.

A commitment regarding the preparation of a Sustainable Travel Plan prior to the occupation of the building is provided at Section 6 of this report. It is also noted that the reduced provision of car parking on the site will further encourage the use of sustainable transport modes.

5.14 Equitable Access

Morris-Goding Accessibility Consulting (MGAC) has reviewed the proposed design for compliance with AS1428, the BCA and the Commonwealth Disability Discrimination Act (DDA). MGAC's assessment is included at **Appendix GG**.

In summary MGAC consider that the proposed development complies or is capable of complying with the requirements of the above documents and that the proposal provides an acceptable level of access for people with mobility impairments.

Common Building Areas and Public Domain

MGAC consider that the proposed development provides continuous accessible paths of travel throughout the building.

A continuous path of travel is achievable to the upper level of the RES open space area via a public lift associated with the Cambridge development.

The western public plaza will comprise an at-grade section and a mid section over the proposed vehicular access to the basement, both of which will be accessible. The continuous path of travel to the mid section will comprise a 1:20 walkway which will afford a similar level of amenity when compared to the upper section provided above the RES.

MGAC consider the provision of a continuous accessible path of travel to the top of the RES via the Cambridge lift satisfies the DDA principle of non-discriminatory access for people with a disability.

Retail / Commercial Components

A continuous accessible path of travel is provided to the retail and commercial components of the building from the main entrance and via lifts to the commercial levels.

The main paths of travel within each of the commercial office levels will allow a single wheelchair user the ability to turn 180° in an independent and equitable manner. The main paths of travel will also allow two wheelchairs to pass one another simultaneously in opposite directions.

Unisex accessible toilets are provided on each floor of the commercial tenancies.

Residential Component

A continuous path of travel is available from the residential lobby to the front entrance of all apartments on levels 5 to 42 (inclusive).

The proposal provides 10% (31 apartments) of the total number of apartments (304 apartments) as adaptable apartments which is consistent with SEPP 65 but falls short of the 50% required by Willoughby's DCP.

As demonstrated in **Table 7**, Willoughby City Council's requirement is one of the highest in Sydney and significantly higher than other similar transit-orientated LGAs and neighbouring LGAs. A provision of 10% adaptable apartments is consistent with the provision rates of other transport orientated LGAs and also the amount of adaptable apartments approved as part of the CRI tower above the Chatswood Railway Station and that currently proposed as part of the Thomas Street car park redevelopment. In light of the above, the provision rate of 10% (31 apartments) on this site is a large quantum of adaptable apartments and is considered reasonable and consistent with that which is generally accepted in Sydney and more recently within the Willoughby LGA.

Access to residential facilities such as the swimming pool, gym, mailboxes and garbage rooms will comply with the requirements of AS1428.

Table 7 – Adaptable housing requirements of other LGAs

Local Government Area	Adaptable Housing Requirement	Number of dwellings that proposed development would be required to provide
City of Sydney (lift provided)	15%	46
Ku-Ring-Gai Council	Any residential development containing 8 or more dwellings shall provide 1 dwelling that is accessible to the disabled. A further dwelling accessible to the disabled shall be provided for every 20 dwellings provided thereafter	16
Hornsby Council	2% of high density development comprising 150+ apartments	6
Warringah Council	10% if locational criteria is met	31
Penrith Council	10%	31
Parramatta Council	10%	31
North Sydney Council	10%	31

Accessible/adaptable parking spaces are provided for all components of the building in accordance with the requirements of the Australian Standards. A commitment has been made at Section 6 of this report which outlines that the accessible/adaptable spaces will be linked to the adaptable apartments when the building is strata subdivided.

5.15 Construction Management

Mirvac Constructions Pty Limited has prepared a Construction and Environmental Management Plan (CEMP) for the project (Appendix HH). The plan will be implemented and managed by the Mirvac Senior Management Team for the project. It will be monitored throughout the project construction phase and amended from time to time to suit construction requirements (refer to Commitments at Section 6). The management issues addressed in the plan are summarised below.

