

The Hills Development Control Plan (DCP) 2012

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THE
HILLS
Sydney's Garden Shire



Part D Section 6
Rouse Hill Regional Centre

D6

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1. INTRODUCTION

This Section of the DCP must be read in conjunction with Part A – Introduction of this DCP.

1.1 BACKGROUND

Refer to Sydney Regional Environmental Plan No. 19 – Rouse Hill Development Area (SREP 19).

1.2 LAND TO WHICH THIS SECTION OF THE DCP APPLIES

This Section of the DCP applies to land commonly referred to as the Rouse Hill Regional Centre as shown edged heavy red in Figure 1 below **[Note.** the boundary may vary according to landownership].

1.3 RELATIONSHIP TO OTHER PLANS, POLICIES AND DOCUMENTS

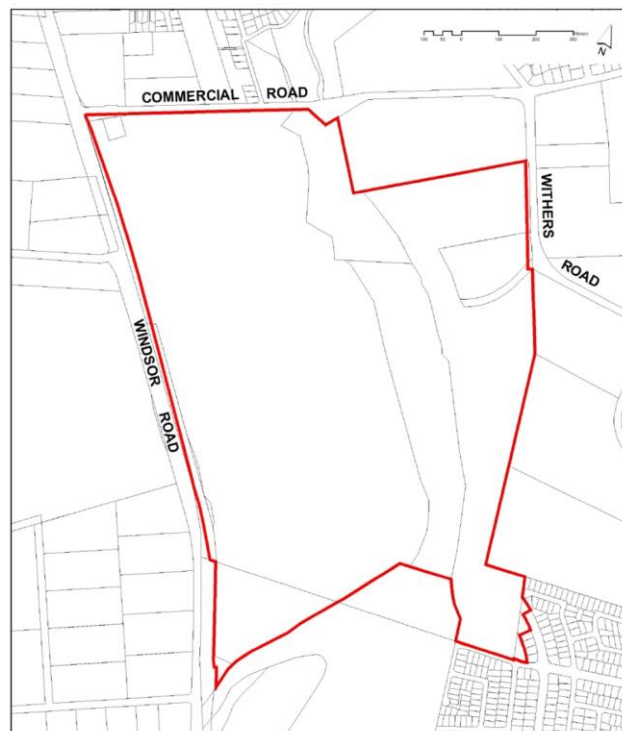
The provisions contained within this Section of the DCP apply to the Rouse Hill Regional Centre except to the extent that they are inconsistent with an approved Masterplan for the site.

Any development occurring on flood controlled land must refer to Part C Section 6 – Flood Controlled Land.

1.4 VISION

A regional scale, multi-functional centre will be developed that provides employment opportunities, shopping, commercial services, leisure activities, community facilities and open space. A “living” Centre will be created by incorporating medium density housing within and adjoining the Centre. This will ensure activity within the Centre continues into the evening. As a result, amenity and safety will be enhanced, and the viability of business activity and public transport use will be improved.

Figure 1 – Rouse Hill Regional Centre Site



1.5 OBJECTIVES OF THIS SECTION OF THE DCP

The objectives of this Section of the DCP are:

- (i) *To provide a clear vision for the Centre.*
- (ii) *To identify opportunities and constraints so as to maximise benefits which might arise from development of the Centre whilst protecting and enhancing the natural features of the site.*
- (iii) *To provide key principles to guide design of each of the main elements of urban structure within the Centre.*
- (iv) *To outline the requirements for Stage 1 of the Centre's development.*
- (v) *To require the developer of the Centre to prepare a Masterplan based on the principles in this Plan.*
- (vi) *To establish ongoing arrangements to secure sustainable planning and management of the Centre.*
- (vii) *To promote innovation and creativity in the development of the Centre.*

- (viii) *To create an environment that discourages and prevents crime.*

1.6 STRUCTURE OF THIS SECTION OF THE DCP

Figure 2 illustrates how this Section of the DCP is structured. The Centre can be considered as comprising of seven main elements: urban structure, activities, access and movement, public realm, urban form, housing and special places. This Section of the DCP is structured on the basis of these elements. For each element there are one or more principles and a rationale is given to support these principles. A statement of outcomes clarifies what implementation of the principles should achieve. Performance criteria and performance measures provide detailed guidelines on how the principles can be met. (Note: Performance criteria are means by which the quality of design is to be achieved. Performance measures are compulsory numeric standards or minimum requirements.)

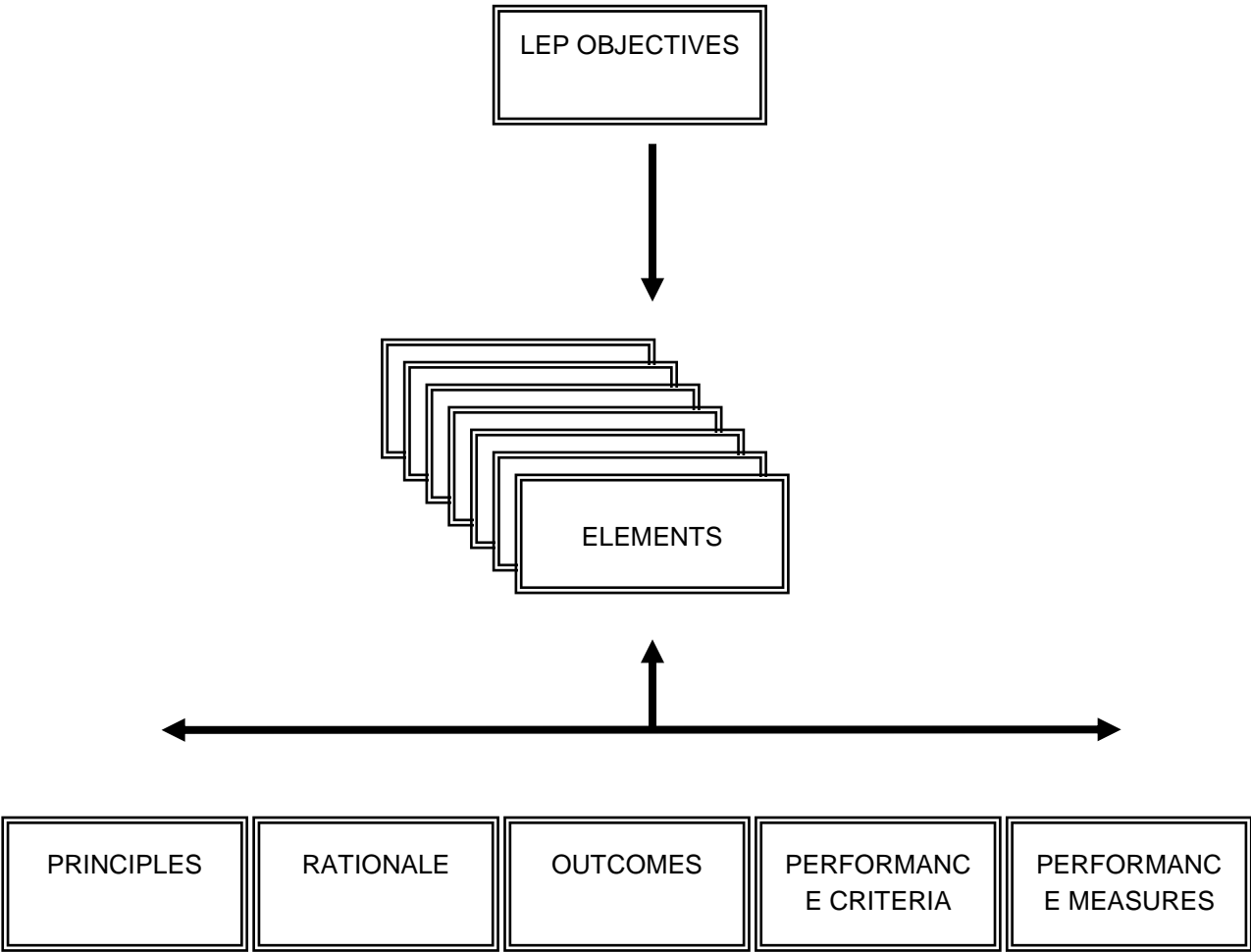


Figure 2 – Structure of this Section of the DCP

1.7 PRINCIPLES

The principles relate to each of the seven elements of this DCP and represent mandatory requirements to be met by developers of the Centre.

Urban Structure

- A dense mixed use core supported by the maximum amounts of nearby housing and unified by coherent built up streetscapes.
- A high level of regional transport accessibility with clear, stable and permanent links.
- A sustainable relationship between the urban area and its restored natural setting.

Activities

- Multi-functional use.
- A distribution of activities that relates to the regional access routes, internal streetscapes and open space systems.
- A range of medium density and high density housing which forms an integral part of the Centre.

Access and Movement

- Efficient planning and management of private and public transport.
- Direct access to commercial areas whilst protecting adjacent residential areas from excessive through traffic.
- Facilitate access by car for customers, while at the same time increasing public transport use.

Public Realm

- Integrated planning, development and management of the riparian corridor, local and district parks, and urban public spaces.

Urban Form

- The urban form is determined by those elements which govern the internal layout of the Centre. Simple rules allow for a degree of flexibility, while ensuring clear functionality and legibility for users.
- Prevention of crime through environmental design.

Housing

- Higher density housing within and adjacent to the commercial core.

Special Places

- The public transport interchange, main street/Civic Way and central park/tributary 3 must have a high standard of visual and user amenity.

1.8 DEVELOPMENT OUTCOMES

It is expected that the Centre could grow to encompass at least 130,000m² of retail floor space and 70,000m² of commercial/mixed use floor space, with flexibility to respond to changes in the staging and market needs. Community uses will form an integral part of its facilities, and be fully integrated into the layout. The Centre will have a system of roads and parking which will enable it to grow from a district centre with surface parking to a mature development with public parking structures. High quality public transport, with safe and convenient interchange facilities, will be available from stage 1 of the Centre's development.

The four major spatial components of the Centre will be:

- core area which primarily contains commercial uses, speciality retail, supermarkets, discount stores, leisure activities, public transport interchange, public parking structures, housing etc.
- the Northern Frame, which is primarily intended for a mix of land uses. It is to accommodate long-term change; and intensification and mix of use including bulky goods, and a range of innovative commercial, retail and residential typologies. The area will evolve over time and allow for expansion and support the core area.
- open space and public realm.
- adjoining area consists primarily of community facilities, education, housing and businesses that do not conflict with residential amenity.

The core of the Centre will be focused around a traditional, tree lined, main street and Civic Way which together join the primary functions of the centre. Public settings within the urbanised areas of the Centre reflect a regional scale in keeping with their role as locations for outdoor leisure activities associated with the commercial core.

The Northern Frame will have a setting of tree lined streets, generous surface car-parking and easy access. Retail and commercial uses in the Northern Frame will be lower in height than the core and should form a continuum of the north-south active

street, Civic Way. Housing within the Northern Frame will generally be, but need not exclusively be incorporated in high quality mixed use developments, taking maximum advantage of a lively and convenient urban setting.

Residential areas will all be designed in an integrated framework to ensure the relationships between dwellings and their relationship to the site, local facilities, and infrastructure are considered, and potential benefits maximised. A variety of housing types, sizes, densities and designs will cater for a broad range of housing needs. The environment will be safe and well landscaped, with development which adds interest and variety to the streetscape.

The urban design of the Centre is fixed by a few broad principles, leaving the detail to be further developed at the Master Planning stage. The principles reflect the desirability of achieving a sense of “urbanity within a landscaped setting”, to be achieved by building streetscapes which have a feeling of containment and a liveliness of building forms and architecture. This built environment should closely relate to the topography and landscape of the site.

The core area consists of blocks developed to provide a continuity of street frontages. The size of blocks (and hence the interval between local streets and service lanes) is to be as small as possible, within the constraints of layouts for larger scale retail trading areas. Provided access and parking requirements are met, development limits are set only by building heights, which require a minimum of two storey development throughout the core. Above two stories, taller buildings are allowed to specified heights and in specified locations. The height limits reflect the desirability of achieving both variety and a measure of consistency in the streetscape, as well as of achieving adequate penetration of sunlight into streets.

Outside the core area and Northern Frame, the aim is that streets below the arterial level should also add an appropriate scale of urbanity (related to the width of the streets) to the Centre.

The site topography created by the tributaries of Caddies Creek will be used to integrate the urban and natural settings. Caddies Creek will be rehabilitated and restored to protect its ecological qualities as well as providing a regional scale facility for passive recreation and leisure activities. Landscaping design for the creek will be integrated with measures to treat urban stormwater (eg. using macrophyte ponds and wetlands). Pedestrian and cycle linkages will be provided to surrounding areas.

1.9 IMPLEMENTATION

The applicant must prepare a Masterplan, detailed Development Guidelines and Management Plan for the Centre, which are to be incorporated into this Section of the DCP for the Regional Centre (see Figure 3).

The **Masterplan** must cover the whole of the area to which this Plan applies and be prepared in accordance with this Plan.

Detailed Development Guidelines must accompany the Masterplan. The Guidelines set out the manner in which the principles of this Section of the DCP will be implemented. Detailed development guidelines govern each subsequent development application.

A **Management Plan** must be prepared in conjunction with Council to ensure the efficient ongoing management of all aspects of the Centre.

Due to the nature and scale of the development, there are a number of requirements from other authorities that the developer must satisfy. An indication of those requirements is given in Schedule 1 – Clearances by Authorities, although this is not an exhaustive list.

1.9.1 DEVELOPER CONTRIBUTIONS

Applicants should refer to Council's Section 94 Contributions Plan No.8 Kellyville/Rouse Hill.

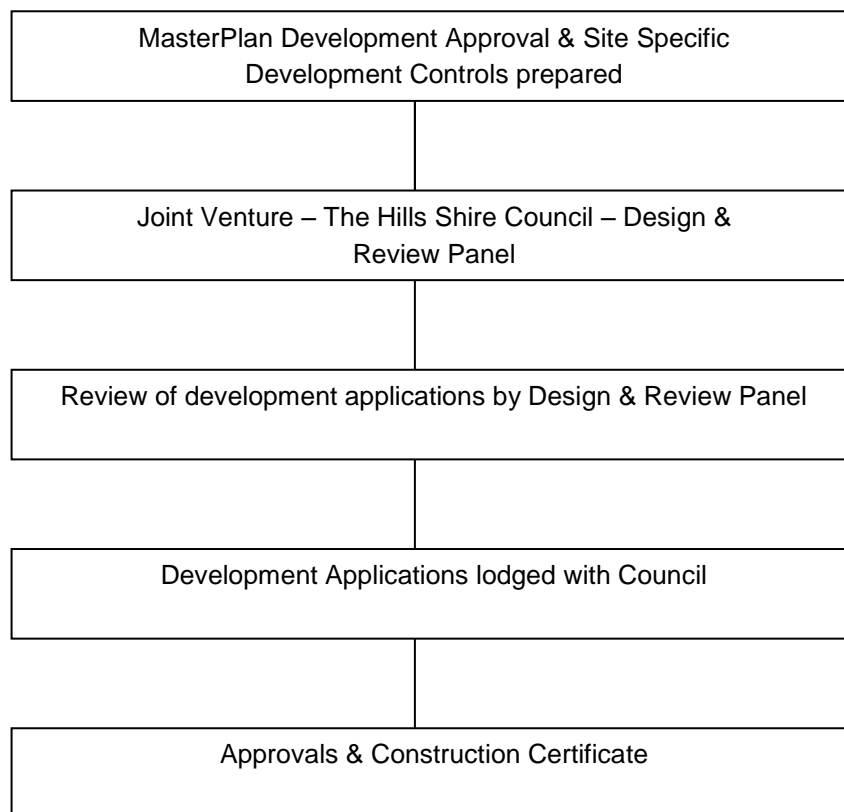


Figure 3 – Development Approval Process

2. ELEMENTS OF THE PLAN

In order to ensure an efficient development with high quality urban design, the main elements of the urban structure are to be incorporated into a Masterplan.

This section sets out the principles for each element, their rationale, expected outcomes, performance criteria and measures.

2.1 URBAN STRUCTURE

PRINCIPLES

- A dense mixed use core supported by the maximum amounts of nearby housing and unified by coherent built up streetscapes.
- A high level of regional transport accessibility with clear, stable and permanent links.
- A sustainable relationship between the urban area and its topography and restored natural setting.

RATIONALE

Key attributes of a multi-functional centre are enhanced by a compact mixed use development with a high level of regional accessibility and an attractive and sustainable relationship to its setting.

The variety of functions in the Centre should be linked:

- visually by adopting a consistent built-up character for streetscapes; and
- functionally by fronting activities onto streets.

In the public and commercial life of the centre, the emphasis is that the public areas have the primary role of integrating and linking all commercial and community activities in the Centre.

The commercial success of the Centre depends on high quality access. Fixing the location of the road and public transport system will reinforce efficient land use arrangements, and ensure that local environments with a pedestrian/residential focus are protected from through traffic.

The relationship between the site and the Centre needs to provide for:

- Establishing interconnected landscape and vegetation corridors.
- Visual amenity and a clear identity for the Centre (particularly from major approach roads).

- High amenity settings for parkland development close to the Centre.
- Protection of Heritage settings.
- The edges of the Centre relate to the site:
 - NorthWest - Commercial Road and the adjoining landscape treatment provides a transition from the Centre to the residential area to the northwest;
 - SouthEast - Caddies Creek forms the southeast edge of the Centre;
 - NorthEast - The Caddies Creek corridor forms the eastern edge of the Centre. The urban form in the northeast portion of the centre (i.e. north east of the Main Street) relates to this significant landscape feature; and
 - SouthWest - Windsor Road forms the southwest edge to the Centre. The built form provides a strong urban edge to the Centre i.e. taller buildings are located towards this edge.

The principles of Council's adopted "Designing Safer Communities – Safer by Design Guidelines" dated June 2003 should be addressed with each development application including the four principles: natural surveillance, access control, ownership and maintenance.

PERFORMANCE CRITERIA

- a) Compact Core
 - A compact mixed use area with short pedestrian movements should maximise space for nearby non-retail uses. This can best be achieved by concentrating retailing in several levels. All retailing fronts public streets; closed malls are not permitted.
 - Place all parking in structures or in basements, and group higher density housing within and adjacent to the core area.
- b) Regional Transport Accessibility:
 - High quality, direct and clear access by private and service vehicles should link the core to the arterial road network.
 - A public transport interchange should be permanently located adjacent to the core area and integral with its development.
- c) Relationship to the Natural Setting:

- Use topographic features to generate the urban structure and incorporate prominent topographical features as special places.
- Locate all building above the trunk drainage 100 year flood line, although the detailed flood line boundary may vary eg. Tributary 3.
- The centre should present an image of a “city in a park”.
- Retain and incorporate remnant vegetation and mature vegetation where possible into the new landscape.
- Regenerate the Caddies Creek riparian corridor and link to the urbanised area via greenways such that Caddies Creek and Tributary 3 form the basis of the open space network.
- Maintain, enhance, protect and incorporate all heritage structures and landscapes.

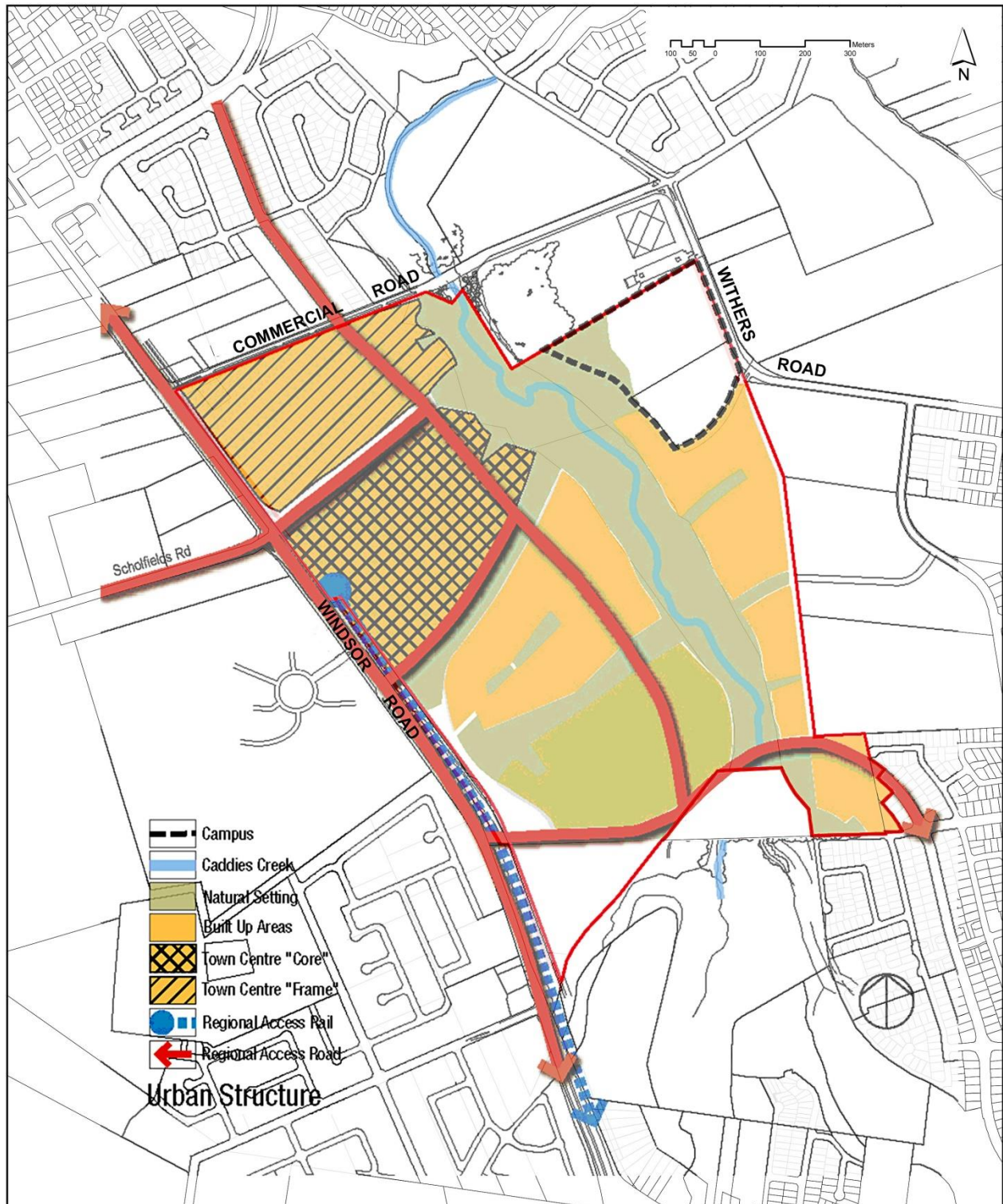


Figure 4 – Urban Structure

2.2 ACTIVITIES

PRINCIPLES

- A distribution of activities that relates to the regional access routes, internal streetscapes and open space systems
- To provide a range of medium and high density housing which forms an integral part of the Centre

RATIONALE

- The distribution of activities further refines the main zoning system, to reflect the intention that:
 - high traffic generating uses cluster close to Windsor Road and the transit interchange;
 - parking is linked to a main street around which retail activities are focused; and
 - activities bordering the open space system foster living and recreation uses, to produce low key, smaller scale development.

