

Discovery Point Concept Plan Development Design Guidelines

Discovery Point, 1 Princes Highway, Wollongong
Residential and Mixed Use Development

Submitted to
Department of Planning
On Behalf of Discovery Point Pty Ltd

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1.0 Introduction

These guidelines are called the Discovery Point Development Design Guidelines. The guidelines have been prepared to introduce detailed development controls relevant to the Discovery Point Concept Plan site and are consistent with the Concept Plan approved under the Part 3A of the *Environmental Planning and Assessment Act 1979*.

These Development Design Guidelines provide detailed provisions that:

- establish a vision and key strategies to guide development;
- provide detailed urban design objectives and performance criteria to ensure that development responds to its context and the overall Concept Plan vision; and
- provide for flexibility and an integrated approach to the development process.

1.1 Context

Regional Context

Discovery Point is evolving from an industrial area into a high density mixed use residential area. In keeping with its unique location and accessibility to public transport, Discovery Point (as part of Wolli Creek) will achieve some of the highest residential densities within Rockdale City. To ensure that this occurs in a way that benefits the city both economically and aesthetically, a Structure Plan has been developed which, along with specific controls, will guide the development of the site.

Discovery Point, as part of Wolli Creek, forms part of the southern anchor of Sydney's major employment corridor by virtue of its location and major public infrastructure elements including the Wolli Creek Railway Station and proximity to M5 Motorway and Sydney Airport.

This provides Discovery Point with direct access by rail to south-western, southern and eastern Sydney, direct motorway access to Port Botany, south-western and eastern Sydney and the CBD, thus making it one of the most accessible places to live in the Sydney Metropolitan Region.

Local Context

Discovery Point is located within the north-western sector of Wolli Creek, bound by the Cooks River to the north, the Princes Highway to the east, Magdalene Terrace and Brodie Spark Drive to the south and the Illawarra Railway Line to the west.

The Discovery Point Concept Plan site includes Discovery Point Park and the Cooks River foreshore to the north-east and north, respectively. The site also includes the Wolli Creek Railway Station, providing access to the Illawarra and East Hills rail lines.

The proximity of the site to public transport and recreational facilities makes it an ideal location for high density residential development, with some non-residential development to support the new residential population.

1.2 Purpose and aims of the Design Guidelines

The purpose of these Development Design Guidelines is to:

- support the Discovery Point Concept Plan and facilitate the development of a mixed use residential development at Discovery Point, Wolli Creek;
- ensure development controls are consistent with the Discovery Point Concept Plan;
- communicate the planning, design and environmental objectives and controls against which the consent authority will assess future Development Applications;
- promote high quality urban design outcomes within the context of environmental, social and economic sustainability; and
- encourage innovative design with particular emphasis on the integration of buildings and landscaped areas that contribute to the character of neighbourhoods.

1.3 Land to which the Design Guidelines Apply

Discovery Point is part of the Wolli Creek Redevelopment Area, as defined by the Rockdale DCP 2011 (draft) and identified in **Figure 1**. The Discovery Point Concept Plan area, to which these Development Design Guidelines apply, is generally bound by the Cooks River to the north, Princes Highway to the east, Brodie Spark Drive and Magdalene Terrace to the south and the Illawarra railway line to the west, with the following areas excluded:

- Sites 1, 2 and 4 under the Masterplan DA 500/01; and
- St Magdalen's Chapel, Tempe House, Mt Olympus and their immediate curtilage.

The area to which the Design Guidelines apply is shown on **Figure 1**.



Figure 1 – Wolli Creek Redevelopment Area and Discovery Point CP site

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

1.4 Relationship to Concept Plan

These Development Design Guidelines are to be read in conjunction with the Discovery Point Concept Plan, as the provisions have been drafted to guide future development applications that will implement the Concept Plan. In accordance with the conditions of approval and Statement of Commitments of the Discovery Point Concept Plan, future Development or Project Applications are required to be consistent with the Development Design Guidelines.

1.5 Structure of the Design Guidelines

The Development Design Guidelines have been prepared in three parts:

- **Part 1 Introduction:**
 - This part contains the background as to why the guidelines have been prepared, identifies the land to which the guidelines apply and how the guidelines relate to other documents.
- **Part 2 Structure Plan:**
 - This part identifies the vision for the Discovery Point Concept Plan site as well as establishing the land use strategy, road network, open space network, built form controls and street character as stipulated in the Concept Plan.
- **Part 3-Part 9 Site Specific Controls:** These parts of the guidelines identify general controls for development within the Discovery Point Concept Plan site. These controls relate to all development permissible under the Concept Plan.
 - Part 3.0 Site Planning and Context
 - Part 4.0 Landscape Planning and Design
 - Part 5.0 Sustainable Building Design
 - Part 6.0 Social Equity
 - Part 7.0 Car Parking and Access
 - Part 8.0 Residential Flat Buildings
 - Part 9.0 Mixed Use Development

Aspects of this document acknowledge and adapt text and controls from Rockdale draft DCP 2010 to demonstrate consistency with the Concept Plan and vision.

2.0 Structure Plan for Discovery Point

The Structure Plan for Discovery Point (**Figure 2**) responds to the approved Concept Plan and provides the overriding principles for the future development of the Discovery Point Concept Plan site.

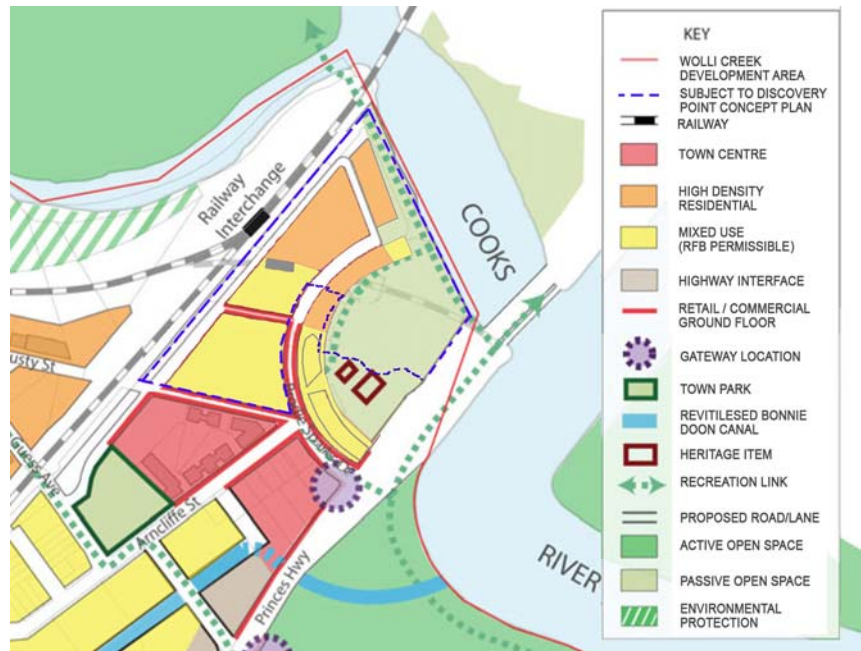


Figure 2 – Discovery Point Structure Plan

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

The key elements that drive the Structure Plan based on the Concept Plan are described further in the following sections of the Development Design Guidelines, including:

- Land use strategy;
- Road network and vehicular access;
- Open space and movement;
- Building form: building heights and density;
- Street character and development setbacks;
- Environmental Management.

Aspects of this Structure Plan including objectives acknowledge and adapt text from Rockdale draft DCP 2010.

2.1 Vision

The vision for the Discovery Point Concept Plan site is to create a vibrant residential neighbourhood with a permeable network of streets and open spaces. The design concept extends the public domain with the introduction of a new neighbourhood park while improving connections to existing public open space. Traditional urban typologies of perimeter blocks and pedestrian laneways, activated by retail uses, create a legible urban form that will support a high quality residential lifestyle.