Construction Hours

The following construction hours are sought:

- Between 7.00am and 6.00pm, Mondays to Fridays inclusive
- Between 7.00am and 4.00pm, Saturdays
- No work on Sundays or public holidays.

Pedestrian and Traffic Management

Access to the site will be via the existing gates on Railway Street. Qualified traffic controllers will be provided where necessary to ensure pedestrians and vehicles are allowed safe access adjacent to the project.

In order to ensure pedestrian safety, Class A and B hoardings will be erected around the site. Signs will also be erected alerting both pedestrians and drivers of the potential danger in close proximity of the construction site.

Additional principles for traffic management are also outlined in CBHK's Traffic Report at **Appendix V**.

Noise Management

The Noise Management Plan will ensure construction noise is restricted to the approved working hours and will comply with EPA requirements, Australian Standards and Mirvac's noise control policy.

Specific measures taken will include ongoing noise assessment and monitoring of the site, use of only silenced compressors on site, use of Class A and B hoarding, and the implementation of site rules prohibiting the use of noisy audio equipment, loud shouting or swearing.

Waste Management

Materials selection and ordering will be undertaken in order to minimise waste from over-ordering, reduce packaging and ensure that safe handling and storage processes are implemented.

Waste disposal will be formulated around a principle of reduce, reuse and recycle, leading to the reduction in overall waste. Mixed waste will be transported off-site for further sorting and recycling, which will be monitored by the preparation of regular waste performance reports.

Rail Corridor Management

Several guiding documents including reports on the geotechnical investigation of the site, structural designs for shoring of the Railway Enclosure Structure (RES), a long term monitoring program for the RES and a rail noise and vibration assessment will be used to guide work on this site. A site-specific Workplace Risk Management Plan will be developed to identify key areas affecting occupational health and safety.

Full time on-site supervision will be provided by geotechnical engineers from Douglas Partners during and after all excavation works, and geotechnical mapping and analysis of the site will guide these works. This will ensure that the structural integrity of the RES is not compromised at any time, and ensure that all permanently inclined rock anchors below the RES are installed correctly.

No physical access will be required within the RES or rail corridor during works, and in continuation of previous requirements of Railcorp regular status updates will be provided and access arrangements made for Railcorp inspection of the RES and associated works.

Air Quality

Dust during construction will be minimised on the site through the use of water carts, covered loads on all trucks and capping of earthworks as soon as possible to reduce soil mobilisation.

Mechanical sweepers and covered waste bins will be used to minimise the spread of construction and site waste, and no burning of any material will be allowed on site. Vehicle wash facilities will be located at all exit points to the site to ensure no mud is carried out of the site, and road sweepers will be used to maintain the cleanliness of entry and exit points so as to prevent dust and waste affecting air quality.

Hazardous Materials and Waste Classification

A Waste Classification Assessment has been completed for the site by Douglas Partners, which identifies materials which have been used for filling as 'General Solid Waste (non-putrescible)' and natural soils as 'Virgin Excavated Natural Material'. An 'Unexpected Finds Protocol' will be developed prior to construction in order to guide construction workers in the excavation stage of the project.

Fuels required on site will be stored in accordance with EPA, DECC and Work Cover guidelines, and refuelling and spill procedures will be developed in order to minimise risk.

Dangerous goods stored on site will be stored in quantities and conditions which comply with EPA, DECC and Work Cover guidelines, and all storage will additionally be bound by the Mirvac Group Dangerous Goods Storage Guidelines. A dangerous goods register and material safety data will be kept by Mirvac in order to ensure all relevant safety information is available for goods used on site.

Erosion and Sediment Control

An Erosion and Sediment Control Plan will be implemented for the site during construction, with the purpose of ensuring that no off-site environmental impact is caused by overland stormwater flows. Installation of temporary sediment basins, water treatment facilities and controlled overland flow paths on site will be key components of this plan, and will ensure that water quality or quantity in downstream water courses are not adversely affected.