- Housing supports Centre activities and transit use. Maximising densities will meet social needs in the Shire and assist the Shire in achieving urban consolidation objectives

OUTCOMES

- Intensive traffic generating uses are clustered close to Windsor Road
- Direct access is achieved from the public transport interchange to a main street, which is the focus of major retail specialty shopping
- Residential, mixed use, community and recreation activities relate the intensively developed core to Caddies Creek
- The maximum amount of housing is provided in the Centre

PERFORMANCE CRITERIA	PERFORMANCE MEASURES
Bulky Goods Retailing Locate bulky goods retailing in the northwest portion of the Centre fronting Windsor Road. Locate Offices adjacent to the future rail station area and along Windsor Road.	Space for these uses is not to be alienated by surface parking.
Commercial The Commercial component of the Regional Centre can contain offices and other commercial uses, within the building envelopes indicated in this Section of the DCP or as otherwise indicated in built form guidelines submitted with a Level 2 DA. Provide separate entrances for commercial uses.	For developments, which increase the total employment of the Centre above 5000 employees, a traffic study must be provided.
Community Facilities Community uses will include public facilities provided by Council and may include some commercial recreation uses. It is a desirable requirement that at Stage 1 the development of the centre includes a commercial indoor recreation facility.	Include community uses in Stage 1 and agree their scope and site development requirements with Council.
Institutional Provide a serviced school(s) site(s) on Withers Road/Commercial Road as per the requirements and approval of the Department of Education.	

PERFORMANCE CRITERIA	PERFORMANCE MEASURES
Provide a range of learning facilities within town centre.	
<p>Mixed Use</p> <p>Locate residential, retail, commercial, entertainment community and other uses within the core and Northern Frame (where possible fronting and south of Tributary 3 open space).</p> <p>Locate residential uses throughout the core area and Northern Frame (specifically between Civic Way and Caddies Creek).</p> <p>Ensure a mix of dwelling types within the core, within the Northern Frame and within each residential development.</p>	
<p>Residential</p> <p>It is an objective to maximise the amount of residential development associated with the commercial core area.</p> <p>Provide a range of housing types. A range of dwelling sizes (in terms of number of bedrooms) is required in all residential developments to encourage a housing mix, which addresses different housing needs.</p>	<p>Residential development is desirable in the core from an early stage of development.</p>
<p>Retail</p> <p>Provide a regional scale centre, which can service a Main Trade Area of 140,000 people (a size currently forecast to be reached around the year 2025).</p>	<p>Main retail areas are desirably concentrated between Tributary 3 and Schofields Road. The size of site indicated for the retail area is flexible.</p> <p>The retail areas of the centre should be planned to accommodate up to 130,000m² (GLA) of floor space.</p> <p>Retail shopping malls are not permitted except for short arcades with specialty shops linking the main street to larger stores.</p> <p>Locate retail activities north of Tributary 3.</p> <p>Concentrate retail activities along the Main Street/Civic Way and Civic Way North.</p> <p>As far as practical, concentrate retailing by adopting building layouts that place stores on both the ground and first floor levels.</p> <p>In buildings facing streets, commercial or residential uses must be provided above retailing.</p>

2.3 ACCESS AND MOVEMENT

PRINCIPLES

- Provide efficient planning and management of private and public transport.
- Secure direct access to commercial areas whilst protecting adjacent residential areas from excessive through traffic.
- Facilitate access by car for customers, while at the same time increasing public transport use.

RATIONALE

The commercial success of the Centre means that it must meet consumer needs for high vehicle access to services by private car, at least in the early stages of the Centre. At the same time, the Centre has to function in a metropolitan environment in which there is a pressing need to limit car use for commuting to jobs in the Centre, as well as for longer distance travel.

OUTCOMES

- Road Hierarchy
 - A clear hierarchy of roads provides efficient customer and service access whilst protecting residential environments.
- Fixed and Variable Roads
 - Elements of the road hierarchy which service the main land use zones within the Centre are fixed as mandatory features; and
 - Flexibility is allowed for the developer to locate all minor streets, provided that the principle of achieving a main street centre is achieved and linkages to the surrounding road network are via the fixed roads and not directly from Windsor Road.
- Public Transport
 - A public transport interchange is provided which can be fully integrated with a future rail system;
 - The interchange is associated with the Centre development from the beginning; and
 - Public transport is to be accessible at all hours of the night.
- Parking

- Parking arrangements enhance access at minimal cost, and foster the use of public transport.

➤ Pedestrian and Cycleway Circulation

- A clear system of pedestrian and cycleway circulation is provided to connect major destination points both within and adjoining the Centre.

➤ Safety

- The principles of Council's adopted "Designing Safer Communities – Safer By Design Guidelines" dated June 2003 should be addressed with each development application including the four principles: natural surveillance, access control, ownership and maintenance.

2.3.1 ROAD HIERARCHY

PRINCIPLES

- Establish a clear hierarchy of different road types which cater for different types of traffic movement.
- All streets have defined functions. Typical street cross sections are shown in section 2.5.3.

RATIONALE

- A hierarchy of roads allows for heavy traffic movement originating from the surrounding region to have direct access to locations close to destinations. This allows minor streets to carry internal circulating traffic. These features enhance the legibility and ease with which people can use the Centre.

OUTCOMES

- Streets are differentiated in function, providing efficient and clear access, whilst protecting local environments from through traffic.
- Provision of four types of roads and streets, which organise the Centre.

Arterial Roads: Are external to the site and provide regional access. They include Windsor Road, which will provide public transport access into the Centre, and provision for a future Schofields Road bypass on Commercial Road.

Sub Arterial Roads: Provide access to the Centre from arterial roads. They include White Hart Drive (west of Civic Way) extension and Sanctuary Drive.

The Main Street: Provides the main address to Centre functions. Refer also to section 2.6 Special Places.

Civic Way: Similar to Main Street, provides a major address to Centre and community facilities and links the southern neighbourhoods to the Northern Frame through the Town Centre.

Local Roads/Streets: Provide access to retail and commercial areas and to the diversity of activities within them. These streets will accommodate the local traffic within the Centre.

Local Roads/Streets: Refer to Table 2 for detailed characteristics for the following road and street types:

- **Major, or Collector Roads or Streets** collect traffic from the residential streets and town centre minor streets and lanes and carry higher volumes of traffic. A reasonable level of residential amenity and safety is to be maintained by restricting traffic volumes and vehicle speeds. Vehicle speeds on collector streets should be controlled by street alignment and intersection design.
- **Residential Streets** vary in character. They are typically narrow, accommodating on-street parking. They are limited in length and/or are frequently crossed to ensure a high level of connectivity and appropriate traffic volumes. Types of residential streets respond to orientation, housing density, and address open spaces.
- **Residential Lanes and Mews** provide service and garage access to the rear of higher density residential lots, removing the need for kerb cuts and garages on associated residential streets, and allowing for more efficient, narrower lots.
- **Residential Esplanades** are pedestrian dominated carriageways, enabling delivery, taxi and emergency services access to the “front door” of houses, where the lot has rear lane garage access. They provide a low order access between residential streets, and permit continuous pedestrian access along the edges of significant open spaces.
- **Town Centre and North Village Service Lanes and Alleys:** Provide vehicular and pedestrian access, through mixed use precincts, and to parking areas near shops and residences.

PERFORMANCE CRITERIA

- a) Direct access to commercial sites in the core from arterial and sub-arterial roads is not permitted.
- b) The main street could provide a traffic route for local buses and set down and short stay parking. Traffic calming measures should be employed to achieve low vehicle speeds.
- c) Local streets serving retail and commercial areas may vary in location. Local streets in residential areas must relate to housing layouts and provide a sense of contained urban scale, achieved by minimising street widths and siting houses within 3 – 6m of front boundaries. A local street must also separate developments from open space.
- d) In commercial areas service lanes should be designed so as to discourage their use as short-cut routes. Ensure service lanes include measures to calm traffic. Provide special paving to define safe pedestrian linkages between parking and shopping areas.
- e) An acoustic report prepared by a suitably qualified consultant is to be submitted with all residential development applications for land adjacent to existing or proposed Arterial/Sub-arterial roads or public transport corridors and should comply with the Environmental Protection Authority publication ‘Environmental Criteria for Road Traffic Noise’ (May, 1999).
- f) In regard to roads that cross natural drainage channels, the construction of bridges with piered approaches is preferred to culverts in order to maintain stream corridor function. Any works within, or alterations to, natural drainage systems will require the necessary approvals of the NSW Office of Water and Department of Environment Climate Change and Water.
- g) Direct vehicular access to Arterial and Sub-arterial roads will not be permitted where alternate access is available. Access will not be restricted to any property from Arterial or Sub-Arterial roads until such time as alternate access is available.
- h) Roads and streets should occur along and adjacent to public open space or drainage lands. Where roads and streets front open space or drainage land the costs associated

- with their construction is the responsibility of the developer.
- i) Street networks are to conform to the requirements set out in Table 2: Characteristics of Street Types.
 - j) At least 90 percent of dwellings are to be located within 400m safe direct walking distance from an existing or proposed bus stop.
 - k) When travelling from any dwelling to the most convenient collector street or higher order road generally no more than three turns should be required.
 - l) The driving distance from any dwelling to the nearest collector or higher order street is a maximum of 700 metres.
 - m) Street and road junctions are to be spaced as set out in Table 1.
 - n) The street network is to be designed to limit target street speeds to those specified in Table 2. This may be done by limiting street leg length, and providing appropriate slow points at the end of each leg. Slow points may be provided by a variety of mechanisms including street junctions, introduction of sharp bends and surface obstructions. Speed may also be restrained by a continuous series of bends, or by a combination of approaches.

Table 1 – Minimum Junction Spacing

ROAD TYPE	TYPICAL AVERAGE JUNCTION SPACING (METRES)	MINIMUM INDICATIVE STAGGERED JUNCTION	TRAFFIC VOLUMES (VEHICLES PER DAY)
Access Place	NA	NA	<300
Access Street	40	40	300 to 2000
Collector Street	40	40	2000 to 3000 (minor) 3000 to 6000 (major)
Sub-Arterial	150	200	5000 to 15000
Arterial	500	200	10,000 and over

Table 2 – Characteristics of Street Types

STREET TYPE	MAXIMUM TRAFFIC VOLUME(1)	MAXIMUM NUMBER OF DWELLINGS	DESIGN SPEED KM.HR(2)	CARRIAGEWAY WIDTH (M) (3)	VERGE WIDTHS	ROAD RESERVE	FOOTPATH REQUIRED
Access Way (Fronting open space)	100 veh/d	10	15	6.0m(4)	3.5m*	10.5	No
Access Place	300 veh/d	30	30	7.5	3.5m*	14.5	No
Access Street	2000 veh/d	200	40	8.5m	3.5m*	15.5	Yes 1.2m wide One side only
Collector	3000 veh/d with access to lots	1000	50 (20 at ped/cycle crossings)	9.5m	3.5m*	16.5m	Yes 1.2m wide Both sides

- i) For single dwelling allotments apply traffic generation rate of 10 veh/day per lot (equivalent to approximately 1 veh/day in the peak hour) unless a lower rate can be demonstrated. Lower rates can be applied to multi-unit dwellings based on locally derived rates.
- ii) See Council's Design Guidelines for Subdivisions and Developments for specific operating speeds.
- iii) Widening required at bends to allow for wider vehicle paths (using Austroads Turning Templates).
- iv) Maximum length of carriageway is 80 metres.

*Verges may also require an additional widening requirement for the provision of a pedestrian/cycleway path.

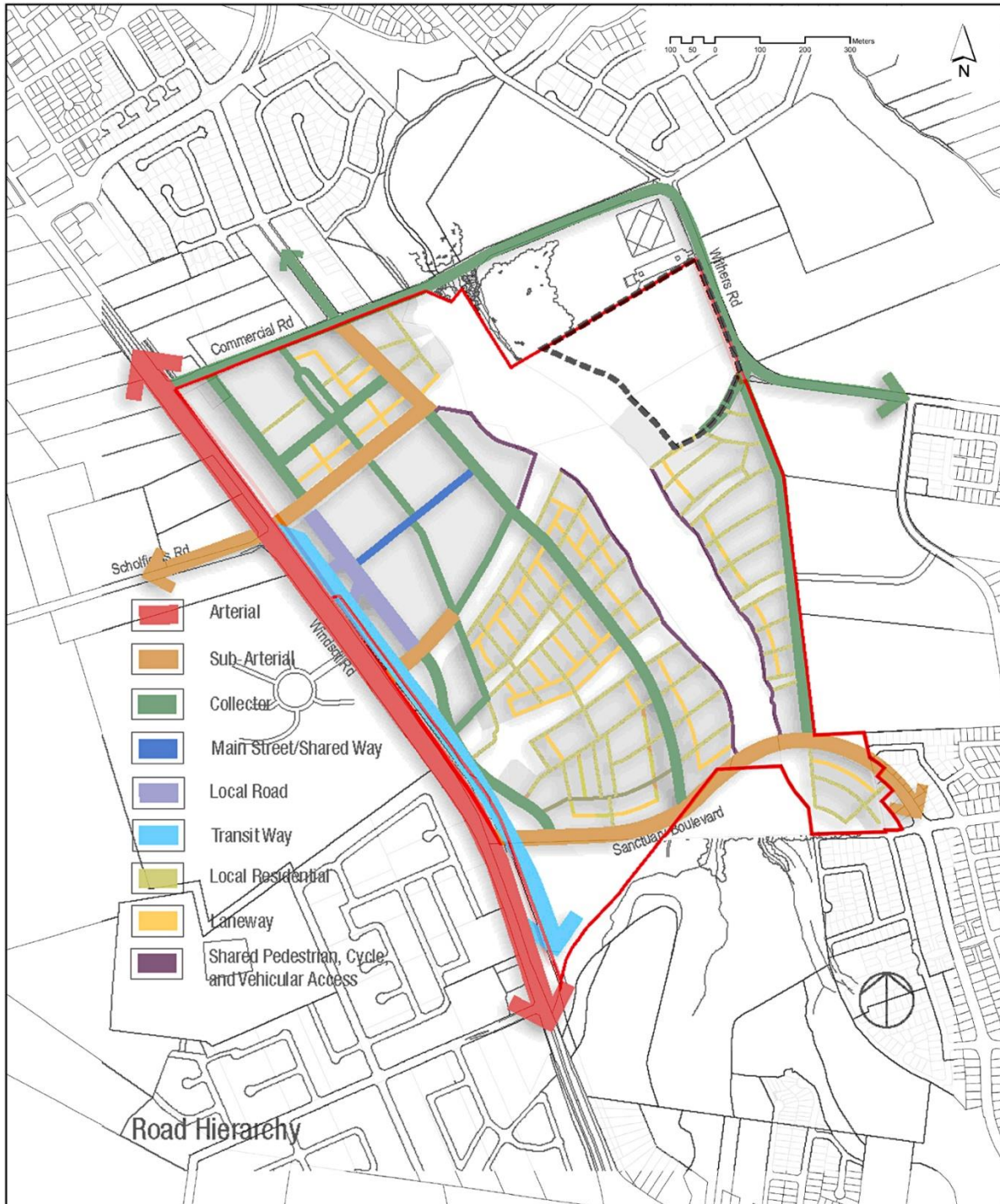


Figure 5 – Road Hierarchy

2.3.2 LOCATION AND CROSS SECTIONS OF “FIXED” STREETS

PRINCIPLE

- To fix the location of the major streets linking the main components of the Centre to the areas surrounding the Centre, whilst leaving the location of minor streets flexible.

RATIONALE

The LEP fixes the location of the roads above and this Section of the DCP sets down the location of

streets which serve the main land use zones. As the layout of blocks will vary in response to the needs of different developers, (or at different stages in development of the Centre), the location of local streets is left flexible. A main street is a requirement of the DCP. The location of the main street is at the discretion of the developer.

OUTCOMES

- Fixed arterial and sub-arterial roads are constructed in defined locations and vertical geometry (as per the performance measures)
- Streets that are not fixed are located to suit developers' needs.

PERFORMANCE CRITERIA	PERFORMANCE MEASURES
General All north south streets parallel to Windsor Road shall have a vertical alignment close to horizontal minimising cut and fill. All east west cross streets follow the topography and rise or fall as necessary to minimise cut and fill.	To conform with Council's Engineering Guidelines
Fixed Roadways The Sub Arterial and Arterial Roads are fixed in location, cross section and vertical alignment. A Main Street is required as set out in this Section of the DCP. The location of all other streets is flexible.	The fixed roads are to be laid out and conform to the design control levels set out in Maunsell McIntyre's Report "Preliminary Report on the Engineering Aspects of the Rouse Hill Regional Centre", Nov. 1999. Conformity with the objectives of blocks.
Signalised intersection locations and their levels are identified. Design plans for signals on intersections with Windsor Rd are to be submitted to the RMS for concurrence.	Refer to "Preliminary Report on Engineering Aspects of Proposed Rouse Hill Regional Centre" prepared by Maunsell McIntyre, Nov. 1999.
Non Fixed Streets and Lane Ways Non-fixed streets and lane ways are to be designed according to the typical sections contained in Section 2.5.3. Civic Way should bridge over Tributary 3.	See Special Places provisions in this Section of the DCP. Provided that the natural gully is retained, commercial uses may be incorporated in the bridge feature.

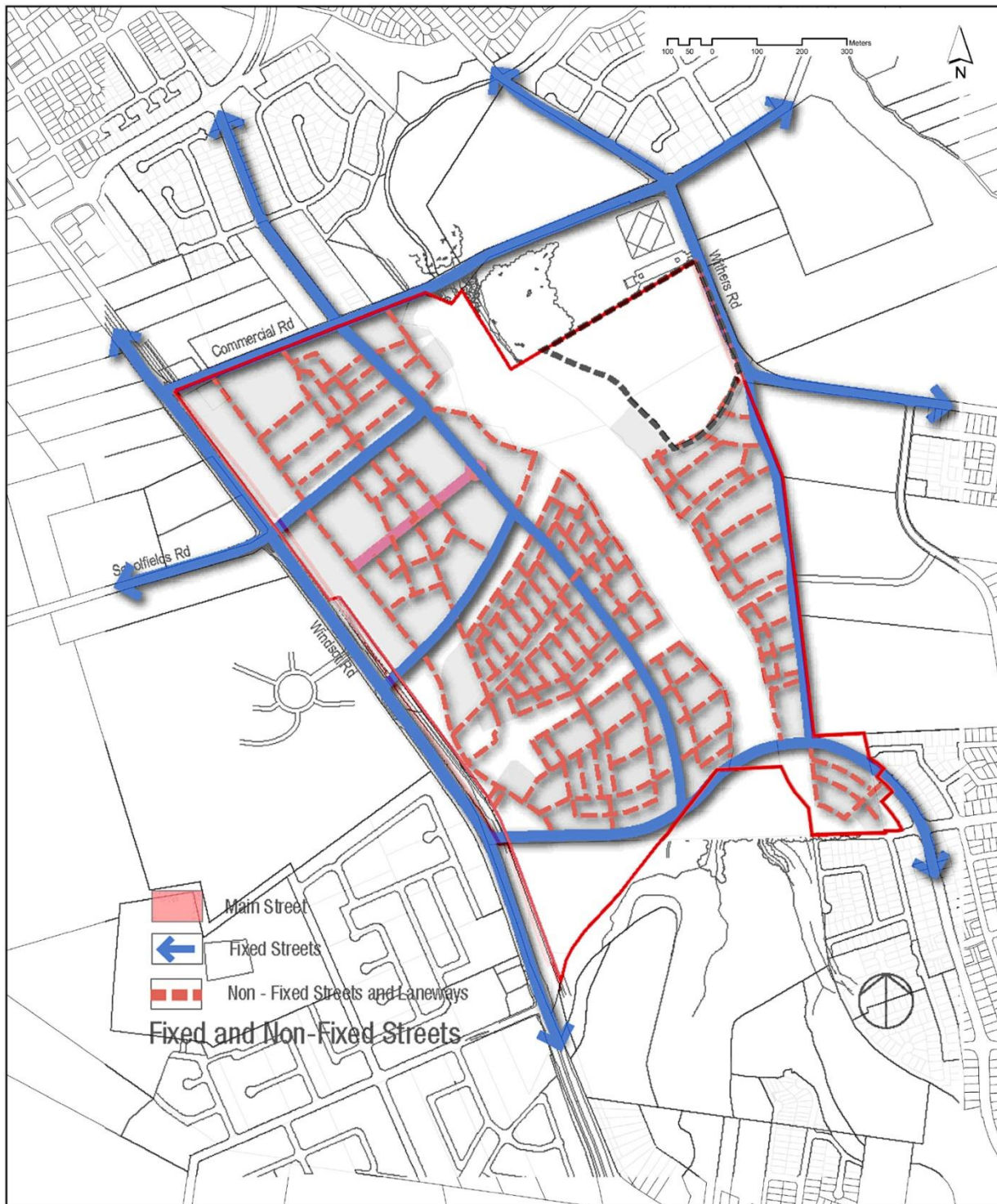


Figure 6 – Fixed and Non-Fixed Streets

2.3.3 PUBLIC TRANSPORT

PRINCIPLES

- To increase opportunities for choice in mode of transport.
- To provide local bus, transitway and rail interchange requirements within a single facility which forms a focus for all public transport services within surrounding regions.

RATIONALE

- Public transport should be accessible and located close to destinations such as retail offices and community facilities within the Centre.

- Safe, convenient, high frequency public transport options should be developed from the earliest stages of development of the Centre.
- The level of public transport access should keep pace with the staged expansion of development.
- Levels of parking provision for various uses and mixed uses are to be assessed in an ongoing way as the Centre develops and in a way which satisfies the key objectives of Action for Air. (Environment Protection Authority).

OUTCOME

- Public transport needs are met and increased usage results.

