Department of Sustainability and Environment

GUIDELINES FOR HIGHER DENSITY RESIDENTIAL DEVELOPMENT

Victoria
The Place To Be

FOREWORD

Where and how we live in Victoria will continue to change over the next three decades. Current trends indicate that the population will increase in number but will age steadily. Furthermore, household sizes will diminish so the number of households – single and two people – will increase as the population grows. New housing will be needed to accommodate this increase in population and change in household sizes, as current housing stock lacks the variety to adequately meet these needs.

Melbourne 2030 sets out directions for accommodating the city's expanding and changing population over the next 30 years. The strategy identifies activity centres, which provide the focus for services, employment and social interaction – they are where people shop, work, meet, relax and live. Activity centres are expected to accommodate a broader mix of housing, shops and services to create vibrant, well-connected communities. The clustering of higher density housing in and around activity centres aims to encourage use of public transport, walking and cycling, improve the viability of activity centres which in turn will provide a wider range of services, facilities and employment opportunities, and housing types.

To take full advantage of available facilities and infrastructure, we need to promote housing intensification around activity centres and strategic redevelopment sites in the Melbourne metropolitan area. The development of higher density housing, designed in response to the local context, will contribute significantly to improving the diversity in housing choice in these areas.

While higher density residential development has the potential to support economic and social activity of activity centres, skilful design is needed to minimise unwanted off-site impacts related to neighbourhood character, amenity, overshadowing and access. These guidelines set out objectives and suggestions for designing and assessing higher density residential development. They will help to ensure that Victoria's reputation for quality architecture and urban design continues as we meet future housing needs.

MARY DELAHUNTY, MP
Minister for Planning

CONTENTS

INTRODUCTION

Quality architecture and vibrant and inclusive urban spaces are the central ingredients of liveable communities. Our aim should be to leave for future generations a legacy of design that continues Victoria's tradition of great architecture and urban design that responds to the challenges of today and serves the needs of the future.

These guidelines have been developed so that the planning system can promote well-designed higher-density housing in activity centres and other strategic redevelopment sites that are close to public transport.

Under Melbourne 2030, higher density housing is encouraged to locate in activity centres to:

→ provide for the forecast increase in population and households
→ ensure the available housing stock better matches changing demand by widening housing choice, particularly in middle and outer suburbs
→ support opportunities for a wide range of income groups to choose housing in well-served locations
→ increase local population base that supports activity centres and local businesses and
→ encourages walking, cycling and public transport alternatives.

The guidelines will be supported by detailed local structure plans and local policies developed for activity centres.

PURPOSE OF THESE GUIDELINES

The State Planning Policy Framework sets out in clause 19.03 design principles that must be taken into account in the design of urban spaces and buildings. They include context, public realm, landmarks, views and vistas; pedestrian spaces; heritage; consolidation of sites and empty sites; light and shade; energy and resource efficiency; architectural quality and landscape architecture.

These Guidelines have been developed to assist designers and planners apply these design principles to proposals for higher density residential development. The Guidelines provide 'better practice' design advice for higher density residential development that promotes high quality public and private amenity and good design.

The Guidelines will assist:

- Developers and designers when developing proposals and preparing applications
- Councils when assessing applications.

The Guidelines are structured around six elements of design consideration:

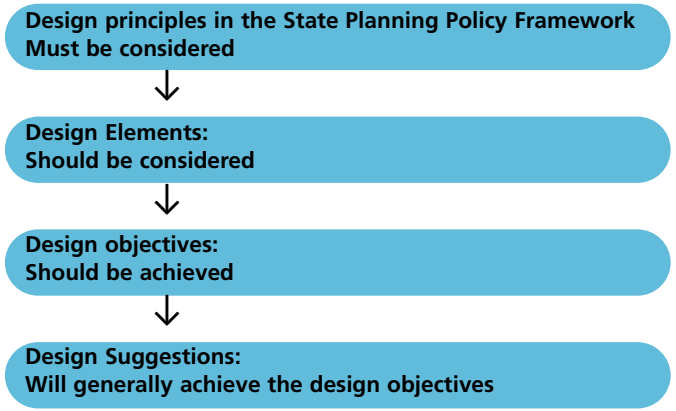
→ Urban context
→ Building envelope
→ Street pattern and street-edge quality
→ Circulation and services
→ Building layout and design
→ Open space and landscape design

Under each element is a series of general design objectives.

Each objective has a corresponding set of related design suggestions that will generally achieve a good design response.

Designers will need to determine the merit of the specific suggestions in the context of their proposed development and the objectives in these Guidelines. Where designers consider a design suggestion should not apply, they should be able to express clear reasons why this is so and put forward alternative ways of meeting the objective.

The diagram below shows the relationship between design objectives and suggestions.



WHAT MAKES FOR GOOD DESIGN?

Good design of higher density residential developments is a creative process that can be said to be achieved where a proposal:

- → responds and contributes to its natural and built context
- → provides an appropriate scale in terms of the bulk and height relative to the scale of the street and surrounding buildings (in keeping with existing or preferred neighbourhood character)
- → achieves an appropriate built form for a site and building in terms of building alignment, proportions, building type and elements
- → has a density appropriate for a site and its context (in keeping with existing or preferred neighbourhood character)
- → recognises that landscape and buildings operate as an integrated and sustainable system
- → optimises safety and security for internal and public spaces
- → responds to its social context in terms of access to housing diversity and to services
- → makes efficient use of natural resources, energy and water throughout its full life cycle

The guidelines have been prepared with these aims in mind.

RELATED GUIDELINES

Sustainability

The achievement of sustainable design outcomes needs to be considered. The Department of Sustainability and Environment (DSE) has published Environmentally Sustainable Design and Construction: Principles and Guidelines for Capital Works Projects (July 2003). This document encourages Government Departments and building professionals to address the following principles for reducing the ecological impact of capital works:

- → Energy conservation
- → Water conservation
- → Minimisation of fossil fuel usage associated with transport
- → Preservation of natural features of sites
- → Building materials conservation
- → Waste minimisation
- → Enhancement of indoor environmental quality
- → Appropriate landscaping
- → Enhancement of community life
- → Maintenance

These guidelines focus on achieving sustainable outcomes by comparing construction costs derived from triple bottom line objectives with conventionally designed buildings.

New regulations will be introduced under the Building Code of Australia from July 2005, that require all new multi-storey residential developments to achieve a 5 star energy rating. This will become a mandatory requirement that will affect the design of higher density housing.

Safety

Design for safety is also a significant issue. It aims to minimise the opportunity for crime and reduce the fear of crime for people using private and public space. The Safer Design Guidelines for Victoria have been developed to provide design objectives and suggestions that will assist in creating urban environments with enhanced personal safety and property security. The guidelines are based on the following set of principles:

- → maximise visibility and surveillance of the public environment
- → reduce the isolation of people, houses and areas that make them vulnerable to crime
- → clearly define public and private space with active building fronts facing public space
- → manage public space to ensure that it is attractive and well used.

Activity Centres

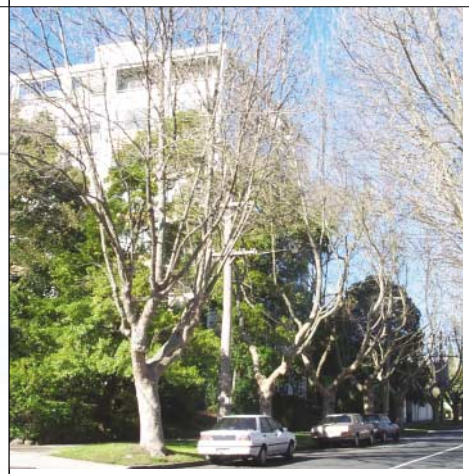
Activity Centres provide a focus for retail services, employment and social interaction in cities and towns. Design guidelines have been developed for Activity Centres that set out objectives and suggestions for buildings and public places based on the following principles.

- → develop a good-quality public domain
- → promote street based patterns of connection
- → improve community safety
- → encourage a mix of uses
- → improve pedestrian and cycling amenity
- → promote a public transport focus
- → increase accessibility and integration
- → encourage environmental sustainability

Where higher density residential development is proposed in Activity Centres, consideration will need to be given to these guidelines.

ELEMENT 1 URBAN CONTEXT

Urban context concerns the broader setting of a development – including its existing physical surroundings, its social and economic environment, and a strategic view of the area in which it is located and its role over time. One key aspect of urban context is understanding neighbourhood character – how the features of an area come together to make a particular place distinctive. All new development should make a positive contribution to an area's character, protecting and contributing to its valued natural, built and community qualities. However, higher density development implies a context that is changing – at least to some degree. Consequently, a second key aspect is to consider how the area is likely to change over time.



UNDERSTANDING THE SITE WITHIN ITS CONTEXT MUST BE THE STARTING POINT OF THE DESIGN PROCESS & INVOLVES BALANCING NEIGHBOURHOOD CHARACTER & STRATEGIC PLANNING OBJECTIVES.

NEIGHBOURHOOD CHARACTER AND STRATEGIC CONTEXT

WHY THIS IS IMPORTANT

A comprehensive understanding and appreciation of context and the balancing of neighbourhood character and strategic planning objectives must be the starting point for any design. This requires an understanding of a proposed development and its relationships to the surrounding public setting, neighbouring properties, and any identified strategic issues relating to the site.

Local councils and their communities may choose to maintain the existing neighbourhood character or identify a preferred future character for an area to guide its development. Neighbourhood character may concentrate on physical attributes or less tangible qualities to which good design can contribute. These might include:

→ more public open space
→ more vibrant, active streets and public spaces
→ protection of valued qualities within the public realm
→ better defined streets
→ improved pedestrian and cycle linkages
→ increased provision and patronage of public transport services
→ better location for commercial/office activity
→ greater mix of uses
→ more residents
→ greater viability for local businesses, perhaps of particular types
→ improved safety and informal surveillance
→ more evening activity.

In some instances, councils will have documented the valued aspects of neighbourhood character, while in others it will be necessary for developers to make their own reasoned assessment as part of a development proposal.

OBJECTIVE 1.1:

To ensure buildings respond creatively to their existing context and to agreed aspirations for the future development of the area. This should take the form of an urban context report.

DESIGN SUGGESTION 1.1.1: PREPARE AN URBAN CONTEXT REPORT THAT DOCUMENTS THE CHARACTER OF THE AREA AND IDENTIFIES OPPORTUNITIES AND CONSTRAINTS OF THE SITE.

The urban context report will have regard to the design principles outlined in clause 19.03 of the State Planning Policy Framework.

The report will generally include:

→ an assessment of neighbourhood character
→ information on the site and neighbouring buildings.

While urban context reports must be thorough in their identification and analysis of issues requiring an appropriate design response, they will vary in their content and detail depending on the complexity of the site and surrounding area.

The report may include a site plan, photographs or other techniques and must incorporate an accurate description of:

→ shape, size, orientation of the site and easements
→ levels and contours of the site and the difference in levels between the site and surrounding properties
→ the location and height of existing buildings on the site and surrounding properties
→ the use of surrounding buildings, including location of habitable rooms
→ the location of private open space of surrounding properties and the location of trees, fences and other landscape elements
→ solar access to the site and surrounding properties
→ views to and from the site
→ street frontage features such as poles, street trees, footpaths and kerb crossovers
→ the location of shops, public transport services and public open space within walking distance
→ movement systems through and around the site.
→ Any other notable feature or characteristic of the site or surrounding areas
→ constraints and opportunities such as heritage places
→ current access to direct sunlight in summer and winter

An assessment of the character of an area would include the following where appropriate:

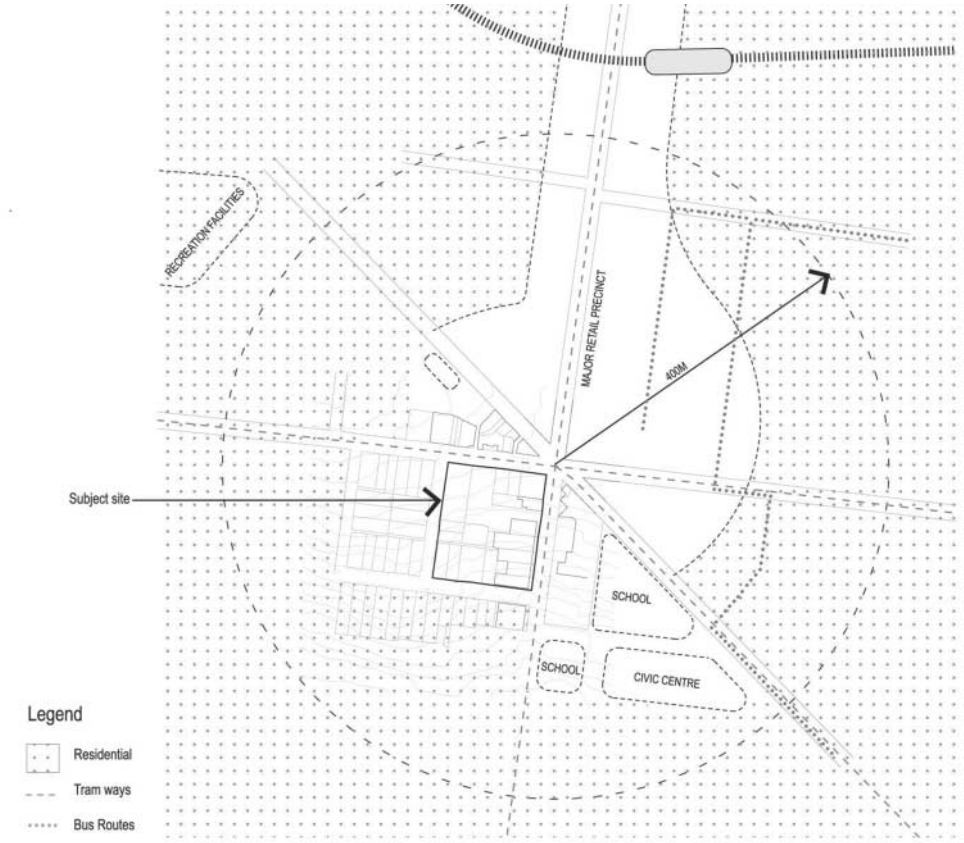
Environment

→ Topography
→ Views to and from the site
→ Waterways
→ Vegetation – extent and type
→ Public open spaces – their attributes, access points and functions
→ Microclimate