All transports leaving the site will be checked to ensure loads are covered to prevent the possibility of material spilling into the stormwater system, and the wash-down of concrete trucks will be conducted to ensure that no such wash can enter Council gutters, pits or drains.

Site Management & Work Place Risk Management

Key tools in managing safety will be the ongoing implementation of Mirvac's Workplace Risk Management Plan and Job Safety Environmental Analysis. A Site Specific Workplace Risk Management Plan shall be implemented prior to the commencements of works. The Site Management Plan shall be the main tool for guiding the phases of construction, order of works, ecological controls and measures and Mirvac's interaction with the surrounding community.

The main Mirvac personnel responsible for the environmental management of the project will be the Site Manager and the Health Safety Environment Officer, who will be responsible for the implementation of these plans and policies. The workplace shall be inspected at regular intervals to ensure that all environmental controls are established and maintained as required.

Interaction with Surrounding Community & Dispute Resolution

The local community will be kept informed about the operation and environmental performance of the project via the distribution of a neighbourhood fact sheet which will outline any activities which may affect community amenity. Mirvac has in place a Community Contact Procedure which establishes a 'Community Contact Register' which ensures that all community representations to Mirvac are noted and that follow-up action is taken within 48 hours.

5.16 Ecologically Sustainable Development and BASIX

Building Code of Australia - Section J

Vipac Engineers and Scientists Limited (Vipac) has undertaken an assessment of the building's compliance with Section J of the BCA (**Appendix S**). The main objective of Section J is to reduce greenhouse gas emissions by reducing energy usage.

Vipac consider that the proposal achieves compliance with Section J through a mix of passive and active measures including:

- The building has a high thermal performance in terms of effective wall and roof insulation;
- Appropriate seals will be installed in roof/wall construction and windows so as to achieve the required air-infiltration controls;
- Efficient hot water systems will be installed; and
- The development will comply with the requirement for access for maintenance.

BASIX

Vipac Engineers & Scientists Ltd has completed the BASIX certification and BERS Pro thermal simulation for the proposed development which is included at **Appendix S**. The document reports on the results of these assessments and outlines the steps taken to achieve compliance.

The proposed development achieves the mandatory BASIX water target of 40% and the mandatory BASIX energy target of 20%. As such the proposal meets all of the requirements for achieving a BASIX certificate.

The following design measures have been proposed to meet the above targets:

- Water
 - 1,000m² of indigenous / low water use species
 - 50,000L rainwater tank collecting 100% of total roof area for toilet flushing
 - 50,000L rainwater tank collecting from 80% of the soft landscaping area – used for landscape irrigation
 - Minimum 3 star rated fixtures and fittings
- Thermal Comfort
 - External wall insulation
- Energy
 - Centralised solar (gas boosted) hot water system
 - Centralised cooling system
 - Use of CO monitors and time clocks on common area ventilation
 - Use of motion sensors, zoned switching and time clocks for lighting
 - Energy efficient light fittings and fixtures in apartments

5.17 Drainage

AECOM Pty Limited was commissioned to prepare a Stormwater Management Plan (SMP) for the project. Their report is included at **Appendix JJ** and summarised below. The SMP is based on and is consistent with the Master Stormwater Management and Concept Plan for the Pacific Place Masterplan site which was prepared by Bainbrigge and Partners. It is noted that the majority of the original Master SMP has been installed and completed during the earlier stages of construction of the Pacific Place Masterplan.

Drainage

For the purposes of the SMP the site has been divided into four separate catchment areas:

- Area A – Commercial / Residential Building (1,200m²)
 - Rainwater from the roof will be collected and conveyed via the downpipe system, to a rainwater harvesting tank with the overflow diverted to the On Site Detention (OSD) tank located on the eastern side of the RES.
 - The collected rainwater will drain to a 50m³ Rainwater Tank which will be located in the basement of the building. Water balance calculations indicate that the harvest rainwater will meet the demand for toilet flushing 62% on an annual basis.
- Area B – Western Landscape Zone (1,800m²)
 - Surface and subsurface water will be collected and conveyed via a series of SW pipes to a CDS filtration unit, then to the landscape rainwater harvesting tank. Overflow equipment from the harvesting tank will be directed to the OSD tank on the eastern side of the RES.

