Introduction

Achieving Good Design in Adelaide’s Future Urban Form

The recently updated 30 Year Plan for Greater Adelaide envisages our city to grow from its current low-rise suburban pattern to more compact urban forms. Factors such as 21st century living standards, existing land ownership, community expectations and market forces signal the need for new types of higher density housing.

New housing located in close proximity to employment opportunities, essential services, recreation facilities, cycling and walking paths and public transport routes will deliver a range of benefits including:

- Reduced living costs
- More active and healthy communities
- The creation of vibrant and energetic urban centres
- Reduced demands on supporting infrastructure.

The provision of well-designed higher density housing will also diversify Adelaide’s housing stock which is currently dominated by detached dwellings. It will provide greater housing choice to support our ageing population and increase the number of single and two person households. New housing choices will also unlock opportunities for innovative and accessible housing developments.

As infill development increases, good design outcomes will ensure that new higher density housing complements existing neighbourhoods and is embraced by communities.

Good design will support a successful transition to more compact, sustainable urban forms.
How should the Design Guidelines be used and who are they for?

The Design Guidelines provide best practice guidance regarding the design quality of new developments and cover:

- Neighbourhood and site context
- Access and movement
- Built form
- Open space and landscaping
- Building design (including internal spaces)
- Appearance, materials and services.

This information can be used by:

- Designers, in considering new residential development
- Planners, in understanding various solutions to common design challenges
- Consumers, to raise awareness of good design benefits
- The wider community, to influence better design outcomes in their neighbourhoods.

Are the Design Guidelines mandatory?

The Design Guidelines have been established as an aspirational, best practice guide that supports high quality design outcomes beyond the minimum statutory requirements. The Guidelines are just that, a guide. They are not intended to be used as a Development Assessment tool, as this is the role of Development Plans.

The Design Guidelines aim to encourage creative and innovative approaches to housing design, particularly in relation to higher density residential development. They identify aspects to consider during the design process and provide guidance about how to address adverse development impacts.

Designers, planners and proponents are encouraged to explore the design possibilities of a site and develop proposals that carefully consider the broader context, benefitting the local community. Innovation and creativity are critical to unlocking new development opportunities in our urban areas.

Role of the Design Guidelines in the Planning System

When established, the Planning and Design Code will set out a comprehensive set of planning rules for development assessment purposes classified into zones, subzones and overlays. The Code will be the single point of reference for development assessment.

The Code will be the only statutory instrument that sets out the minimum performance requirements and deemed-to-satisfy provisions for new development.

In their current form, the Design Guidelines are a best practice tool to provide design guidance until the new Planning system is established. As such, the Design Guidelines provide a wider range of design quality guidance than current Development Plan policies.

The Design Guidelines will likely continue as advisory material in support of the new Planning and Design Code, providing guidance where deemed-to-comply provisions of the Code are not met.

In addition, the Design Guidelines present a framework for a performance-based approach to the
design of residential development, as a more responsive alternative to prescriptive regulation.

This approach:

- Focuses on whole of design issues
- Centres on objectives and desirable outcomes
- Offers an opportunity for diversity and choice
- Provides flexibility to respond to market needs and preferences together with changes in approaches and technology
- This performance-based system anticipates the Planning and Design Code outlined by the new Planning, Development and Infrastructure Act 2016.

What type of development do the Design Guidelines apply to?

The Design Guidelines are particularly applicable to:

- Small, low-rise developments in suburban and township infill areas
- Larger apartment buildings in the city and urban centres.

The Guidelines are scalable in their applicability to various housing and developments types. Their primary focus however, is on medium density development in designated infill growth areas.

Why are the Design Guidelines important in relation to higher density development?

The interface between new and existing developments must be managed carefully. This is particularly the case when there is a transition in residential developments from low to medium density. These interface and transition considerations should also be supported by high quality landscape and public realm design.

New housing needs to respond positively and sensitively to the existing surroundings and address issues that living in closer proximity can present. These issues may include noise, traffic, height, light access and private open space.