Design Principles

The Design Principles for the Discovery Point Concept Plan site include:

- The development is to relate to the site's context by:
 - responding to the existing development at Discovery Point and the neighbouring 21 storey "Proximity" development;
 - integrating the station infrastructure without the use of over-track development; and
 - locating retail and commercial development to take advantage of commuter foot traffic.
- The development framework is to create a legible pattern of streets and blocks through the enhancement of the pedestrian permeability and improving connections to existing public open space;
- The development pattern is to allow for clear development staging and subdivision whilst maintaining a coherent overall form between stages;
- New public open space areas including Neighbourhood Park, Station Park and Waterfront Park are to provide additional recreation space for residents, commuters and the broader community;
- The built form massing is to respond to the existing context, defines public spaces and creates a variety of building scales and heights, whilst maximising solar access to apartments and open space;
- The location of the two 21-storey towers are to limit overshadowing of surrounding residential buildings and open spaces with the first forming a gateway to the south-eastern corner of the site, while the second marks the location of the railway station;
- Sustainability initiatives are to be integrated into the site, including building orientation and massing designed to:
 - maximize solar access to apartments and open space;
 - apartment building typologies that allow natural light to corridors; and
 - a high proportion of apartments with cross ventilation.

2.2 Land Use Strategy

The Discovery Point Concept Plan will create a new residential neighbourhood with supportive retail uses, employment and recreational uses close to the railway station.

Retail and commercial uses are to be focused within the Southern 'Village Square' Precinct, around the transport node and gateway into Discovery Point. This will create an activity hub around the new Neighbourhood Park and along the pedestrian links to and from the railway station.

A cafe or restaurant is also to be located on the ground level of Building 7 of the Eastern 'Dress Circle' Precinct.

High density residential development, in the form of residential flat buildings or shop top housing, will be provided throughout Discovery Point.

New open spaces are also proposed, with Neighbourhood Park, Station Park (between the railway station and Discovery Point Park) and Waterfront Park (extending from Brodie Spark Drive to the Cooks River foreshore).

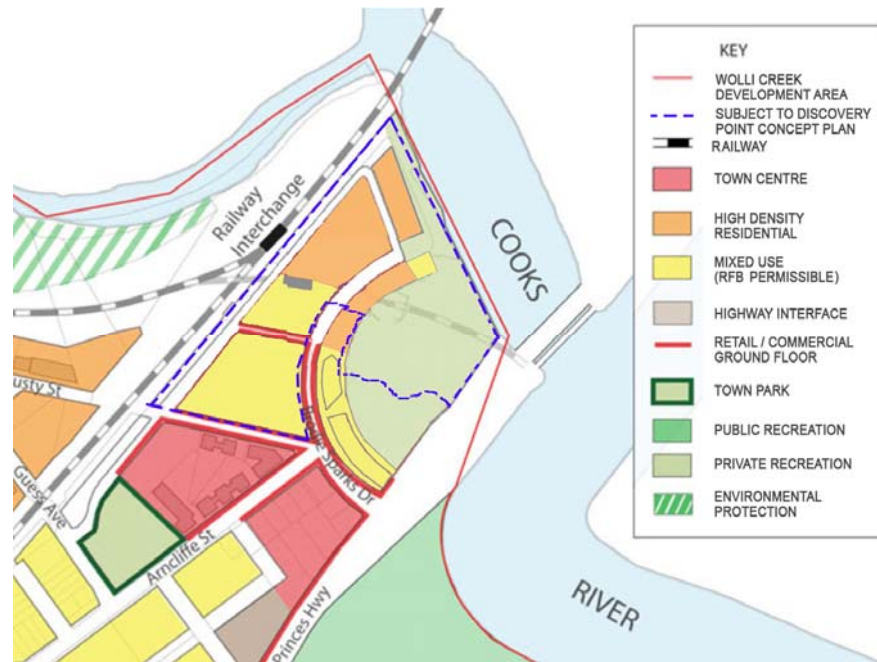


Figure 3 – Land Use Strategy

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

Objectives

- To change the character of the Discovery Point site from a degraded industrial environment to a high quality residential and mixed-use precinct, with a vibrant retail village centre.
- To provide for some employment generating activities near public transport.
- To provide for the day-to-day shopping and service needs of the local community.
- To provide open space to support the needs of residents, workers and visitors to the site.

Controls

- Development is to be consistent with the Land Use Strategy diagram at **Figure 3**.
- Where height difference between the street and the ground level of a building occurs (due to flooding constraints), ground floor uses should promote surveillance of the public domain by locating entrances, balconies, garden areas or steps between the street and dwellings.
- Residential flat buildings are permissible as free standing buildings in the mixed use area.

2.3 Road Network and Vehicular Access

A series of well integrated new streets are proposed to facilitate movement of vehicles and pedestrians around Discovery Point. Two north-south streets are proposed as access streets within Discovery Point, including the extension of Brodie Spark Drive towards the Cooks River as the primary access street, and Spark Lane along the railway line.

An alternating pattern of east-west pedestrian and vehicular links are proposed to increase permeability, provide access to the railway station and break the development blocks into smaller parcels. These secondary streets and pedestrian links have been aligned to maximise physical and visual connections into Discovery Point Park.

Objectives

- To create a permeable road network that facilitates efficient vehicular access to and circulation within the Discovery Point site which can be conveniently used by various modes of transport.
- To achieve a 50/50 modal split for private car to other transport modes for work related trips.

Controls

- New roads and road widenings are to be provided in accordance with the Discovery Point Concept Plan, Road Network and Vehicular Access diagram (**Figure 4**), specifications within **Table 1**.
- Street typology based on the Street Hierarchy Map (**Figure 5**) is to be used for the basis of streetscape design strategies, as described in more detail within the Discovery Point Public Domain Plan.

*Note: Dimensions in **Table 1** are to be measured from building envelope to building envelope.*

- Vehicular entries should be located on secondary frontages with a preference to rear lane access, where possible.

Table 1 – Proposed roads and minimum road widths

Road	Location	Width
Brodie Spark Drive	Extension of Brodie Spark Drive to Cooks River foreshore	18m
Spark Lane	New road along the railway line from Magdalene Terrace to Cooks River foreshore	11m
Discovery Point Place	Between Brodie Spark Drive and Spark Lane (Southern Precinct)	16m
Chisholm Street	Between Brodie Spark Drive and Spark Lane (Northern Precinct)	16m