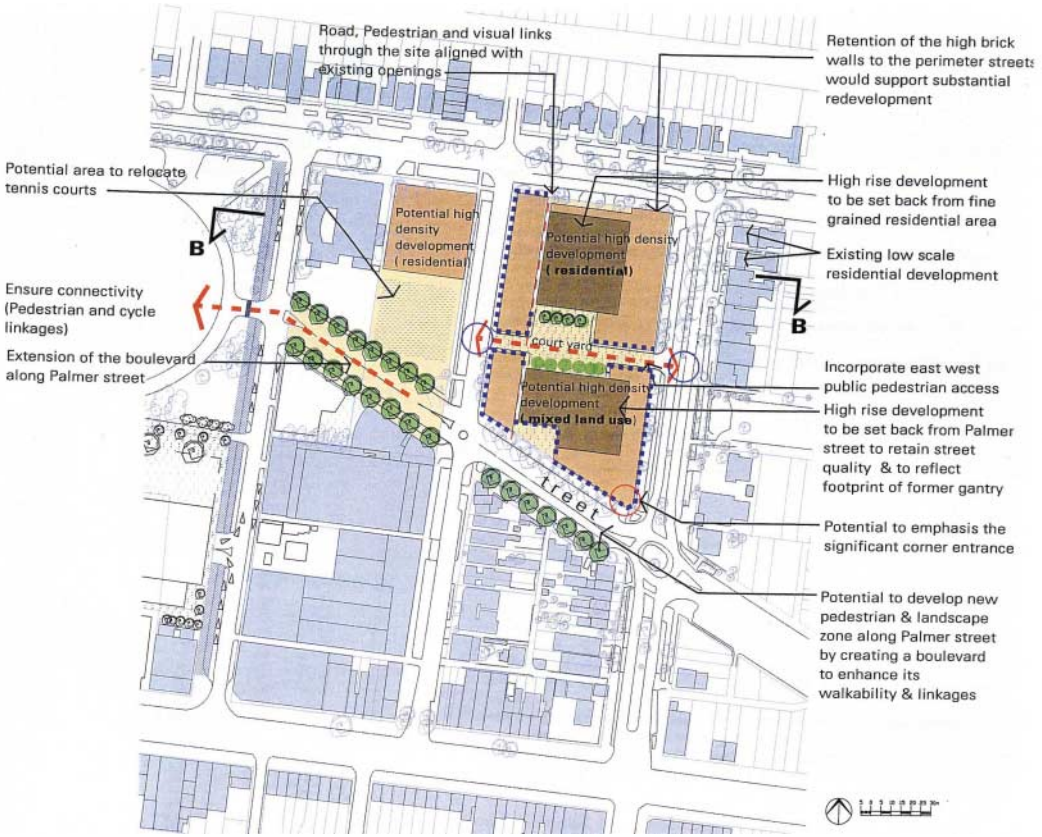
Subdivision

→ Street pattern – widths, orientation, shape, variation and continuity
→ Block size and shape
→ Subdivision lots – pattern, sizes and shapes
→ Other easements

RECORD AND ANALYSE INFORMATION ON THE SITE AND ITS SURROUNDINGS.
Image: MGS Architects



ENSURE A DEVELOPMENT IS CONSISTENT WITH THE STRATEGIC LOCATION OF THE SITE.
Image: MGS Architects



ACCURATELY ASSESS THE OPPORTUNITIES AND CONSTRAINTS AFFECTING POTENTIAL DEVELOPMENTS. Image: MGS Architects

Street details

→ Typical cross section widths and details of footpaths and carriageways, including the presence and depth of verandas and canopies
→ Access points and vehicle crossovers
→ Street trees
→ Car parking
→ Landscaping and vegetation on adjoining lots
→ Intensity of vehicle and pedestrian movement

Building mass and rhythm

→ The pattern of building heights in the area
→ Relation of building height to street width
→ Position of buildings on their lot and spaces around and between buildings
→ Site coverage, extent and character of private open space
→ Fences (style and height)
→ Porches, verandas and balconies on private land

Connection to the public realm

→ Patterns of use and occupation adjacent to the street or other public spaces
→ Connections (physical and visual) between and across public and private spaces

Architectural character

→ Architectural style – consistency or variation of nearby buildings
→ Roof forms, fenestration patterns and other relevant building details
→ Materials and colours

Social and economic activity

→ Areas within a 5 to 10 minute walk of the site and major public destinations (e.g. transport stop, shopping street, post office, community facility)
→ Community facilities and other local destinations of social significance
→ Relationship to local retail and business centres

Cultural identity

→ Heritage elements of subject site or local area
→ Elements or facilities of cultural significance
→ Public art
→ Significant local events and their location

The assessment of character should explain the pattern of development in the area and its salient features rather than simply presenting a list of unrelated facts or measurements. For example, in seaside locations it may be elements of exuberant architecture and striving for a sea view that define the character, rather than a more traditional analysis of housing styles.

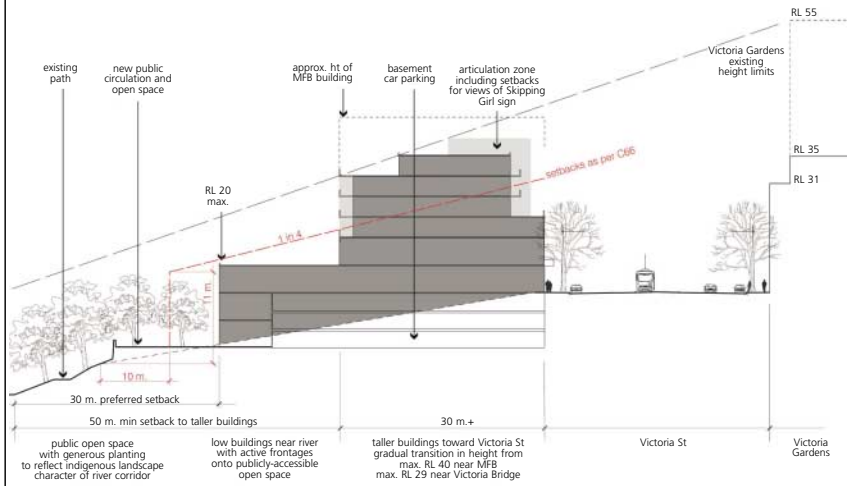
DESIGN SUGGESTION 1.1.1: IDENTIFY AND DOCUMENT EXISTING PLANNING SCHEME OBJECTIVES AND REQUIREMENTS APPLICABLE TO THE SPECIFIC SITE. INCLUDE THESE IN THE URBAN CONTEXT REPORT.

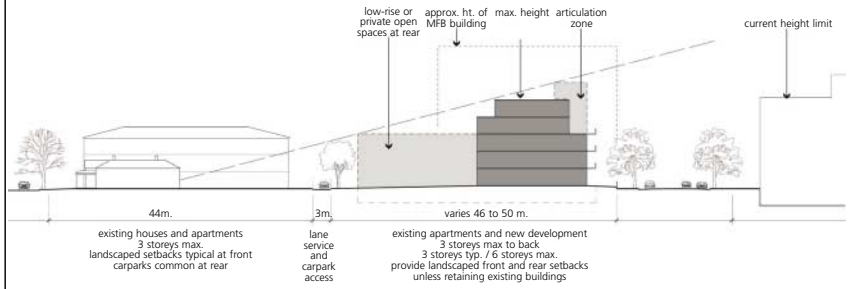
The following will need to be reviewed:
→ Design principles in clause 19.03 of State Planning Policy Framework
→ Municipal Strategic Statement and other relevant policies including Melbourne 2030
→ Planning scheme controls and overlays
→ Heritage controls.

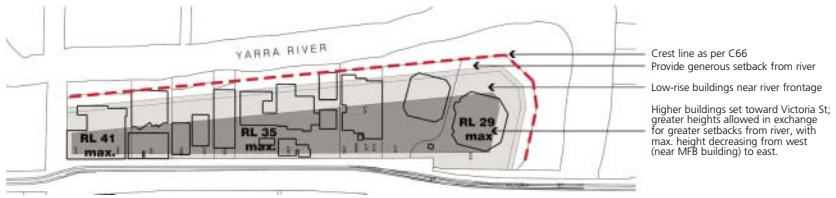
DESIGN SUGGESTION 1.1.2: ENSURE A DEVELOPMENT IS CONSISTENT WITH THE STRATEGIC LOCATION OF THE SITE. ADDRESS THIS IN THE URBAN CONTEXT REPORT.

Some locations are better suited to higher density buildings than others. There is a need to consider the site's local context and its strategic context, such as proximity to activity centres, public transport services and other community facilities.

DESIGN SUGGESTION 1.1.3: CONSIDER THE LIKELY LOCATION, SIZE AND EXPECTED IMPACT OF FUTURE DEVELOPMENTS AND POSSIBLE USES NEARBY WHEN DESIGNING NEW DEVELOPMENTS. ADDRESS THIS IN THE URBAN CONTEXT REPORT.







ACCURATELY ANALYSE THE CHARACTER OF THE SITE TO UNDERSTAND ITS EFFECT ON POSSIBLE DESIGN OPTIONS.
Images: Jones and Whitehead

Image: Cox Architects.

Image: ARM/NH Architecture/Neometro Architects

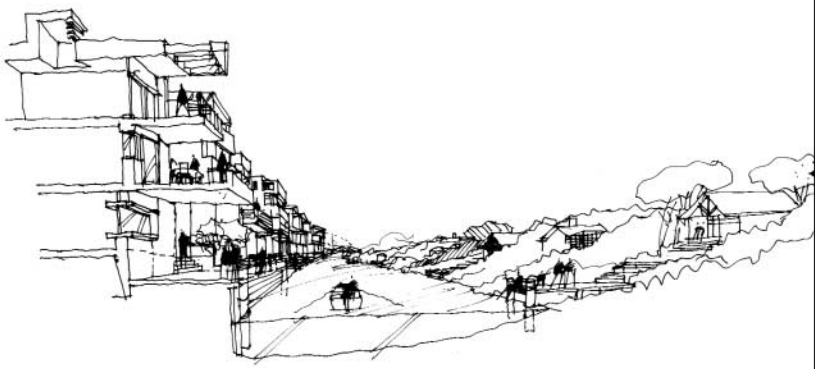


Image: Williams and Boag Architects

PROVIDE ILLUSTRATIONS OF A PROJECT WITHIN ITS CONTEXT.

Buildings need to respond to the existing context, and anticipate likely development on adjoining sites. In areas undergoing significant change, there will be a need to understand how the development will fit within the emerging pattern of development.

DESIGN SUGGESTION 1.1.4: USE AN URBAN CONTEXT REPORT AS THE BASIS FOR PRE-APPLICATION DISCUSSIONS TO GENERATE AND TEST OPTIONS ABOUT THE SITE AND THE BUILDING DESIGN.

Pre-application discussions based on the urban context report can significantly simplify approval procedures, with consequent savings in time and money for all parties involved.

For larger sites it might be useful to set design objectives for the site with the responsible authority before detailed design work begins.

DESIGN RESPONSE

WHY THIS IS IMPORTANT

A design response provides a written and graphic explanation of the logic behind the preferred design.

OBJECTIVE 1.2:

To provide a creative design response that is based on a clear understanding of the urban context and neighbourhood character.