- The collected rainwater from Areas B & C will drain to a 50m³ Rainwater Tank which will be located in the basement of the building. The rainwater will be reticulated via a booster pump. The water balance calculations indicate that on an annual average basis, the proposed volume will meet the irrigation demands 90% of the time.
- Area C – RES (820m²)
 - Surface water will be collected and conveyed via a series of SW pipes to the CDS filtration unit, rainwater harvesting tank and overflow equipment and components servicing Catchment Area B.
- Area D – Eastern Landscape Zone (375m²)
 - The subsurface water only will be collected and conveyed via a SW pipe to the OSD tank.

The OSD system will be provided in accordance with Section 5, Tables 1 and 2 of Willoughby's DCP and will have a total capacity of 129m³. Plans showing the location of stormwater infrastructure are included at **Appendix JJ**.

AECOM has confirmed that no stormwater will be directed onto the rail corridor and that there will be no hydrological impact on the rail corridor. All necessary measures will be taken to collect any seepage water from the Rail Corridor retaining walls, where it will be conveyed to the building's subsoil water collection system.

Flooding

An overland flow path is to be provided through the site. The existing overland flow path from the adjoining property to the north of the site will be continued through the site, parallel to the rail corridor and through the pedestrian underpass located under the RES. From there the flow path will continue to discharge to the boundary located on Help Street.

The entry level to the building is RL 95.7. This is approximately 400mm above the current surrounding boundary levels on Railway Street and considerably higher than street levels in Help Street. It is approximately 1.7 meters above the levels of the proposed pedestrian passageway. The level of the ground floor (entry) of the building shall ensure water from any overland flow paths will not ingress into the building. All overland flow paths are designed to direct stormwater runoff away from entrances into the building.

Water Sensitive Urban Design

In order to ensure that water is used efficiently on the site, the following water conservation measures have been incorporated into the design of the development:

- All new tapware will be water efficient with a minimum 3 Star WELS rating
- Roof rainwater will be captured and reused for toilet flushing purposes
- Rainwater will be captured and reused for irrigation purposes
- Landscaping will be designed to have a low water demand

5.18 Noise and Vibration

Renzo Tonin & Associates (Renzo Tonin) has undertaken an assessment of noise and vibration impacts. Specifically they have assessed the following issues:

- Rail noise and vibration associated with the North Shore railway line, and
- Traffic noise associated with Railway Street, Help Street and Pacific Highway.

Their report is included at **Appendix W** and summarised below. In preparing their assessment, Renzo considered the following documents:

- SEPP Infrastructure 2007
- *Development Near Rail Corridors and Busy Roads – Interim Guideline 2008* prepared by Department of Planning
- Australian Standard AS/NZS 2107:2000 “Acoustics – Recommended design sound pressure levels and reverberation for building interior”

Noise

In order to establish existing noise levels at the site Renzo Tonin undertook operator attended and long term rail noise monitoring. Following this Renzo undertook noise calculations for each of the four building facades to determine appropriate glazing recommendations, these are summarised in **Table 8**. A commitment has been made at Section 6 which requires acoustic glazing and seals to be installed in accordance with the recommendations made. With the recommended glazing installed, Renzo Tonin are of the opinion that the proposed development will achieve a suitable level of internal acoustic amenity.

Vibration

At the same time that noise monitoring was undertaken, ground vibration levels were also recorded. The graphs contained within Renzo Tonin’s report demonstrate that the ground vibration levels from train pass-bys were in compliance with the British Standard BS6472:1997 for human comfort in a residential environment during the day and night periods, and were within the acceptable range of DECCW’s criterion of intermittent vibration. In light of this Renzo Tonin advise that no additional acoustic vibration treatment is required.