PERFORMANCE CRITERIA	PERFORMANCE MEASURES
Accommodate bus movement within the street network arrangement which separates through and local traffic	
Provide a regional line haul bus route as illustrated on Figure 7 (Bus Interchange and Railway Station Arrangement) Provide a bus interchange facility in line with the opening of Stage One of the Centre	Bus Interchange Layout is to conform to the principles set out in the Maunsell McIntyre Report. It must have the potential to link with a rail link and to conform to detailed guidelines established with the MOT and RMS.
Provide a local bus route to/across/or along the Main street with bus stop at regular and convenient intervals	
Passenger waiting areas should not intrude or disrupt pedestrian circulation on footpaths	
Allow for a heavy rail easement adjacent Windsor Road as illustrated on Figure 7.	

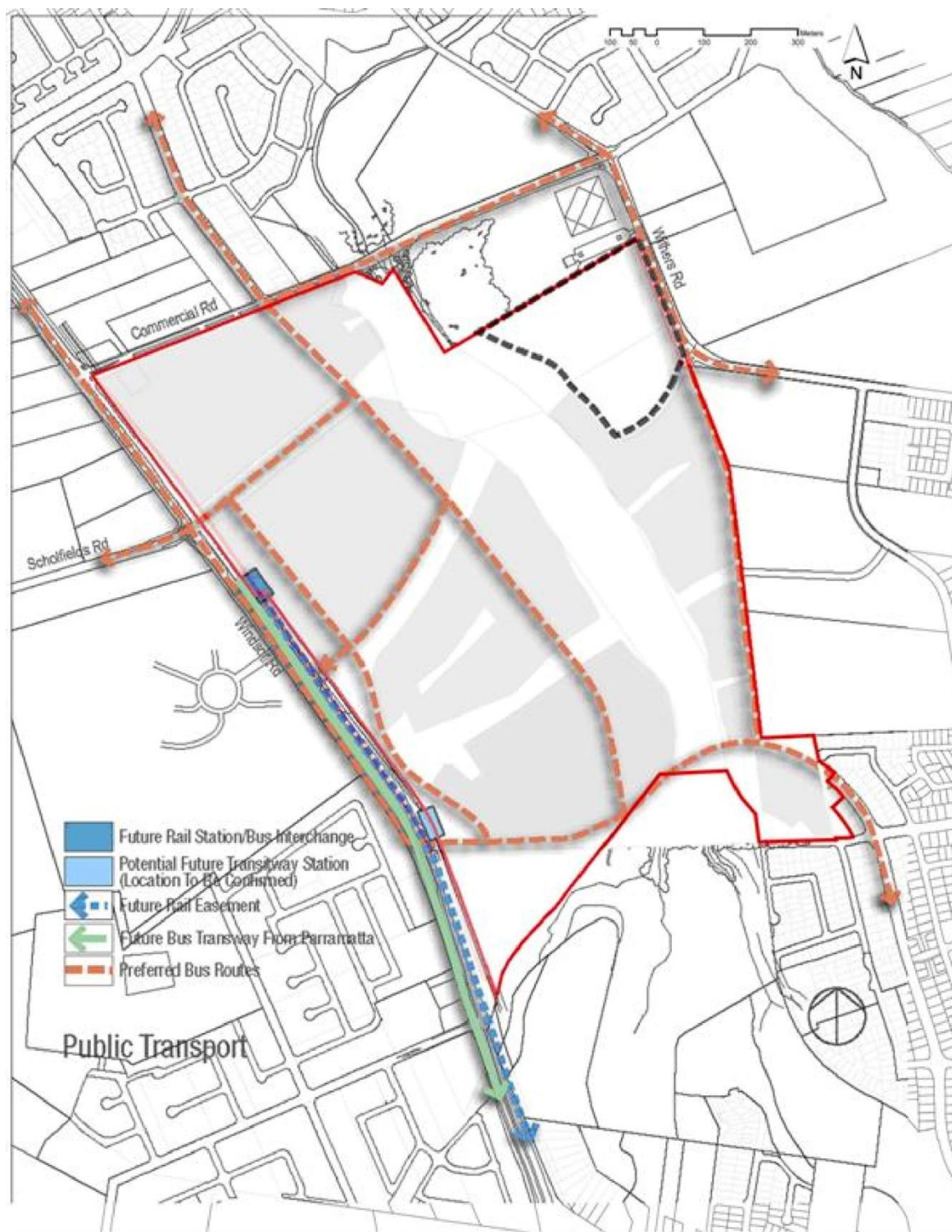


Figure 7 – Public Transport

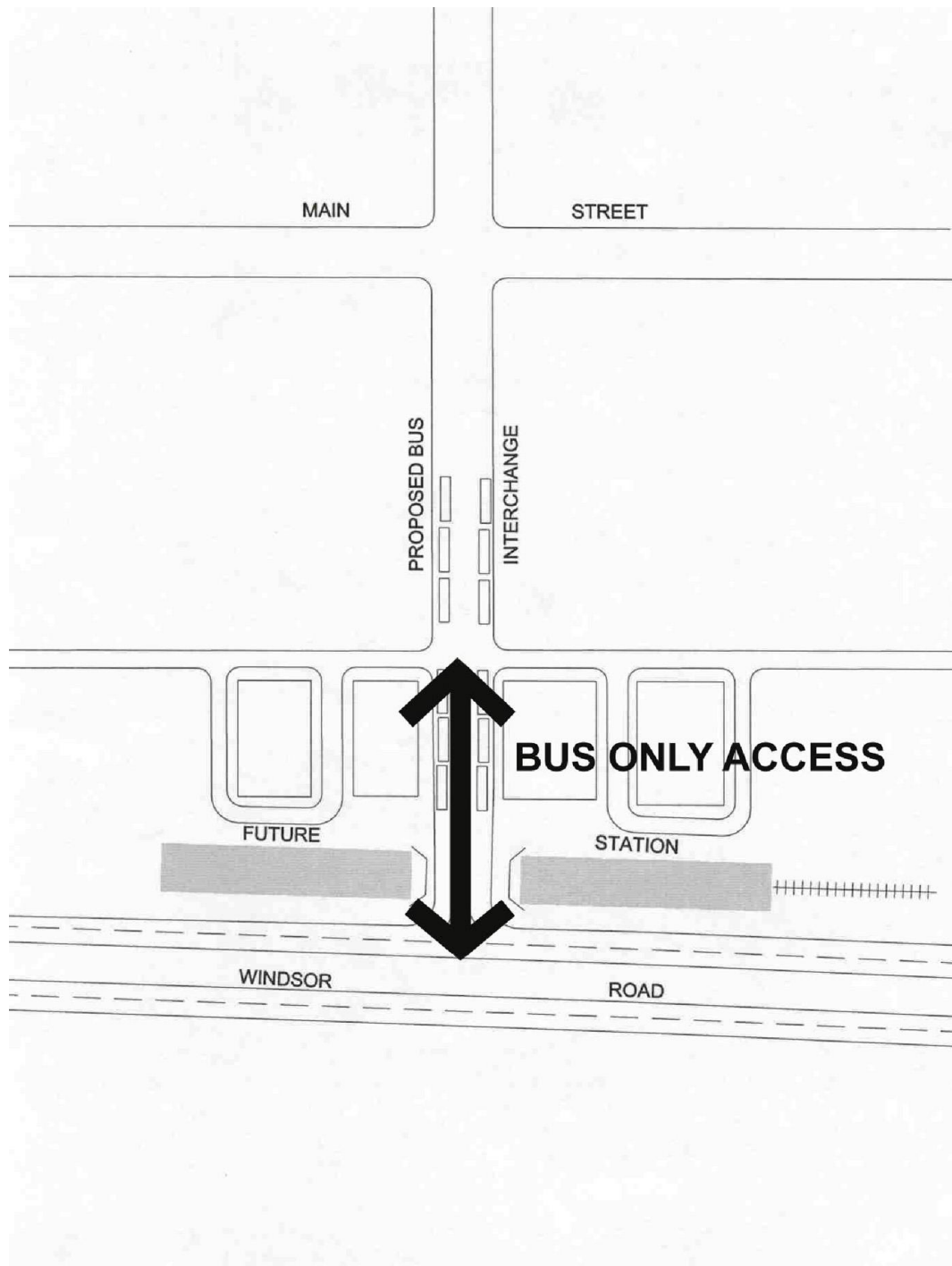


Figure 8 – Indicative Concept For Bus Interchange and Railway Station Arrangement
(details to be confirmed by MOT)

2.3.4 SURFACE PARKING AND PARKING STRUCTURES

PRINCIPLES

- Ensure efficient customer access to the Regional Centre whilst maximising the use of public transport.
- Minimise the amount of space and costs associated with parking provision.

RATIONALE

- Sufficient parking should be provided to encourage customers to use the Regional Centre. At the same time, the use of the car for commuting should be constrained to levels which ensure that as many people as possible travel by public transport.
- The amount of car parking should be rationalised by allowing flexibility to convert commuter parking areas to short-stay operations during times of peak trading demand.
- It is desirable to provide all parking (other than minimal essential operational parking) in publicly accessed car-parks and to ensure effective management of parking supply.
- Parking should be located close to destinations and provide safe, direct access for customers.
- The layout of the core area should allow costs of parking provision to be deferred by progressively staging the introduction of parking structures as an integral element within the core area.
- The provision of residential parking should be met within residential blocks.

OUTCOMES

- On-street parking is provided in appropriate locations.
- On-street parking outside retail frontages is limited in use to short stay purposes.
- The bulk of customer parking is provided in publicly accessible and managed off-street locations. Customer parking is located in surface or parking structures planned to achieve the least possible distance to destinations, and has easy and safely traversed pedestrian paths. Pedestrian paths from public car parks allow permanent public access to street footpaths. Parking layouts are dimensioned and located within the street

system in a manner which facilitates efficient access and management.

- Areas of surface parking should be planned to allow later conversion to development sites or parking structures.
- Flexibility is achieved in the amount and usage of long-stay parking. The provision of commuter parking is limited to levels which maximise the use of public transport. Long-stay parking areas are linked to customer (short-stay) parking areas in a manner which facilitates the conversion of a proportion of long-stay parking to short stay use during periods of peak trading demand. All long-stay parking is provided in a manner which allows the introduction of pay parking.
- Parking is an integral element of the urban setting. In the core area, all off-street parking is provided in above-ground or basement structures. Parking structures facing access streets are separated from street frontages by other development. The separation and form of development is as set out in Section 2.5 which stipulates the principle of access to parking from local streets located parallel to the main street/Civic Way.

The residential controls set out the relevant conditions for those areas.

PERFORMANCE CRITERIA	PERFORMANCE MEASURES
General	
The amount of parking required at each stage must contain within that stage the potential to meet parking demand required at full development of the centre. Temporary overspill of parking onto vacant lands will be subject to agreement and will apply to Stage 1 only.	Provide all parking dimensions in accordance with Australian Standards for parking.
	Structures for Parking to begin when the centre for retail development is over 20,000m ² in size. Actual standard of provision to be agreed with Council prior to DA's for each stage. Parking structures should have an efficient size and layout, with safe pedestrian and vehicle access.
	Locate all driveways approximately 30 metres from major intersections.
	Rear lanes should be the main point of vehicular access for parking and servicing.
	Shared driveways between adjacent properties is permitted and encouraged.
	Accommodate all parking requirements for subsequent stages on land within that stage.
If partial build out of a stage is proposed, then a plan showing full build out and associated parking at existing rates of provision is to be provided at each stage.	No parking or service entries should generally exceed more than 6 metres in width along building frontage.
Retail and Commercial Activities Commuter parking demands should be constrained to promote the use of public transport. Parking areas should be located at the rear of the buildings or below ground. Parking structures can only front a limited number of streets specified in the Block Controls (refer section 2.5.1.).	Based on further public transport targets, Ministry of Transport (MOT) will advise the developer of the Regional Centre of appropriate rates for parking provisions. As an initial guide the following rates will apply to the preparation of the Master Plan. These will be regularly adjusted by the Centre Management Committee in consultation with MOT. Retail: Stage 1: 18.5 m ² Following completion of Stage 1, the parking provision in the Centre as a whole will be reviewed by Council to levels in line with mode split targets to be agreed with MOT. Commercial : Stage 1: 25 m ² Following completion of Stage 1, the parking provision in the Centre as a whole will be reviewed by Council to levels in line with mode split targets to be agreed with MOT.
Residential Activities Provide covered off street parking predominantly	Residential 1 bedroom unit 1 space

PERFORMANCE CRITERIA	PERFORMANCE MEASURES
<p>below, to the rear of, or within buildings.</p> <p>Separate residential parking areas from parking designated for other uses where surface or structure parking is shared.</p>	<p>2 bedroom unit 2 space</p> <p>3 bedroom unit 2 spaces</p> <p>Visitor parking 2 spaces per 5 dwellings (up to 60 units) 1 space per 5 dwellings (60 or more units)</p> <p>Locate garages at or behind the front building lines to enhance the amenity of the streetscape.</p> <p>Other than for single dwellings, entries and exits from garages onto a public street should be in forward motion.</p> <p>Integrate garages into the structure of the building.</p> <p>Match garage design with the adjoining structure in terms of design, materials, colours and construction.</p> <p>Locate surface parking behind building line and screen from view.</p>

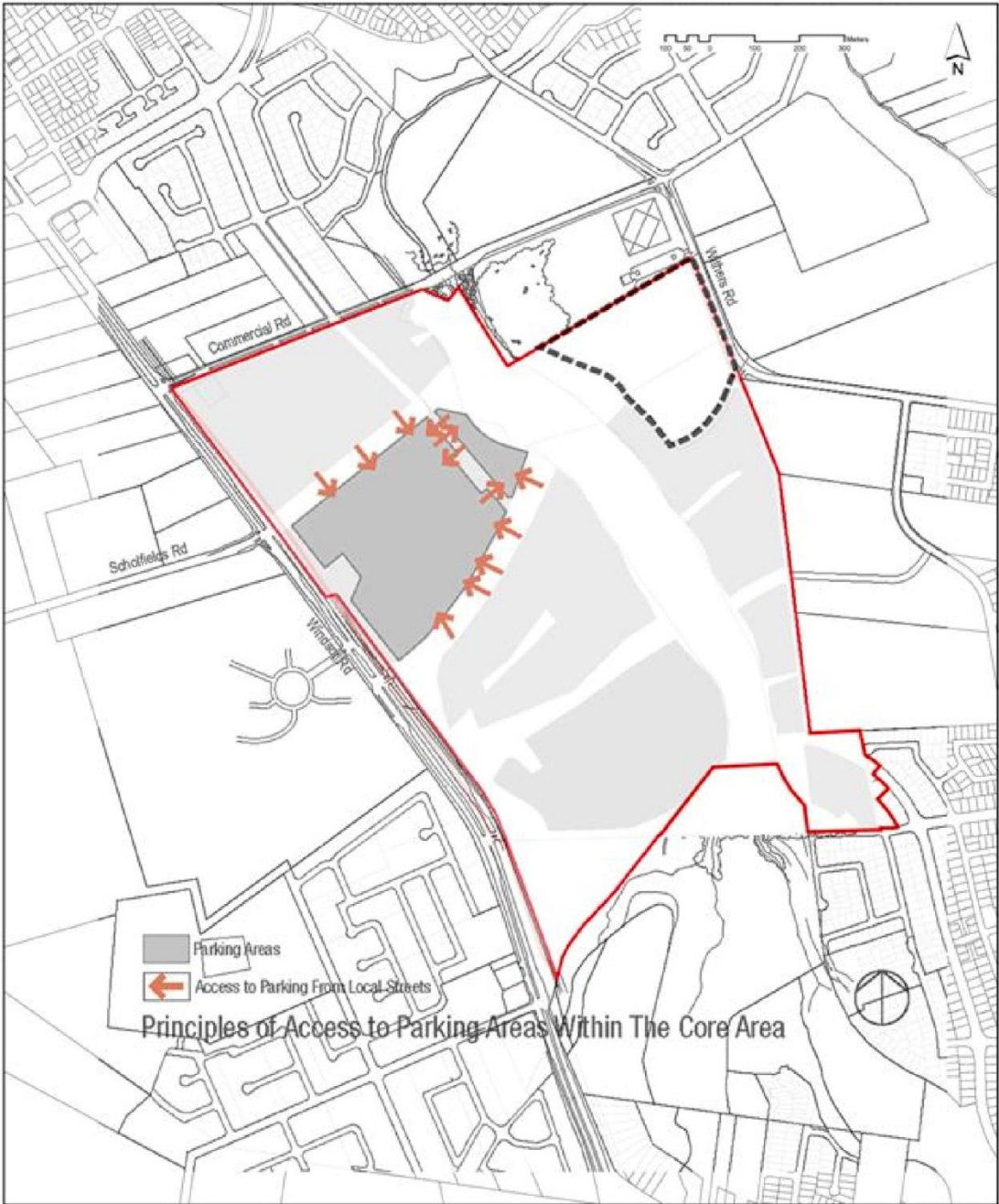


Figure 9 – Principles of Access to Parking Areas in the Core

2.3.5 PEDESTRIAN AND CYCLEWAY CIRCULATION

PRINCIPLE

- To provide a clear system of pedestrian and cycleway circulation within the Centre, linking to open space and other adjacent areas.

RATIONALE

- The pattern, efficiency and legibility of pedestrian circulation is critical to the success of a vibrant Centre.
- Streets and footpaths are the main pedestrian activity areas. The type and form of activities fronting the street affects their design.
- Access ways within the Centre should link with routes which provide easy access to open space and adjacent areas.

OUTCOMES

- High amenity pedestrian areas are achieved.
- The main street/Civic Way provides for both movement and leisure.
- All footpath systems in the Core provide for safe movement and street crossings.
- The cycle route system links with the main cycleway system provided by Council outside the site.

PERFORMANCE CRITERIA:

- a) Provide a system of public street footpaths focussed on a main street. Design pedestrian areas which respond to adjacent uses, and use minor streets to link with parking and employment areas. Provide dedicated pedestrian routes that connect the centre to the surrounding areas. Overhead or underground pedestrian links between blocks of retail development separated by public streets will not be permitted.

- b) Provide dedicated cycle routes to Council standards that connect the centre to the surrounding areas. Specifically, provide connections to:
 - Stanhope Gardens to the south-west;
 - Adjoining playing fields;
 - Council's Open Space Strategy – Kellyville/Rouse Hill Recreation Plan
 - Residential areas in the Blacktown local government area.

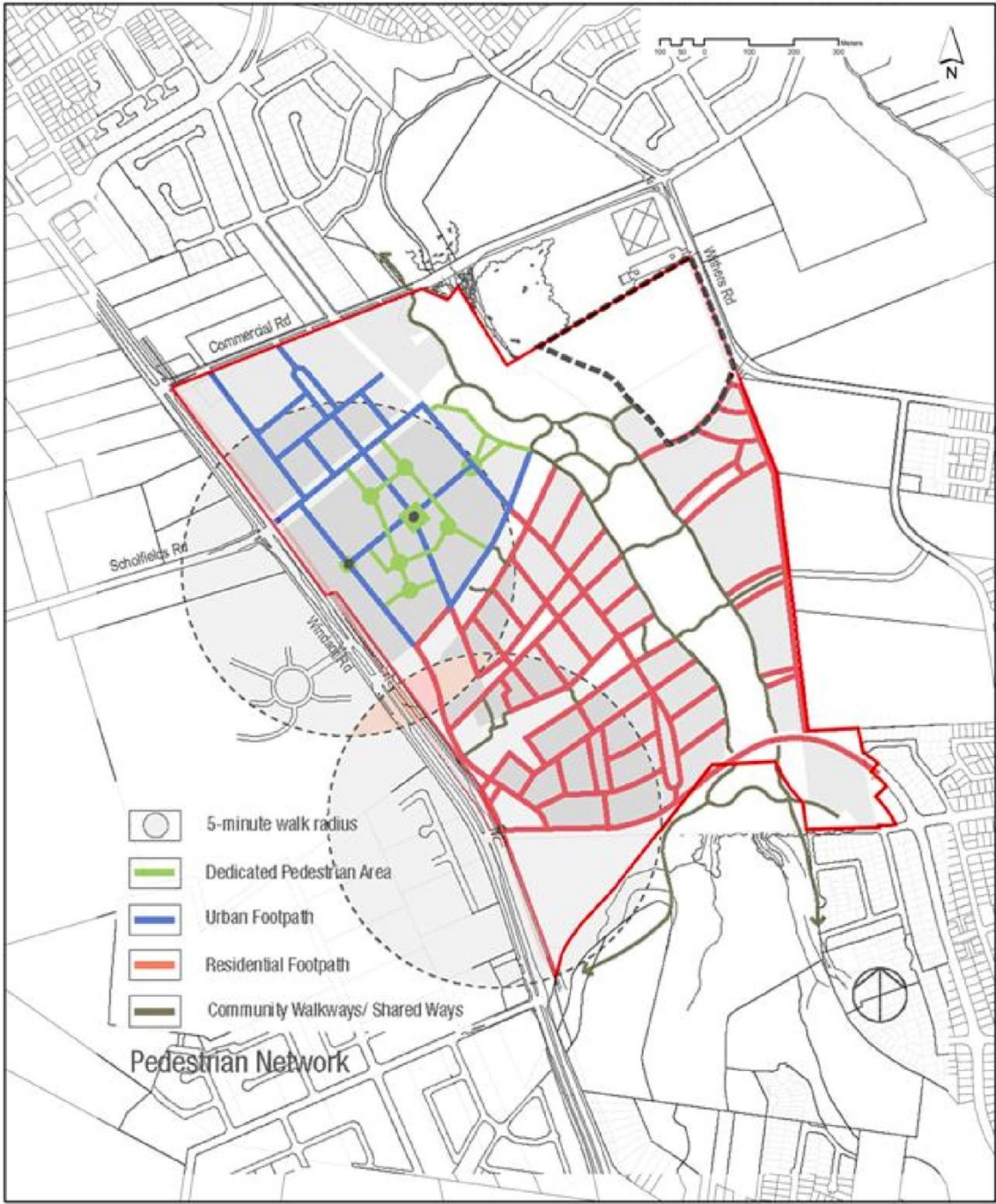
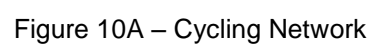


Figure 10 – Pedestrian Circulation



2.4 PUBLIC REALM

PRINCIPLE

- Integrated planning, development and management of the riparian corridor, local and district parks, and urban public spaces.

RATIONALE

The quality of the Centre as a man made entity adjacent to a degraded riparian corridor requires action at both planning and management levels to:

- Restore the natural setting, enhancing sustainability/biodiversity;
- Minimise adverse impacts created by urban waste, especially stormwater; and
- Enhance the use and enjoyment of urban spaces by landscape design.