DESIGN SUGGESTION 1.2.1: STRUCTURE THE DESIGN RESPONSE TO EXPLAIN HOW IT RESPONDS TO RELEVANT PLANNING PROVISIONS THAT APPLY TO THE LAND, ANY RELEVANT HOUSING, NEIGHBOURHOOD CHARACTER, URBAN DESIGN AND LANDSCAPE PLAN, STRATEGY OR POLICY SET OUT IN THE RELEVANT PLANNING SCHEME AND THE URBAN CONTEXT REPORT INCLUDING:

- → why the massing and overall height is appropriate to the context
- → how the development contributes to the quality of adjoining streets and other public spaces
- → how the internal layout makes safe and efficient provision for residents
- → why particular design treatments have been chosen.

The design response will often need to reconcile issues of broader context with those of local context. Where there is good access to public transport services and other facilities a broader context suggesting more intensive development may be appropriate while the local context and character might limit development potential to appropriate scale and medium density development.

The design response should explain the development proposal, build on the urban context report and show how the proposal meets the planning scheme objectives and requirements.

Shadow diagrams should be provided as part of the design response.

DESIGN SUGGESTION 1.2.2: PROVIDE ILLUSTRATIONS OF THE PROJECT IN ITS CONTEXT.

Even highly skilled architects can find difficulty in judging how a building will look when constructed and how it will sit in its context. Clear and relevant documentation of the proposal using two and three-dimensional representations is a mark of a good urban context report. Illustrations can assist in making these judgements. They need to be accurate, but not necessarily highly detailed.

ELEMENT 2 BUILDING ENVELOPE

Building envelopes – the location of buildings on their lot, their height and overall shape – can affect neighbourhood character, sunlight to adjoining buildings and open spaces, privacy and overlooking of other uses, the quality of spaces inside the building, the amenity and usability of private open spaces, and the sense of pedestrian scale and amenity in nearby streets. Higher density development means increasing the overall volume of building envelopes. To accommodate this increase it may be possible to increase heights, or to maintain existing built form patterns (with reduced areas of open spaces around them), or to adopt different building patterns (such as a change from freestanding to semi-detached or row houses). Different approaches have different impacts on the qualities listed above. It is therefore important to identify characteristics that support the preferred neighbourhood character of an area and to derive a design response appropriate to that context. It is also important to provide for a good result in the context of new higher density development – not only on the subject site but with likely future development on nearby sites.

HEIGHT AND MASSING

WHY THIS IS IMPORTANT

Building height can reinforce an area's character or relate to community aspirations for an area's future character. Appropriate building height is derived from local context, street conditions and character objectives for an area.

Building heights are best derived from specific design objectives rather than arbitrary limits or targets. For example, the protection of view lines, the natural features of an area, or solar access to the public realm may be important objectives.

Recommended building heights may already be identified within local planning policies. Where such guidance is not provided, issues to consider when determining a building envelope include:

→ responding to agreed future character objectives as specified in the planning scheme or convincingly outlined in an urban context report
→ achieving general design objectives, for example creating a consistent urban form
→ achieving a particular design objective, for example protecting a specific view or solar access to an important public space
→ reinforcing or responding to special characteristics of the broader urban structure, for example at main street corners or frontages
→ revealing or expressing the topography of an area
→ protecting existing character where a certain building height is a defining characteristic of the area

OBJECTIVE 2.1:

To ensure that the height of new development responds to existing urban context and neighbourhood character objectives of the area.

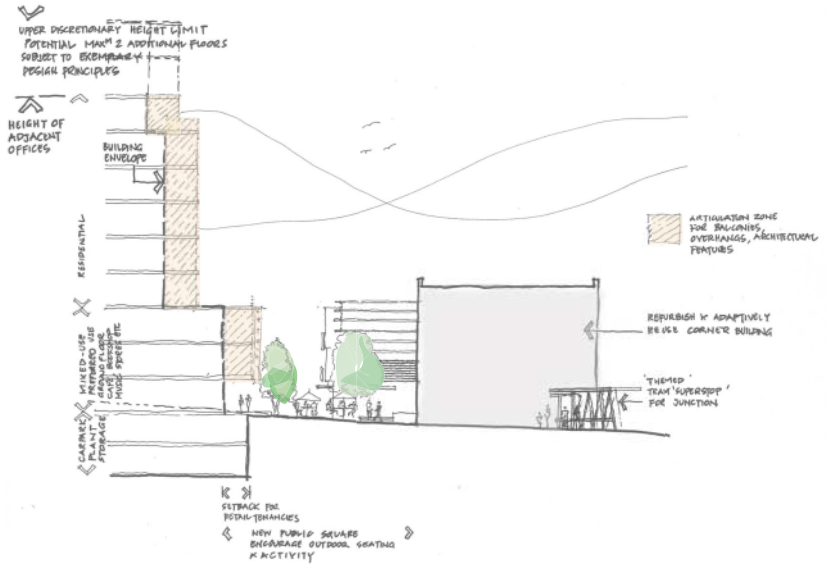
DESIGN SUGGESTION 2.1.1: ARRANGE BUILDING HEIGHT, MASSING AND FORMS TO REINFORCE THE STRUCTURE AND CHARACTER OF THE AREA.

Reinforce valued aspects of existing neighbourhood character unless planning policies identify a new character, or a new character needs to be created to achieve the planning policies for the area.

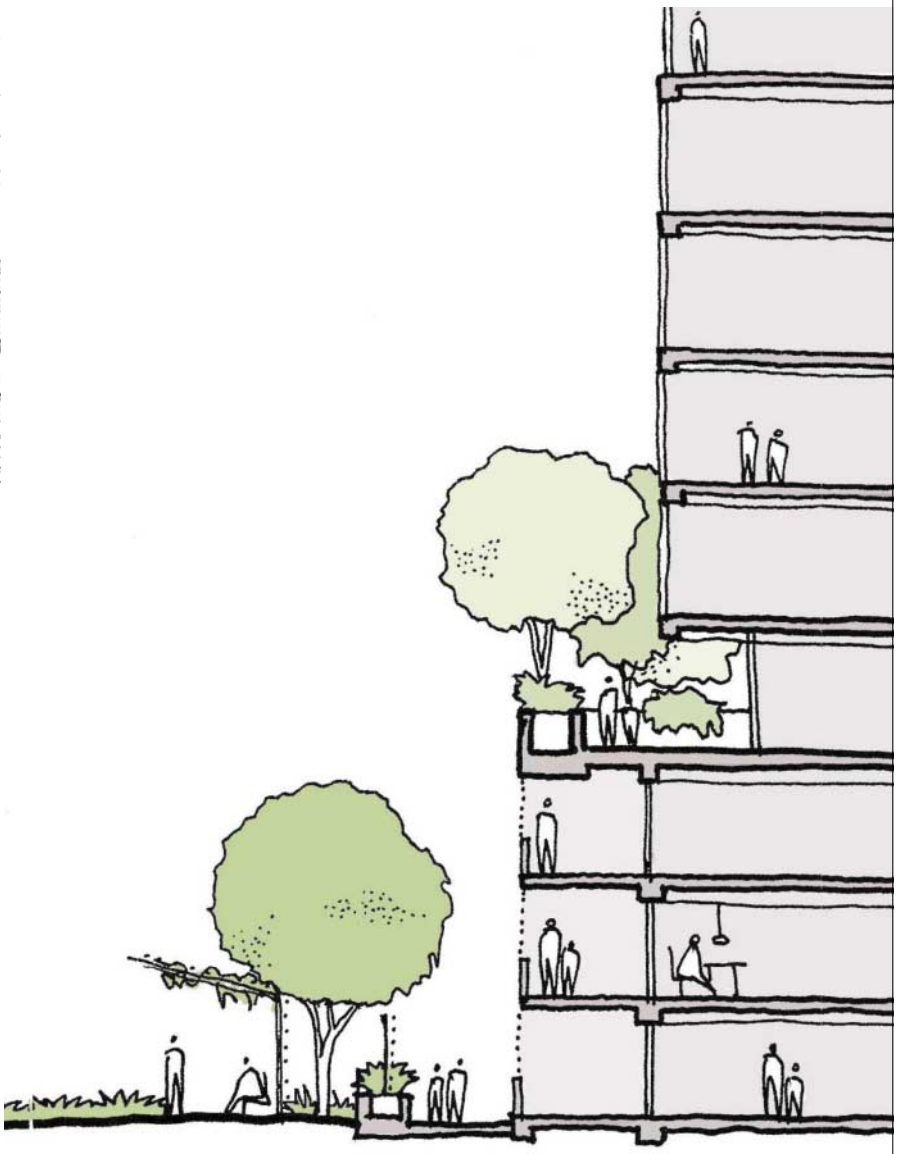
Increased densities do not always depend on tall buildings. Similar densities can be achieved using different development scenarios such as high rise-low site coverage, low rise-high site coverage and medium rise-site coverage. The type of development chosen should be appropriate to the area.

DESIGN SUGGESTION 2.1.2: MASS NEW BUILDINGS IN RESPONSE TO THE SCALE OF SURROUNDING BUILDINGS UNLESS DOING OTHERWISE HELPS TO ACHIEVE NEIGHBOURHOOD CHARACTER OBJECTIVES.

The existing context may often suggest that new developments on large sites be broken up into different buildings of varied design, or into subgroups of an overall building form. However this does not require simple repetition of the massing of the surrounding area, nor is there always a need to break up the massing of large buildings – the critical issue is how the development relates to its context.



MASS NEW BUILDINGS IN RESPONSE TO THE SCALE OF SURROUNDING BUILDINGS. Images: MGS Architects.



PODIUM AND TOWER FORMS CAN MITIGATE UNWANTED WIND EFFECTS, AND MAINTAIN PEDESTRIAN SCALE IN THE STREET.
Image: Bates Stuart Architects.

OBJECTIVE 2.2:

To ensure new development is appropriate to the scale of nearby streets, other public spaces, and buildings.

DESIGN SUGGESTION 2.2.1: RELATE BUILDING HEIGHT TO STREET WIDTH AND INTENDED CHARACTER.

Urban centres are characterised by a strong sense of enclosure with street spaces that are generally lined by buildings set along the front property boundary. The relationship between street width (including front setbacks) and building height is important for defining the character of a place.

DESIGN SUGGESTION 2.2.2: SET BACK UPPER LEVELS OF TALL BUILDINGS OR USE A PODIUM AND TOWER FORM TO HELP CREATE A PEDESTRIAN SCALE AT STREET LEVEL.

Tower buildings or elements should be set back from the street on a podium to maintain a pedestrian related scale and to mitigate unwanted wind effects. Stepping taller elements down to the street, or neighbouring buildings, or wrapping them in 'smaller buildings' can also mediate differences in scale between buildings.

Setbacks allow greater light access to the street, broader views of the sky and reduce the 'canyon' effect for pedestrians at street level. A careful analysis of street width, levels and view lines is required to determine ideal setbacks. For example, a setback of upper levels can render these levels invisible from the street.

Taller buildings without a podium level create a dramatic urban form and this may be appropriate on some sites where the local context can support this approach.

DESIGN SUGGESTION 2.2.3: RESPECT NEARBY HERITAGE BUILDINGS AND PLACES.

Local heritage policies and statements of significance can provide guidance on how this can be achieved.

DESIGN SUGGESTION 2.2.4: REDUCE HEIGHTS, INCREASE SETBACKS OR STEP THE MASS OF THE BUILDING TO CREATE SENSITIVE INTERFACES WITH ADJOINING BUILDINGS.

Taller buildings adjacent to low rise buildings may be appropriate provided care is taken with the design of elements such as the side walls, parapets, upper level front and side setbacks, articulation and window patterns. New taller buildings should be designed to relate sensitively to existing lower scale buildings that will remain in an area.

OBJECTIVE 2.3:

To protect sunlight access to public spaces.

DESIGN SUGGESTION 2.3.1: AVOID REDUCING SUNLIGHT TO IMPORTANT PUBLIC SPACES.

Shadows cast by a new development should not be considered in isolation, but as part of the cumulative shadowing effect of surrounding buildings, structures and trees. Each new building will add to this overshadowing and should be considered as an additional impact to the existing situation.

A key decision about overshadowing is the appropriate time of the year to measure when additional overshadowing might occur – there are two choices: equinox (22 September) or winter solstice (22 June). The appropriate measure for private open space is typically accepted as equinox, but local policy can identify public spaces that should be protected at the winter solstice. These spaces will typically include local open spaces and plazas. Where a shopping street currently enjoys sun at mid winter there will usually be a reasonable presumption that the sun access will be preserved.

STREET SETBACKS

WHY THIS IS IMPORTANT

The setback of buildings from a street edge affects how uses relate to the public space of the street. For example, direct access may be provided from footpath to shopfronts where there are no setbacks, or ground level residential units may be buffered from the street by private gardens. Front setbacks, or the absence of them, are also an important aspect of neighbourhood character. Setbacks at ground level add to the apparent breadth of the adjoining street and provide space for plantings. They can emphasise views of the overall shape of a building while also reducing the contribution of fine-grained architectural detail. Setbacks of upper building levels also affect the visual enclosure of street spaces, the apparent scale of these spaces in proportion to people using them – as well as providing protection from weather and access to sunlight.