Table 8 – Acoustic Glazing Recommendations

Façade	Level	Occupancy	Glazing Thickness and Type	Acoustic Rating of Glazing Assembly
Residential				
South	All apartments on Levels 5 to 24 and Levels 26 to 42	Sleeping areas	10.38mm laminated glass or equivalent	Rw35
		Open plan living / dining / kitchen	6.38 laminated glass or equivalent	Rw32
East	All apartments on Levels 5 to 24 and Levels 26 to 42	Sleeping areas	10.38mm laminated glass or equivalent	Rw35
		Open plan living / dining / kitchen	6.38 laminated glass or equivalent	Rw32
West	All apartments on Levels 5 to 24 and Levels 26 to 42	Sleeping areas	10.38mm laminated glass or equivalent	Rw35
		Open plan living / dining / kitchen	6.38 laminated glass or equivalent	Rw32
North	All apartments on Levels 5 to 24 and Levels 26 to 42	Sleeping areas	10.38mm laminated glass or equivalent	Rw35
		Open plan living / dining / kitchen	6.38 laminated glass or equivalent	Rw32

Façade	Level	Occupancy	Glazing Thickness and Type	Acoustic Rating of Glazing Assembly
North and West	Level 1	Lobby	4mm monolithic glass	Rw25
Commercial				
South and West	Level 1 to 4	Retail / Commercial areas	6mm monolithic glass	Rw28

Source: Renzo Tonin & Associates

5.19 Geotechnical Assessment

Douglas Partners Pty Ltd (DP) has previously been involved with development on the Pacific Place site. In particular they have undertaken detailed geotechnical investigations for the completed buildings and also carried out full-time inspections of the bulk excavation and installation of permanent anchors and horizontal ties below the RES during the construction of the various basement structures. As a result of the above, DP have a good understanding of the site and were commissioned to prepare an updated geotechnical assessment for the proposed development (**Appendix T**).

When excavating the site, DP expect to encounter a thin layer of imported fill with clay, very low to low strength shale grading to medium underneath and high strength shale and siltstone in the lower 2m – 5m of the excavation. DP consider the removal of the filling, clays and low strength shale to be relatively straightforward however the lower portions of the proposed excavation, where higher strength shale will be found, may require moderate to heavy ripping by a heavy D9, D10 or D12 class bulldozer or equivalent. Appropriate vibration monitoring measures will be implemented to ensure that there is no structural damage to surrounding buildings and the RES.

A reinforced shotcrete wall with permanent horizontal ties and inclined rock anchors will be used to support the excavation along the rail line. DP recommend that a detailed methodology and construction monitoring plan be prepared prior to construction outlining the methodology and monitoring requirements for the excavation and shoring support adjacent to the rail corridor. A commitment to this effect is made at Section 6 of this report.

5.20 Structural Design

Opus International Consultants (NSW) Pty Ltd (Opus) has been commissioned to undertake the structural design of the building work for the project (**Appendix X**). They advise that the general structural, layout and framing system for the building will be as follows:

- Structural Framing System – Full concrete frame incorporating reinforced concrete slabs, prestressed concrete slabs, concrete columns and concrete walls
- Footings – Pad footings and strip footings on medium strength sandstone will be used to support building loads. Footing design will be based on the recommendations of the Geotechnical Engineers based on investigations carried out on site
- Lateral stability – will be provided by interaction between the concrete lift cores, stair cores, concrete shear walls, with all the columns and floorplates. The columns are elongated in the narrower directions of the building to enhance their effectiveness in this regard.

With regard to the RES, Opus advise:

- Additional excavation adjacent to the west of Railway Enclosure Structure for the proposed basement levels 5 – 7 will require additional shotcrete shoring and additional anchors to be installed on the western wall of the Railway Enclosure Structure. The proposed shoring and corresponding ground anchors are shown on the structural drawings prepared by Opus.