OUTCOMES

- The urban and natural elements of the public realm are planned, designed and managed to achieve memorable, high quality, and sustainable relationships.
- Natural Open Space System
 - i) The riparian corridor and related parklands achieve a functional drainage system allied to conservation and restoration of natural habitats.
 - ii) Public parklands relate to the riparian corridor.
 - iii) Linkages between the riparian corridor and public parklands are created by developing cycleways, pedestrian routes and greenways.
- Urban Landscape Character
 - i) Areas of hard and soft landscaping are provided in public streets and places to enhance their use and enjoyment, and link the Centre with its natural setting.
- Private Open Space
 - i) The quality and placement of private open space enriches the public spaces of the Centre.
- Safety
 - i) The principles of Council's adopted "Designing Safer Communities – Safer By Design Guidelines" dated June 2003 should be addressed with each development

application including the four principles: natural surveillance, access control, ownership and maintenance.

2.4.1 NATURAL OPEN SPACE SYSTEM

PRINCIPLES

- Create a memorable landscape setting for the Regional Centre.
- Protect and enhance existing natural and man made features.
- Create a system of accessible, safe and well located parks with connecting links to the riparian corridor and surrounding residential areas.
- Establish an interconnected network of spaces, rather than a series of unrelated open spaces
- Maintain the integrity of the drainage function.

RATIONALE

- The natural setting of Caddies Creek should be enhanced by the integration of open spaces with the built form of the Centre, to create a continuous visual setting.
- The open space should form a number of focal points in the Centre by providing settings and spaces designed for a range of activities.

OUTCOMES

- Multiple use of a restored riparian corridor is achieved in ways that are consistent with its trunk drainage function and open space function, and the corridor is effectively buffered from the environmental impact of urban stormwater runoff.

PERFORMANCE CRITERIA	PERFORMANCE MEASURES
<p>Develop a clear and distinguishable open space hierarchy comprising a variety of experiences and needs.</p> <p>Develop a series of distinctive open spaces throughout the Centre.</p> <p>Design space to accommodate a range of active and passive uses.</p> <p>Ensure all of the open space is accessible.</p> <p>Parkland</p> <p>Maintain Caddies Creek Corridor as part of a continuous linear park. See the Landscape Management Strategy.</p> <p>Parks</p> <p>Provide parks in accordance with Council's requirements. Consistent with Council's Section 94 Kellyville/Rouse Hill Contribution Plan No 8, a minimum of two local parks of up to approximately 4000m² each are to be provided in residential areas of the Regional Centre.</p>	<p>The planning, restoration, conservation development and management of the open space and related floodway requirements shall conform to the Caddies Creek Landscape Management Strategy, and Maunsell McIntyre Engineering Report – Stormwater Drainage and Water Quality.</p> <p>Council will be responsible for acquiring, developing and maintaining only land zoned for public open space (including 2 local parks, the location of which is to be determined).</p> <p>Sydney Water approval is required for any proposed activities within the trunk drainage corridor.</p>

2.4.2 URBAN LANDSCAPE CHARACTER

PRINCIPLES

- The public spaces within the Centre shall have consistent landscaping which contributes to the amenity of the Centre and integrates with adjacent natural areas.

RATIONALE

- A consistent approach to streetscapes and street tree planting, pavements and street furniture contributes to the legibility and visual appearance of the Centre.
- High quality street tree plantings are the major factor which determines the quality of public spaces.

OUTCOMES

- The landscaping of streets and public spaces is of high quality.

- The layout underpins the structure of the Centre, while also providing a distinctive identity for local spaces.
- Street landscapes relate to the natural setting.

PERFORMANCE CRITERIA

- Build upon the existing landscape qualities of the site and district.
- Vary the landscape character of the streets according to the intended role in the Centre and the proposed activities.
- Minimise the use of different pavement types.
- Use variations to make special places such as entrances, gateways special features etc.
- Locate street furniture to add to the legibility of the Centre.
- Ensure the footpaths can accommodate a range of activities. Street cross sections, pedestrian pavement widths, and street tree planting should maximise pedestrian amenity under different seasonal conditions.

Streets

- Street and laneway cross sections should be consistent with the attached illustrations. Refer figures 23-30.
- Use streets, lanes and pedestrian ways to connect spaces.

Arterial Roads

- Should be designed as parkways with a strong landscaped setback from the road kerb lines. Maintain a minimum of 10 metre setback along all Arterial Roads, with the exception of Commercial Road (Refer to section 2.5.2).

Sub-arterial Roads

- Should be designed as a tree lined Boulevard as illustrated in Figures 11, 25 and 26. These streets should contain median strips, minimal carriage ways and regularly spaced street trees in the verge.

The Main Street and Civic Way

- Refer Special Places in section 2.6.

Local Streets

- Should be urban in character. Street trees should be used and set within a green strip adjacent to the footpath.

North-South Streets

- Use street trees and other planting material.

East-West Streets

- Extend the riparian landscape character of Caddies Creek into the Regional Centre along Tributary 3 and the east west streets; refer to Figure 26

Streets Adjoining Public Open Space

- Should have generous mown grass verges and regularly spaced street trees. These streets should not have median strips. The carriage ways should be kept as narrow as possible.

Parks

- Refer to the Caddies Creek Landscape Management Strategy. Include a local/heritage park, possibly adjacent to Mungerie House, and a reserve for protection of Aboriginal artefacts in the riparian zone (location fixed).

Landscape Design Guidelines for Specific Elements

- Refer to section 2.6 Special Places.

PERFORMANCE MEASURES

The detailed guidelines, including materials and landscape specifications; together with typical designs, shall be prepared as part of the Master Plan submission.



Figure 11 – Urban Landscape Character

2.4.3 PRIVATE OPEN SPACE

PRINCIPLES

- Ensure that each dwelling has private outdoor space.
- To develop shared or communal spaces with facilities for recreation and leisure, and relate these spaces to street landscapes.

RATIONALE

- Gardens, terraces and courtyards are necessary to improve amenity for occupants, and their placement adds to the amenity of the public street realm.

OUTCOMES

- Good site design that places private open space in ways which contribute to the visual quality and richness of the public spaces in the Centre.

PERFORMANCE CRITERIA	PERFORMANCE MEASURES
In the residential neighbourhood: Provide private and communal open space for each dwelling. This may be provided as balconies, decks, roof top terraces or gardens.	Balconies should be incorporated into the building envelopes. A minimum depth of 2 metres is suggested, provided 1.5 metres of solar access to all units in a development is maintained.
Where possible, provide each ground level dwelling unit with a private outdoor garden delineated by perimeter fences or planting to reinforce the streetscape.	
Locate private open space within each residential development site for resident recreation and leisure.	Provide a minimum private or communal open space per dwelling of 20 sq. metres.
Provide suitably established in-ground plantings or raised	Ensure that all buildings submit site landscape designs which integrate

planters in private terraces, courts or gardens to enhance residential amenity, increase privacy and reduce overlooking.	and contribute to the quality of public streets.
--	--

Refer to Section 3 – Residential Development Control for detailed requirements.

2.5 URBAN FORM

PRINCIPLES

- The urban form is described by those elements which govern the internal layout of the centre. This should be expressed as simple rules that allow a degree of flexibility, while at the same time ensuring clear functioning and legibility for users.

RATIONALE

- Clear forms of street layout and building blocks are common features of towns. Efficient and memorable layouts have a simplicity of arrangement of both these elements.

OUTCOMES

- Blocks and Streets
 - i) The disposition of activities within adjacent blocks relate in function, and also provide a clear relationship to footpaths at street frontages
 - ii) Efficient parking and servicing arrangements are achieved and high safety and convenience levels provided to users of the Centre
- Building Height
 - i) Within blocks there is a diversity of building form and scale allied to high visual quality and amenity of streetscapes.
- Street Cross Sections
 - i) The cross section of streets is consistent with that defined in this Section of the DCP.
- Safety
 - i) The principles of Council's adopted "Designing Safer Communities – Safer by Design Guidelines" dated June 2003 should

be addressed with each development application including the four principles: natural surveillance, access control, ownership and maintenance.

2.5.1 TOWN CENTRE BLOCKS AND STREETS

PRINCIPLES

- Blocks must be built to provide built-up frontages to surrounding streets, with the frontages being made up of buildings of a compatible scale within each block. At the ground floor level, uses must open on to streets and be of a nature that enlivens the pedestrian environment within streets.

RATIONALE

- A multi-functional centre can function best when all its elements are connected by public streets.
- The Block is the basic element which organises buildings and relates them to streets. It has more uniform characteristics within the core area, where good circulation is facilitated by adopting a street grid arrangement of blocks of similar size, arranged in a grid pattern. To further facilitate pedestrian and vehicle circulation, and to ensure that it takes place on the outside edges of blocks, each block has a limitation on its maximum size.
- With all circulation focussed on public streets which are always open, there is greater scope to integrate entertainment, leisure, and community uses into shopfront locations, where their use and enjoyment is more assured than would be the case if they were disposed to locations outside the main retail areas.

- In the core area, the separation of street frontages into separate constructional elements will allow for building frontages to be changed or even redeveloped over time without severely disrupting the continuity of street frontages.

OUTCOMES

- The size of blocks is limited to allow circulation on public streets to permeate easily throughout the centre.
- The size of blocks may vary, provided that the resulting regular layout of streets allows ease of circulation.
- Pedestrian circulation within blocks link clearly to destinations.
- Within the core, larger scale retail and parking functions are contained within a frame of smaller scale buildings, with the outside frontages of the blocks forming a continuous street frontage. This provision is mandatory on the main street, but is open to some discretion on other streets. The maximum length of any building front along the street is generally 30m.
- Specialty shops should face the street frontages of blocks or pedestrian rights of way.

PERFORMANCE MEASURES

The diagrams which follow illustrate the outcomes, and specify those elements of the layouts which are mandatory, and those that are flexible in their application.

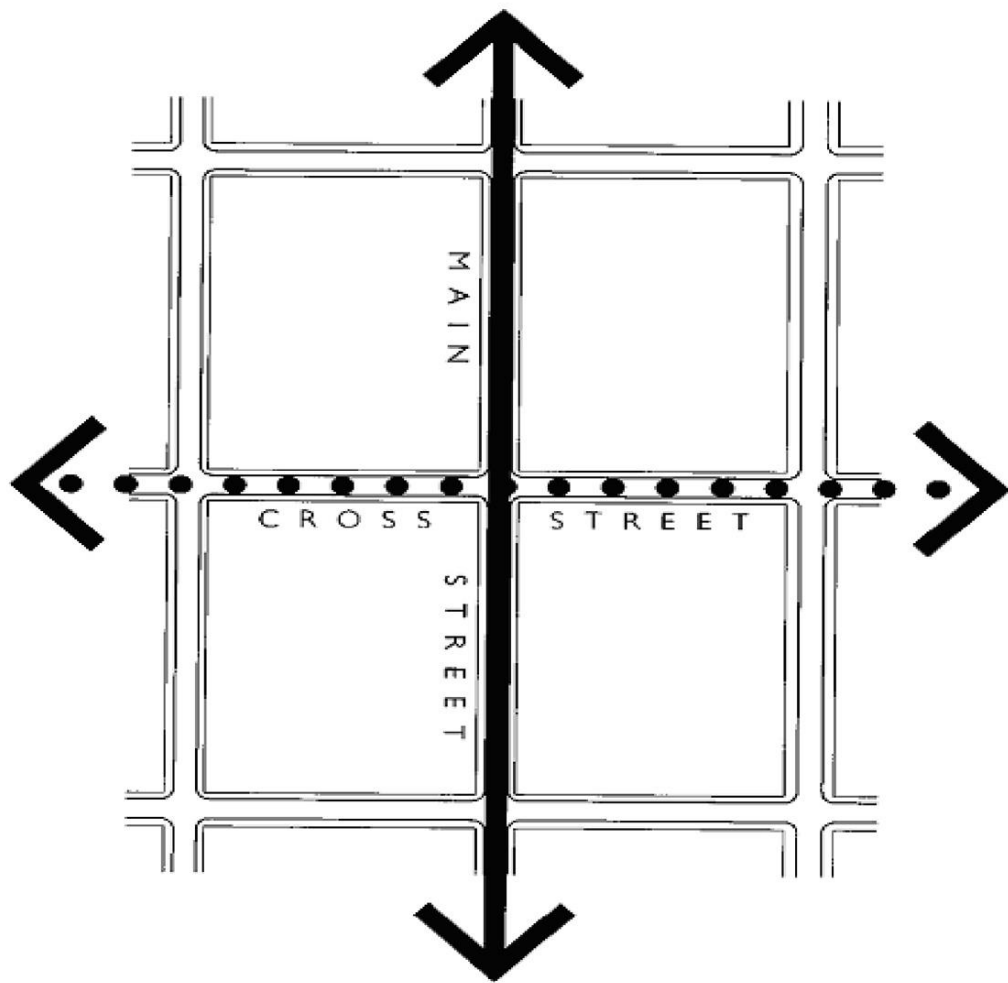


Figure 12 – Street Pattern and Hierarchy

PERFORMANCE GUIDELINE 1. STREET PATTERN AND HIERARCHY

- The street pattern will approximately make a grid, modified to reflect the topography
- The street pattern of the town centre is to be organised around a Main and Cross Streets including Civic Way

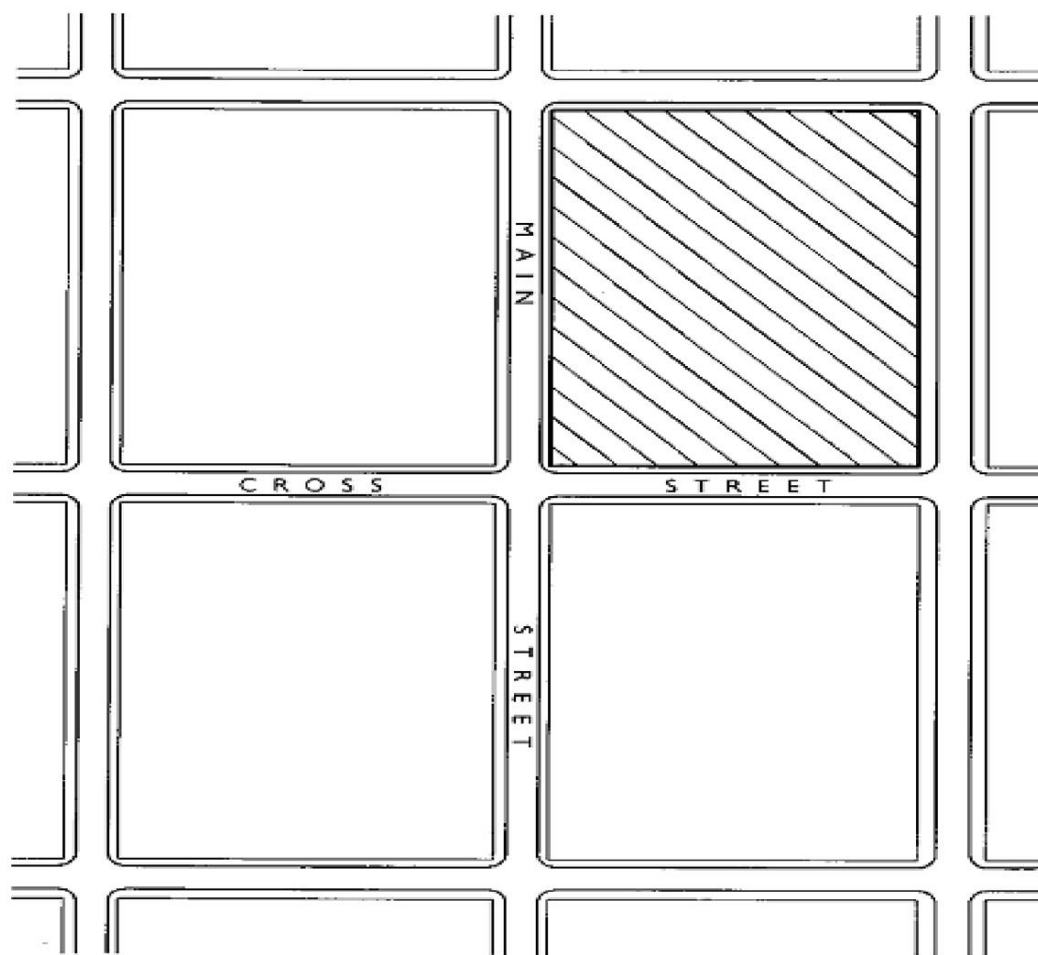


Figure 13 – Block Definition

PERFORMANCE GUIDELINE 2. BLOCK DEFINITION

- Local streets include all streets in the town centre with the exception of service streets and alleys
- A block is defined by local streets

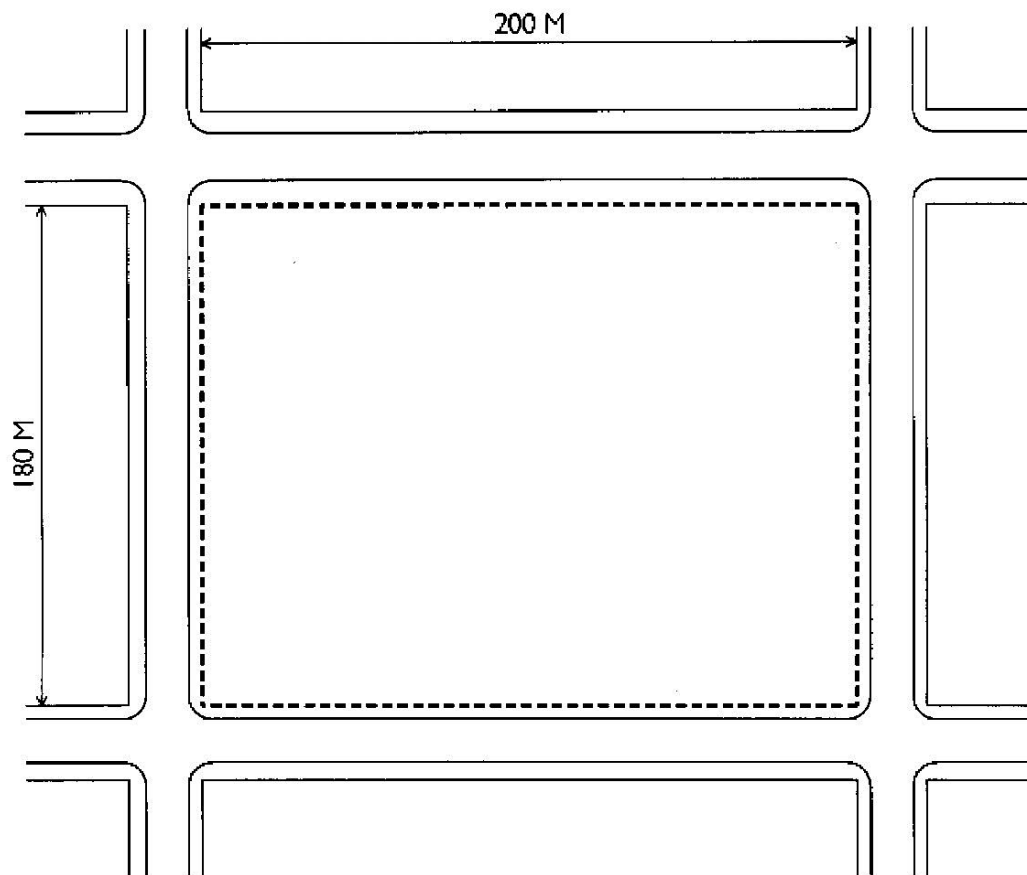


Figure 14 – Standard Block Size

PERFORMANCE GUIDELINE 3. BLOCK SIZE

- The maximum size of a block with retail and commercial uses is 200 x 180 metres

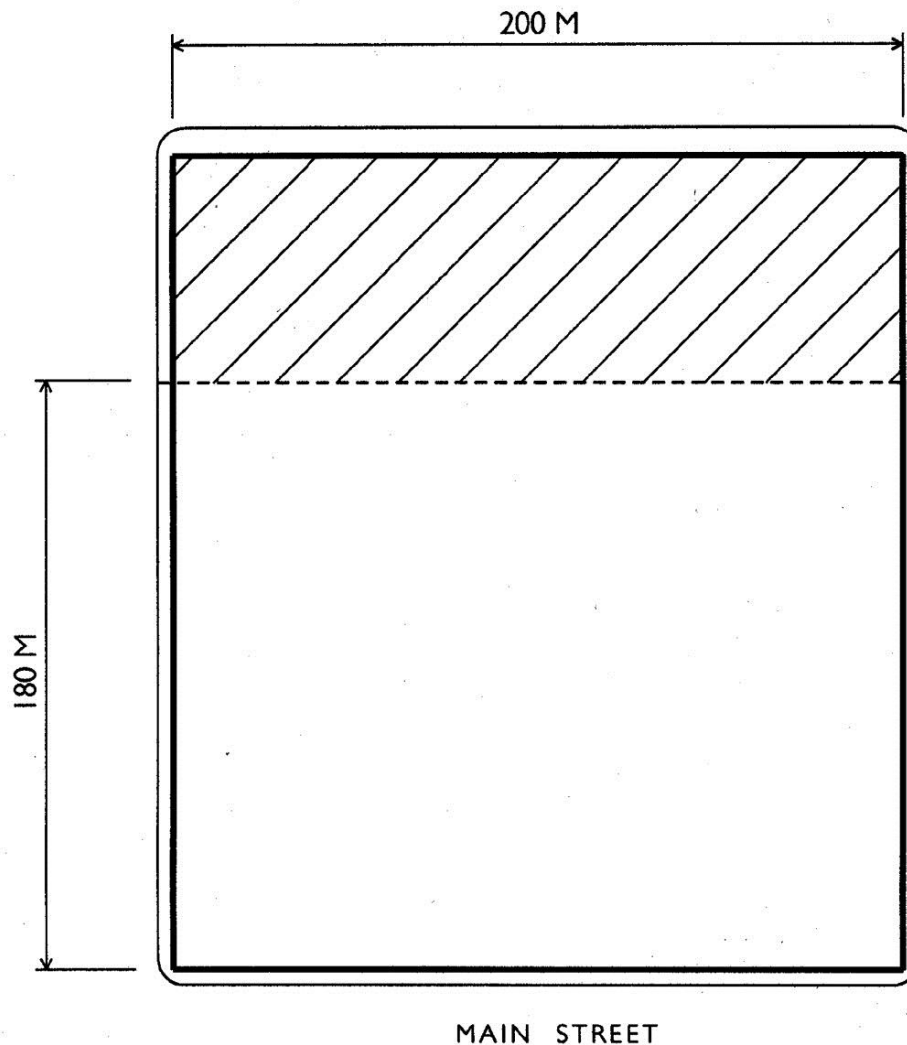


Figure 15 – Alternative Block Size

PERFORMANCE GUIDELINE 4. BLOCK SIZE (CONTINUED)