Objective 2.4:

To respond to existing or preferred street character.

DESIGN SUGGESTION 2.4.1: DON'T SET BUILDINGS BACK FROM THE STREET IN RETAIL AREAS OR WHERE A CONSISTENT STREET EDGE NEEDS TO BE REINFORCED, EXCEPT WHERE CREATING A NEW PUBLIC SPACE IS AN INTEGRAL PART OF THE PROPOSAL.

DESIGN SUGGESTION 2.4.2: MATCH EXISTING SETBACKS WHERE AN ESTABLISHED LANDSCAPE SETTING CONTRIBUTES TO THE PROPORTIONS OF THE STREET AND TO THE STREET'S CHARACTER.

Whether or not a setback is required will vary from place to place depending on local context, the character of the streets and the preferred urban form for the area. New development should acknowledge and respond to different conditions in different areas.

DESIGN SUGGESTION 2.4.3: RESPOND TO THE LOCAL PHYSICAL CONTEXT IN A WAY THAT MAKES A POSITIVE CONTRIBUTION TO THE PEDESTRIAN ENVIRONMENT AT STREET LEVEL.

Sometimes a different setback to the predominant setback can add a welcome break or point of interest. The difference needs to be justified in terms of the wider benefits it will bring.

GREATER SET BACK ADDS
INTEREST TO THE STREET

MATCH EXISTING SETBACKS WHERE THE LANDSCAPE SETTING IS
AN IMPORTANT ELEMENT OF THE URBAN CHARACTER.

USE SIDE SETBACKS TO AVOID UNREASONABLE IMPACTS ON NEIGHBOURING PROPERTIES AND PUBLIC SPACES.

RELATIONSHIPS TO ADJOINING BUILDINGS

WHY THIS IS IMPORTANT

The proximity of buildings to each other affects the amenity of spaces inside the building, the quality of space between buildings, visual and acoustic privacy and solar access to private and shared open spaces. The challenge is to provide appropriate separation between buildings to maximise light, air and outlook while meeting strategic planning goals and respecting neighbourhood character. In some areas, side setbacks are an important part of the local character and should be maintained. However, in other places (especially in areas of relatively high density development) key objectives may best be supported by a continuous built form with party walls and no side setbacks.

OBJECTIVE 2.5:

To ensure building separation supports private amenity and reinforces neighbourhood character.

DESIGN SUGGESTION 2.5.1: DON'T SEPARATE BUILDINGS WITH SIDE SETBACKS IN STREETS THAT HAVE CONNECTED BUILDINGS WITH PARTY WALLS, E.G. TERRACE HOUSING.

DESIGN SUGGESTION 2.5.2: WHERE SIDE SETBACKS ARE AN IMPORTANT PART OF THE LOCAL STREETSCAPE CHARACTER BUT DO NOT CONTRIBUTE TO PRIVATE AMENITY, BUILD WITH PARTY WALLS AND USE RECESSES AT THE STREET FRONT TO CREATE THE APPEARANCE OF SEPARATED BUILDINGS.

DESIGN SUGGESTION 2.5.3: USE SIDE SETBACKS WHERE THEY ARE IMPORTANT FOR PRIVATE AMENITY, E.G. FOR SOLAR ACCESS, ACCESS TO THE REAR OF THE LOT, OR TO AVOID UNREASONABLE IMPACTS ON NEIGHBOURING PROPERTIES AND PUBLIC SPACES.

OBJECTIVE 2.6:
To ensure areas can develop with an equitable access to outlook and sunlight.

DESIGN SUGGESTION 2.6.1: CONSIDER THE POSSIBLE FUTURE DEVELOPMENT OF ADJOINING SITES AND ALLOW, AS BEST AS POSSIBLE, OR AN EQUITABLE SPREAD OF DEVELOPMENT POTENTIAL THROUGHOUT THE AREA.

DESIGN SUGGESTION 2.6.2: MAINTAIN SUNLIGHT AND DAYLIGHT ACCESS TO ADJOINING PRIVATE OPEN SPACES OF DWELLINGS IN ACCORDANCE WITH CLAUSE 55 OF PLANNING SCHEMES.

DESIGN SUGGESTION 2.6.3: PROVIDE SPACING BETWEEN TALLER BUILDINGS TO PROVIDE OUTLOOK, DAYLIGHT ACCESS AND PRIVACY FOR RESIDENTS.

DESIGN SUGGESTION 2.6.4: ORIENT NEW BUILDINGS TO OPTIMISE SUNLIGHT AND AMENITY FOR DWELLINGS, PRIVATE OPEN SPACES AND ADJOINING PUBLIC SPACES.

Development proposals should demonstrate:

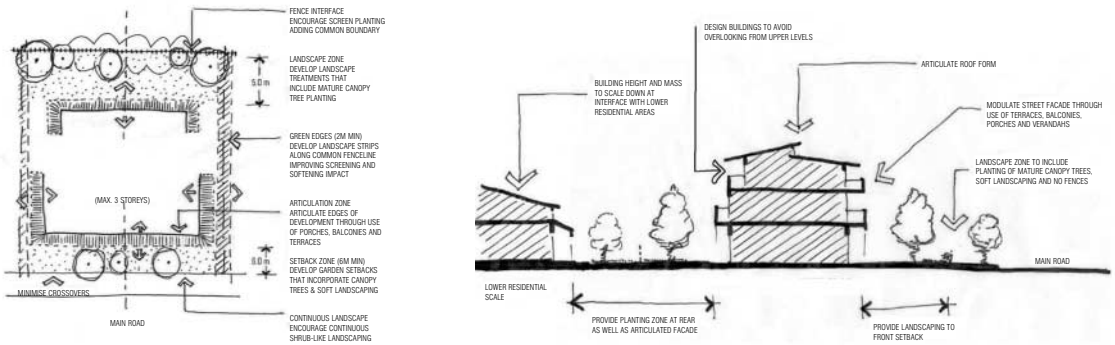
- → their contribution to the public realm or communal spaces
- → design initiatives to optimise daylight access to interiors of new and existing dwellings
- → site design and building massing to respond to neighbouring properties and their windows (considering outlook, privacy and daylight)
- → consideration of planting, fences and architectural features; and their impact on daylight access to neighbouring properties.

In areas of higher density housing, the amenity of public spaces and shared facilities may be of particular importance to the perceived amenity of the area as a whole.

OBJECTIVE 2.7:
To ensure visual impacts to dwellings at the rear are appropriate to the context.

DESIGN SUGGESTION 2.7.1: CONSIDER VIEWS FROM DWELLINGS AT THE REAR OR SIDES OF THE DEVELOPMENT.

In many areas of Melbourne the rear of buildings have a distinct character. These spaces should be assessed and where they make an important contribution to the area's local character, this should be respected in new developments.



CONSIDER VIEWS FROM ADJOINING DWELLINGS AT THE SIDES AND REAR OF THE DEVELOPMENT. Image: MGS Architects.

ORIENT NEW BUILDINGS TO OPTIMISE SUNLIGHT AND AMENITY FOR DWELLINGS AND OPEN SPACES.

PROVIDE SPACING BETWEEN TALLER BUILDINGS TO PROVIDE OUTLOOK, DAYLIGHT, ACCESS AND PRIVACY FOR RESIDENTS.

MAXIMISE RESIDENTIAL AMENITY BY DESIGNING INTERNAL LAYOUTS TO MINIMISE POTENTIAL FOR OVERLOOKING OF ADJACENT DWELLINGS.

MAXIMISE POTENTIAL FOR PASSIVE SURVEILLANCE OF STREETS AND OTHER PUBLIC SPACES.

VIEWS TO AND FROM RESIDENTIAL UNITS

WHY THIS IS IMPORTANT

Views from residential units are desirable for the amenity of their occupants and are of value to the broader public in providing passive surveillance of public spaces. However, views to dwellings can also be a potential threat to their privacy. These concerns apply both to new developments and existing nearby properties. Overall the balancing of views to and from buildings needs to be a carefully considered aspect of new building design. Generally, views onto and across streets and other public spaces are encouraged. For these frontages, the design of each building (or the use of blinds or other screening devices) is expected to deal with issues of privacy for residents. Views from one building into adjoining buildings are, generally not acceptable, and the design of new buildings is expected to limit intrusion into the privacy of existing residential properties. The location and design of buildings, and open spaces must be carefully orchestrated to maintain reasonable levels of privacy for adjacent development.

The design of new developments should optimise visual privacy for all dwellings, including views to and from windows and private open spaces. To completely restrict views to adjoining properties as well as other dwellings within the development is unrealistic. However, the orientation and layout of buildings and internal spaces should encourage views of public and shared communal spaces, while avoiding directly facing private spaces in close proximity.

OBJECTIVE 2.8:

To maximise informal or passive surveillance of streets and other public open spaces.

DESIGN SUGGESTION 2.8.1: PROVIDE WINDOWS OVERLOOKING STREETS AND OTHER PUBLIC SPACES.

DESIGN SUGGESTION 2.8.2: LOCATE LIVING AREAS TOWARDS ADJOINING STREETS AND OTHER PUBLIC SPACES.

DESIGN SUGGESTION 2.8.3: USE LEVEL CHANGES, ESPECIALLY FLOOR AND BALCONY SPACES ELEVATED ABOVE THE STREET LEVEL, TO ALLOW VIEWS FROM RESIDENTIAL UNITS ONTO ADJACENT PUBLIC SPACES WHILE CONTROLLING VIEWS INTO THESE UNITS.

OBJECTIVE 2.9:

To maximise residential amenity through the provision of views and protection of privacy within the subject site and on neighbouring properties.

DESIGN SUGGESTION 2.9.1: LOCATE LIVING AREAS, WINDOWS AND PRIVATE OPEN SPACES TO MINIMISE THE POTENTIAL FOR OVERLOOKING.

The internal layout of buildings and individual apartments should take adjoining properties into account. Existing dwellings should be protected from potential overlooking in accordance with the requirements of Clause 55 of planning schemes. Overlooking between new residential units should be minimised by appropriate site and building layout, window location and design.

WIND PROTECTION

WHY THIS IS IMPORTANT

Areas with taller buildings can produce a range of unwanted wind effects. These need to be considered and carefully managed.

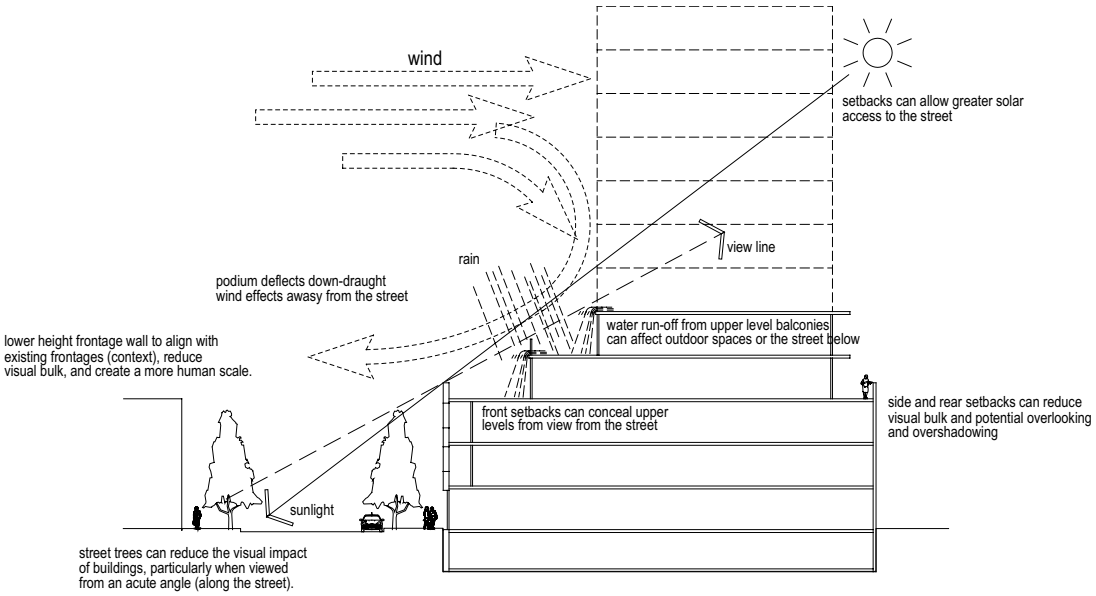
OBJECTIVE 2.10:

To ensure new tall buildings do not create adverse wind effects.

DESIGN SUGGESTION 2.10.1: USE STEPPED BUILDING FORMS AND ARTICULATION OF THE BUILDING MASS TO REDUCE WIND TURBULENCE AT GROUND LEVEL.

DESIGN SUGGESTION 2.10.2: PROVIDE PROTECTION FOR PEDESTRIANS IN PUBLIC AND PRIVATE SPACES FROM WIND DOWN DRAFTS WHERE A BUILDING IS TALLER THAN THE SURROUNDING DEVELOPMENT.