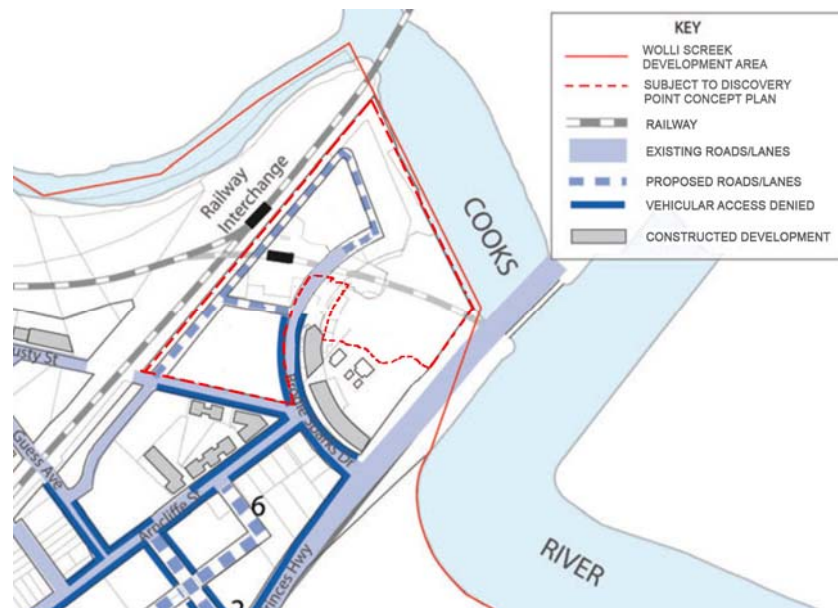


Figure 4 – Road Access and Vehicular Access

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

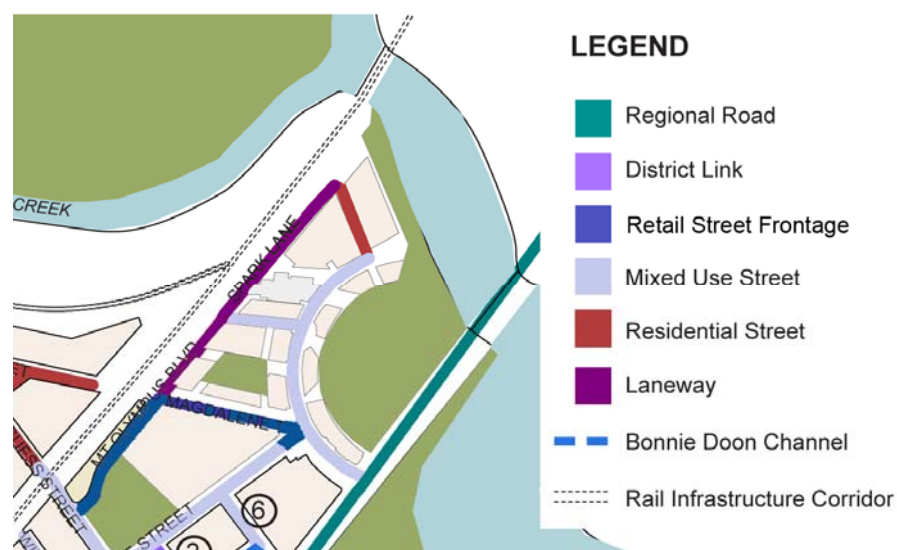


Figure 5 – Street Hierarchy

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

2.4 Open Space and Movement

A number of public open spaces are proposed within the Discovery Point site, including the retention and enhancement of Discovery Point Park, public access to the Cooks River foreshore, the creation of three new parks –Neighbourhood Park, Station Park and Waterfront Park.

Discovery Point is located near a number of open space corridors and existing cycleways, and therefore there is the opportunity to link with a number of existing local and regional pathways for pedestrians and cyclists.

Bicycle paths are to be provided along Brodie Spark Drive and the Cooks River foreshore to connect Magdalene Terrace to the Cooks River. The riverfront cycle paths are to connect through Discovery Point Park with the opportunity to link back to the wider regional cycle network.

The key pedestrian links are to include:

- two curved north-south pathways, one alongside Brodie Spark Drive and one along the western edge of Discovery Point Park;
- a pathway along Discovery Point Place and Chisholm Street;
- a dedicated pedestrian pathway through the new Neighbourhood Park and between buildings, running parallel to Brodie Spark Drive; and
- a number of east-west pathways between development blocks.

Objectives

- To ensure that the nature and distribution of public spaces, buildings and facilities enhances the public domain and links key features and activities within the Discovery Point site.
- To promote pedestrian and cycle links to encourage sustainable travel in the precinct.
- To enhance local pedestrian and cycle routes and link them with regional networks, residential areas, work, shopping and recreation activities and public transport nodes.

Controls

- Pedestrian and cycle paths must be provided as shown on the Open Space and Pedestrian / Cycle Network diagram (**Figure 6**) and the Connections diagram (**Figure 7**).
- Parks and open spaces must be provided as shown on the Parks and Open Space diagram (**Figure 8**).
- Provide safe pedestrian and cycle access across streets with ground level crossings preferable to pedestrian bridges and overpasses.
- Development is to comply with the Discovery Point Public Domain Plan.

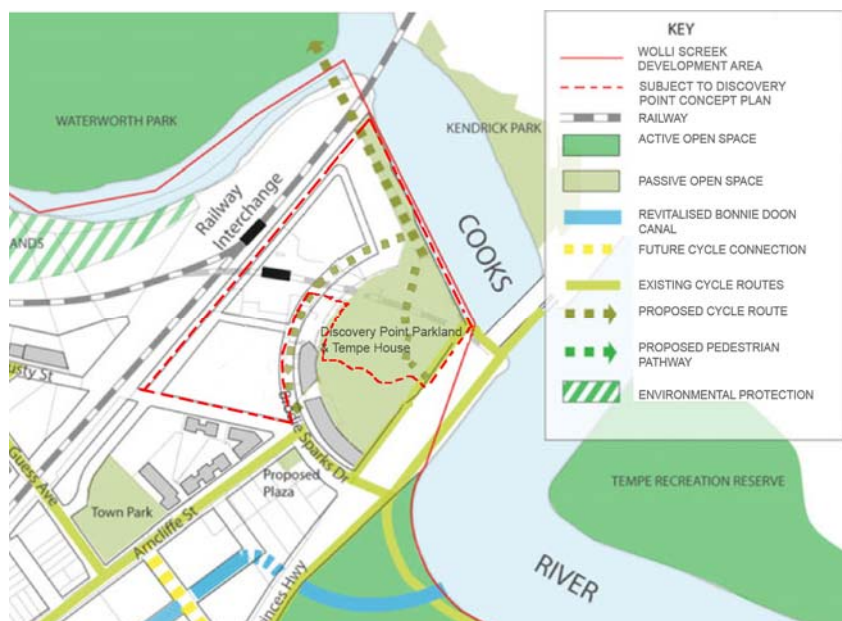


Figure 6 – Open Space and Pedestrian / Cycle Network

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

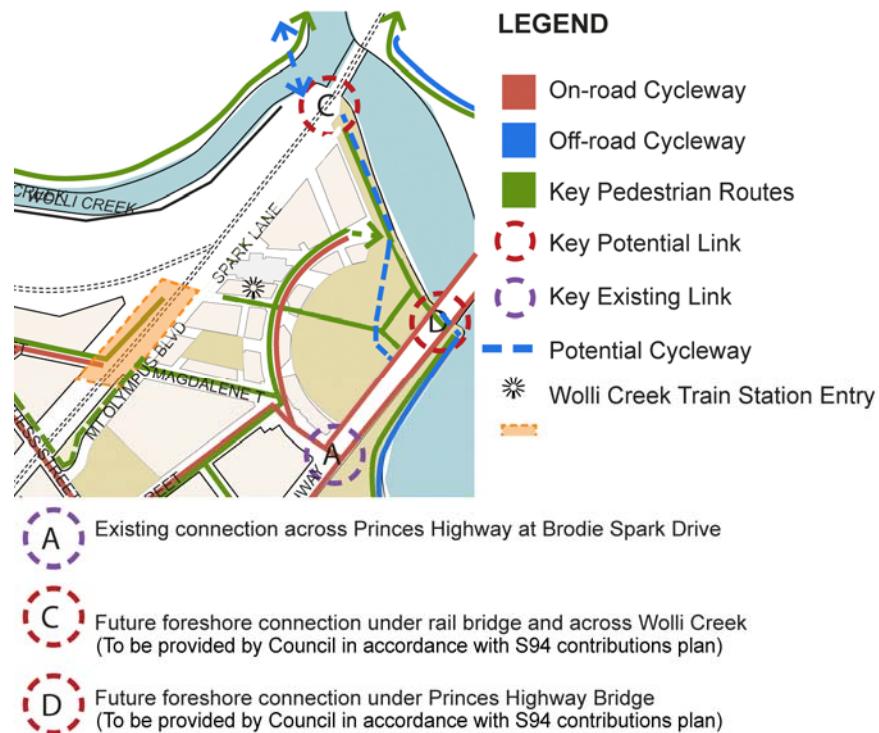


Figure 7 – Connections

Source: Rockdale City Council, edited by Discovery Point Pty Ltd



Figure 8 – Parks and Open Space

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

2.5 Built Form

The heights of buildings in the Discovery Point site provide for high density mixed use residential development. The Concept Plan nominates a range of permissible heights throughout the site that respond to particular site characteristics. The controls seek to locate taller building heights at key gateway and landmark locations.