- The depth of a block (retail/commercial) may be increased to form a mixed-use block accommodating residential and/or community uses
- The maximum block dimensions may be exceeded where the block includes a mix of uses, beyond that of commercial and retail. The specific exceptions to the maximum block dimensions, where a mix of uses are accommodated, are:

SE Block

Average depth from main street <200 metres

Average depth from cross street <220 metres

SW Block

Average depth from main street <240 metres

Average depth from cross street <200 metres

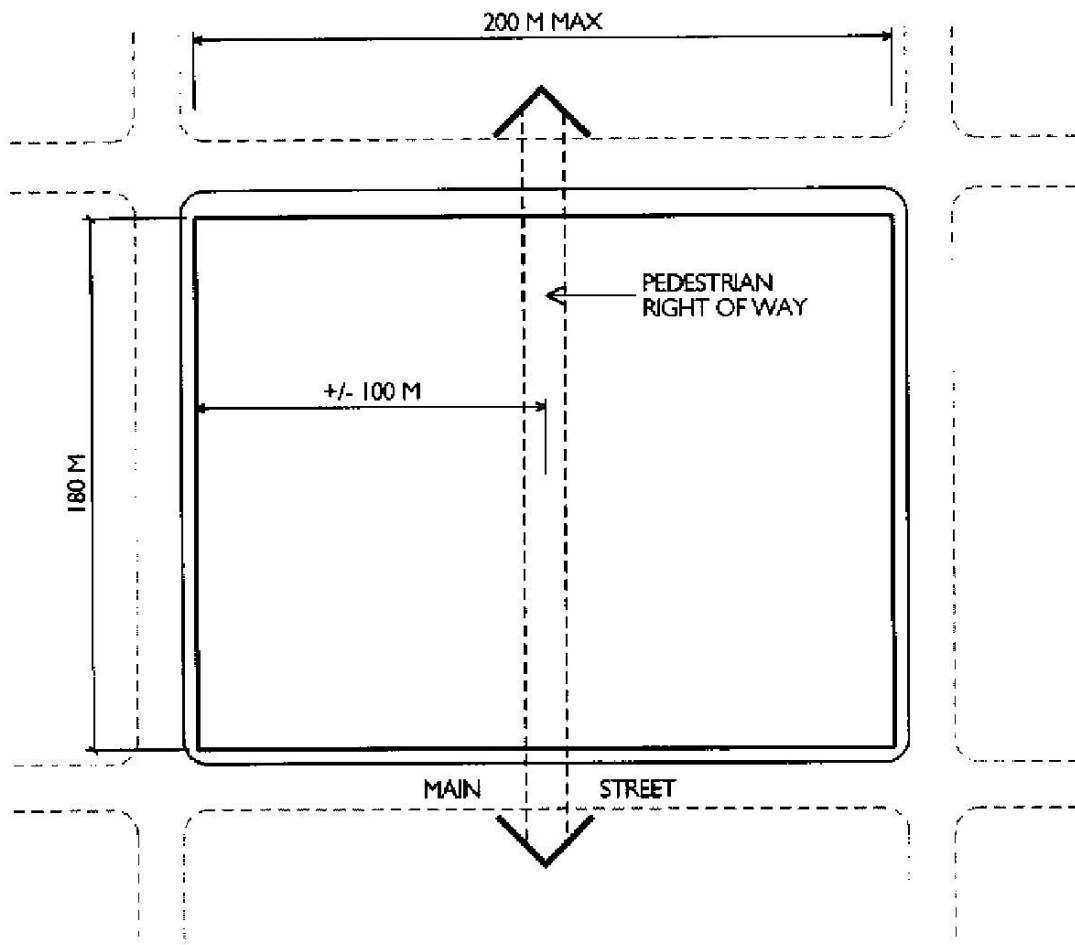


Figure 16 – Pedestrian Right of Ways Must be Provided

PERFORMANCE GUIDELINE 5. BLOCK SIZE (CONTINUED)

- A high quality pedestrian right of way leading to the main street and with 24 hour public access should be provided where block width exceeds 120 metres

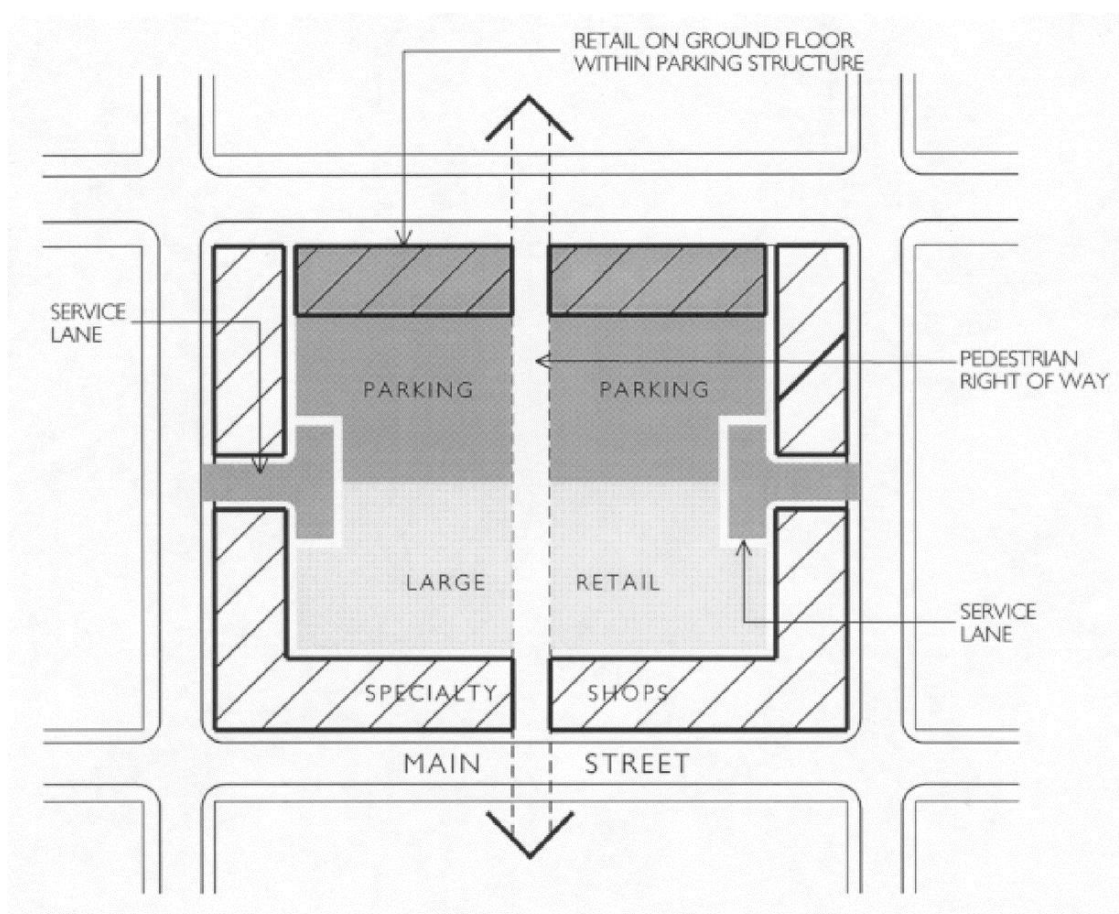


Figure 17 – Service Lanes

PERFORMANCE GUIDELINE 6. BLOCK LANES

- Service access should not cross pedestrian right of way

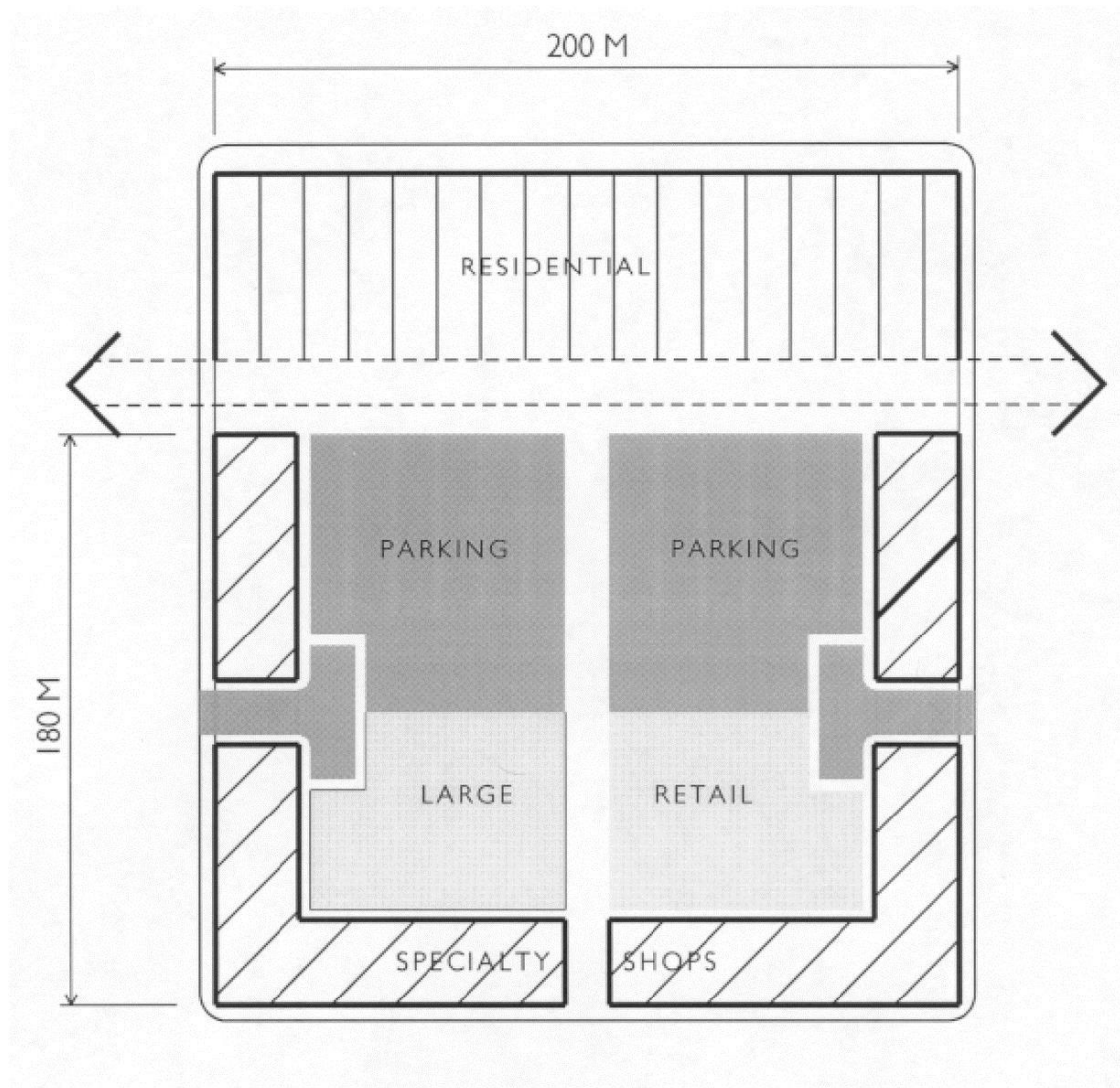


Figure 18 – Block Lanes

PERFORMANCE GUIDELINE 7. BLOCK LANES (CONTINUED)

- If residential is incorporated in the block, a laneway should be provided separating it from other uses

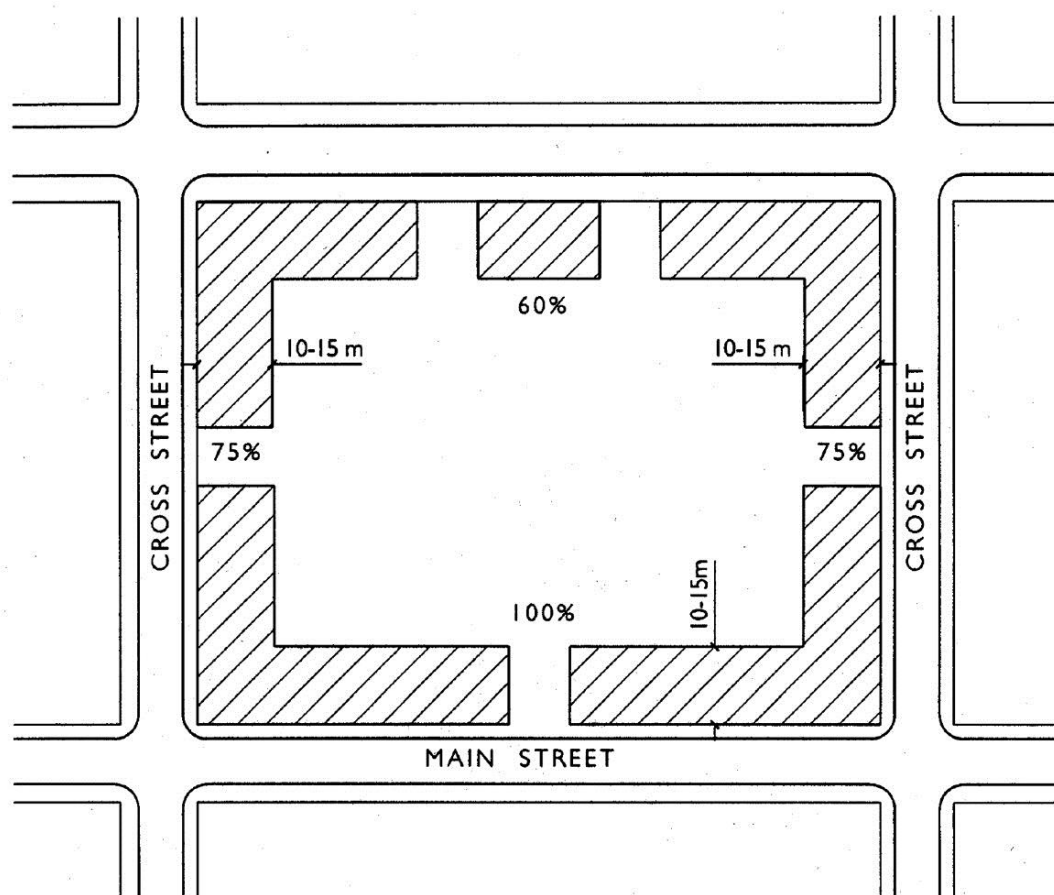


Figure 19 – Block Frontage

PERFORMANCE GUIDELINE - 8. BLOCK FRONTAGE

- Each block should have active ground floor frontage to all primary streets
- The degree of frontage varies with the importance of the street:
 - Main street -100% (excluding pedestrian right of way)
 - Parallel to main street - 60%
 - Perpendicular to main street – 75%

2.5.2 BUILDING HEIGHT

PRINCIPLES

- Define building height limits to provide for a variety of building functions, to achieve a strong presence of the centre from approach roads, and a lower scale of development facing Caddies Creek.

RATIONALE

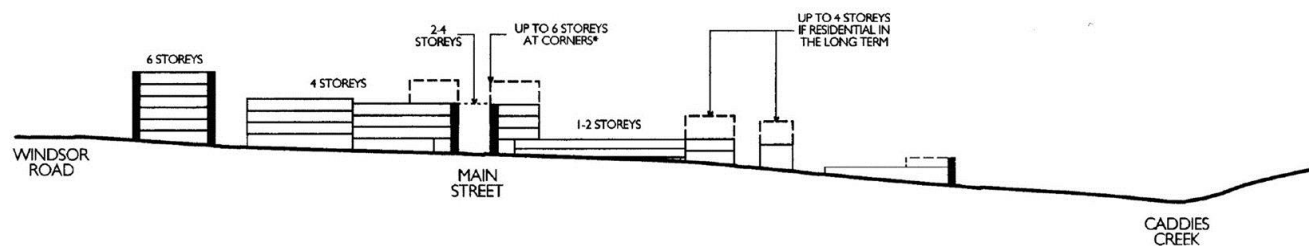
- The centre should have a strong visual identity from regional approach routes. At the same time, the relationship of the built up areas to Caddies Creek is best achieved by having lower scale development front this feature.

OUTCOMES

- Building heights are to be consistent with the built form guidelines applying to the Town Centre Core and Northern Frame.
- Tall buildings are placed in the core at the intersection of Main St and Civic Way.
- A variety of building heights within the Town Centre Core and Northern Frame.
- The building height in residential neighbourhoods is between one and four stories.

PERFORMANCE MEASURES

The diagrams which follow set out these relationships, but cannot be rigorously applied until a developer has been selected and a masterplan approved. A feature of the masterplan submission is to require that developers submit detailed guidelines for the application of building height controls in development applications. Where built form guidelines have been prepared as part of a Level 2 DA for a precinct, those guidelines prevail over the following diagrams (Figures 20 to 22).



*PROVIDED MAIN STREET INTERSECTIONS ARE NOT OVERSHADOWED, PARTICULARLY ON THE SOUTH-EAST CORNER

Figure 20 – Section Through Site

PERFORMANCE GUIDELINE 1. BUILDING HEIGHTS –SECTION

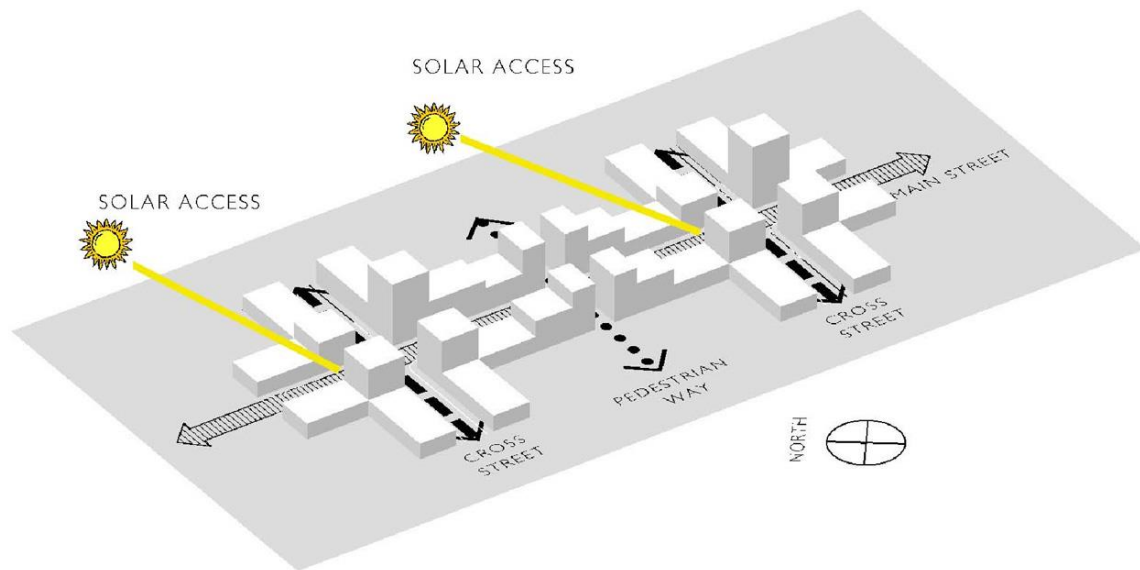


Figure 21 – Building Height Axonometric

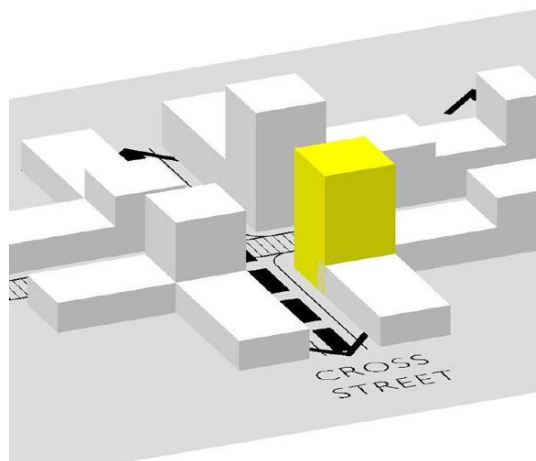


Figure 22 – South-West Corner of Main Street Intersections

PERFORMANCE GUIDELINE 1. BUILDING HEIGHTS (CONTINUED.)

- Build all buildings to street alignment with the exception of buildings with frontage to Commercial Road, where an 18 metre building setback is required to facilitate the possible future upgrading of Commercial Road.
- Vary building heights (between 2-4 storeys) to allow solar access to the main street.
- Use taller buildings (generally 6 stories but up to a maximum of 9 storeys).
- 50% of the Main Street's south-western footpath shall be in sunlight between 12pm and 2pm.

Buildings located at the south-west corners of intersections along the main street should be designed to optimise solar access for the ground and first floors.

2.5.3 STREET SECTIONS

The sections in the following figures indicate mandatory street widths and landscaping.