The Design Guidelines address these issues and aim to support the delivery of well-designed homes in metropolitan Adelaide and towns across South Australia. This will ensure new development positively contributes to neighbourhoods and strengthens the character of our streets and suburbs.

The Design Guidelines will also assist the implementation of more flexible planning zones in response to the new strategic directions for urban growth and, with the new Planning and Design Code, support the integration of planning and design standards in local policy frameworks.

It is noted that individual circumstances may mean that certain aspects of the Design Guidelines are unachievable and in these cases consideration of the site context will be particularly important.
“Good design is at the heart of great places that the community can engage with. These draft Design Guidelines are intended to make this happen.”

— John Rau, Minister for Planning
Principles of Good Design

The South Australian planning reforms are underpinned by a strong emphasis on design quality. The Planning, Development and Infrastructure Act 2016 also contains principles of high-quality design relating to urban renewal, activation and liveability, sustainability, investment and integrated delivery. These high level principles aim to achieve the best policy framework for the development and renewal of our built environment.

The Office for Design and Architecture SA has also established Principles of Good Design, in line with international best practice. These Principles focus on how buildings and places can meet the needs of the people who use them, and have informed the development of the Design Guidelines.

The Office for Design and Architecture SA Principles of Good Design are:

**Context**
Good design is **contextual** because it responds to the surrounding built and natural environment and contributes to the quality and character of a place.

**Inclusivity**
Good design is **inclusive** because it creates places for everyone to use and enjoy by optimising social opportunity and equitable access.

**Durability**
Good design is **durable** because it creates buildings and places that are fit for purpose, adaptable and long lasting.

**Value**
Good design adds **value** because it creates desirable places that promote community and local investment, as well as enhancing social and cultural value.

**Performance**
Good design **performs** well because it realises the project potential for the benefit of all users and the broader community.

**Sustainability**
Good design is **sustainable** because it is environmentally responsible and supports long-term economic productivity, health and wellbeing.
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Innovation and creativity are critical to unlocking new development opportunities in our urban areas.
The Guidelines have been structured to reflect a typical development design proposal, addressing contextual elements considered in the early stages of a project and the more detailed, specific elements considered in the later stages.

All guidance points describe desirable characteristics to be considered when designing or purchasing a dwelling.

The points have been categorised and tagged according to how they relate to other policy regimes:
- Planning Considerations
- Building Considerations

Guidance points without a P or B tag are additional best practice guidance that does not fall under either Planning or Building Policy Considerations.

The design guidance is intended primarily for typical lower-scale infill developments, such as two-storey townhouses or row housing. Additional guidance relating to large multi-residential developments and apartments is listed under the subheading 'Additional Guidance for Apartments'.

Importantly, the Guidelines emphasise the design principles and performance outcomes that should be considered in order to encourage good design outcomes in residential developments.

The Guidelines are arranged into six sections:
- Context
- Movement
- Building Form
- Open Space & Landscape
- Building Design
- Appearance

Each section has been expanded into related design elements that are described as Performance Outcomes and Design Suggestions.

Description
Explanation of the elements and benefits of applying principles of good design.

Performance Outcomes
The high-level goals.

Design Suggestions
Design guidance for achieving the Performance Outcomes.

Design Solutions
Measurable criteria (linked to relevant Design Suggestions).

In instances where the guidelines exceed the minimum standard, the Building Code of Australia (BCA) reference is provided.

Note: Some elements have no Design Solutions listed.

The Design Suggestions and Design Solutions should be considered in balance with the overall design proposal and how well it integrates with the existing neighbourhood.
We can recognise a new house when we walk down the street. And we know why some “just work” where other new homes don’t.

Considering context is key. New housing is successful when it has been informed by a complete understanding of the site’s character, its physical features and surroundings. It can be simultaneously fresh and new, while also being sympathetic to the area.