- The proposed new building footings adjacent to the Railway Enclosure Structure will be pad footings and strip footings on Class II or Class III competent rock, with an allowable bearing pressure in excess of 3500 kPa. The footings will be completely outside the RES and will be assessed and certified by the geotechnical engineer that they will not adversely impact on structural stability and integrity of RailCorp's facilities and infrastructure.
- The structure of the proposed new building, including footing elements, does not exert any loads or pressures on the Railway Enclosure Structure.

5.21 Electrolysis Assessment

Cathodic Protection Services were commissioned to undertake an electrolysis assessment and make recommendations in relation to potential corrosion hazards to the structure from stray traction current (**Appendix KK**).

The following design measures will be incorporated so as to combat the risk of potential corrosion hazard:

- Temporary rock anchors will be fitted with an insulating pad which prevents any conduction of stray traction current,
- Piers will be a minimum 32 mpa concrete and 75mm cover,
- Piles and shotcrete walls will be protected by either:
 - Reinforcing the fabric of the walls with an "electrical gap" at each pile wall, or
 - Dowels will be staggered into the piles which support the reinforcing fabric,
- Basement floors will be provided with a moisture barrier which will act as an insulating barrier,
- Internal underground walls will be designed to avoid short circuiting of the electrical isolation provided by an electrical gap in the shotcrete wall reinforcing,
- Services will be provided with appropriate insulation and isolating joint.

5.22 Consultation

Elton Consulting Pty Limited was commissioned to facilitate public consultation of the proposed development. They have prepared a report summarising the meetings that were held and the key issues raised in those meetings which is included at **Appendix LL**.

In preparing the application the following people / agencies were consulted:

- Willoughby MP – Gladys Berejiklian
- Willoughby Council Planning Officers
- The Pacific Place Community Association Owners Corporation
- The Cambridge Apartments Executive Committee
- Executive Members of Regency Apartments
- Willoughby Chamber of Commerce
- Department of Planning Officers
- Residents from the upper level apartments in Epica
- RailCorp

The key issues raised in those meetings are summarised and responded to in the table below.

Table 9 – Response to key issues raised during consultation sessions

Key Issue	Response
View Impacts	The impacts associated with the existing view corridors of the apartments are discussed in Section 5.9. Neighbours will benefit from increased building setbacks from the commercial scheme which will improve apartment outlooks. In addition, the proposed building footprint will provide different view corridors to neighbouring buildings. Many of the neighbouring apartments will have larger view corridors with some neighbours having views opened up to one aspect but closed to another.
Overshadowing impacts	Shadow diagrams are included at Appendix DD and demonstrate that the proposal will not have any adverse overshadowing impacts on June 21 on any residential property between 9am and 3pm or Chatswood Mall between 11.30am and 2pm.
Security of open space on RES and through site line	The proponent will seek to have a management plan implemented whereby access to the area can be closed at night. The Proponent requests the DOP consider whether it is appropriate for the landscape space above the RES to be accessible to the public due to safety and security concerns outlined in this report.
Maintenance of open space	The open space will be on the title of 7 Railway Street and will therefore be the responsibility of the owners of that lot.
Height of existing access to Epica loading dock	The loading dock entry is 3.5m high and complies with the Australian Standards and the minimum requirements of the DA approval for the Epica building and is adequate for the site.
Parking	In line with the Traffic Assessment, car parking numbers provided are in accordance with Willoughby DCP and traffic generation will be lower than previously assessed for the approved commercial building. Access, servicing and internal layout will be provided in accordance with the relevant Australian Standards.
Wind Protection	Recommendations made by the Wind consultant will be incorporated into the design of the building and open space.
Change of Use	The proponent has not been able to secure a commercial tenant for the approved commercial building over the past seven years due to the weak commercial market in Chatswood and low demand. As such a mixed use building has been proposed with a reduced component of commercial located at lower levels and residential apartments above. The commercial component proposed is significant and would make a substantial contribution to office jobs growth in Chatswood to 2031. The proponent is committed to completing the final site in the Pacific Place precinct and delivering a quality building and open space for the public.