Taller buildings invariably create challenging wind conditions at street level. These include down drafts and wind tunnel effects. Measures to reduce the impact of these effects should be considered. An expert analysis of wind impacts is strongly recommended, especially where relatively tall buildings are exposed to large open spaces.



ARTICULATED BUILDING FORM TO REDUCE WIND EFFECTS.

LEFT AND ABOVE: TREAT ROOF FORMS AS A CONSIDERED ASPECT OF THE BUILDING DESIGN. Image: MGS Architects.

ROOF FORMS

WHY THIS IS IMPORTANT

The design of the roof of a building has a significant impact on its appearance and its integration with its surroundings. A roof may also accommodate private or shared open space. The type, shape, materials and details of a roof's design can significantly affect views of, and beyond, a building.

OBJECTIVE 2.11:

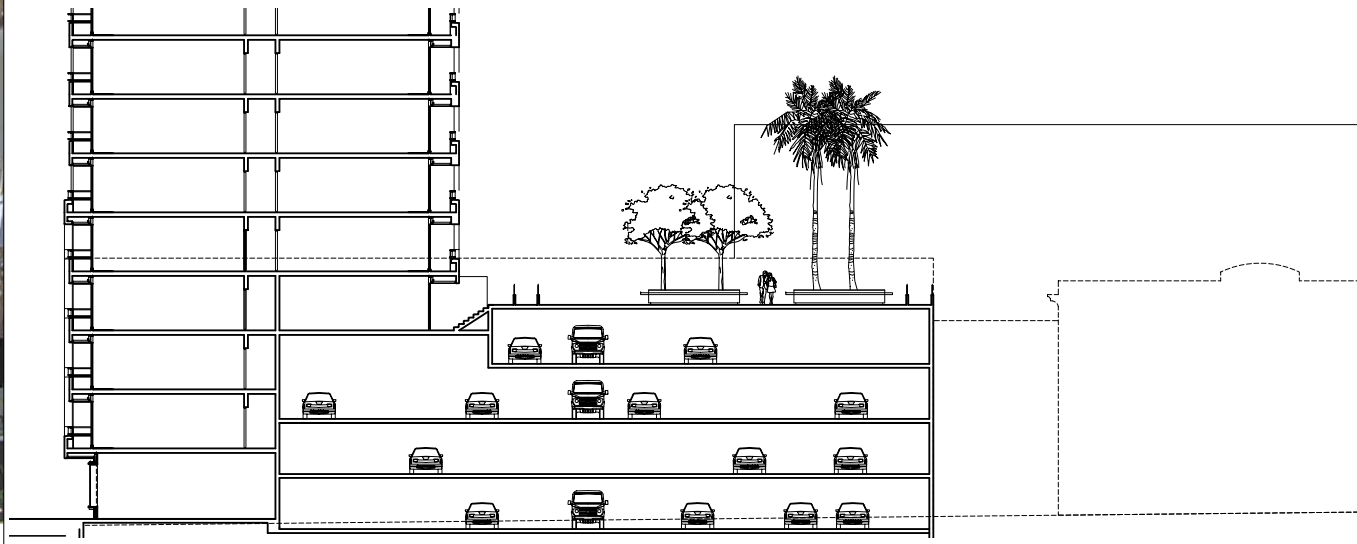
To treat roof spaces and forms as a considered aspect of the overall building design.

DESIGN SUGGESTION 2.11.1: INCORPORATE PLANT AND LIFT OVERRUNS AS AN INTEGRAL PART OF ROOF DESIGN.

Plant equipment, vents or lift over-runs or solar energy and stormwater collectors should be carefully designed to avoid visibility from the surrounding spaces and buildings, or incorporated into the roof design.

DESIGN SUGGESTION 2.11.2: DESIGN THE ROOF TO BE USED.

Roof spaces can be used as outdoor recreation areas, taking advantage of access to sunlight and distant views. They also provide opportunities for rainwater and solar energy collection.



ROOF SPACES CAN PROVIDE RECREATION AREAS, ACCESS TO SUNLIGHT AND VIEWS. Image: Rothe Lowman Architects.

ELEMENT 3 STREET PATTERN AND STREET-EDGE QUALITY

Because of their generally larger site sizes, built form and frontage widths, higher density residential buildings have a significant part to play in the comfort and usable qualities of the streets they edge. New development that supports a dense street and block pattern and provides for the thoughtful location of building entries, front fences and car park entries will contribute significantly to streets that are safe, comfortable and interesting to use.

STREET PATTERN AND STREET EDGE INTEGRATION

WHY THIS IS IMPORTANT

Local street patterns and the size of the building blocks are important to the liveability of a local area. In general terms, areas with a finely subdivided street and block pattern encourage more intensive pedestrian use than areas with larger building blocks and a more widely spaced pattern of local streets. New development that supports, or creates, a finer subdivision of streets will contribute to stronger patterns of local pedestrian and cycle use and to the social benefits that flow from this activity.

A building's frontage to a street creates a transition between public and private space. The careful design of this street edge zone will contribute to the liveliness, interest, comfort and safety of the street for those who use it.

OBJECTIVE 3.1:

To create walkable areas within a safe and interesting public setting.

DESIGN SUGGESTION 3.1.1: MAINTAIN AND EXTEND STREET NETWORKS TO CREATE A CLOSELY SPACED AND INTERCONNECTED STREET SYSTEM IN AREAS WHERE HIGHER DENSITY BUILDINGS ARE PROPOSED.

An interconnected, closely spaced grid (regular in shape or otherwise) provides many possible choices for movement. A spacing of 80 to 100 metres between parallel streets provides for good pedestrian and vehicular access while allowing for an efficient subdivision pattern of the block. This spacing may not always be possible. Intermediate pedestrian connections through blocks that link into routes beyond the site should be considered to maintain a finely-grained pattern of local movement.

DESIGN SUGGESTION 3.1.2: CREATE NEW CROSS-SITE PEDESTRIAN LINKS WHERE THE WALKABLE PERIMETER OF A BLOCK IS GREATER THAN 400 METRES. POSITION THESE LINKS TO TAKE ADVANTAGE OF OBVIOUS DESIRE LINES FOR LOCAL PEDESTRIAN MOVEMENT.

Evidence of common pedestrian behaviour suggests that blocks with perimeters of greater than 400 metres are more likely to discourage regular pedestrian use than smaller block sizes with a closer spacing of streets. Streets that are less conducive to pedestrian use reduce levels of activity, with compromising effects on the perceived safety of a street.

CREATE NEW CROSS-SITE PEDESTRIAN LINKS.
Image: HPA Architects.

CREATE NEW CROSS-SITE PEDESTRIAN LINKS.
Image: Williams and Boag Architect

ACTIVE GROUND FLOOR USES INCREASE
SAFETY, INTEREST AND ACTIVITY IN THE STREET.

OBJECTIVE 3.2:

To closely integrate the layout and occupation patterns of new development with the street.

DESIGN SUGGESTION 3.2.1: LOCATE ACTIVE GROUND FLOOR USES ALONG THE STREET PERIMETER OF NEW DEVELOPMENT TO INCREASE THE SAFETY, USE AND INTEREST OF THE STREET.

The incorporation of retail space, cafes, restaurants or home offices in the ground floor street edges of new residential development increases visual and physical connections between the interiors of new buildings and adjacent streets. Where this pattern occurs, residential units are typically elevated above street level with corresponding benefits of improved privacy and security. Care should be taken to provide acoustic separation between ground floor non-residential uses and apartments located above them.

In activity centres (and particularly in shopping areas), the aim should be to create frontages that provide interest and activity. Qualities include:

→ A large range of activities addressed to the street
→ Fine grain of shopfronts or residential frontages
→ Frequency of doors and windows addressed to the street
→ No blank facades
→ Depth and relief in building surfaces addressed to the street
→ High quality materials and refined details

DESIGN SUGGESTION 3.2.2: MAXIMISE GROUND LEVEL WINDOWS AND ENTRANCES TO PROMOTE ACTIVE FRONTAGES.

In situations where non-residential activity is not appropriate, windows and doors should provide a connection between the building and the street.

DESIGN SUGGESTION 3.2.3: AVOID CREATING BLANK WALLS, LARGE SERVICE AREAS, CAR PARKING, CO-LOCATED OR CONTINUOUS GARAGE DOORS OR DENSE PLANTING TO GROUND LEVEL STREET FRONTAGES OF NEW DEVELOPMENTS.

Blank walls or areas with minimal use or occupation located along the street edges of new development are never appropriate. They do little to animate the street and are usually avoided as a preferred walking environment. Where the active occupation of a ground floor street edge is genuinely difficult to achieve, street entries and related windows and building detail should be used.

DESIGN SUGGESTION 3.2.4: AVOID RECESSES TO GROUND LEVEL STREET FRONTAGES THAT COULD ALLOW CONCEALMENT.

Recesses to ground floor street frontages should be less than 300mm deep to omit potential hiding places that undermine the safety of the street.

OBJECTIVE 3.3:

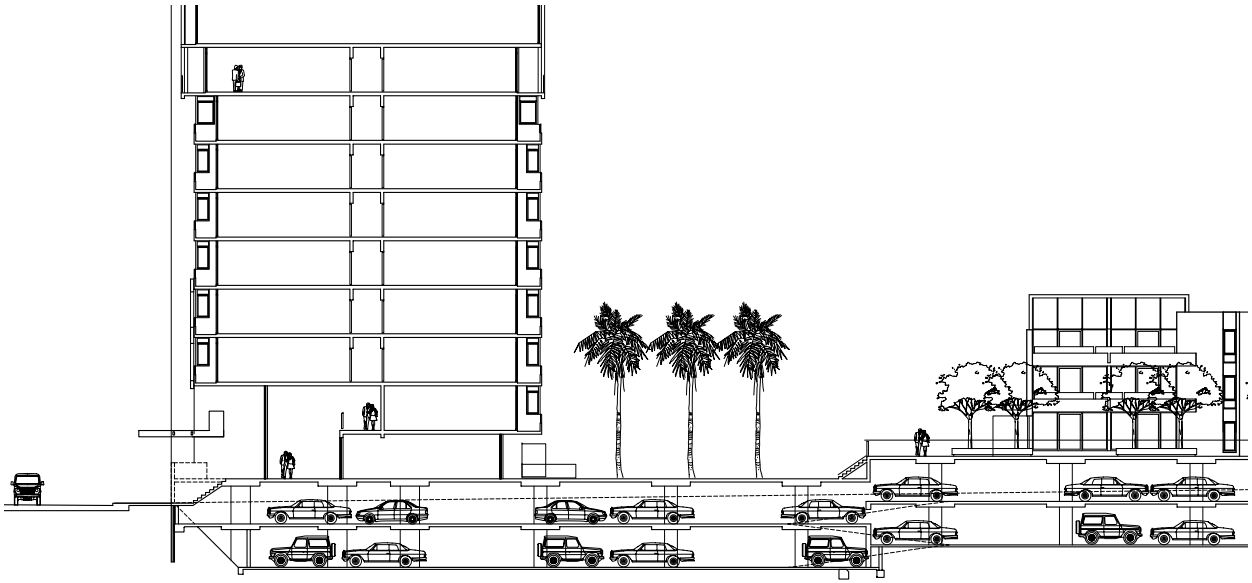
To ensure car parking does not dominate the street frontage.

DESIGN SUGGESTION 3.3.1: SCREEN OR DISGUISE ABOVE-GROUND PARKING AREAS IN NEW DEVELOPMENT FROM THE STREET.

A variety of strategies ranging from innovative screening (potentially including artworks) to the mixing of screen panels with sections of residential occupation can be used to reduce the visibility of car parking areas from the street.

DESIGN SUGGESTION 3.3.2: SCREEN HALF BASEMENT CAR PARKING.

Half basement car parking refers to car park areas that are set down half a level below the street. The use of half basement parking raises ground floor residential units above the street. While this can provide for more privacy in the residential units, and allow for casual surveillance of the street, half basement car parks can present long blank walls to the street, or a gap with unattractive views into the basement car park. Open gaps and simple security grilles to car parks are not desirable. More effective screening techniques include planting, semi-transparent fences or screens. Where solid walls enclose the car park, careful surface articulation and the use of high quality finishes are appropriate for a wall placed close to pedestrians' eye levels.



SCREEN HALF-BASEMENT CAR PARKING FROM THE STREET.
Image: Rothe Lowman Architects.

ACTIVE GROUND FLOOR USES INCREASE SAFETY, INTEREST AND ACTIVITY IN THE STREET.

ABOVE GROUND PARKING IS WELL SCREENED FROM THE STREET THROUGH THE USE OF SHOPS OR RESIDENCES.

CREATE STREET ENTRANCES WITH A STRONG IDENTITY.

RIGHT AND ABOVE: CAR PARK ENTRANCES CAREFULLY DESIGNED TO AVOID UGLY GAPS IN STREET FRONTAGES.