Analysing context involves thinking beyond the site boundary. It includes consideration of the specific physical, social, environmental and economic conditions of the surrounding areas. New housing that is sensitively integrated with its context can add value to existing character and encourage community pride.
Neighbourhood Analysis

Establishing the context of the development from the outset, by performing a comprehensive neighbourhood analysis, is one of the most effective ways to improve design quality.

An evaluation of the local context will ensure the design is based on a thorough understanding of the existing surroundings and that it captures design opportunities at the broader, neighbourhood scale. It will identify the desirable characteristics of the current context as well as the key aspects of the potential future context.

The mapping of the wider urban context is a critical step in the design process and provides valuable information to assist in the assessment of proposals, particularly for larger or infill developments. It allows the design team to demonstrate how the proposal responds to its context in a creative and considered manner.

Performance Outcomes

• Understand the wider site context and assist in defining an appropriate development for the location
• Identify attributes that describe the characteristics of a neighbourhood and establish why they are valued by the community
• Provide a reference document that promotes a consistent understanding of the site’s context

City wide image describing the new proposal in the wider neighbourhood context.
53-55 Hutt St. Adelaide, Enzo Caroscio Architecture, SA
Design Suggestions

Neighbourhood analysis will identify and document elements such as:

- Location of the site in the wider neighbourhood
- Location of local and regional activity centres and precincts
- Public transport networks
- Public open space and recreation facilities
- Surrounding street layout
- Existing built form including heights, scale, ratios, architectural styles
- Potential heights of anticipated nearby development
- Heritage buildings or Conservation Areas
- Significant vegetation
  - Views to and from the site
  - Topography of the general area
  - Allotment sizes in the neighbourhood (street pattern)
- Existing services
- Existing uses within walking distance
- Existing ‘Sense of Place’ and community

- The purpose of neighbourhood analysis is to document the wider development and policy context. This defines the proposed site in terms of the wider community, built form character and pattern of development
- Neighbourhood analysis describes the surrounding neighbourhoods, not just the immediate surrounding streets
- The neighbourhood analysis should also include an examination of the identified characteristics of the area and how these could inform the design response
- The policy controls should also form part of the neighbourhood analysis, such as the Development Plan criteria, and any urban form and streetscape provisions
- The interface between new and existing development is of utmost importance and must be managed carefully. This is of particular importance when there is a transition from a higher density zone to an existing, lower density zone. These interface considerations should be supported by appropriately considered built form transitions, high quality landscape and public realm design

New buildings suited to the neighbourhood context. Appleby Road, Flightpath Architects, SA
Site Analysis

Site analysis looks at the key influences on the proposed development and informs how the design responds and contributes to the immediate surroundings and where applicable to other buildings on the site.

The site analysis will also identify any topographical features such as the fall across the land and any existing trees, plants, neighbouring buildings, structures or utilities.

Well-designed developments respond carefully to the site characteristics. Successfully integrating significant elements, such as trees or creek beds, emphasises the importance of residential amenity and enhances relationship to context.

Performance Outcomes

- Provide an early understanding of opportunities and constraints to guide site configuration and design development
- Identify interface issues and opportunities and the potential impacts on neighbouring properties
- Respond to existing and future conditions, and how the development can make positive contributions to the local community
- Site organisation and buildings respond to the site characteristics and topography
Design Suggestions

A site analysis will identify and document elements such as:

- Shape, size and orientation of the site
- Topography, levels and contours, and any difference in level with adjoining sites
- Easements or encumbrances on the site
- The location and height of existing adjacent buildings on, or near the site boundaries
- Solar access to the site and to adjacent sites
- Services, or potential noise sources
- Street frontage elements, including trees and street furniture
- Heritage buildings on or adjacent to the site
- Significant or regulated trees on the site
- Land ownership and which parts of the site are public or private
- Vehicular access provisions
- Any policy or Development Plan provisions, such as those relating to setbacks, built form and height
- Living spaces within the adjacent buildings
- The location of private and public open space on adjacent sites
- Pedestrian movement paths through or near the site
- Mature planting that contributes to residential amenity and neighbourhood biodiversity
- The purpose of the site analysis is to establish the immediate development context in order to guide the proposed design. The site analysis is an important communication tool for the designer, assessors and affected neighbours, as it will help determine likely impacts on the local amenity
- The site analysis, and the mapping process used to generate it, will help prevent schemes that compromise amenity and development potential of adjacent sites
- The site layout should consider on-site characteristics, topography, views, vegetation, drainage, orientation, microclimate, and where appropriate, integrate any additional natural site characteristics

2 Hutt Street Site Analysis Plan indicating neighbouring land uses, private open spaces and access points, JPE Design Studio, SA
Movement

It’s more than just getting from A to B. It’s important to consider why and how we move between places and what happens in between.

Encouraging social interaction, passive surveillance and enhancing a neighbourhood’s walkability can be determined by looking at how people move through and around a site.

Access and parking for vehicles should be designed to minimise the impact on surrounding sites and the wider streetscapes.

Bicycle and pedestrian pathways should be linked to the broader urban networks to create permeable and connected neighbourhoods that enable healthy, safe social interaction and active communities.
Access & Entrances

A well designed public realm should provide fair, safe and pleasant walking environments along streets that feed into developments and also individual homes.

The character of a streetscape is strongly influenced by the arrival experience. The design of entrances, foyers and circulation spaces should be handled with great care, to provide a sense of place and ownership of shared spaces.

Cleverly designed entrances provide a clear sense of address for residents and visitors alike. This can also facilitate neighbourly, social interaction and integrate Crime Prevention Through Environmental Design (CPTED) principles.

Performance Outcomes

- Provide a clear address and legible access from the street
- Create entrances that provide safe and comfortable environments and contribute to social interaction in the public realm

Image by Christopher Morrison

Main building entry that provides shelter and a clear sense of address. Gibson & Seventh Bowden, Williams Burton Leopardi, SA
Multiple dwelling entries activate the public realm. Tubbs View, Lindfield Sydney, Bates Smart Architects, NSW

Image by Brett Boardman

**Design Suggestions**

- Provide individual, direct access to dwellings that have street frontage
- Safely locate any services and utilities such as fire hydrants or indicator panels away from entrances, where possible
- Keep entrances level if possible by minimising steps and ramps

**Additional Guidance for Apartments**

- Ensure building entrances are clearly visible and identifiable
- Prioritise people movement over vehicle access
- Locate awnings, mailboxes, seating and other facilities with primary building entrances to encourage social interaction
- Locate bicycle parking for visitors in well-lit and visible locations at, or near, building entrances
- Integrate access ramps into the landscape treatment through the use of low walls, planters or similar

**Design Solutions**

- Use signage and/or intercom systems in larger developments to assist residents and visitors with way-finding; consider signage height and useability for universal access
- Provide lighting to all entrances and circulation paths
- Where private access is provided directly from the street, the entry should be clearly distinguished as for private use only

- All entrances should be clearly identifiable.
- Refer to Street Setback and Street Interface and relate entrance treatment to achieve 'people first' thresholds and a compatible relationship with neighbours and context.
Cars & Bicycles

The availability of car parking within a development should be relative to the building’s scale and type. Smaller developments such as townhouses may include private garages for each dwelling and in larger developments, car parking should be below ground.

To help in promoting active neighbourhoods and reduce reliance on personal car use, parking for other transport such as shared fleet cars, motorcycles and bicycles is encouraged and all parking within a development must be considered in relation to the nearest public transport options.

The access points to these car parks also need careful consideration, as they affect passing pedestrians and the overall character of our streetscapes.