Objectives

- To achieve a high density mixed use residential development in an accessible location.

Controls

- Building heights are to be consistent with the Discovery Point Concept Plan and the Building Height diagram (**Figure 9**).
- Where practical (within the Concept Plan envelopes), built form should preserve solar access to open space and rooftop podiums.

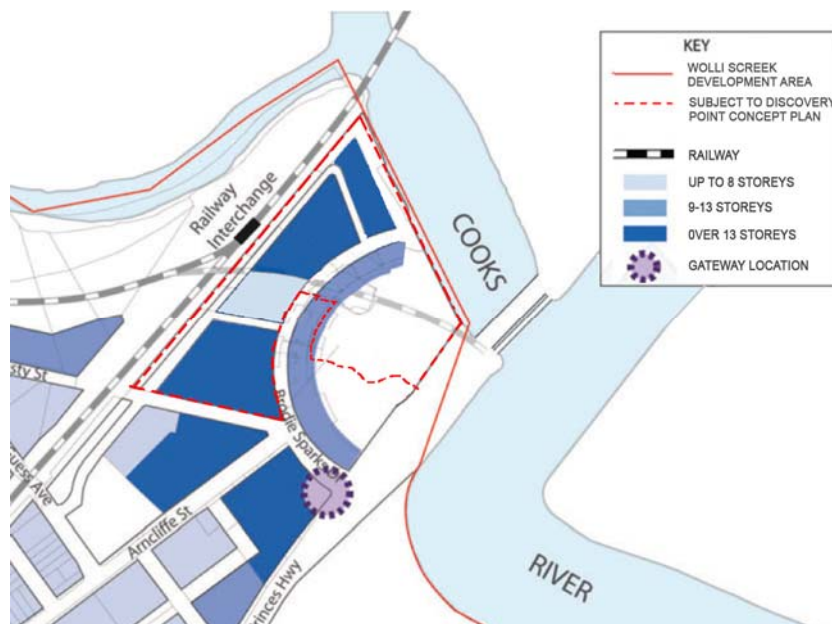


Figure 9 – Building Height Diagram

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

2.6 Street Character

Active street frontages (in the form of retail development, residential development and ground floor external entrances to residential development) along key pedestrian links will allow for pedestrian friendly environments, passive surveillance and activation within the Discovery Point site.

Objectives

- To promote consistent edge treatment to streets and open space so that the built form reinforces the public domain.
- To create a village centre that is the retail hub of the Discovery Point site with high quality streetscapes, active building edges, high quality pedestrian environment and good links to public transport.
- To ensure developments have active frontages to streets to increase security and passive surveillance for the safety of pedestrians and property.
- To provide streets that facilitate a variety of ground floor uses and are attractive and comfortable for pedestrians.
- To create streets that are characterised by distinctive residential apartment buildings within a landscaped setting.

Controls

- Development is to comply with the approved building envelopes of the Concept Plan and identified within **Figures 10** and **11**.