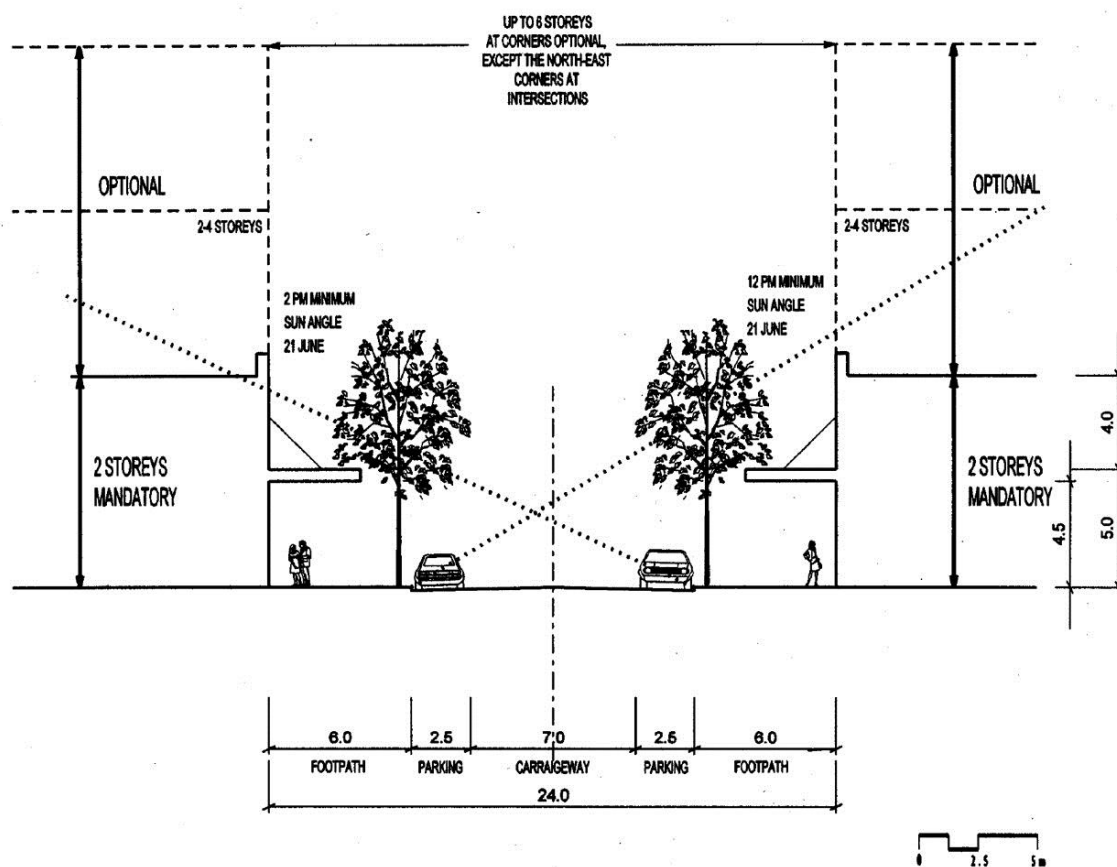


Figure 23 – Main Street Looking North West

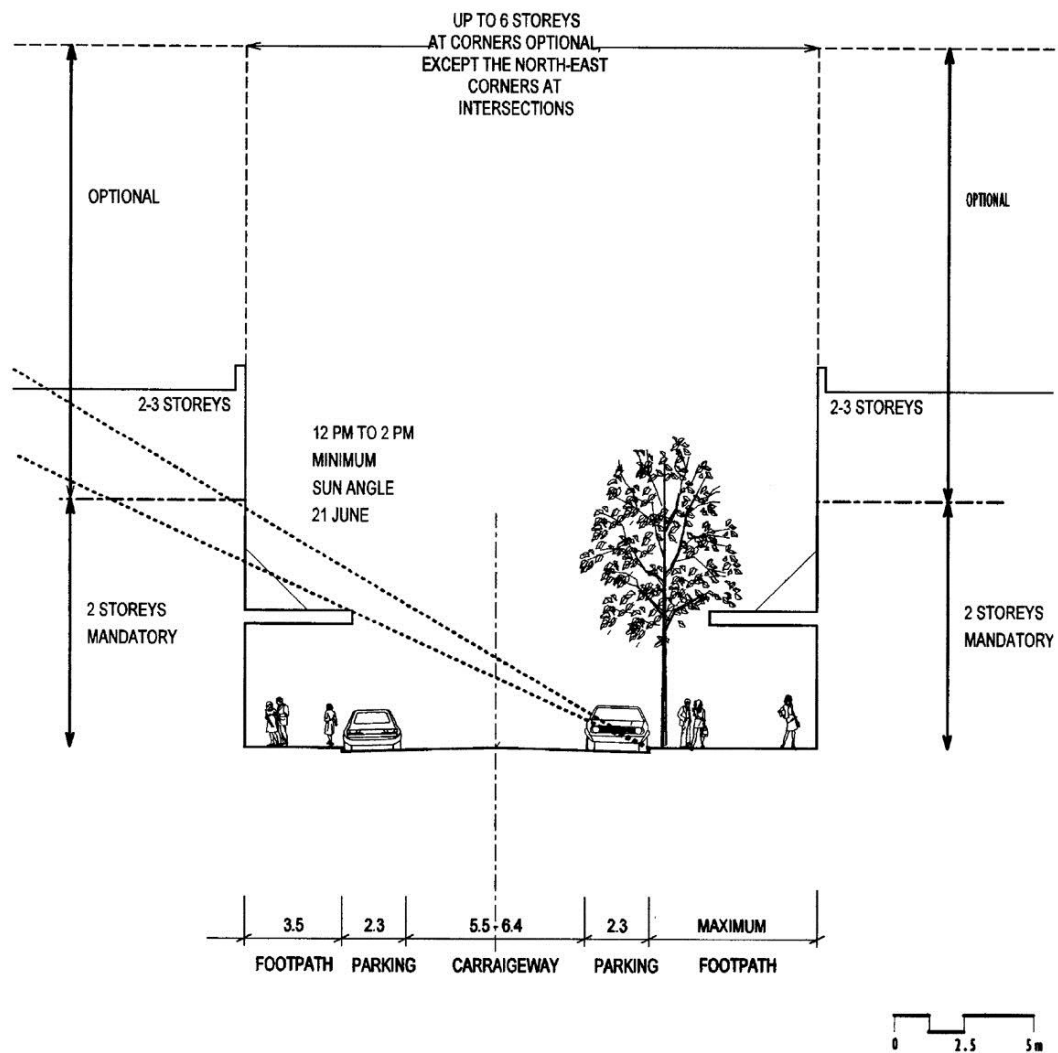


Figure 24 – Streets Perpendicular to Main Street Looking North East

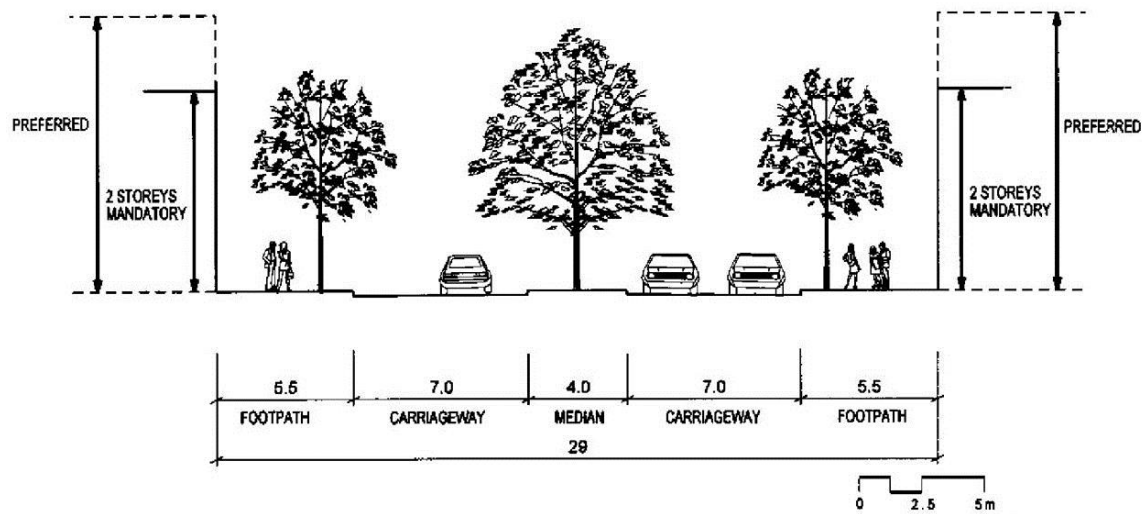


Figure 25 – Schofields Road

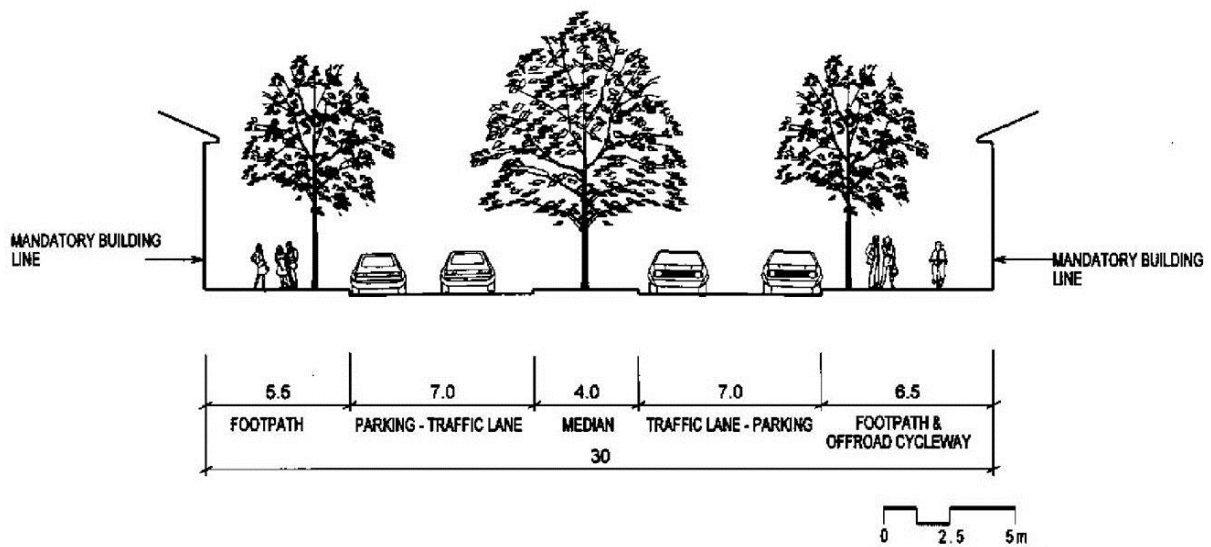


Figure 26 – Sanctuary Drive

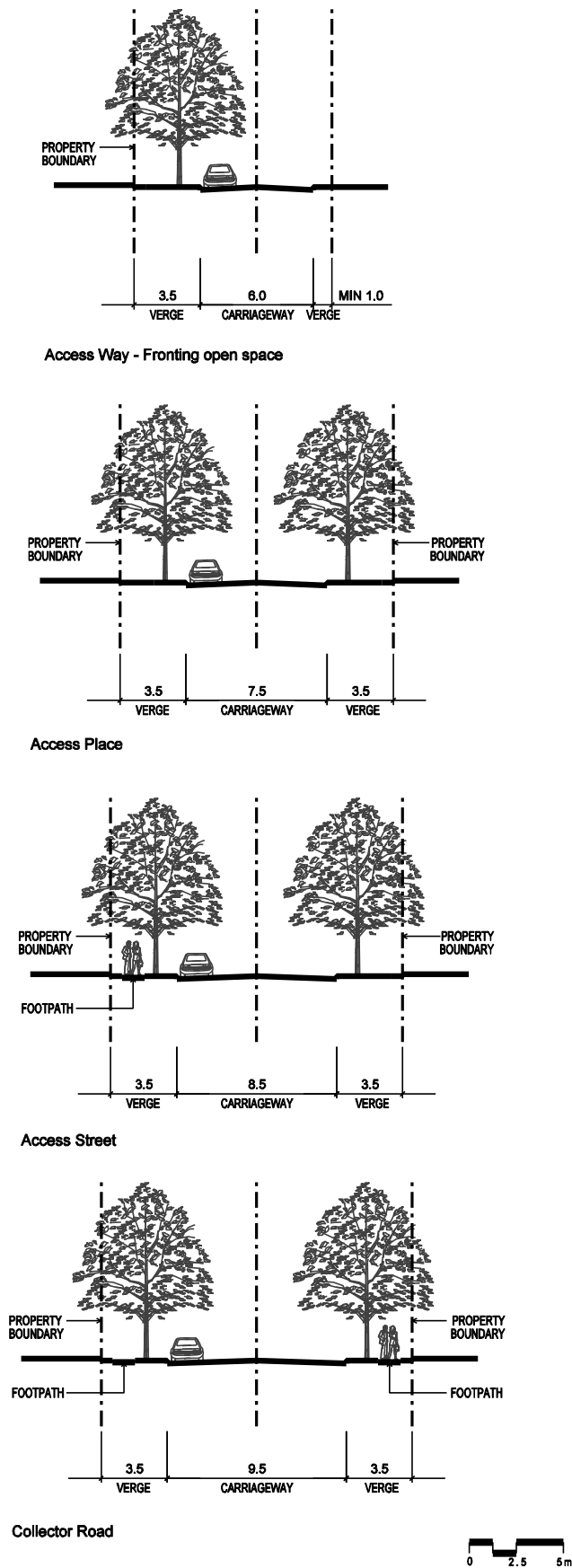


Figure 27 – Residential Streets

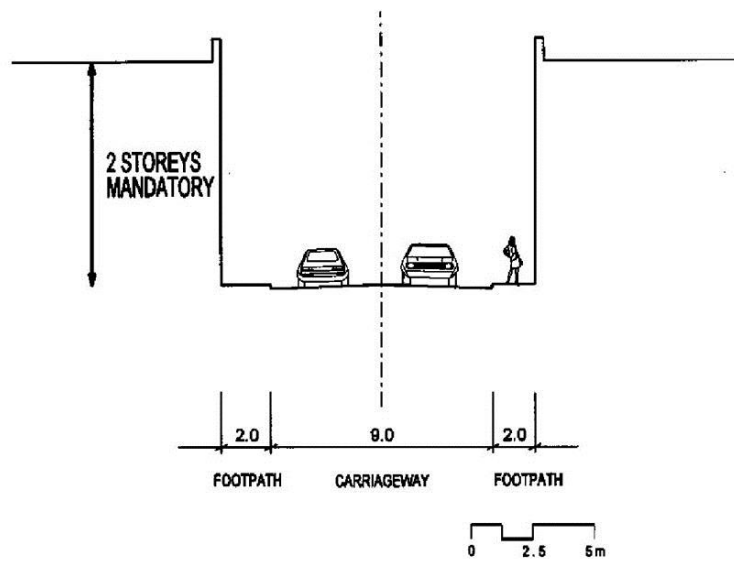


Figure 28 – Service Streets

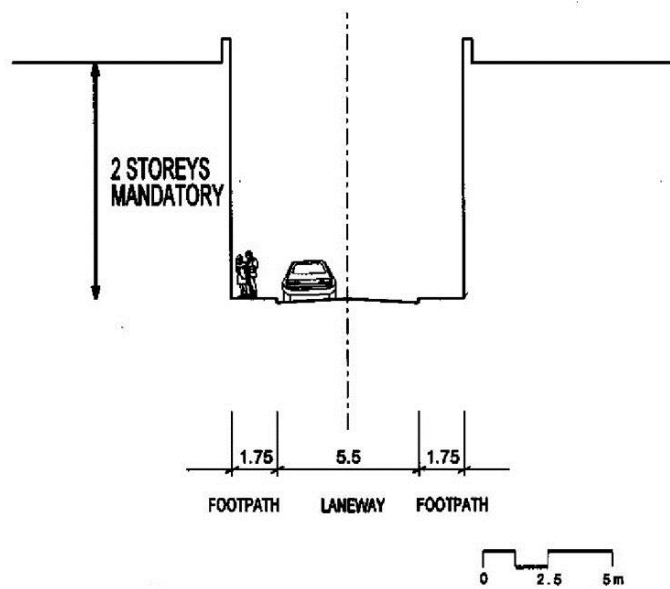


Figure 29 – Laneway

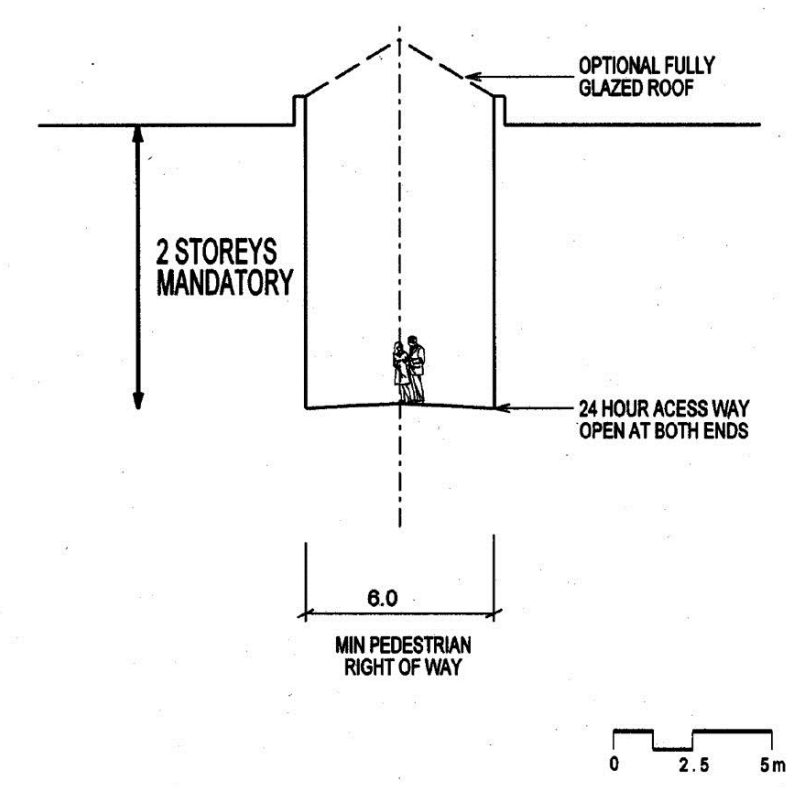


Figure 30 – Pedestrian Right of Way

2.6 SPECIAL PLACES

PRINCIPLES

- The public transport interchange, Main Street/Civic Way, and central park/Tributary 3 (discretionary element) must have a high standard of visual and user amenity.

RATIONALE

- The successful integration of planning, and the quality of design of the major public spaces of the Centre are critical to its success. For these reasons, a more detailed indication of their quality and standards has been prepared and should be regarded as a mandatory minimum level expected in Master Plans.

OUTCOMES

- The Main Street/Civic Way, a Central Park possibly developed in conjunction with Tributary 3, and a public transport interchange form special places in the public realm of the Regional Centre. These places are intensely used, and have become a focus of public activity and pride. Typical designs of the Main Street and a possible treatment of Tributary 3 illustrated at Figures 47-50 show how these places could meet public expectations for quality and functionality. The detailed plans and sections are included to illustrate various different treatments of the Main Street and Tributary 3. The illustrations are accepted as a benchmark for quality design, both in attention to detail and in the quality of materials employed. The final design for all elements shall form part of the masterplan submission.

Safety

- The principles of Council's adopted "Designing Safer Communities – Safer by Design Guidelines" dated June 2003 should be addressed with each development application including the four principles: natural surveillance, access control, ownership and maintenance.

The public **transport interchange** is a main address to the Centre, and its security and amenity are enhanced by being fully integrated into the streetscapes of the Centre.

The **main street** provides the shopfront of the retail area and is the principle spine of pedestrian circulation which links together the functions of the Centre. The main street has a clear identity based on the dominance of trees, paving and shopfront activities. An important cross axis is Civic Way which links community activities area and crosses the main street providing access to, and linking the northern and southern villages.

The **central park/Tributary 3** is a discretionary element which may form the link between the urban settings of the core and the natural environment of Caddies Creek. It may provide a quiet respite from the bustle of main street, filter urban stormwater, and act as a landscape element to underpin the image of a "Centre in a park".

Small pedestrian spaces enrich the centre and provide identifiable spaces for rest or entertainment.

2.6.1 THE MAIN STREET/CIVIC WAY

PRINCIPLES

- The Main Street/Civic Way should have a high standard of layout and quality of materials and finishes.

RATIONALE

- The Main Street, Civic Way and Civic Way North together form the heart of the Regional Centre, connecting and supporting the civic, cultural, entertainment, leisure and commercial activities. Civic Way has been considered in three distinct character sections.
- Civic Way North will be a pedestrian street connecting to Civic Way to the south via the Town Green. It will have active retail frontages.
- The retail core of the Main Street, and Civic Way between Rouse Hill Drive and Tributary 3, will be the focal area of pedestrian activity. This area is highly urban in character.
- South of Tributary 3 the street should have a landscape quality with wide medians and tall trees. This treatment will increase amenity for residential uses, provide a visual linkage to Civic Way, and relate in character to the Centre.

The main street and Civic Way is set out under three headings – its form, its connections to other areas, and the expected standards of public amenities.

Typical detail plans have been included at the end of this Section of the DCP.

2.6.1.1 BUILT FORM OF MAIN STREET AND CIVIC WAY

PRINCIPLES

- To ensure the Main Street is the focus of shopping and pedestrian activities within the Regional Centre.

RATIONALE

- The Main Street provides the “public domain” which links all the stages and activities in the Centre. It should be open at all times, except for special events and connects to and supports the civic, entertainment, leisure and commercial activities of the Centre. It is the heart of the Centre.

OUTCOME

- An actively used and well loved public place.

PERFORMANCE MEASURES	PERFORMANCE CRITERIA
The Main Street cross section is shown (in Fig 23). Included are a number of ‘fixed’ and discretionary elements, which secure solar access and character.	2 storey minimum height for street fronting buildings. Main Street to conform to the detail guidelines in this Section of the DCP.
There are to be no kerb crossings at any point for service access to retail outlets.	
The Main Street must have at least 70% of its frontages in any stage occupied by retail frontages with shop floors directly accessed from the street. No single shop shall have a main street frontage of more than two facades (60 metres).	
The Main Street/Civic Way should accommodate the local bus services with slow traffic speeds and on-street parking.	Traffic calming measures are to be introduced (signs, speed humps, road narrowing etc.)
Where buildings on corners are set back, fronting development is limited to uses which enhance the use and enjoyment of corner sites.	
To provide visual interest and enhance potential for later redevelopment, buildings facing the main street should ideally vary in height, facade width and architectural treatment. As a guide, buildings should have a maximum façade of 30 metres.	Detail Guidelines to form part of masterplan.
Street paving is to continue into setback areas or small places including small scaled pedestrian places.	

2.6.1.2 CONNECTIONS FROM MAIN STREET/CIVIC WAY

PRINCIPLES

- To create clear physical and visual connections to other parts of the Town Centre, and to significant points outside site.

- Provide a public space to form a forecourt to the community precinct.

RATIONALE

- Retain a meaningful setting for the public domain within the context of the site and the region.
- Provide a continuous public realm that connects all parts of the Regional Centre and provides pedestrian links to residential areas and open space.

OUTCOMES

- Users of the Centre can easily find their way to subsidiary destinations outside the main street.
- Small pedestrian spaces, special tree plantings, street lighting, signs and consistent paving treatments are used to identify cross routes.

PERFORMANCE CRITERIA

- Provide continuous and convenient pedestrian connections, including mid block connections, to allow free pedestrian movement along and across the Main Street.
- Provide a public space to form a forecourt to the community precinct.
- Connect important focus points of the Regional Centre public realm - particularly public transport nodes, community buildings and the main street. Such connections should be clearly indicated through design treatments to enhance legibility, such as marking major retail entries and street intersection points by introducing small pedestrian places.
- Acknowledge the significance of Mungerie House and its relationship to Civic Way through street character and planting.
- Provide a positive visual and pedestrian connection from the main street to Tributary 3, to create links to the open space network. Design of the Main Street/Civic Way should acknowledge the important crossing of Tributary 3 with a well-designed bridge, depending on the relationship of the Main Street/Civic Way and Tributary 3 and where they intersect.
- Maintain views down side streets leading to the main street. Choice and placement of trees

should consider long range views, and views to Caddies Creek corridor.