BUILDING ENTRIES

WHY THIS IS IMPORTANT

Building entries are important points of activity in the street. They support the identity of buildings as well as providing access. They may occur as entries to individual units or shared entries to multiple units. A variety of activity is associated with entries including resident access, deliveries, meetings, and visitor access. In addition to 'front doors' there are car park entries and other service entries (eg. rubbish collection). Service entries should be located to subdue their presence, especially on major pedestrian streets and shopping areas. The primary and secondary roles of different entries should be clearly identifiable.

OBJECTIVE 3.4:

To create street entrances with a strong identity that provide a transition from the street to residential interiors.

DESIGN SUGGESTION 3.4.1: ACCENTUATE AND IDENTIFY BUILDING ENTRANCES.

Design entries and associated elements including signs, street numbers, post boxes, landscaping etc. to emphasise their visible presence from various locations or approaches to the building.

DESIGN SUGGESTION 3.4.2: SUPPORT THE ROLE OF ENTRANCES AS POINTS OF ORIENTATION.

Orientation or way-finding within the development is largely established at the entrance. Consider providing clear sightlines and visual connections between the street, the entry, foyers and residential interiors.

DESIGN SUGGESTION 3.4.3: CREATE MORE RATHER THAN FEWER ENTRIES TO HELP ACTIVATE THE STREET.

DESIGN SUGGESTION 3.4.4: PROVIDE INDIVIDUAL ENTRIES TO GROUND FLOOR DWELLINGS ACCESSED FROM THE STREET.

High density residential buildings often have single shared entries for numerous units. By limiting the number of units per entry, a greater sense of identity can be provided for each unit or group of units, with more activity and interest provided to the street.

DESIGN SUGGESTION 3.4.5: PROVIDE GOOD VISUAL AND PHYSICAL CONNECTIONS BETWEEN THE STREET AND LOBBY SPACES.

Entries and foyers should be comfortable, sheltered, safe, convenient and visible at all times of day and night.

OBJECTIVE 3.5:

To ensure car park entries do not detract from the street.

DESIGN SUGGESTION 3.5.1: AVOID CAR PARK ENTRANCES ON SHOPPING STREETS.

Car park entrances and crossovers should be avoided where possible in retail and commercial areas. Where possible entrances should be located in streets that have a predominantly service role, and these streets should be upgraded as necessary to cater for this role.

DESIGN SUGGESTION 3.5.2: INCORPORATE PEDESTRIAN ACCESS WITH CAR PARK ENTRANCES, OR PROVIDE DISCRETE CAR ENTRANCES.

Car park entrances need to be carefully designed to avoid ugly or extensive gaps in street frontages. Combining pedestrian and car access can reduce the visual impact of the car park entrances.

FRONT FENCES

WHY THIS IS IMPORTANT

The character of street frontages in residential developments is often significantly affected by front fences. Aspects such as height, materials and transparency of fences determine the level of visibility and outlook, informal surveillance, privacy, security and frontage activity.

OBJECTIVE 3.6:

To avoid creating inactive frontages as a result of fencing private open spaces.

DESIGN SUGGESTION 3.6.1: USE LOW HEIGHT, TRANSPARENT OR PARTIALLY OPEN FENCES TO CREATE AN IMPRESSION OF OPENNESS AND PERMEABILITY.

Front fences (and fences onto open space) should be low, open or partially transparent. Designs that place private open space in the front setback are generally inappropriate because residents' need for privacy cannot easily be reconciled with the need for a visual connection to the street.

OBJECTIVE 3.7:

To ensure that front fences respect and contribute to the neighbourhood character.

DESIGN SUGGESTION 3.7.1: FRONT FENCES SHOULD RESPECT THE EXISTING CHARACTER OR CONTRIBUTE TO ESTABLISHING A NEW NEIGHBOURHOOD CHARACTER.

This may be achieved by analysing existing fence types, including materials, height, and styles and assessing the desired character of a street.

FRONT FENCES SHOULD BE LOW, OPEN OR PARTIALLY TRANSPARENT.

FRONT FENCES SHOULD BE LOW,
OPEN OR PARTIALLY TRANSPARENT.

ELEMENT 4 CIRCULATION AND SERVICES

The shared ‘infrastructure’ in higher density development, including circulation, parking and service spaces is important to ensure that buildings function well, are efficient and capable of being properly maintained.

PARKING LAYOUT

WHY THIS IS IMPORTANT

Despite its preferred location near public transport facilities, higher density residential development will still require car parking. The space required for car parks is significant and represents a substantial proportion of new buildings' overall space allocation.

Objective 4.1:
To provide adequate, safe and efficiently designed parking layouts.

DESIGN SUGGESTION 4.1.1: CLEARLY MARK ACCESS INTO, AND MOVEMENT THROUGH CAR PARKS WITH CLEAR SIGNAGE, FLOOR MARKINGS AND LIGHTING.

DESIGN SUGGESTION 4.1.2: CLEARLY IDENTIFY PARKING SPACES ALLOCATED TO SPECIFIC DWELLINGS.

DESIGN SUGGESTION 4.1.3: MAKE PROVISION FOR LOADING AND UNLOADING OF GOODS AND SERVICES.

DESIGN SUGGESTION 4.1.4: MAKE PROVISION FOR BICYCLE PARKING.

OBJECTIVE 4.2:
To provide safe and convenient access between car parking and bicycle areas and the pedestrian entry to buildings.

DESIGN SUGGESTION 4.2.1: PROVIDE WELL CONSIDERED ENTRANCES FROM THE CAR PARK TO RESIDENTIAL LOBBIES, FOYERS AND INDIVIDUAL APARTMENT ENTRANCES.

Many people will enter the building from the car park. It should be given as much consideration as the front door or entry lobby to the street.

DESIGN SUGGESTION 4.2.2: DESIGN CAR PARKS TO ASSIST ORIENTATION AND WAY-FINDING.

Within the car park, entry points to the building (stairs or lifts) should be clearly visible and identified as serving particular buildings or parts of buildings, to assist orientation. Space should be provided in front of lifts, with distinct floor surfaces and protection from vehicle movements.

DESIGN SUGGESTION 4.2.3: PROVIDE ADEQUATE PARKING FACILITIES FOR VISITORS.

CLEARLY MARK ACCESS INTO, MOVEMENT THROUGH AND OUT OF CARPARKS.

PROVIDE PARKING FOR VISITORS

MAKE PROVISION FOR
BICYCLE PARKING.

CIRCULATION SPACES

WHY THIS IS IMPORTANT

Higher density living, often relies on shared landscape and recreation areas, car parks and lobbies to provide for recreation purposes, internal orientation and circulation of residents and other building users.

OBJECTIVE 4.3:

To create shared internal spaces that contribute positively to the experience of living in higher density development.

DESIGN SUGGESTION 4.3.1: ENSURE THAT THE MAIN ENTRY AND INDIVIDUAL DWELLING ENTRIES ALLOW FOR THE DELIVERY OR REMOVAL OF LARGE FURNITURE ITEMS.

DESIGN SUGGESTION 4.3.2: ENSURE SERVICE LIFTS CAN ACCOMMODATE LARGE FURNITURE ITEMS TO THE UPPER LEVELS.

DESIGN SUGGESTION 4.3.3: DESIGN QUALITY INTERNAL SPACES.

Quality internal circulation spaces:

- → have a generous height and width to maximise space and light
- → allow for visibility and ease of movement, including movement of furniture and emergency access and escape
- → are articulated by small lobbies, if corridors are exceedingly long
- → provide clear directional information, apartment numbers and building name
- → provide external windows (perhaps at the end of corridors) to provide natural light and ventilation to create more spacious circulation space
- → are mechanically ventilated where required.

SITE SERVICES

WHY THIS IS IMPORTANT

Site services and related enclosures (for waste disposal and recycling, mail and deliveries, water and energy metering and emergency services) are necessary elements in any development. It is important, however, that these elements are assimilated in a subdued way into the design while still meeting the size and location requirements of service authorities.

OBJECTIVE 4.4:

To minimise running and maintenance costs.

DESIGN SUGGESTION 4.4.1: CONSIDER THE TOTAL 'LIFECYCLE' COST OF THE BUILDING.

Construction costs are only one part of the cost of buildings. The impact of design decisions on long term running costs of the building, particularly the need for security, maintenance, lighting, heating and cooling should be considered.

DESIGN SUGGESTION 4.4.2: DESIGN MECHANICAL AND ELECTRICAL SYSTEMS TO MINIMISE ENERGY CONSUMPTION.

A dual circuit system with minimum background security lighting and sensor based higher lighting levels can save between a third and a half of energy bills.

OBJECTIVE 4.5:

To minimise water use.

DESIGN SUGGESTION 4.5.1: COLLECT AND RE-USE STORMWATER WHERE PRACTICAL.

Stormwater can be stored temporarily and eventually drained away (i.e. stormwater retardation) or collected and stored for re-use. Re-use is preferred. Water re-use systems often need to be planned into a building at an early stage.

DESIGN SUGGESTION 4.5.2: USE NATURAL IRRIGATION IN LANDSCAPE AREAS.

Where possible irrigation of landscaped areas should be achieved through collection and re-use of stormwater and grey water.

OBJECTIVE 4.6:

To incorporate provision for site services in the building design to ensure good function and ease of service and maintenance.

DESIGN SUGGESTION 4.6.1: PROVIDE A CLEAR METHOD FOR REFUSE DISPOSAL.

A waste management and disposal plan should be prepared for all developments. This should address how rubbish will be disposed of, and how it will be stored prior to disposal. Large developments will generate cardboard waste as people move in and this should be addressed. In general, waste plans should address the storage and disposal of:

COLLECT AND RE-USE STORMWATER WHERE POSSIBLE.

INTEGRATE MAIL BOXES INTO THE OVERALL DESIGN OF THE ENTRY/FOYER.

PROVIDE SECURE WEATHER PROTECTED LOCATIONS FOR MAIL DELIVERY.

→ household waste
→ bottles
→ paper and cardboard
→ green waste.

When providing for waste disposal, consider the following:

→ vertical refuse chutes accessible at each floor level and within a convenient distance of all residential units.
→ refuse room with sufficient space for the required number and size of bins and with ease of access to an external collection area.
→ refuse room or bin storage may require compacting equipment, with an appropriate space allocation for is operation.
→ current and future waste separation requirements (i.e. separate chutes and bins for general waste, recyclables, and compost material, and waste storage/separation space sufficient for one day's waste generation)
→ any additional local authority requirements for waste disposal.

DESIGN SUGGESTION 4.6.2: PROVIDE FACILITIES FOR MAIL DELIVERIES AND PARCEL DROP OFF.

When providing for mail deliveries, consider the following:

→ secure, weather-protected location, at or close to the building entry, with easy access for postal deliveries including parcels
→ separate entries and addresses clearly marked
→ mailboxes integrated into the overall entry/foyer design, to be visually unobtrusive and secure
→ space for newspaper delivery
→ any additional postal authority requirements for deliveries.

DESIGN SUGGESTION 4.6.3: ENSURE THAT ALL UTILITY METERS ARE EASILY ACCESSIBLE.

The type and location of metering equipment should be selected in consultation with the relevant authorities and engineers, but may be required to be located at or close to the street frontage of the development, with a suitable and visually integrated enclosure design.

DESIGN SUGGESTION 4.6.4: PROVIDE SPACE FOR CLEANING AND SERVICING EQUIPMENT.

Space for cleaning, maintaining and storing equipment and tools should be provided in common areas.

DESIGN SUGGESTION 4.6.5: ENSURE EMERGENCY SERVICES HAVE EASY ACCESS.

The building design should allow for emergency services requirements, including water supply for fire fighting and access to the building for emergency personnel. Consult the relevant authorities.

ELEMENT 5 BUILDING LAYOUT AND DESIGN

Site design and building form refer to the arrangement of buildings, space and landscape within a site. They involve a careful consideration of building scale and form, movement patterns, and external spaces. The interrelationships between these, rather than their individual characteristics, will largely determine the effectiveness of the design. In addressing these issues, new development should achieve the highest architectural standards possible.

DWELLING DIVERSITY

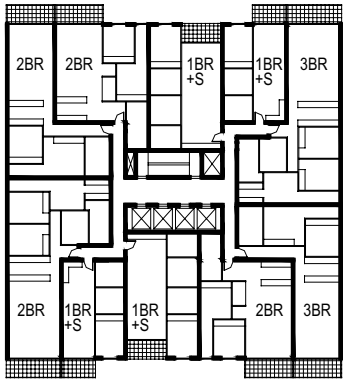
WHY THIS IS IMPORTANT

Higher density residential development is expected to cater for a diverse range of household types in the future, particularly smaller households.

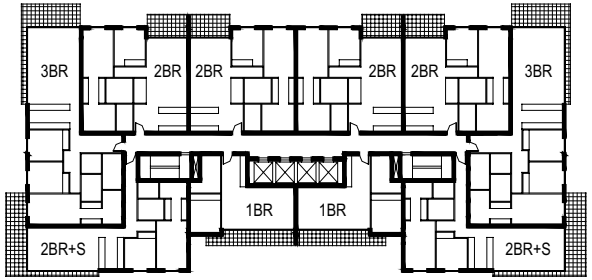
OBJECTIVE 5.1:

To provide a range of dwelling sizes and types in higher density residential developments.