5.23 Response to Willoughby City Council Submission

On 9 October 2009 Willoughby City Council wrote to the DoP in relation to the Preliminary Environmental Assessment and also the DoP's request for any specific assessment requirements of Council. The submission is included at **Appendix C** and a response is provided below. For ease of reference the same headings have been used.

Chatswood Strategy

A discussion on the proposed land use and compliance with the subregional strategy is provided at Sections 4.2 and 5.2 of this report. Economic studies prepared for the proponent demonstrate that there is limited demand for commercial floor space within the Town Centre and that the job targets for the Willoughby LGA are likely to be in excess of that which is achievable due to the large competition of other nearby commercial centres.

In light of this the proposed mix of uses of the site is considered to be an appropriate outcome as it will provide both new housing and employment opportunities within close proximity of a major transport node, employment and retail facilities.

The Mirvac Proposal

The proponent is committed to completing the final site in the Pacific Place precinct and delivering a quality building and open space for the public. Mirvac has sought in many ways (refer to Section 5.2) to secure a tenant and construct the approved commercial building. Notwithstanding that the approved mix of uses will change, the proposal will deliver many of the key outcomes that Council is seeking on the site, including a new piece of public open space and a through site link.

Urbis Market Assessment

Following Council's comments on the Urbis Market Assessment, Leyshon Consulting was commissioned to undertake a peer review of the assessment. The peer review is included at **Appendix Z**.

Other Issues

1. Scale of Development

A discussion on the height and scale of the development is provided in Section 5.2 of the report. It is considered that the proposed development provides a suitable transitional height down from the residential towers above the railway station down to the residential buildings to the north and the Pacific Highway.

2. Contributions to Metropolitan Strategy Targets

The proposed development will provide 304 new dwellings and up to 250 new operational job opportunities which is approx 5% of the new dwelling target and 4% of the new jobs target set for the Willoughby LGA. This is considered to be a substantial contribution given the commercial trends within the Chatswood Town Centre from 2001 onwards.

3. Retention of Through Site Access

The through site access is proposed to be retained and forms part of the development proposal.

4. Amount of Parking

The proposal provides 395 spaces which is 63 spaces less than the maximum which is permitted under the Willoughby DCP. The proposal also includes a commitment to prepare a Sustainable Travel Plan which will be issued to purchasers so as to encourage the use of sustainable forms of transport.

5. Long Term Maintenance of Open Space

The ownership and responsibility for maintenance of the publicly accessible open space will remain with the building management / owners of 7 Railway Street. Council will not be required to maintain the space unless Council seeks or accepts dedication.

6. Chatswood Mall

The shadow diagrams at **Appendix DD** demonstrate that the proposed development does not generate additional shadow on Chatswood Mall compared to the commercial development already approved on the site, during the critical hours of 11.30am and 2pm on June 21.

7. Sustainable Development

The proposal will not reach carbon and water use neutrality. It does however meet the requirements of BASIX and Section J of the BCA. It also includes Water Sensitive Urban Design features and includes measures to reduce car trips generated on the site. The proposal is considered to be a sustainable form of development.

6.0 Draft Statement of Commitments

In accordance with the Director-General's Environmental Assessment Requirements, the Proponent is required to include a Draft Statement of Commitments in respect of environmental management and mitigation measures on the site. **Table 9** outlines the commitments made by Mirvac Projects Pty Limited to manage and minimise potential impacts arising from the project.