- Use tree planting to emphasise topography. Tall trees on the high point will positively mark the street within the Regional Centre area.

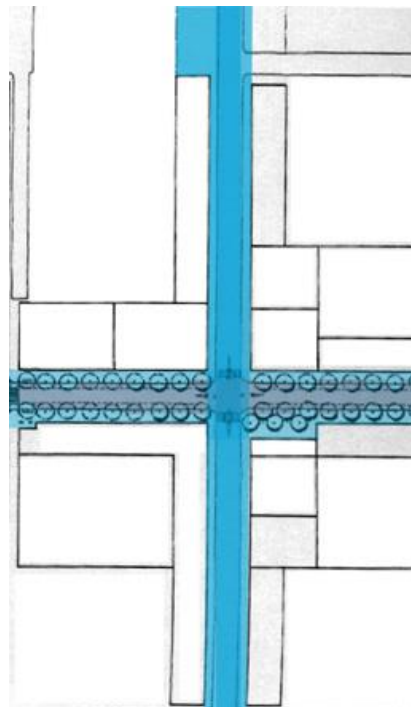


Figure 31 – Connect Focus Points

2.6.1.3 PEDESTRIAN AMENITY – MAIN STREET/CIVIC WAY

PRINCIPLES

- To create a pleasant, safe and comfortable environment for pedestrians.
- To ensure accessibility for all users.
- To provide equity of access, meeting the needs of the disabled.

RATIONALE

- To encourage pedestrian use of the Main Street/Civic Way and create a space that functions as the heart of the public realm, design should emphasise the needs of pedestrians over those of cars. Pedestrian comfort and convenience will be paramount, with the needs of the disabled integrated into the normal streetscape.

OUTCOMES

- High levels of pedestrian use of spaces for movement and activities, allied to excellence in personal safety and security are achieved.

PERFORMANCE CRITERIA

a) Pedestrian Amenity

- The physical comfort in terms of sun, shade and protection from rain provided by the use of awnings should be supplemented by trees which provide shelter and shade.
- Allow a minimum 2.5 metre unobstructed space along the street to accommodate people walking at a variety of pace, and to comfortably accommodate wheelchairs.
- Provide stopping places, such as small plazas and squares along the street. These places provide reference points for the pedestrian, and should provide opportunities to meet, talk, eat etc. Refer to criteria in People Streets and Spaces – Pedestrian Amenity and Solar Access; Lesiuk and Associates.

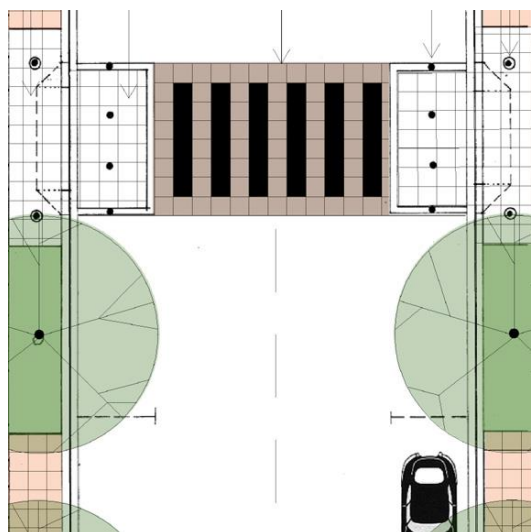


Figure 32 – Pedestrian Crossing

b) Street Furniture

- Furniture and lights should be positioned at the street edge, outside the main pedestrian flow.
- Provide seating at a maximum spacing of 100 metres in the main pedestrian areas. Seating should include units with arms to assist the mobility of people with disabilities. Position seats for winter sun and summer

shade. Provide adequate seating at bus stops.

- Provide adequate levels of lighting along Main Street and Civic Way to encourage use of the street at night. Design of lighting should take into account spill from shop fronts, using units that have a pedestrian scale.

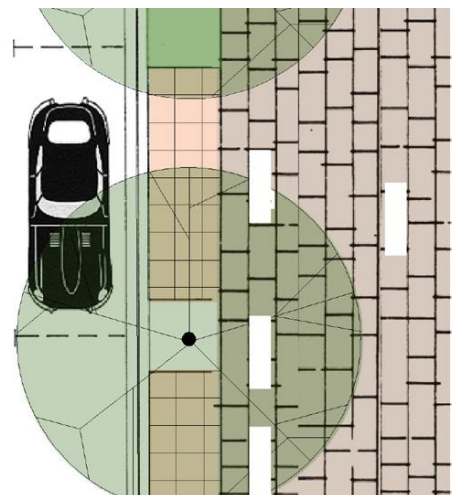


Figure 33 – Clear Space

c) Safety

- Provide a clear path of travel across intersections. Position kerb ramps directly in the line of travel. Kerb ramps should be generously sized, and include provisions for the blind and partially sighted such as tactile indicators and a contrast in tonal intensity.
- Requirements for the disabled should be designed to best practice, rather than strictly adhering to minimum standards, and should be fully integrated with general streetscape design.
- A pedestrian refuge will be required at crossing points. The refuge should be generously scaled to allow for a number of people.
- Pedestrian crossings should be clearly defined with a zebra crossing.

d) Geometry

- A formal, urban streetscape is normally created by a grid of symmetrical, straight lines parallel to and at right angles to the built edge and/or roadway.
- Align street elements, including kerb extensions, pedestrian refuges and medians with the built edge. This will result

in a more urban form that emphasis the pedestrian environment of the footpath rather than engineered, vehicle dominated forms more suited to arterial roads.

- Reinforce the formality of the street geometry by regular placement of trees, lights and furniture.
- Utilise a consistent kerb radius, suited to minimum turning speeds, at all intersections and pedestrian crossing points. Minimum radius at intersections should be 3 metres, going up to 6 metres maximum where necessary to accommodate bus movement.
- In order to achieve homogeneity, the layout of the street should be bold and uncomplicated, with few variations in geometry, colour and furniture.

2.6.1.4 TRIBUTARY 3

PRINCIPLE

- Use Tributary 3 to link the urban and landscape settings in a manner which promotes human use and sustainability of natural systems. This is a discretionary element.

RATIONALE

- Tributary 3 links the core area to the district open space of Caddies Creek. As an integral part of the setting of a regional centre, the park must cater to users of the commercial core, and to the residential areas within the regional centre and beyond. It must meet the needs of those employed in the retail and commercial areas, shoppers, residents and visitors to the centre.
- Tributary 3 is presently a degraded watercourse that flows into Caddies Creek. The watercourse can be restored as a natural watercourse. It has a major functional role to play in the detention of flood flows, and improvement of the quality of urban runoff.
- Landscape design should reinforce this link by providing a transitional landscape, which recognises the cultural qualities and civic amenity of the Main Street and the strong natural setting of Caddies Creek. A central park element should mark the intersection of Tributary 3 and Civic Way, and may be associated with buildings fronting Civic Way which bridges the tributary.

- The following sections set standards for the functional and aesthetic requirements for the design of Tributary 3. They are subdivided into matters concerning civic amenity, stormwater and landscape character. These sections should be read in conjunction with the Caddies Creek Landscape Management Strategy, (Nov 99.), which sets out detailed principles and strategies for stormwater management, restoration of the riparian zone, and open space and recreation.

OUTCOMES

- A functional and creative outcome for Tributary 3 is achieved, linking the urban spaces in the Centre to Caddies Creek by well utilised pedestrian paths.

2.6.1.5 CIVIC AMENITY

PRINCIPLE

- Provide a civic focus for the town centre that allows for a variety of community activities.

RATIONALE

- The Regional Centre needs a central park for staging community events. The civic space should be easily accessible, highly visible and well connected to the Main Street/Civic Way and network of streets and open spaces that form the public realm.

OUTCOME

- Members of the public identify with and use the Central Park.

PERFORMANCE CRITERIA

- a) Provide an open gathering space suitable for crowds and the staging of events close to Main Street. This area must be visible from the Main Street so as to have an obvious connection. This area must be designed to accommodate events such as open-air concerts.
- b) Ensure easy pedestrian access from the Main Street and side streets including access for the disabled.
- c) Provide adequate lighting in the main civic area and in connections to Main Street. At least one

well-lit path should be provided through the length of the Tributary 3 to allow safe passage at night.

- d) There is discretion to allow some commercial activities to bridge across Tributary 3.
- e) Design for casual surveillance through the parkland- avoid areas hidden by tall shrubbery.
- f) Provide a continuous pedestrian/cycleway through the parkland, which connects the urban core to Caddies Creek. This path should have connections to streets in every block.
- g) Allow a variety of recreational activities in the body of the park including picnicking, walking and cycling, passive observation etc. Activity should be carefully planned around the objectives of restoration and preservation of natural riparian zones.



Figure 34 – Civic Amenity

2.6.1.6 LANDSCAPE CHARACTER

PRINCIPLE

- To provide a transition from the urban environment of the core to the natural environment of Caddies Creek, and enhance the landscape character of the Regional Centre.

RATIONALE

- The character of the Regional Centre is dominated by the visual strength of the remnant Cumberland Plain forest and the riparian landscape of Caddies Creek. The urban nature/character of the Commercial Centre of the main street presents contrast to this landscape. Tributary 3 has the potential to mediate between

the two landscapes through design, and to provide visual connections across Windsor Road.

OUTCOME

- The riparian and urban landscapes merge seamlessly with each other.

PERFORMANCE CRITERIA

- a) Provide a positive transitional space at the meeting of Civic Way and Tributary 3, which utilises both the materials of the urban and natural environments. This area should be well-detailed and constructed with high quality finishes, which reflect the character of Civic Way and Main Street.



Figure 35 – Caddies Creek



Figure 36 – Wetland

One option may include recreating a natural riparian zone along the ponds and watercourses of Tributary 3, which employs indigenous riparian vegetation. This zone should be designed to encourage wildlife, and be protected through appropriate uses along its

length. See the Landscape Strategy for Caddies Creek for detailed guidelines.

Planting strategies should maximise the use of native, preferably indigenous species to enhance the landscape setting established by Caddies Creek, and promote environmental sustainability. Non invasive exogenous and exotic species may be used to provide seasonal colour and diversity, particularly in the most intensely used civic space. Landscape design should build on the intrinsic natural form of indigenous vegetation communities, with trees in grass and low understorey in preference to classical or gardenesque landscape styles.

Provide a variety of spatial experiences throughout the parkland, to add interest and enhance the sense of journey.

Fixtures and finishes throughout the parkland of Tributary 3 should be durable and appropriate to the character of the space.

2.6.2 SMALL PEDESTRIAN SPACES

PRINCIPLE

- To provide small pedestrian spaces in the Centre.

RATIONALE

- A significant element enriching the urban setting is provided by small-scale pedestrian spaces linked to, but withdrawn from, the moving pedestrian traffic along street frontages.
- Small pedestrian spaces can function as:
 - Entry spaces to major activities (eg Public Library);
 - Special retail areas;
 - Outdoor restaurants; and
 - Mini-parks or rest spaces.
- Small-scale pedestrian spaces must be adjacent to streets, and may be used to link to other similar spaces or to special functions such as the transport interchange.

OUTCOMES

- Public spaces that people identify with and use.

PERFORMANCE CRITERIA

- a) Small pedestrian spaces are those:
 - Having an area of between 25 and 200m² in size,
 - That have their orientation laid out to maximise desirable solar access; that is, where they lie off North-South oriented streets, spaces should lie to the west of the street and have their longer dimension lying in an East-West direction. Where they lie off East-West oriented Streets, they should lie off the South side of streets with maximum exposure to the North.
 - To enhance security, small pedestrian spaces must be easily visible from adjacent streets, and well lit at night.
 - Spaces should contribute to a “sense of place” or location by each having a unique visual and functional identity, (eg “water garden” restaurant square).

2.6.3 PUBLIC TRANSPORT INTERCHANGE

PRINCIPLE

- To provide for a public transport interchange which is integrated into the streetscapes of the Centre and which operates in an effective and efficient manner.

RATIONALE

- Public transport use is enhanced when interchange between different modes is easy, and when users feel secure.

OUTCOME

The design of the interchange is agreed with by the Ministry of Transport (MOT), fully integrated in the Centre, and its initial bus facilities are operational when Stage 1 opens.

Performance Criteria:	Performance Measures:
Provide interchange facilities funded by MOT as part of the construction of the Centre and integrated with surrounding development.	Complete the bus/transitway elements of the interchange at the time stage 1 development opens.
Ability to phase in a rail station without disruption to ongoing bus/transitway operations. People should find the interchange easy to use.	Interchange Plan agreed with MOT. Acceptance of a “user friendly” facility, which is integrated into the fabric of streets and adjacent uses.

2.7 STORMWATER

PRINCIPLES

- To prevent stormwater and flood damage to properties.
- To contain nuisance flows to a level which is acceptable to the community, and ensure street system operates adequately during and after major storm events.

RATIONALE

- Promote environmentally sustainable stormwater management for the Regional Centre and enhance the quality of Caddies Creek, in keeping with the requirements of various regulatory bodies and increasing community expectations.

OUTCOME

- Stormwater quality standards are met.

PERFORMANCE CRITERIA

- a) Reference should be made to the Preliminary report on Engineering Aspects of the Proposed Rouse Hill Regional Centre (Maunsell Mc Intyre Dec 99) Rouse Hill Regional Centre Working Paper on Water Quality (Maunsell Mc Intyre Dec 99).
- b) Detailed design to be advanced in Master Plan.
- c) The minor drainage systems minimum design standard is to capture and convey flows produced by a 10 year Average Recurrence Interval design storm.
- d) Trapped sag points are not to be created.
- e) Drainage reserves or Local Drainage Links are required to discharge gaps flows (the

difference between the 100 year ARI storm event and half design pipe flow, allowing for blockage, maximum pipe design 100 year ARI) from all ARI runoffs to the generally accepted maximum of the 100 year ARI storm event.

- f) Local Drainage Links are to be a minimum of 5 metres in width, greater if required for drainage purposes. The Developer is required to supply the land, all associated drainage works including energy dissipation, erosion control planting, pathways and tree planting.
- g) Drainage facilities are to be standard acceptable to Council.
- h) All drainage pits shall have access from the ground surface. Buried junction pits shall not be permitted.
- i) All pipes to be dedicated to Council are to be located within public land.
- j) The drainage system is to be designed by a qualified person in accordance with the requirements of the responsible drainage authority.
- k) All owners of properties adjoining Trunk Drainage land are required to contact Council and Sydney Water to confirm the inundation line prior to the lodgement of subdivision applications.
- l) All drainage designs, excluding minor drainage systems, are to comply with Council's Design Guidelines Subdivisions/Developments. Design criteria are to be confirmed by Council.
- m) Any discharge to, or construction within Sydney Water Trunk Drainage Land will require the approval of Sydney Water.
- n) Provision of measures for minimising runoff from the site such as landscaping, street techniques and road runoff treatment.
- o) Water Quality
 - Soil erosion and sediment control measures are to be provided for all developments in

accordance with Council's 'Works Specification, Subdivisions/Developments' and the Department of Housing manual 'Managing Urban Stormwater: Soils and Construction'.

- Any discharge to, or construction within Sydney Water drainage land will require the approval of Sydney Water.
- Natural vegetation shall be maintained wherever possible.
- Natural drainage channels are to be retained wherever possible.
- Soil and Water Management Plans are to be submitted with all residential subdivisions and are to be designed in accordance with The Hills Shire Council's 'Works Specification, Subdivisions / Development' and the Department of Housing manual, 'Managing Urban Stormwater: Soils and Construction'.

3. RESIDENTIAL CONTROL PLANS

AIMS AND OBJECTIVES OF THIS SECTION OF THE DCP

This section of the Development Control Plan outlines the development standards, objectives and controls for residential development within the Rouse Hill Regional Centre (Figure 1).

Residential and mixed use development within these precincts is required to comply with the provisions of this Section of the DCP.

Depending upon the type of development proposed, the provisions of the following Sections of the DCP may also apply:

- Part B Section 2 - Residential
- Part B Section 4 - Multi Dwelling Housing
- Part B Section 5 - Residential Flat Buildings
- Part C Section 6 – Flood Controlled Land

In the event of any inconsistency between this Section of the DCP and any other Section of the DCP, the provisions of this Section of the DCP shall prevail only to the extent of the inconsistency.

DESIRED RESIDENTIAL CHARACTER

The Rouse Hill Regional Centre is a new model for residential communities, based on the integration of a range of urban activities and infrastructure to build a vibrant and diverse community.

The planning provides a catalyst for housing innovation targeting new and emerging niche markets, innovation, flexibility and sustainable residential outcomes.

Incorporating diverse housing for a range of ages, socio-economic groups, and lifestyles, residential precincts have direct access to a vibrant and well designed mixed use town centre which supports the broader objectives of the Rouse Hill Regional Centre Strategy by delivering a range of learning, sustainability, design, and affordability outcomes.



Figure 37 – Precincts to which residential controls apply

3.1 REGIONAL CENTRE HOUSING DEVELOPMENT CONTROLS

PRINCIPLES

- Create efficient, liveable and sustainable housing development in distinct precincts.
- Promote residential development which protects existing mature trees, landscape elements, cultural resources and areas of environmental sensitivity, thereby maintaining the scenic and landscape quality and character of the locality.
- Provide high quality medium and high density housing close to or with direct access to the commercial core.
- Maximise residential densities.
- Provide integrated forms of housing development and mixed use development opportunities.

Performance criteria are set out separately in the sections which follow.

3.1.1 SITE ANALYSIS

PERFORMANCE CRITERIA

- a) Applications for residential development including subdivision, multi dwelling housing and residential flat buildings are to be accompanied by a site analysis, which should address the site and its surrounds and include:
 - a plan describing the site;
 - calculation of built upon area;
 - a statement explaining how design and development has regard to the site analysis;
 - demonstrate how allotment locations and dimensions respond to topography, site constraints and achieve solar orientation;
 - demonstrate consideration of social and environmental factors; and
 - identification of trees and/or bushland to be protected.

3.1.2 DENSITY PER HECTARE

PERFORMANCE CRITERIA

- a) Housing within the Rouse Hill Regional Centre shall comply with the following density:

Precinct	Minimum Density	Maximum Density
Northern	30 dwellings / Hectare	60 dwellings / Hectare
Southern	30 dwellings / Hectare	60 dwellings / Hectare
Eastern	15 dwellings / Hectare	30 dwellings / Hectare
Central	30 dwellings / Hectare	60 dwellings / Hectare
Town Centre Core and Northern Frame	40 dwellings / Hectare	No maximum subject to overall density limits

Notes.

- Net residential density: The number of dwellings on the land occupied by dwellings plus internal private or public streets (including all collector and access streets.) All open space and other non residential uses are excluded.
- The density standard is an average, which applies across all development subject to the same development application, such that each individual building proposed within a single application may be higher or lower than the density requirements.

3.1.3 MIXED USE

PERFORMANCE CRITERIA

- a) Housing within the southern, central and northern precincts may include compatible commercial or other uses provided that:
 - residential amenity is not affected;
 - commercial uses relate to uses in adjacent blocks, and face streets; and
 - site servicing provisions are met.

3.1.4 SUBDIVISION AND ALLOTMENT SIZES

PERFORMANCE CRITERIA

- a) The subdivision of land should be consistent with the minimum lot size pursuant to The Hills Local Environmental Plan 2012.

- b) For detached housing development, all dwellings on allotments with a grade of 6% or greater should be of a split level design with a ground floor level no greater than 1 metre above the existing ground level at any one point. A restriction as to user to this effect may be imposed on any such allotments.

3.1.5 SITE FRONTAGE

PERFORMANCE CRITERIA

- a) Different housing types are suited to different lot widths. The following minimum frontage widths are recommended for the different housing types:
- Detached & Semi Detached Dwellings 9.5 - 18 metres
 - Housing as per Clause 4.1B of The Hills LEP 2012 7 - 9 metres (6 metres where rear loaded)
 - Residential Flat Buildings 20 metres

3.1.6 BUILDING HEIGHT

PRINCIPLES

- Achieve a variety of building forms and building heights that contribute to the urban structure of the Rouse Hill Regional Centre and assist in establishing an attractive streetscape.

PERFORMANCE CRITERIA

- a) Building heights shall be consistent with the maximum building heights pursuant to The Hills Local Environmental Plan 2012.
- b) Taller building sections to be designed/detailed so facades present well and no difference in quality regardless of orientation.
- c) Buildings within the 70 metre curtilage of Mungerie House shall be one storey.
- d) Residential floor to ceiling heights shall be 2.7 metres on ground/living spaces and 2.55 metres on upper levels/bedrooms.
- e) Non Residential floor to ceiling heights shall be 3.3 - 4.6 metres on ground level and 2.7 - 3.3 metres above ground level.

3.1.7 BUILDING SETBACKS

PRINCIPLES

- Setbacks to the front, rear and side of lot boundaries define the built area and the non-built area. They allow solar access to open space areas, generally minimise impacts on adjacent parcels and contribute to reducing bulk to the streetscape, reduce the impact of garages, and allow for landscape spaces within each allotment to address the streetscape. Continuous landscaped areas within each parcel of land can increase privacy and amenity of individual allotments.

PERFORMANCE CRITERIA

- a) Detached, Semi-Detached & Attached Dwellings

Front Setback	3 metres
Garage setback to front boundary (*or 1.5m behind front building line)	5.5 metres*
Side Setback	
Detached/Zero Lot Line:	
Lot width less than 11m	1 metres
Lot width 11 – 13.5m	1.2 metres
Lot width greater than 13.5m	1.5 metres
Attached with service courtyard on side boundary	1.2 metres
Side setback to corner	2 metres
Garage setback to corner (**or 0.5m behind side building line)	2.5 metres**
Rear Setback	
Ground floor	4 metres
Upper floors:	
Lot depth less than 30m	5 metres
Lot depth 30m or greater	7 metres
Garage setback to rear lane	0.5 metres
Secondary dwellings above rear garages	Nil setback

- Articulation to the front building line is required and is permitted up to 1.5 metres for:
 - Lot width less than 11 metres - max 40% of length of dwelling facade.
 - Lot width 11 metres or greater - max 50% of length of dwelling facade.
- Articulation to the side (corner) setback on a corner lot permitted up to 1 metre for max 40% of length of dwelling facade.
- Articulation to the rear building line permitted up to 1.5 metres for max 40% of length of dwelling facade.
- Minimum distance between rear building lines of dwellings shall be 8 metres.

b) Residential Flat Buildings

Front Setback	
Ground floor predominantly residential:	
Building height up to 5 storeys	3 metres
Building height 5 storeys or greater	5 metres
Ground floor predominantly retail or commercial:	
Building height up to 5 storeys	1 metres
Building height 5 storeys or greater	3 metres
Side Setback	
Boundary to adjoining lot (Not applicable if no shared boundary)	1.5 metres
Rear Setback	
Boundary to adjoining lot (Not applicable if no shared boundary)	4 metres
Setback to Tributary 3	4 metres

- All street and open space frontages are considered 'primary' frontages.
- Courtyards and gardens can be built to the boundary.
- Articulation to the front building line is permitted for 1 metre up to 5 storeys and 3 metres for 5 storeys or greater for ground floor predominantly residential.
- Articulation to the front building line is permitted for 1.5 metres up to 5 storeys

where ground level retail or commercial workspaces are provided.