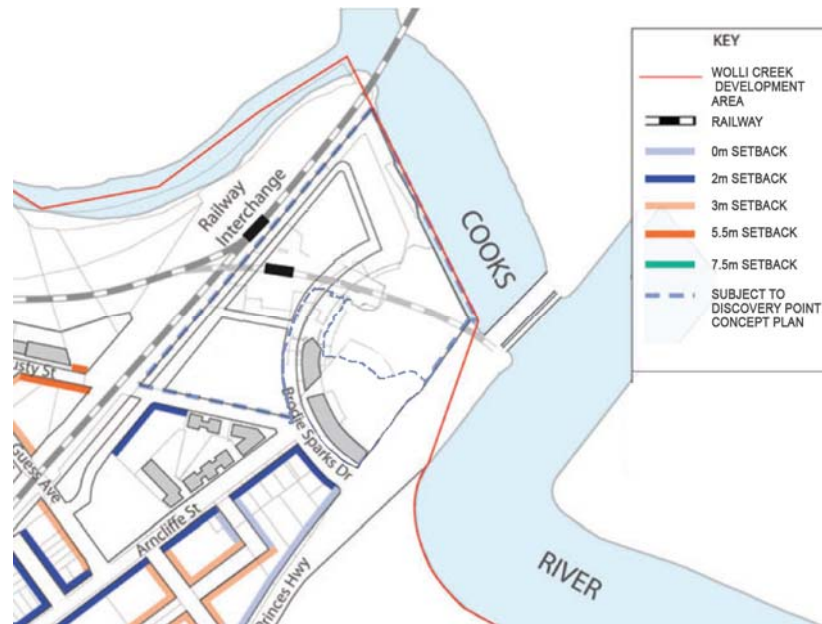


Figure 10 – Development Setback Diagram

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

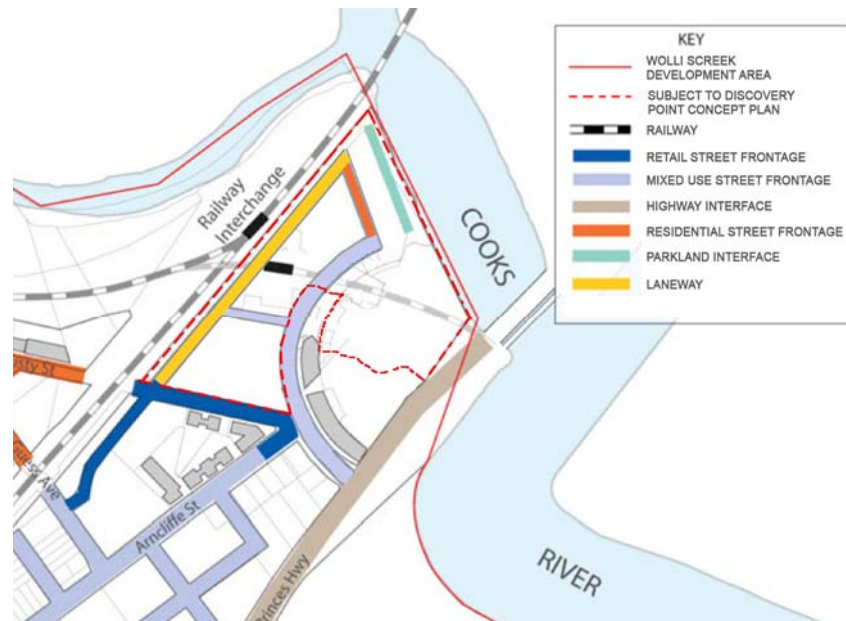


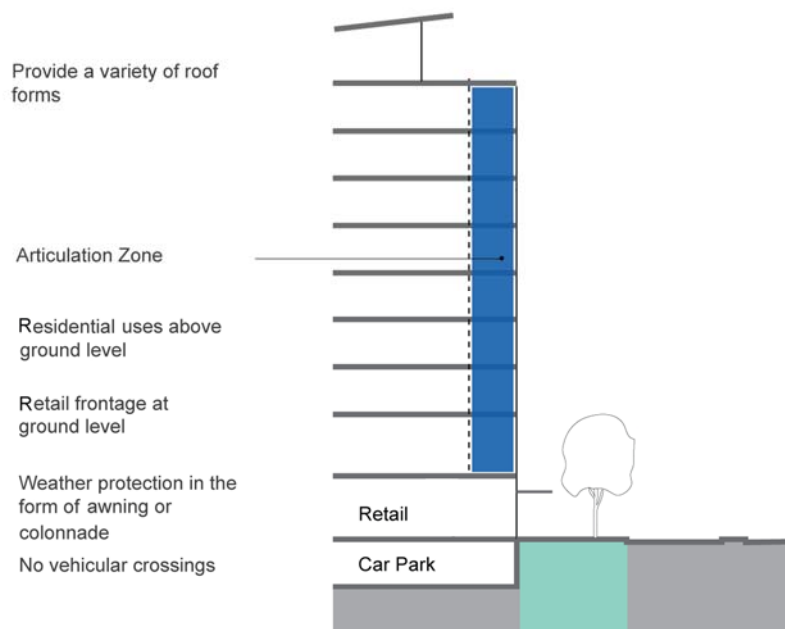
Figure 11 – Street Character Diagram

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

Retail Street Frontage

- Development identified as having a Retail Street Frontage by the Street Character diagram is to:
 - ensure buildings address corners and engage the public domain at street level and provide pedestrian amenity with a consistent awning or shelter;
 - activate ground floor with retail uses; and
 - ensure building design achieves a high level of design excellence.
- Street wall building(s) complement the built form and architectural character of existing buildings on the northern side of Magdalene Terrace.
- Building envelopes and setbacks are to be consistent with the Discovery Point Concept Plan.

Retail Street Frontage



Section: Retail Street Frontage

Figure 12 – Retail Street Frontage

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

Mixed Use Street Frontage

- Development identified as having a Mixed Use Street Frontage by the Street Character diagram (**Figure 13**) is to:
 - activate the ground level whilst satisfying flooding constraints;
 - provide access stairs where there are height differences between the street and the ground floor;
 - provide active uses related to residential entrances and retail uses where appropriate on street level to assist in creating a lively and active street; and
 - ensure ground floor uses interact with the public domain and incorporate any of the following features: pedestrian areas; outdoor trading areas; walkways; garden and planted areas fronting residential uses; main entrances to buildings and suites.
- Building envelopes and setbacks are to be consistent with the Discovery Point Concept Plan.

Mixed Use Street Frontage

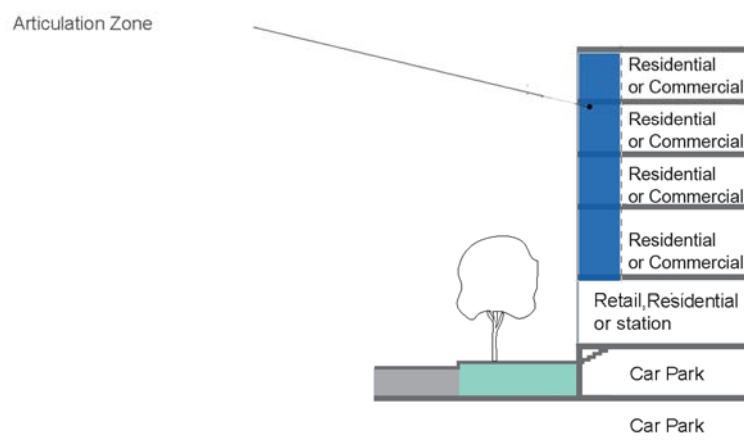


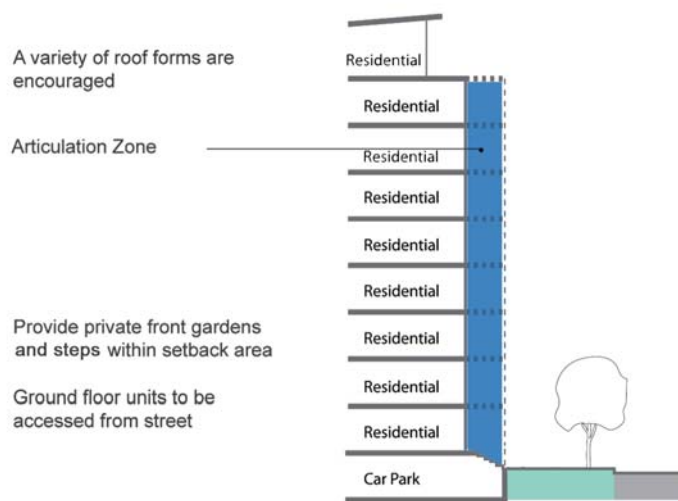
Figure 13 – Mixed Use Street Frontage

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

Residential Street Frontage

- Development identified as having a Residential Street Frontage by the Street Character diagram (**Figure 14**) is to:
 - address the street with balconies, residential entrances and living rooms or bedrooms on the ground floor; and
 - provide a front fence where private open space is adjacent to a road or public space.
- Building envelopes and setbacks are to be consistent with the Discovery Point Concept Plan.

Residential Street Frontage



Section: Residential Street Frontage

Figure 14 – Residential Street Frontage

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

Parkland Interface

- Development identified as having a Parkland Interface by the Street Character diagram (**Figure 15**) is to:
 - activate ground floors with living area, balconies or external access to ground floor residential development;
 - provide good surveillance of the park;
 - be predominantly glazed on ground floor to promote views to the park; and
 - be consistent with the building envelopes within the approved Concept Plan.

Parkland Interface

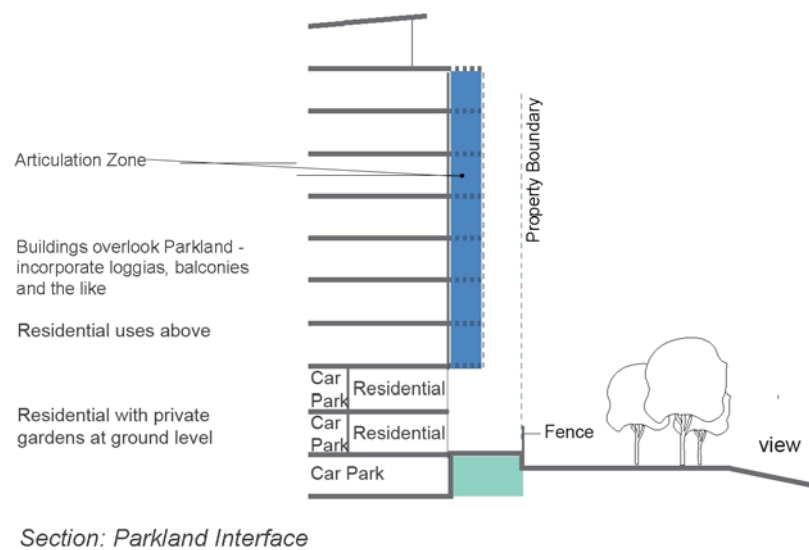


Figure 15 – Parkland Interface

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

Lane Frontage

- Development identified as having a Lane Frontage by the Street Character diagram (**Figure 16**), is to provide a pedestrian footpath on the eastern side of the street only.
- Development is to be consistent with the building envelopes within the approved Concept Plan.

Lane Frontage

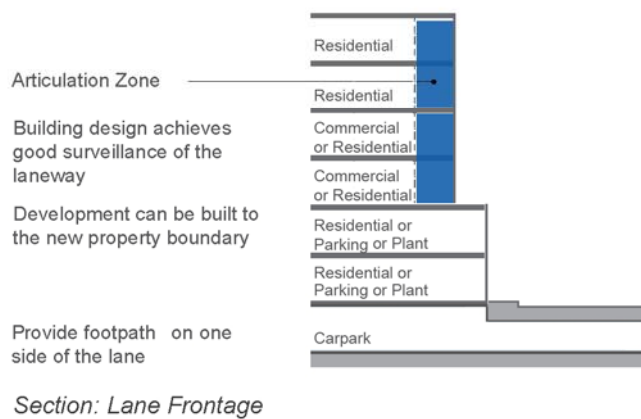


Figure 16 – Lane Frontage

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

3.0 Site Planning and Context

3.1.1 Heritage Conservation

Development in the vicinity of a heritage item

- Development adjacent to Tempe House and St Magdalen's Chapel is to continue the design intent and form of the heritage arc along Brodie Spark Drive.