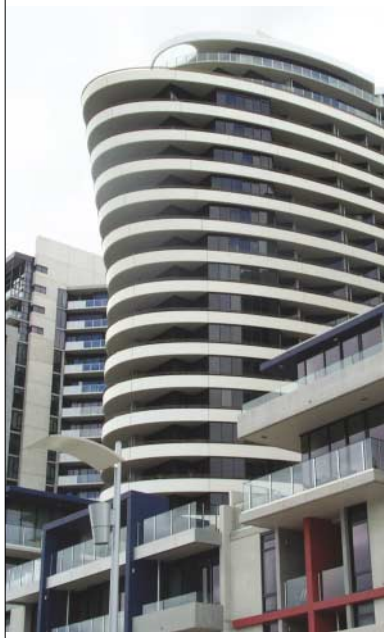
DESIGN SUGGESTION 5.1.1: DESIGN FOR A MIX OF DWELLING TYPES, PARTICULARLY IN LARGER RESIDENTIAL DEVELOPMENTS (E.G. TO SUIT SINGLE PEOPLE, FAMILY GROUPS OF VARYING SIZES, STUDENTS, THE ELDERLY, PEOPLE OF LIMITED MOBILITY, AND PEOPLE ON LOW TO MODERATE INCOMES).



MIX OF DWELLING TYPES AND SIZES.
Image: SJB Architects.

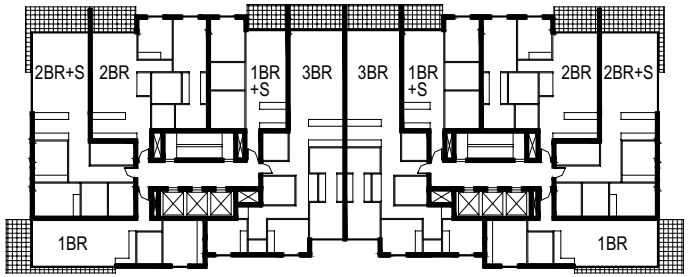


DESIGN FOR A MIX OF DWELLING TYPES AND SIZES.
Image: MGS Architects.



DESIGN FOR A MIX OF DWELLING TYPES AND SIZES.

LAYOUT SHOULD MAXIMISE DESIRABLE ORIENTATION, TOWARDS NORTH OR A VIEW



CONSIDER MULTIPLE LIFT CORES IN LARGE FLOOR PLATE BUILDINGS. Image SJB Architects.

BUILDING LAYOUT

WHY THIS IS IMPORTANT

The arrangement and configuration of different internal spaces and uses has a significant impact on their amenity, function and accessibility. Apartments and flats are normally smaller than other forms of housing. The careful use of space is critical to creating well laid out, efficient and comfortable apartments.

OBJECTIVE 5.2:

To optimise the layout of buildings in response to occupants' needs as well as identified external influences and characteristics of a site.

DESIGN SUGGESTION 5.2.1: DESIGN THE INTERNAL LAYOUT OF NEW HIGHER DENSITY RESIDENTIAL BUILDINGS TO SUIT THE SITE AND SURROUNDINGS AS WELL AS THE NEEDS OF ITS OCCUPANTS.

The location of apartments and configuration of spaces within buildings will be influenced by external factors, such as:

→ views to and from the new development
→ orientation, prevailing winds and other climatic factors
→ location of main street activity
→ external noise sources
→ access and security.

Generally layouts should seek to maximise desirable orientations (north facing, or facing a view) with the lift core placed towards the least desirable side of the building or enclosed within the building form.

DESIGN SUGGESTION 5.2.2: CONSIDER MULTIPLE LIFTS AND STAIR CORES RATHER THAN A SINGLE CENTRAL CORE IN BUILDINGS WITH A LARGER FOOTPRINT OR FLOOR PLATE.

While multiple lift and stair cores can be more expensive than a single central core, they may be justified where they help create a better design outcome, for example by:

→ reducing the length of internal corridors
→ breaking up monolithic buildings
→ providing building entries to a smaller number of residential units

OBJECTIVE 5.3:

To create functional, flexible, efficient and comfortable residential apartments.

DESIGN SUGGESTION 5.3.1: CHECK LAYOUTS FOR PRACTICALITY.

The usefulness of apartments can be reduced by room sizes and shapes that are too small in relation to their intended uses; by too many doors into rooms may make them difficult to use; by poor connections between related rooms or a lack of separation between others. These problems may significantly reduce the flexibility of their use and detrimentally affect their long term value.

DESIGN SUGGESTION 5.3.2: WHERE POSSIBLE, BUILD IN SOME FLEXIBILITY IN THE USES OF ROOMS.

OBJECTIVE 5.4:

To ensure that a good standard of natural lighting and ventilation is provided to internal building spaces.

DESIGN SUGGESTION 5.4.1: PROVIDE DIRECT LIGHT AND AIR TO ALL ROOMS WHEREVER POSSIBLE.

Encourage direct natural light and ventilation to all habitable rooms – living rooms, bedrooms, studies – in the form of operable windows. The 'borrowing' of light and air should be avoided, particularly in ventilating bedrooms, although this may not always be possible, when reusing existing buildings. Where light is borrowed from another room, ideally it should be taken from the principal living area rather than from corridors or other bedrooms.

DESIGN SUGGESTION 5.4.2: DESIGN LIGHT-WELLS THAT ARE ADEQUATELY SIZED FOR THEIR INTENDED PURPOSE.

Light wells need to be sufficiently generous to ensure that they provide adequate light and ventilation at their lowest level. Consider engaging expert advice to ensure light-wells provide adequate access to natural light and ventilation for habitable rooms facing the light-well.

DESIGN SUGGESTION 5.4.3: TAKE MEASURES TO REDUCE THE REVERBERATION OF NOISE IN LIGHT WELLS.

OBJECTIVE 5.5:

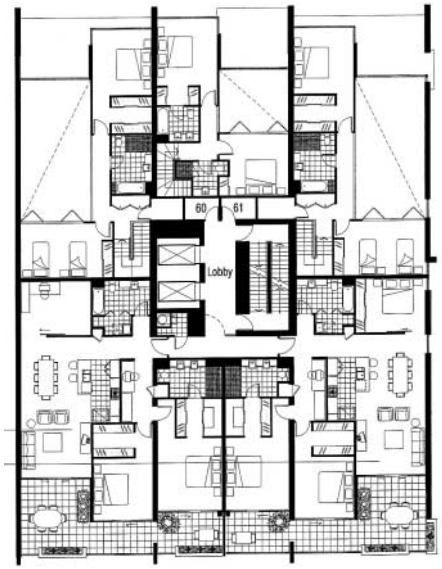
To provide adequate storage space for household items.

DESIGN SUGGESTION 5.5.1: PROVIDE ADEQUATE STORAGE SPACE.

Adequate storage is important in compact dwellings where space for large furniture such as wardrobes is limited. It is important that apartments in higher density developments have sufficient storage space, within the apartment and at a remote location for longer-term storage ideally within easy access.

Innovative solutions include:

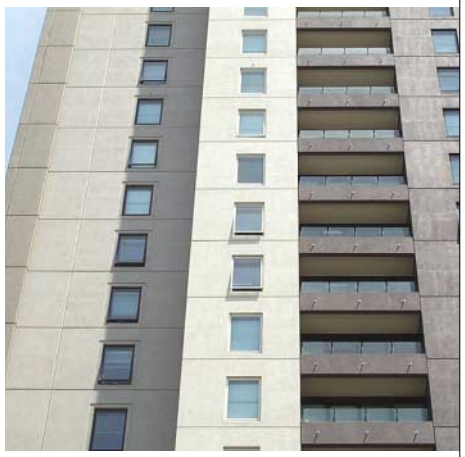
→ separate storage stalls that can be bought and sold separately as people's storage needs change
→ storage over part of car park units
→ preferential arrangements with off-site commercial storage.



REVIEW LAYOUTS FOR PRACTICALITY.
Image: SJB Architects.

BOLD FORMS AND ROBUST DETAILING ARE APPROPRIATE FOR ROOFS OF TALL BUILDINGS.

BUILDING DETAILS VISIBLE TO PEDESTRIANS REQUIRE PARTICULAR ATTENTION AT A FINE SCALE.



AVOID AN UNCONSIDERED REPETITION OF ELEMENTS.

INTEGRATE SIGNAGE AND GRAPHICS WITH THE BUILDING DESIGN.

DESIGN DETAIL

WHY THIS IS IMPORTANT

The detailed aspects of a design are the most tangible evidence of care and quality in the making of a building.

OBJECTIVE 5.6:

To promote buildings of high architectural quality and visual interest.

DESIGN SUGGESTION 5.6.1: DESIGN VARIOUS BUILDING ELEMENTS TO SUIT THE DIFFERENT WAYS THEY ARE VIEWED.

Relatively bold forms and robust detailing are appropriate for roofs of tall buildings, whereas the details of parts of buildings that are highly visible to pedestrians (such as shop fronts and doorways) merit particular attention at a very fine scale.

DESIGN SUGGESTION 5.6.2: CONSIDER MATERIALS AS AN INTEGRAL PART OF THE DESIGN RESPONSE.

High quality materials that withstand the effects of weathering and wear are important to the value of buildings over the long term.

DESIGN SUGGESTION 5.6.3: AVOID AN UNCONSIDERED REPETITION OF ELEMENTS.

DESIGN SUGGESTION 5.6.4: USE EXTERNAL LIGHTING TO ENHANCE THE DESIGN.

DESIGN SUGGESTION 5.6.5: INTEGRATE SIGNAGE AND GRAPHICS WITH THE BUILDING DESIGN.

DESIGN SUGGESTION 5.6.6: PROVIDE A DISCRETE LOCATION FOR AIR CONDITIONER UNITS.

ELEMENT 6 OPEN SPACE AND LANDSCAPE DESIGN

New development should contribute to the creation of private and public open spaces that are accessible, attractive, safe and comfortable for their users.

PRIVATE AND COMMUNAL OPEN SPACE

WHY THIS IS IMPORTANT

Access to open space is an important component of higher density residential developments. Open space can be provided as:

→ private open space including balconies, terraces or courtyards
→ communal open space shared between dwellings
→ public open space accessible to residents and visitors.

OBJECTIVE 6.1:

To ensure access to adequate open space for all residents.

DESIGN SUGGESTION 6.1.1: ENSURE PRIVATE OPEN SPACES ARE USEABLE AND PROVIDE REASONABLE LEVELS OF AMENITY.

Balconies and terraces are often used to provide private open spaces in higher density developments. However, their exposure to wind can make them unusable, and in some cases it may be more appropriate for apartments at the upper levels of buildings to be provided with semi-private gardens or public open space at ground or roof-top levels of the building.

The size, access to, orientation, proportions and finishes of balconies and terraces affects their function and amenity. If a balcony is intended to serve as private open space it should be of sufficient size to accommodate outdoor seating, with good connections between these spaces and the building's interior. Private outdoor space, in whatever form, should provide for limited recreation and entertainment uses and allow for views and privacy.

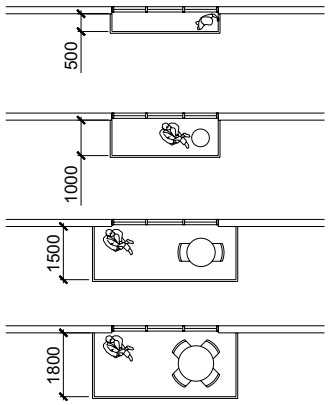
DESIGN SUGGESTION 6.1.2: CLEARLY DISTINGUISH BETWEEN PRIVATE AND PUBLIC SPACES.

Open space should be clearly defined as private or public. Access and associated facilities and landscaping should be designed accordingly.

SHARED OPEN SPACES SHOULD PROVIDE AN OUTLOOK FOR AS MANY DWELLINGS AS POSSIBLE.

CAREFULLY CONSIDER SOLAR ACCESS TO PRIVATE OPEN SPACES.

ORIENT BALCONIES AND TERRACES TO OPTIMISE ACCESS TO SUNLIGHT. Image: Williams & Boag Architects.



DESIGN SPACES THAT ARE USEABLE.

OBJECTIVE 6.2:

To ensure common or shared spaces are functional and attractive for their intended users.

DESIGN SUGGESTION 6.2.1: CONSIDER THE AVAILABILITY OF RECREATIONAL SPACES AND FACILITIES IN THE AREA, POTENTIAL DEMANDS FOR THEM, AND PROVIDE FACILITIES THAT ARE ABSENT OR UNDERSUPPLIED.

DESIGN SUGGESTION 6.2.2: CONSIDER PROVIDING HIGH-QUALITY SPECIALISED FACILITIES THAT WILL BE SHARED BY OTHER LOCAL DEVELOPMENTS, RATHER THAN TREATING EACH DEVELOPMENT AS A STAND-ALONE ENTITY.