- Adjoining residential flat buildings must comply with buildings separation controls.
- Building separation:
 - Minimum separation between buildings is 12 metres.
 - Space between must be capable of extensive landscaping.
- Max linear length of any residential flat building is 50 metres.

3.1.8 BUILDING APPEARANCE, ARTICULATION, ORIENTATION & DESIGN

PRINCIPLES

- Buildings should be designed and built for the local climate, environment and lifestyle, and reflect the Rouse Hill Regional Centre architectural design direction for the creation of modern Australian housing. There are several key features that reflect the contemporary modern Australian lifestyle and will contribute to the creation of comfortable and attractive homes.
- Building articulation can be generated through the expression of separate parts of the building: entries, stairs, walkways, verandahs, balconies, screens, sunshading. Articulation can also be generated through design solutions to environmental conditions of orientation, noise, breezes, views.

PERFORMANCE CRITERIA

- All buildings should follow the street alignment and be set at right angles to the street.
- Buildings should be designed to address the street and private open spaces with the majority of windows directed to the front (street) of the lot, to private open spaces and in a direction which provides optimal solar access to internal spaces.
- Building entries shall be clearly articulated and clearly visible from the primary street.
- Clear separate path to be provided from street and/or driveway to front door.
- Only one side wall can run full length of the dwelling without articulation.
- Rear articulation shall include a blade wall incorporated into the building design for the purpose of increasing privacy by interrupting

views between internal rooms of dwellings that share a common rear boundary.

- Corner buildings shall be articulated to reinforce the intersection and address both street frontages.
- Building elements such as balconies, recessed terraces, verandahs, awnings, bay windows, pergolas, sun shading etc. required on all buildings.
- Articulation shall be integrated with the building design and its massing.
- Balconies should complement the general appearance of the building. Balconies can extend 800mm outside the building line.
- Windows of habitable rooms should be directed to the front/rear of the site.
- Modulation should be incorporated with the façade design rather than fixtures to the façade.
- Communication devices, solar collectors etc. to be integrated into the design of the building.
- The principles of Council's adopted "Designing Safer Communities – Safer by Design Guidelines" dated June 2003 should be addressed with each development application including the four principles: natural surveillance, access control, ownership and maintenance.

a) Residential Flat Buildings

- Residential Flat Buildings should address the alignment of all adjacent streets.
- All facades to be designed and detailed to be viewed from all directions (same level of quality as public streets and open spaces).
- Perimeter walls to be articulated with balconies as punctuations within the perimeter wall.
- Base of buildings to be expressed and relate to retail/commercial uses.
- For retail/commercial uses, provide continuous protection via awning or colonnade for pedestrians at base level. In these locations buildings may be built on boundary to provide activation along street.
- Lighting under awnings/within colonnades required.
- Ground floor dwellings shall address and have direct entry points on the street whilst maintaining privacy to private open spaces. A maximum 1 metre grade can separate ground floor from street.

- Courtyard walls that front public open space to be minimum 25% transparent and match the character of the building.
- Minimise corridors/circulation space and avoid dormant areas with little or no natural surveillance.
- Cross ventilation: at least 50% of building.

3.1.9 APARTMENT LAYOUT AND DESIGN

Refer to Part B Section 5 - Residential Flat Buildings.

3.1.10 STORAGE

PRINCIPLES

- The requirement for adequate storage within residential flat buildings for items beyond basic household items allows residents to participate in a broader range of activities and hobbies.

PERFORMANCE CRITERIA

a) Residential Flat Buildings

- Storage areas in addition to kitchen cupboards and bedroom wardrobes to be provided in secure locations either in dwelling or lockable garage.
- Volume of storage:
 - Studio/1 bed: 6m³
 - 2 bed: 8m³
 - 3+ bed: 10m³
- Other:
 - Secure locations.
 - Easy access for bicycle parking to encourage regular use.

3.1.11 ROOF DESIGN

PRINCIPLES

- Roof design greatly contributes to the variety and diversity of housing in a streetscape. Roof design of dwellings, shading and screening devices are to be responsive to orientation and weather patterns.

PERFORMANCE CRITERIA

- a) A variety of roof forms are encouraged.

- b) Roof styles are to be predominantly hipped, gable, skillion or flat style. Roof forms are not to be excessive or cause loss of amenity.
- c) Appropriate use of eaves, pergolas, screens, awnings, and louvers to provide protection to the north/east/west facing windows.
- d) Designed to manage summer/winter solar exposure.
- e) Elevated roofs to have operable windows for ventilation/release of warm stale air.
- f) Eaves shall extend a minimum of 450mm from face of the building to provide adequate protection.
- g) Minimum pitch to traditional roof forms is 22.5 degrees, minimum pitch to skillion roofs is 10 degrees.

3.1.12 DRIVEWAYS

PRINCIPLES

- Provide attractive streetscapes by limiting the impact of driveways and cross overs along streets and street corners to emphasise pedestrian and cycle safety.

PERFORMANCE CRITERIA

- a) Detached, Semi-Detached & Attached Dwellings
 - 500mm landscape strip to be provided along length of driveways
 - Cross Overs:
 - Single garage: 3 metres
 - Double garage: no greater than 4.5 metres
 - To be same material as footpaths
 - To be designed to The Hills Shire Council specification
 - Driveways must abut footpaths so footpath is continuous.
 - Shared driveways:
 - Access to two lots - minimum 5 metres, min 4 metres pavement and 0.5 metre landscaped verge on either side
 - Access to greater than 2 lots - minimum 6 metres, minimum 5 metres pavement and 0.5 metres of landscaped verge on either side

- Driveway crossings to flare to 5 metres at the kerb.
- Driveways in multi dwelling housing developments which do not connect between 2 roads shall end in a landscaped feature to any fence.

b) Residential Flat Buildings

- Buildings of 4 or more storeys may have access to basement car parking via an opening in the front façade of the building. Vehicle access to car parking spaces for apartment buildings up to 3 storeys is to be via one shared entry/exit driveway along the side of the building.
- Entry & exit from garages onto a public street should be in a forward direction. Pedestrian and vehicular access should be separated.

3.1.13 CAR PARKING

PRINCIPLES

- Provide carparking for multi dwelling housing and residential flat buildings at rates which recognise the close proximity of public transport, shops and other facilities and that the rear loading will facilitate greater on street parking for visitors.

PERFORMANCE CRITERIA

- a) Multi Dwelling Housing/Housing as per Clause 4.1B of The Hills LEP 2012
 - 1-3 bed: 1 space/dwelling
 - 4+ bed: 2 space/dwelling
 - Visitor parking:
 - None required for rear-loaded developments
 - Where lots do not have rear lanes, visitor parking may be provided in front of garages
- b) Residential flat buildings
 - Designed in accordance with AS2890 – Parking Facilities - Off Street Car Parking
 - Off-street parking:
 - 1 bed: 1 space/dwelling
 - 2 bed: 1.5 spaces/dwelling
 - 3 + bed: 2 spaces/dwelling
 - Visitor parking:
 - 2 space/5 dwellings for developments with up to 60 units.

- 1 space/5 dwellings for developments with 60 or more units.
- Bicycle parking: 1 space/5 dwellings
- Under/semi-underground parking preferred if above ground must be behind the building line and screened from view.
- Maximum projection above ground: one metre.

3.1.14 GARAGE DESIGN

PRINCIPLES

- Ensure garages do not dominate the primary street frontage and incorporate measures to reduce dominance when provided to rear lanes.

PERFORMANCE CRITERIA

- a) Allotments with a frontage less than 12 metres facing a primary street shall have a single garage of no more than 3.5 width nor extend across more than 50% of the property frontage, whichever is the lesser (unless rear loaded).
- b) Where a double garage is proposed a minimum of three of the design features below must be adopted:
 - Upper floor element projected forward of the garage to cast shadow and take prominence.
 - Colours and textures to ensure garage door subservience.
 - Verandah or pergola provided across the face of the garage.
 - Utilisation of vertical elements to mitigate the horizontal emphasis of the garage.
- c) Entrance to be orientated away from primary street frontage to face side boundary on corner lots or rear lane when provided.
- d) Staggered garages whereby one garage is setback from adjoining garage.
- e) Where studio accommodation is located above a garage accessed by a rear lane, mews or car court, the garage door shall be recessed from the line of the studio above.
- f) Materials and colours should relate to existing or proposed buildings.

3.1.15 SOLAR ACCESS

PRINCIPLES

- Buildings should be designed to optimise solar access to habitable rooms, private open spaces and public open spaces.
- Buildings are to be designed to minimise overshadowing of neighbouring buildings and open spaces during the winter months.
- Encourage dwellings that optimise passive solar design opportunities to ensure daylight access to habitable rooms.
- Use direct solar access and shading to reduce the running costs of dwellings while incorporating natural ventilation strategies required for cooling and dispelling stale air.
- Create dwellings that achieve a high quality energy efficient living and working environment.

PERFORMANCE CRITERIA

- a) Detached, Semi-Detached & Attached Dwellings
 - Dwellings to comply with BASIX.
 - Buildings should be designed to optimise solar daylight access to habitable rooms, private open spaces and public open spaces – particularly living rooms.
 - Typically living areas located to allow 3 hrs solar access on 21 June.
 - At least one room within dwelling should be designed to allow maximum penetration of winter sun and screen summer sun (not necessarily same room).
 - Provide appropriate sun protection to windows – overhangs, blades, screens, landscaping.
 - Incorporate natural cross ventilation through use of operable openings in walls facing two different (preferably opposite directions).
 - Gas boosted solar water heaters are the preferred water heating method.
 - Grid connected PV panels, preferably on the highest part of roof is encouraged to supplement electricity demands of dwellings.
 - Any air conditioning systems should be energy efficient with minimum standard being inverter split system.
- b) Residential flat buildings

- 70% of dwellings to receive min 3 hrs solar access to a living area and private open space between 9am and 3pm on 21 June.
- < 10% with southerly aspect and achieve min NatHERS Thermal Comfort rating of 5.5 star.
- Main windows require solar control and suitable shading.
- North facing windows should incorporate horizontal shading devices: eaves, verandas, pergolas, awnings, external blinds.
- Shading elements should be integrated into overall design – window size, external shading devices, vertical blinds, blade walls, thick vegetation.
- All apartments to comply with SEPP 65.

3.1.16 LANDSCAPING

PRINCIPLES

- Provide landscape areas for planting of screening and decorative trees, site amenity, open space, ground water recharge, site drainage management and other landscape outcomes.
- High quality landscaping and open space (including private open space) is required to each dwelling to enhance the visual appeal, improve environmental performance and increase liveability for residents.

PERFORMANCE CRITERIA

- a) Detached, Semi-Detached & Attached Dwellings
 - Minimum 40% of lot area shall be provided for soft landscaping and open space.
 - To be gardens, lawns, trees and other vegetated soft landscaping, including incidental paths, paving and retaining walls.
 - Includes driveways and hard stand areas.
 - Does not include pools, sheds & gazebos.
- b) Residential flat buildings
 - Minimum 30% of site excluding buildings & driveways.
 - Terraces/balconies within 1 metre of natural ground level can be included in landscaped area, including common open space above parking.

- All setbacks and above ground car parking to be landscaped & maintained.
- Landscape treatments to harmonise with building design.
- Use of native species is encouraged.
- Landscaping should consider safety.
- Rooftop gardens, terraces, courtyards to provide an equal mix of landscaping/hard paving.
- At least 25% or 50m² (whichever is greater) ground level open space is to be provided on natural ground.

3.1.17 OPEN SPACE (PRIVATE AND COMMON)

PRINCIPLES

- Ensure that all dwellings have access to private, comfortable and useable open spaces. Private spaces that directly adjoin the public domain are to contribute positively to the quality of the public domain. Useable external private open space must be related to the needs of individual residents for leisure, recreation, outdoor entertaining and service/storage functions. Courtyards, terraces, balconies and the like can contribute to the character of streetscapes, buildings and the amenity of residents.
- Common open space to be provided for residential flat buildings in accessible areas with good amenity.

PERFORMANCE CRITERIA

- a) Detached, Semi-Detached & Attached Dwellings
 - Private Open Space shall be provided to each dwelling in the following minimum percentages:
 - Minimum 23% of lot area for lots up to 400sqm.
 - Minimum 20% of lot area for lots 400sqm and larger.
 - Minimum dimensions of primary private open space shall be 4 metres x 6 metres.
 - Minimum secondary private open space: 3 metres.
 - 50% of required private open space shall receive 3 hours of solar access between 9am and 3pm on June 21 (exception may be considered if in specific circumstances)

the compliance would unduly affect functionality or liveability).

- A maximum of 15m² of private open space can be provided in the form of balconies.
 - An area of primary open space to be directly accessible from indoor living space and within 500mm of finished floor level.
 - Primary open space at ground level to be separate and screened from the public realm.
 - Secondary dwellings require a minimum 6m² area, with a minimum dimension of 2 metres (all can be provided at upper level).
 - Primary open space on upper levels to include privacy measures from adjacent dwellings.
 - Maximum 50% portion of private open space on ground level can be roofed or covered - no roof to encroach into setback area beyond normal eaves.
 - Gazebos, play equipment, swimming pools, and spas not permitted to count towards primary open space.
 - Courtyards in the front setback area are allowed if adequate privacy through planting, fencing or screens whilst maintaining surveillance and streetscape.
 - No common open space required.
- b) Residential flat buildings
- Open space can be partially provided in the form of courtyards, gardens and balconies.
 - Private Open space:
 - Private open space must be accessible from living areas of dwelling units:
 - Ground level dwellings to have a minimum width 4 metres and a minimum depth of 3 metres.
 - Above ground level dwellings to have a minimum area 8 m² with a minimum depth 2 metres.
 - The design of residential flat buildings shall comply with SEPP 65 and therefore a minimum of 70% of private open space will achieve a minimum of 3 hours of solar access between 9am and 3pm on June 21.
 - Common Open Space:
 - A minimum of 10m² of open space per dwelling unit (including courtyards, gardens and balconies) is to be provided.

- Minimum dimension to be: 4 metres on ground level and podium levels, 3 metres for balcony & roof terraces.

3.1.18 FENCING AND COURTYARD WALLS

PRINCIPLES

- Fencing and courtyard walls are to establish and support the character of the street. The location and design of fencing and courtyard walls is to enable the efficient use of front garden spaces.
- Fencing and courtyard walls adjacent to the public realm including streets and open spaces is to be a positive contribution to the streetscape character through the use of quality materials, appropriate detailing and the inclusion of landscaping.

PERFORMANCE CRITERIA

- a) Detached, Semi-Detached & Attached Dwellings
- Front Fencing:
 - Front fencing is to be constructed to complement the design of the building.
 - Its purpose is to provide a uniform low edge defining the private and public space.
 - Front fencing is required where there are three or more dwellings within a development.
 - Fencing can be in the form of hedges, timber pickets, landscape (i.e. shrubs), or masonry piers with infill panels (open or closed).
 - Fence height is a maximum of 1.2 metres above adjoining nature strip/footpath.
 - Courtyard walls that front public open space are to be 25% transparent.
 - The portion of the fence that is partially transparent can be achieved through planting or a construction method such as slats, pickets etc.
 - Where there is a level change, the fencing to public parks and streets is to comply.
 - Side and Rear Boundary Fencing

- Fencing to side and rear boundaries is to be 1.8 metres high.
 - Materials of the side or rear fencing are to be typically either masonry or timber.
 - Side fencing between lots is to stop a minimum of 1 metre back from the line of the front of the building façade immediately adjacent.
 - Front fencing, if desired, can return to meet the side fencing along the boundary. This return can only be 1.2 metres high, not tapered and built to the same standard as the fence on the front boundary.
 - When the primary private open space is located on a street or open space frontage, this space should be typically 0.5 – 1 metre higher than the adjacent public realm.
- Corner Lots
- Courtyard walls are to be provided on the boundary to protect private open spaces whilst maintaining address and surveillance of the street.
 - 1.8 metre high courtyard walls to side boundaries of corner lots are to be no more than 50% of the length of the allotment.
 - Side courtyard walls are to stop a minimum of 4 metres back from the line of the front of the building façade immediately adjacent.
 - Front fencing is required and can return to meet the side fencing along the boundary.

3.1.19 DESIGNING FOR PRIVACY

PRINCIPLES

- Achieve a development with a high quality living environment that maximises the visual and acoustic privacy of the occupants and neighbouring properties through siting, building planning, location of openings and building materials.

PERFORMANCE CRITERIA

- a) Detached, Semi-Detached & Attached Dwellings
- Second /third storey habitable room windows within 4.5 metres of side boundary to have permanent privacy measures.
 - Second /third storey habitable room windows within 5 metres of rear boundary of a 25 metre deep lot to have permanent privacy measures.
 - Upper storey habitable rooms within 7 metres of rear boundary of 30 metre deep lot to have permanent privacy measures.
 - Direct overlooking of main habitable areas and private open spaces of adjacent dwellings should be minimised through building layout, window and balcony location, design and the use of screening devices.
 - Acceptable privacy measures include landscaping, alternative window arrangements, external louvers, treated glass etc.
 - Dwellings adjacent to Tributary 3 and Windsor Rd will require acoustic reports to be submitted with Level 3 DAs.
- b) Residential flat buildings
- At least 1 semi-private balcony per dwelling being a minimum area 8m² and minimum 2 metres deep.
 - Minimise direct overlooking of main internal living areas and private open space through building design, window locations and size, landscaping and screening.
- c) Acoustic Privacy
- Buildings located in proximity to main roads or railways shall design for noise.
 - Development must be designed so as to mitigate potential interface impacts between future development and the railway corridor. This will include measures to mitigate noise and visual impacts such as:
 - Use of noise resistant wall, ceiling, floor and roof material;
 - Site planning;
 - Location of habitable rooms away from the noise sources;
 - Use of triple glazing; and
 - Use of fencing porches and walls as noise buffers.

- Consider locating potential noise sources within common open space, service areas, driveways, road and rail locations.
- Achieve criteria in SEPP (Infrastructure) 2007.

b) During Construction

- A waste management plan should be submitted to address the following:
 - Avoid oversupply of waste materials and organise collection of waste.
 - Use of prefabricated components.
 - Re-use of materials and use of recycled materials.
 - Appropriate work staging.
 - Appropriate disposal of asbestos, hazardous and intractable wastes.

3.1.20 WASTE MANAGEMENT

PRINCIPLES

- Provide domestic waste management systems that allow for ease of use by occupants and ease of service by collection contractors.
- Provide waste storage areas that ~~is~~ are integrated with the design of the development.
- Assist in achieving Federal and State Government waste minimisation targets.
- Implement appropriate practices during construction to minimise waste and maximise opportunities for recycling.

PERFORMANCE CRITERIA

- a) Detached, Semi-Detached & Attached Dwellings
- Waste collection and separation facilities to be provided for each dwelling – waste storage cupboard in kitchen for 1 days waste and sufficient to enable separation of recyclables.
 - Waste storage facilities to be provided on site and waste removed at regular intervals and not less frequently than once per week (garbage) and fortnightly (recycling).
 - Bins on site should not be visible from primary street frontages.
 - Storage areas shall be adequate for:
 - 1 x 240 litre garbage bin.
 - 1 x 240 litre recycle bin.
 - Bins must be able to be wheeled to the street kerb over flat or ramped surface (maximum grade 7%) and not over steps, landscape edging or gutters.

Waste management requirements for multi dwelling housing are to be in accordance with Part B Section 4 – Multi Dwelling Housing.

Waste management requirements for residential flat buildings are to be in accordance with Part B Section 5 – Residential Flat Buildings.

4. DEVELOPMENT CONTROL COMPLIANCE CHECKLISTS

RESIDENTIAL DEVELOPMENT – DETACHED, SEMI-DETACHED & ATTACHED DWELLINGS

CONTROLS	COMPLIES	COMMENT
3.1.1 SITE ANALYSIS		
3.1.2 DENSITY		
3.1.4 SUBDIVISION		
3.1.5 SITE FRONTAGE		
3.1.6 BUILDING HEIGHT		
3.1.7 SETBACKS Front Side Rear		
3.1.8 BUILDING APPEARANCE, ARTICULATION & ORIENTATION		
3.1.11 ROOF DESIGN		
3.1.12 DRIVEWAYS		
3.1.13 CARPARKING		
3.1.14 GARAGE DESIGN		
3.1.15 SOLAR ACCESS		
3.1.16 LANDSCAPING		
3.1.17 OPEN SPACE		
3.1.18 FENCING AND COURTYARD WALLS		
3.1.19 PRIVACY		
3.1.20 WASTE MANAGEMENT		

RESIDENTIAL DEVELOPMENT – RESIDENTIAL FLAT BUILDINGS

CONTROLS	COMPLIES	COMMENT
3.1.3 SITE ANALYSIS		
3.1.4 SUBDIVISION		
3.1.5 SITE FRONTAGE		
3.1.7.6 BUILDING HEIGHT		
3.1.7 SETBACKS Front Side Rear		
3.1.8 BUILDING APPEARANCE, ARTICULATION & ORIENTATION		
3.1.9 APARTMENT LAYOUT & DESIGN		
3.1.10 STORAGE		
3.1.11 ROOF DESIGN		
3.1.12 DRIVEWAYS		
3.1.13 CAR PARKING		
3.1.14 GARAGE DESIGN		
3.1.15 SOLAR ACCESS		
3.1.16 LANDSCAPING		
3.1.17 OPEN SPACE		
3.1.18 FENCING & COURTYARD WALLS		
3.1.19 PRIVACY		
3.1.20 WASTE MANAGEMENT		