3.1.2 Water Management

Discovery Point is located on a low floodplain between the Cooks River and Wolli Creek. The majority of water is redirected through the network of street drains to the larger stormwater grid and eventually into the surrounding creeks and waterways. The Micro Catchment Analysis is identified at **Figure 17**.

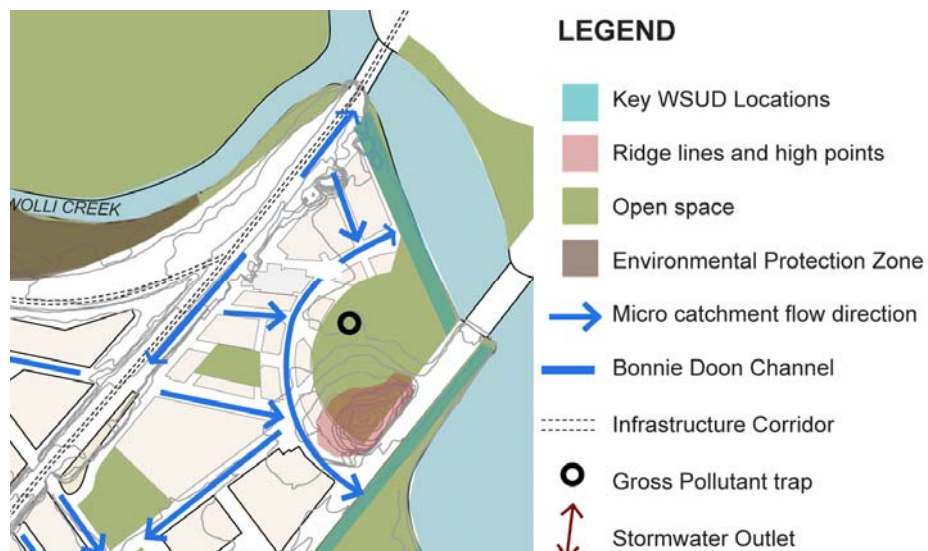


Figure 17 – Micro Catchment Analysis

Source: Rockdale City Council, edited by Discovery Point Pty Ltd

Water Conservation

- The following measures should be implemented for all new development to reduce water consumption:
 - connect to site-wide blackwater treatment system; and
 - supplement site-wide recycled water system with stormwater retention and reuse.

3.1.3 Site Context

Controls

- Development adjoining land use zone boundaries should provide a transition in form, considering elements such as heights, scale, appearance and setbacks consistent with the building envelopes and setbacks within the Discovery Point Concept Plan, as shown on plan for approval DA03_001 Proposed Building Envelopes and **Figure 18**.

3.1.4 Streetscape Character

Controls

- Building setbacks and scale is to be consistent with the Discovery Point Concept Plan buildings envelopes, as shown on plan for approval DA03_001 Proposed Building Envelopes and **Figure 18**.



Figure 18 – Approved Building Envelopes

Source: Bates Smart (DA03-001 Revision I dated 28 August 2013)

4.0 Landscape Planning and Design

4.1 Open Space and Landscape Design

Objectives

- To enhance the streetscape and promote a scale and density of planting that is appropriate to the surrounding built form.
- To provide privacy and enhance environmental amenity.
- To promote quality landscape solutions that do not rely on high levels of maintenance.

Controls

- Landscaped areas should be provided generally in accordance with the approved Concept Plan).
- Deep soil zones are limited to Discovery Point Park, Waterfront Park and part of Neighbourhood Park. All other landscaped areas are provided above basement car parks consistent with the Concept Plan.
- Landscaped front setback areas are to be consistent with the Concept Plan.
- Where basement car parking protrudes above ground level and is not wrapped in residential or retail uses, the facades are to be screened with planting or appropriate treatments.

4.2 Private Open Space

Objective

- To provide private open space is clearly defined, usable and meets user requirements for privacy, solar access, outdoor activities, accessibility and landscaping.
- Private open space should take advantage of views where possible.

Controls

- Each apartment must be provided with private open space with a minimum depth of 2m and minimum width of 2m.
- Each apartment must be provided with a minimum private open space area consistent with the minimum external area provision in **Table 4** of Section 6.3 of these guidelines.

4.3 Communal Open Space

Objectives

- To provide residents with passive and active recreational opportunities.
- To provide for communal open space that is consolidated and designed to be usable and accessible to all residents.

Controls

The following communal open space areas are to be provided within the site for the use of residents of Discovery Point:

- Building 1B Podium – outdoor pool, landscaping and BBQ area;
- Building 1C Rooftop – landscaping, seating facilities and BBQ area;
- Stages 8-10 Podium – passive landscaped garden, gym and indoor pool;
- Stages 11-12 Podium – passive landscaped garden; and
- Stage 13 – indoor pool.

In addition, Tempe House is to be provided as a community building for all residents of Discovery Point for the purpose of meetings, functions and other associated resident activities.

5.0 Sustainable Building Design

5.1 Energy Efficiency

5.1.1 Retail, commercial and residential development

Objective

- To promote energy efficiency and renewable energy in the design and construction of buildings

Controls

- A report on energy and water efficiency is to be submitted with the development application for any building works with a construction cost of \$1,000,000 or more. The report must address the following:
 - compliance with the current BCA;
 - passive solar design principles used to avoid the need for additional heating and cooling;
 - substitution of non-renewable fuels such as solar hot water heating;
 - use of recycled water and/or low embodied energy building materials;
 - use of materials that are non-polluting in manufacture, use and in disposal;
 - use of building articulation (courtyards and light wells) that allow daylight into ground and first floor levels;
 - use of windows (where applicable) that can be opened rather than skylights as a means of providing natural light and ventilation;
 - the principles of passive design and the properties of thermal mass, glazing and insulation;
 - incorporating water conservation measures as referred to in Section 3.12 of these Design Guidelines.

5.2 Solar Access

Objective

- To provide sunlight access to private open space and habitable rooms within the development in accordance with the approved Concept Plan envelopes.

Controls

- Development must comply with the building form, separation and site layout within the Concept Plan.
- Dwellings within the Concept Plan site should receive a minimum of 2 hours sunlight to living rooms and private open space to 70% of apartments between 9am and 3pm on 21 June, with the exception of Building 6 and Buildings 11-13.
- Dwellings within the residential towers across Stages 11-13 should receive a minimum of 2 hours sunlight to living rooms and private open space to 60% of total apartments across these stages between 9am and 3pm on 21 June.
- A deviation from these numerical controls may be supported by the consent authority where it is demonstrated that building design maximises solar access and a balance of amenity is achieved in light of site constraints.

5.3 Natural Lighting and Ventilation

Objectives

- To provide for development that is designed to achieve natural lighting and ventilation in accordance with the approved Concept Plan principles.
- To provide floor heights which achieve quality internal environments and optimise light penetration.

Controls

- Buildings must comply with the minimum ceiling heights identified in **Table 2** to facilitate adequate natural lighting and ventilation:

Table 2 – Minimum ceiling heights

Development type	Minimum height	
	Habitable space	Non-habitable space ¹
Residential	2.7m	2.4m
Retail and commercial	3.3m	2.4m
Ground floor of a mixed use building	3.3m	2.4m
First floor of a mixed use building	2.7m	2.4m

5.4 Glazing

Objective

- To reduce the necessity for mechanical heating and cooling

Controls

- Development is to provide appropriate sun protection during summer for glazed areas facing north, west and east. Extensive areas of glazing that are unprotected from sun during summer will be avoided. Where necessary, shading devices are to be considered including eaves, awnings, balconies, pergolas, external louvers, and projecting sunshades.
- Commercial buildings must not compromise the amenity of the public domain through excessive glare and reflection.