DESIGN SUGGESTION 6.2.3: DESIGN OPEN SPACES THAT CAN BE WELL MAINTAINED.

DESIGN SUGGESTION 6.2.4: DESIGN SPACES THAT ARE USABLE IN A RANGE OF WEATHER CONDITIONS AT VARIOUS TIMES OF THE YEAR.

The design of shared outdoor spaces should take into account the following:

→ orientation and shading for optimum solar access
→ shelter for access during inclement weather
→ planting location and type for durability, ease of maintenance and aesthetic quality
→ ground surface materials to allow access in all weather conditions
→ privacy of dwellings facing open spaces
→ public access and measures to control access where required
→ safety, in the form of lighting, informal surveillance, as well as restricted access to pools and water features for children, changes in level and trip hazards in ground surfaces.

DESIGN SUGGESTION 6.2.5: OPEN SPACE SHOULD:

→ provide a clear delineation between public, communal and private space
→ be substantially fronted by active ground floors including building entries
→ provide an outlook for as many dwellings as possible
→ provide opportunity for mature planting to provide shade, shelter or screening
→ be designed to protect any natural features on the site or immediately adjacent to the site
→ be accessible and useable.

OBJECTIVE 6.3:

To allow solar access to the private and shared open spaces of new high density residential units.

DESIGN SUGGESTION 6.3.1: ORIENT BALCONIES, TERRACES AND COMMUNAL OPEN SPACE TO OPTIMISE ACCESS TO SUNLIGHT.

DESIGN SUGGESTION 6.3.2: USE THE OPEN SPACES ON BALCONIES, PODIUMS AND ROOF TERRACES TO PROVIDE OPEN SPACES WITH MAXIMUM ACCESS TO SUNLIGHT.

Roof spaces may be good locations for open space as they provide access to sun not always available at lower levels.

OBJECTIVE 6.4:

To integrate the design of shared and private open space into the overall building design and facade composition.

DESIGN SUGGESTION 6.4.1: INTEGRATE BALCONIES, TERRACES AND ROOF GARDENS WITH THE OVERALL BUILDING FORM AND FACADE COMPOSITION.

The design of balconies, terraces, roof gardens and associated balustrades, screens and canopies should be integrated as part of the overall facade composition of new buildings. These should be positioned to meet privacy requirements and to provide desired orientation and views.

A range of balcony designs can be used in the overall form of a building, for example:

→ partially or fully recessed balconies and terraces, which will provide different degrees of privacy for occupants
→ balustrades and screens of solid, transparent, translucent or perforated materials, or individual elements such as slats or bars to provide privacy
→ canopies of solid, perforated or louvred materials to provide weather protection and privacy.

DIFFERENT BALCONY DESIGNS CAN BE USED IN THE OVERALL FORM OF THE BUILDING.

DIFFERENT BALCONY DESIGNS CAN BE USED IN THE OVERALL FORM OF THE BUILDING.
Image: MGS Architects

OBJECTIVE 6.5:

To provide for greenery within open spaces.

DESIGN SUGGESTION 6.5.1: INCLUDE SUBSTANTIAL AREAS FOR LANDSCAPING

To provide sufficient growing room for trees between buildings and property boundaries

DESIGN SUGGESTION 6.5.2: DESIGN TO ENABLE HIGH QUALITY, SUSTAINABLE LANDSCAPING OVER STRUCTURES.

Opportunities for planting are limited on balconies and roof gardens, and may be limited even at ground level by underground structures such as car parks. In these situations, planters need to allow adequate soil depth and should be provided with drainage and irrigation. Plants should be chosen that can thrive in the given conditions, such as on exposed and windy rooftops.

DESIGN SUGGESTION 6.5.3: MINIMISE THE VISUAL EFFECTS OF WATER RUN-OFF FROM OPEN SPACE AREAS.

In allowing for drainage of balconies, terraces and courtyards, the following could be considered:

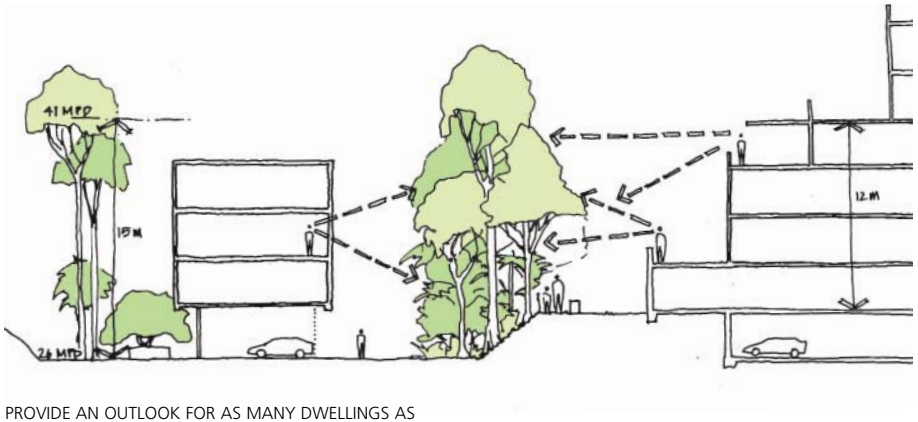
→ design balconies that drain off external edges (no central floor waste) to minimise water run-off onto other balconies or public spaces below
→ avoid visible services such as drain pipes that have a significant impact on the building's appearance
→ control water run-off that may cause staining, damage and maintenance problems.

DESIGN SUGGESTION 6.5.4: PROVIDE PERMEABLE GROUND SURFACES.

Permeable ground surfaces in open spaces allow rainwater to penetrate the soil, helping support:

→ healthy growth of trees
→ protection of root zones of existing mature trees
→ reduction of stormwater run-off
→ absorption of rainwater to the water table.

In some urban areas it will not be possible to provide significant permeable areas on site, so developments could instead focus on the collection, storage and re-use of stormwater.



PROVIDE AN OUTLOOK FOR AS MANY DWELLINGS AS POSSIBLE. Image: Bates Smart Architects.

Image: MGS Architects.

PROVIDE FOR GREENERY WITHIN OPEN SPACES.

ENSURE NEW PUBLIC OPEN SPACES CONTRIBUTE TO A SAFE, ATTRACTIVE AND WELL USED ENVIRONMENT. Image: MGS Architect.

PUBLIC OPEN SPACE

WHY THIS IS IMPORTANT

In areas of higher density residential development, residents and visitors will rely in part on public open space for relaxation, recreation and meeting places. Access to adequate and safe public open spaces is essential for the well being of the whole community.

OBJECTIVE 6.6:

To create public open space appropriate to its context.

DESIGN SUGGESTION 6.6.1: ENSURE NEW PUBLIC OPEN SPACES CONTRIBUTE TO A SAFE, ATTRACTIVE AND WELL USED PUBLIC ENVIRONMENT.

Public open spaces in activity centres can take a variety of forms including neighbourhood parks, squares or plazas. These are generally most successful if they are relatively small (not larger than a block), lined with active edges, with access to sun and shade and opportunities for passive recreation. They can provide a focus for community activity and should be located in prominent, important, easily accessible places. Direct access to important pedestrian routes integrated with an area's wider circulation network will support the regular use of such open spaces, and will assist in supporting their vitality and safety.

Where new public open space is proposed as part of a new high density residential development, it should be designed to reflect the above public space qualities.

GLOSSARY

Active Frontages
Refers to street frontages where there is an active visual engagement between those in the street and those on the ground floors of buildings. This quality is assisted where the front façade of buildings include the main entrance, face the street, and the ground floor uses face and open towards the street.

Activity Centres
Activity Centres are the traditional focus for services, employment and social interaction in cities and towns. They are where people shop, work, meet, relax and often live. Usually well served by public transport, they range in size and intensity of use from local neighbourhood strip shopping centres to traditional town centres and major regional malls.

Half- Basement car parking
Car parking space that is partial submerged below the ground level of the building.

Frontage development
This is development which incorporates an "active frontage".

Melbourne 2030
An action plan of the State Government's vision for the future planning of the Melbourne metropolitan area. Refer Melbourne 2030 Planning for sustainable growth, October 2002.

Mixed Use Development
Good mixed use development involves the fine-grained mixing of compatible land uses in a balanced mix. Physically it includes both vertical and horizontal mixes of use. No single use should dominate other uses, and residential land use should generally not exceed 60% of the land use.

Public spaces
Refers to spaces that are publicly owned and which are intended for use by the public; and spaces that are privately owned but encourage public use free of any impose rules or constraints of normal public behaviour.

Sightlines
Lines of clear physically uninterrupted sight.

Surveillance
The presence of passers-by or the ability of people to be seen in public spaces from surrounding windows.

Informal surveillance
Surveillance "eyes on the street" provided by ordinary local people as they go about their daily activities.

FURTHER READING

Bentley, I., Alcock, A., Murrain, P. and McGlynn-Smith, G. **Responsive environments: a manual for designers**, London: The Architectural Press, 1987.

British Standards Institution. **Code of Practice for daylighting.** British Standards BS8206:Part 2,1992.

Brolin, B. **The designer's eye: problem solving in architectural design**, New York: W W Norton and company, 2002.

Commission for Architecture and the Built Environment & Dept of Environment, Transport and Regions. **By Design, Urban Design in the Planning System**, London, 2000.

Commonwealth Department of Housing and Development. **AMCORD: A National Resource Document for Residential Development**, Canberra: AGPS, 1995.

Commonwealth of Australia. **Disability Discrimination Act** 1992 Sect 3.

Department of Infrastructure. **Melbourne 2030: Planning for sustainable growth**, State of Victoria, 2002.

Docklands Authority. **Melbourne Docklands ESD Guide: Ecologically Sustainable Development**, Melbourne Docklands, 2002.

Gausa, M. **Housing: New Alternatives – New Systems**, Basel: Birkhäuser / Boston: Actar, 1998.

Gehl, J. **Life between Buildings**, New York: Van Nostrand Reinhold Company, 1987.

Goad, P & Bingham-Hall, P. (editors) **New Directions in Australian Architecture**, Sydney: Pesaro Publishing, 2001.

Greater London Authority. **Housing for a Compact City**, London, 2003.

Kloos, M and Wendt, D. (editors) **Formats for Living: Contemporary floor plans in Amsterdam, Amsterdam**: ARCAM in conjunction with Architectura & Natura Press, 2000

Littlefair, P.J. **Site layout planning for daylight and sunlight: a guide to good practice**, Garston: Building Research Establishment, 1991.

Llewelyn-Davies and Alan Baxter and Associates. **Urban Design Compendium**, London: English Partnerships & The Housing Corporation, 2000.

NSW Department of Urban Affairs and Planning. **Residential Flat Design Pattern Book**, Sydney: Department of Urban Affairs and Planning, 2001.

NSW Department of Urban Affairs and Planning. **Better Urban Living: Guidelines for urban housing in NSW**, Sydney: Department of Urban Affairs and Planning, 1998

NSW Department of Urban Affairs and Planning. **Residential Densities: A handbook illustrating the urban design characteristics of different densities**, Sydney: Department of Urban Affairs and Planning, 1998.

NSW Planning Department. (Urban Design Advisory Service) **Residential Flat Design Code**, Sydney: NSW Planning Department, 2002.

Marcus, C.C. and Sarkissian, W. **Housing as If People Mattered: Site Design Guidelines for the Planning of Medium Density Family Housing**, California: The University of California Press, June 1988.

Rogers, R & Power, A. **Cities for a small country**, London: Faber and Faber, 2000.

Royal Australian Institute of Architects in association with Department of Planning and Development. **Smart Housing Choices: A Directory of Medium-Density Housing in Victoria**, Victoria: Department of Planning and Development, 1992

Schneider, F. (editor) **Floor Plan Atlas Housing**, Basel: Birkhäuser Verlag, 1994.

Sucher, D. **City comforts: how to build an urban village**, Washington: City Comforts Press, 1995.

Sustainable Energy Authority Victoria. **Energy Smart Housing Manual.** Victoria: SEAV, 2002.

Urban Task Force. **Towards an Urban Renaissance: Final Report of the Urban Task Force** (Chaired by Lord Rogers of Riverside), London: Department of the Environment, Transport and the Regions E & FN Spon, 1999.

ACKNOWLEDGEMENTS

We wish to thank all the architects, developers, planners and representatives of government, industry and resident groups and members of the Victorian Design Advisory Council who attended various workshops and provided advice that greatly assisted the preparation of these Guidelines.

Published by the Victorian Government Department of Sustainability and Environment, East Melbourne, 3002, October, 2004.

Authorised by the Victorian Government, 8 Nicholson Street, Melbourne, 3000

Printed by Hampton Press PL, 7/677 Springvale Road, Mulgrave, Victoria, 3170

Also published on www.dse.vic.gov.au/planning/urbandesign/

ISBN 1 74106 191 1

For more information contact the Department of Sustainability and Environment Customer Service Centre telephone 136 186.