Table 10 – Draft Statement of Commitments

Subject	No.	Commitments	Timing
Dilapidation	1.	Dilapidation reports will be prepared for surrounding residential properties.	Prior to works commencing.
Excavation	2.	A detailed methodology and construction monitoring and management plan will be prepared by a suitably qualified engineer	Prior to excavation works commencing.
Construction Management	3.	The Construction and Environmental Management Plan will be monitored throughout the project construction phase and amended from time to time to suit construction requirements.	Throughout the duration of construction works.
Wind Assessment	4.	Wind tunnel testing will be undertaken to confirm the proposed design mitigation measures recommended by Windtech Consulting Pty Limited.	Prior to issue of a Construction Certificate for works above ground.
Natural Ventilation	5.	Wind tunnel testing will be undertaken to confirm the projects compliance with the natural ventilation requirements of the Residential Flat Design Code.	Confirmed prior to issue of a Construction Certificate for works above ground.
Solar Reflectivity	6.	All facade glazing and materials will have a normal specular reflectivity of visible light of 20 percent or less.	Confirmed prior to issue of a Construction Certificate for works above ground.
Acoustic Amenity	7.	Glazing will be installed in accordance with the recommendations of Renzo Tonin & Associates.	Prior to issue of an Occupation Certificate
Landscaping	8.	A maintenance manual will be prepared by a qualified landscaped architect for all of the proposed landscaped areas. The building management scheme of 7 Railway Street will responsible for the implementation of the management plan.	Prior to the issue of a final Occupation Certificate
Sustainable Travel	9.	A Sustainable Travel Plan will be prepared by the Proponent and issued to all purchasers.	Prior to the issue of a final Occupation Certificate.
Adaptable parking spaces	10.	The parking spaces nominated as being adaptable on the architectural plans will be linked to the adaptable apartments as part of the strata subdivision of the building.	Prior to the issue of a final Strata Subdivision Certificate.
Commercial Floor space	11.	A minimum of 3,600m ² GFA of commercial floor space will be provided within the development.	Prior to issue of an Occupation Certificate.

7.0 Conclusion

The Project Application seeks approval for the following scope of works:

- Excavation of part of the site to the west of the North Shore Railway Line;
- Construction of a 7 level basement comprising:
 - 395 car parking spaces and 16 motorcycle parking spaces;
 - 2 loading spaces (accommodates 2 x 8.8m truck);
 - Residential bicycle parking;
 - Residential storage and residential facilities including pool and gym;
 - Commercial bicycle parking, lockers and shower facilities; and
 - Plant room.
- Construction of a 43 storey mixed use residential, commercial and retail building comprising:
 - 304 apartments (35, 214m² Gross Floor Area (GFA));
 - 3,810m² commercial GFA; and
 - 140m² retail GFA.
- Construction of public and private open space, including embellishment of areas to the east and west and on top of the Railway Enclosure Structure (RES); and
- Stratum subdivision of existing lot into two stratum lots and strata subdivision of the residential stratum.

The building will be of high architectural quality and will positively contribute to the Chatswood Skyline, providing a transition of building heights down from the residential towers above Chatswood Station to the Pacific Highway. The design of the proposed apartments will ensure that they achieve a high level of amenity in accordance with the design principles of SEPP 65.

This Environmental Assessment Report has demonstrated that the proposed development is generally consistent with the relevant planning controls and that the proposed mixed use residential / commercial development is a reasonable outcome given the low (and declining) demand for commercial floor space within the Chatswood Town Centre.

The report has also provided evidence that appropriate mitigation measures will be in place during the construction and operational phases of the development so as to minimise environmental and amenity impacts on surrounding development and residential amenity.

The proposal is expected to generate the following public benefits:

- Construction of 304 new residential dwellings within a highly accessible location which cater for a range of housing needs;
- Creation of up to 250 new operational employment opportunities within the Chatswood Town Centre and up to 1,500 jobs during construction;
- Provision and embellishment of 3,371m² of new public open space;
- Development of high quality design building on what is currently a vacant site that detracts from the Chatswood Town Centre and completion of the Pacific Place Precinct; and
- Payment of Section 94 contributions, subject to an off-set for ongoing maintenance of the publicly accessible open space.

In light of the above public benefits of the proposal and the absence of any adverse environmental impacts, the proposal is recommended for approval.