¹Residential Flat Design Code defines non-habitable room as:

Non-habitable room: spaces of a specialised nature not occupied frequently or for extended periods, including bathrooms, toilets, pantries, walk-in wardrobes, corridors, lobbies, photographic darkrooms and clothes drying rooms.

5.5 Visual and Acoustic Privacy

5.5.1 Objective

- To site and design buildings to provide for acoustic and visual privacy for occupants and neighbours in accordance with the siting of building envelopes within the approved Concept Plan.

5.5.2 Visual Privacy

Controls

- The use of the roof top area for recreational purposes is permissible subject to the following:
 - the usable area of roof must be set back at least 1500mm from the edge of the building (if a balcony is directly below the roof edge). No setback is required if a balcony is not directly below the roof edge.

5.5.3 Acoustic Privacy

Controls

- Bedrooms of one dwelling should not share walls with garages of adjacent dwellings.
- Bedrooms of one dwelling may share walls with living rooms of adjacent dwellings provided appropriate acoustic measures are documented.
- All residential development is to comply with the minimum acoustic privacy requirements of BCA and BASIX.
- Where possible, the internal layout of residential development should consider acoustic privacy by locating circulation spaces and non-habitable rooms adjacent to party walls.

5.6 Building Separation

Objective

- To provide detailed building designs compliant with the separation distanced approved in the Concept Plan.

Controls

- Building separation distances are to be consistent with the minimum distances approved in the Concept Plan (see indicated on **Figure 19** and Bates Smart Concept Plan Design Report).



Figure 19 - Concept Plan approved minimum building separation distances

Source: Bates Smart

5.7 Noise Impact

Objective

- To provide noise mitigation measures are incorporated into residential developments to minimise impacts from Sydney airport and other noise generating land uses.

Controls

- The building plan, walls, windows, doors and roof are to be designed to reduce intrusive noise levels from potential sources of noise emanating from adjacent non-residential uses, such as orientating noise sensitive rooms, including living, dining and bedrooms, as far away as practical from the noise source.
- Development should be consistent with the recommendations of the Concept Plan Acoustic and Vibration Assessment (June 2010).

5.8 Wind Impact

Objective

- To provide for that adverse wind conditions in streets, public spaces and private open spaces are minimized through appropriate built form to provide pedestrian comfort in these spaces.

Controls

- All proposed development must be consistent with the recommendations of the Wind Tunnel Study prepared in accordance with the Concept Plan and referenced in the Concept Plan Statement of Commitments (December 2010).
- Wind tunnel testing is to be completed where necessary.

5.9 Street Lighting

Controls

- Appropriate street lighting shall be provided at the driveway entry and exit in order to provide adequate visibility at night.
- The design of proposed street lighting shall be included in Development Applications and demonstrate compliance with BCA and Australian Standards for public lighting.

6.0 Social Equity

6.1 Objectives

- To provide flexibility of housing choice to meet the needs of the incoming residential population.
- To make provision for equality of access to new housing.
- To provide minimum dwelling sizes to encourage affordable housing and provide good residential amenity for residents

6.2 Dwelling Mix

Controls

- Residential flat buildings and shop top housing are to comply with the dwelling mix in **Table 3** (as approved in the Discovery Point Concept Plan) and to apply across the Discovery Point Concept Plan site.
- Two percent of all dwellings are to be adaptable units.

Table 3 – Required dwelling mix across Discovery Point Concept Plan site

Dwelling Type	Of total dwellings
Studio and one bedroom:	Maximum 45%
Two bedroom:	Minimum 45%
Three + bedroom	Minimum 10%

6.3 Apartment Size

Controls

- The minimum apartment sizes required across the Discovery Point site are provided within **Table 4**.

Table 4 – Minimum apartment sizes

Apartment Type	Area	Minimum Size
Studio	Internal area	40m ²
	External area	6m ²
One bedroom	Internal area	50m ²
	External area	6m ²
Two bedroom	Internal area	70m ² (2 bedroom 1 bathroom dwellings) 80m ² (2 bedroom, 2 bathroom dwellings)
	External area	8m ²
Three bedroom	Internal area	100m ²
	External area	10m ²

- The apartment must meet the following minimum room size requirements:
 - the size of bedrooms in all apartments must be a minimum of 9m² in area with a minimum dimension of 2.7m;
 - any bathroom must have a minimum area of 3.5m²;
 - any kitchen must have a minimum area of 7m² (measured to the edge of the tiles in a galley kitchen);
 - any study must have a minimum area of 2m² and a minimum dimension of 1.5m; and
 - the floor area of living rooms must be a minimum 16m² with a least dimension of 3m, and the area must be increased by 4.6m² where the living and dining areas are combined.

6.4 Equitable Access

Controls

- Development is to be consistent with the recommendations of the Concept Plan Accessibility Report (August 2010).
- 2% adaptable units will be provided across the Discovery Point Concept Plan site upon completion of development.

6.5 Storage, Waste and Laundry Facilities

Controls

- In addition to kitchen cupboards and bedroom wardrobes, storage facilities must be provided to each dwelling at the rates in **Table 5**:

Table 5 – Residential Storage Rates

Storage	
Studio and one bedroom apartments	6m ³
Two bedroom apartments	8m ³
Three + bedroom apartments	10m ³

- Storage facilities can be provided in the apartment or car parking (above ground or basement) areas.
- Each dwelling must be provided with a separate clothes line with a minimum length of 4m.
- Waste storage areas are to be located and/or treated to minimise impacts on residents and the public.

7.0 Car Parking and Access

7.1 Objectives

- To provide sufficient, convenient and safe on site car parking while encouraging alternate modes of transport such as walking and cycling.
- To provide basement parking and above ground parking in areas identified on the approved Concept Plans.
- To provide adequate and accessible access to pedestrian and bicycle networks and to provide adequate egress and ingress to the site and parking facilities.

7.2 Parking Rates

Controls

- Development is to provide on-site parking in accordance with the following rates;
 - Maximum 1 space per studio and one bedroom unit;
 - Minimum 1 space and maximum 2 spaces per two bedroom unit;
 - 2 spaces per 3+ bedroom unit;
 - Minimum 1 visitor space per 20 residential units;
 - Minimum 1 space per 50m² of non-residential GFA (commercial);
 - Minimum 1 space per 35m² of non-residential GFA (retail);
 - Minimum 1 bicycle space per 15 residential units;
 - Minimum 1 motorcycle space per 15 residential units;
 - Minimum 1 bicycle space/200m² non-residential GFA, with 15% accessible by visitors;
 - Minimum 1 motorcycle space/20 non-residential car spaces.
- Maximum 2,240 car spaces are to be provided across the Discovery Point Concept Plan site (including parking spaces within Greenbank, Vine and Verge developments).

No further information is required to be submitted to justify shared parking concessions.

Note: The above parking rates reflect a Travel Demand Management Concession in non-residential parking rates.

7.3 Car Park Location and Design

Controls

- Basement and above ground car parking is permitted, provided the car parking is within the Concept Plan parking envelopes and within the property boundary.
- The maximum basement car parking projection above finished ground level is to be 1.5m. Any basement projecting more than 1m finished ground level is considered above ground car parking.
- Above ground car parking is permitted in accordance with the Concept Plan envelopes and designed in accordance with **Figure 21**.
- Above ground car parking to a maximum of 13,590m² equivalent GFA across the Concept Plan site is permitted.

- On residential streets (i.e. excluding Spark Lane), above ground car parking should not be visible from outside the building and retail or residential development should be used to wrap above ground parking.
- Visible above ground parking is permitted on laneways and should be screened by facade treatments or planting.
- The general location of vehicular entries is to be in accordance with **Figure 22**.
- Residential visitor parking is to be provided on-street, combined with the public car park or within residential buildings.

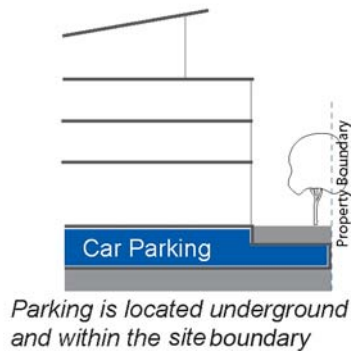


Figure 20 – Basement Car Parking

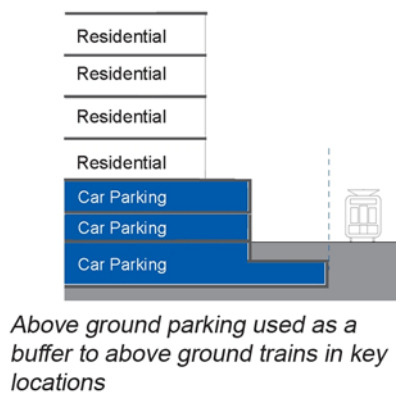
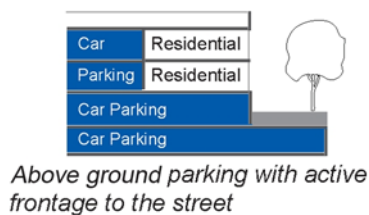


Figure 21 - Above ground parking design

Source: Rockdale City Council, edited by Discovery Point Pty Ltd



Figure 22 - Site Access and Parking

7.4 Loading and Unloading Facilities

Controls

- Loading and unloading facilities for the supermarket are to be provided within the Building 1B envelope. Loading and unloading facilities for other development must be provided on street within dedicated loading zones.

7.5 Car Wash Facilities

Controls

- One car wash space is to be provided for each residential building with more than 20 dwellings.

7.6 Pedestrian Access and Sustainable Transport

Controls

- Bicycle parking for residential development is to be provided within the car parking areas in the form of bike racks, cages, lockers or within specified residential storage areas.
- Bicycle parking for non-residential development is to be provided as bike racks within publicly accessible areas or within car parking areas.
- Design initiatives which promote sustainable transport are encouraged and may include small car parking spaces and dedicated and convenient motorcycle and scooter parking.
- The pedestrian and cycle networks are to be generally consistent with **Figures 6** and **Figure 7** of these guidelines.

8.0 Residential Flat Buildings

This section of the Development Design Guidelines applies to residential flat buildings and the residential component of mixed use buildings within Discovery Point Concept Plan site.

8.1 Objectives

- To encourage development of a high standard of architectural merit and design
- To promote buildings of articulated design and massing, with building facades that contribute to the character of the street and provide useable external spaces
- To provide for size and location of residential flat buildings in locations in accordance with the Concept Plan Building Envelopes.

8.2 Site Coverage and Development Setbacks

Controls

- Building footprints and setbacks are to be consistent with the building envelopes approved within the Discovery Point Concept Plan, as shown on plan for approval DA03_001 Proposed Building Envelopes and **Figure 18**.

8.3 Apartment Size

Controls

- Apartment sizes are to be consistent with **Table 4** of Section 6.3 of these Guidelines.

8.4 Building Design

Controls

- Development should include the use of entry lobbies, entry porches, loggias and balconies to demonstrate a relationship between the building and the street.
- A hierarchy of floor levels is to be expressed by defining a base, middle, and top to the building.
- Visual prominence is to be expressed at the corner of Magdalene Terrace and Brodie Spark Drive through increased height.
- The selection and mix of building materials must complement the overall composition, scale, proportion and rhythm of the facade.
- Use the roof level for communal purposes in accordance with the indicative Concept Plan locations, or articulate the upper storeys, with penthouses and the like.
- Plant rooms, lift overruns and mechanical ventilation rooms can be located on the roof of a building.
- Plant rooms, lift overruns and mechanical ventilation rooms provided on the roof of a building are to be appropriately screened and not exceed the heights approved by the Discovery Point Concept Plan.

8.5 Lift Size and Access

Controls

- Lifts are to be provided in all residential flat buildings. Where units are arranged off a double-loaded corridor, the number of units from a single core/corridor should be limited to twelve.
- Lift cars are to have minimum internal dimensions of 2.1 x 1.4m, capable of carrying stretchers, with lift door openings wide enough to enable bulky goods (white goods, furniture, etc.) to be easily transported.
- All common corridors are to have a minimum width of 1.6m to enable bulky goods (white goods, furniture, etc.) to be easily transported through the building.

9.0 Mixed Use

9.1 Objective

- To provide an active interface between ground level retail or commercial properties and the street in locations identified for mixed uses in the Concept Plan indicative floor layout.

9.2 Development Setbacks

Controls

- Building setbacks are to be consistent with the building envelopes approved within the Discovery Point Concept Plan, as shown on plan for approval DA03_001 Proposed Building Envelopes and **Figure 18**.

9.3 Building Uses

9.3.1 Ground Floor Uses

Controls

- Building uses fronting the public domain at ground level are to have active frontages (including retail development, residential development or ground floor external access to apartments) in accordance with the Concept Plan.
- Residential uses are permitted on the ground floor of buildings, with separate external access to be provided where possible.
- Ground floor access points to upper level uses should be minimised.
- Non-active ground floor uses, including building services and loading docks, should be located along Spark Lane (wherever possible) and/or wrapped in retail, commercial or residential development.
- Where possible, any development which contains above ground car parking must 'wrap' the car parking with active building uses on any street frontage. Visible above ground car parking is permitted, with non-activated facade treatments, along Spark Lane.
- No off-street at-grade car parking is permitted.

9.3.2 Retail

Controls

- A minimum of 9,000m² of non-residential floor space (including retail and commercial development) is to be provided across the Discovery Point Concept Plan site.
- Retail premises are to be regularly shaped (as far as practicable) with minimal intrusions from building services and circulation. The supermarket must have access to a loading dock. All other retail premises must have access to a nearby on-street loading area.
- Retail premises are to be provided at a variety of sizes and depth to width ratios.

9.3.3 Commercial

Controls

- Commercial premises under 200m² must have access to staff toilets and such facilities may be shared with other tenancies.

9.3.4 Flexible Space

Controls

- Where upper level commercial floor space is not provided, the first floor may be designed as flexible space to allow future adaptation. It must have a minimum floor to ceiling height of 2.7m for all habitable rooms.

9.4 Building Design

Controls

- Building articulation and facade modelling should have regard to its context, the type of street it faces and its visibility from greater distances.
- Adjacent to the railway line, the building articulation is to have appropriate facade design such as car park screens and residential apartment louvres, performance glass and insulated materials.

9.5 Public Domain Interface

9.5.1 Ground Floor Articulation

Controls

- Building design should minimise dead spots at ground floor level, such as car parking frontages, blank walls and recessed spaces.
- Finer construction detailing and more textural materials are encouraged at ground floor to add richness to the pedestrian experience of the built environment.

9.5.2 Access to Premises

Controls

- Garage doors are to be within the building envelopes within the approved Concept Plan. All vehicle entries are to have security shutters and be designed to integrate with the overall facade composition.

9.6 Laneways

Controls

- Laneways that form part of the pedestrian network are to have separate and clearly articulated vehicle access points and building entrances to avoid pedestrian and vehicular conflicts.