Performance Outcomes

• Provide efficient and discrete vehicle access that prioritises people and cycle access
• Minimise vehicular crossovers to footpaths to enable high quality streetscapes with safe and pleasant people environments
• Provide compact car parking layouts that maximise storage opportunities
• Enable parking structures to be adaptable for future alternate uses
• Provide convenient bicycle facilities to encourage more people to cycle
• Provide parking and facilities that support alternate modes of sustainable transport
**Design Suggestions**

- Locate vehicular crossovers on secondary streets or lanes
- Minimise the number and width of vehicular cross-overs
- Minimise garages or carports facing primary streets, or limit their width to enable habitable rooms to face the street
- Integrate garages, carports, and visitor parking with the building and garden. Use materials or finishes to reduce visual prominence
- Include breaks to groups of adjacent garages or carports to enable landscaping
- Avoid large extents of consolidated at-grade parking. Where provided, locate to the side or rear of lots, away from primary streets and screened from view
  - Provide additional space in garages to accommodate bicycle storage
  - Incorporate traffic calming measures such as paving changes to reinforce pedestrian safety
  - Incorporate charging points for electric cars, car wash bays, and dedicated parking for motorcycles and scooters
  - Activity on street frontages contributes to the social life of streets and neighbourhoods. Generally basement is the preferred location for car parking so active uses are achieved in building floors with direct or close proximity to the street
    - Where above ground car parking is proposed, floor heights should be suitable for latter conversion to commercial or residential use and street frontages provided with active uses such as residential or commercial offices
- Refer to Street Interface and Access & Entrances to achieve a ‘people first’ street edge to the development

**Additional Guidance for Apartments**

- Establish shared-zones with pedestrian priority, or separate pedestrian and vehicular movement
- Provide landscaping to at-grade parking, including shade trees planted between clusters of cars
- Provide secure and accessible communal parking areas
- Integrate podium level, or other above-ground enclosed parking into the building design to prevent visibility from primary street frontages
- Locate bicycle storage within dwellings or consolidated in a communal location, preferably at ground level adjacent public realm or communal areas
  - Ensure waiting areas adjacent lifts or stairs are visible, well-lit, and separated from vehicular movement
  - Prioritise basement location when car parking is provided within buildings
  - Provide adequate floor-to-floor heights in car parking structures located within buildings to enable future adaptation to alternate uses

**Design Solutions**

- Individual garages: Maximum garage width is no more than 50% of dwelling frontage, the remainder of which is landscaped

**Additional Guidance for Apartments**

- Conceal any above-ground parking from primary street frontages with active uses including dwellings or communal facilities
- Provide bicycle storage sufficient for the likely number of residents, taking into account dwelling types and occupancies. Two secure bicycle parks per dwelling is a reasonable provision
- Limit the protrusion of semi-basement car parking to 1.2m above finished ground level and incorporate landscaping adjacent the public realm
Building Form

One of the most important factors in well-designed housing is its built form. This isn’t just a building’s overall shape or configuration, but its placement in relation to other buildings and how it complements its surroundings. New buildings should positively contribute to local landscapes with their scale, proportions and materials used. Where less immediate visual context exists, there should be a focus on creating positive and distinctive attributes from the beginning, balancing sustainability with local character.
Image by Simon Cecere
Orientation

A building’s orientation is its position in relation to the sun path as well as neighbouring buildings and the street itself.

Good orientation is essential because it improves the environmental performance of residential buildings by maximising the number of dwellings with good access to sunlight.

Building orientation also shapes the character of the streetscape and affects the impact the development has on neighbouring properties.

Designing the site to maximise northern orientation is an important consideration and must be balanced with other contextual issues such as visual and acoustic privacy.

Performance Outcomes

• Optimise sunlight access to improve the amenity and environmental performance of new dwellings
• Minimise overshadowing of neighbouring properties and significant public places during winter
• Contribute positively to desired streetscape character
• Support landscape design of consolidated open space areas

Sunlight access improves the amenity of this living space.
Loft on Seventh, Williams Burton Leopardi, SA

Indoor and outdoor living spaces are orientated to prioritise good solar access.
Jureidini Living Wing, Tropo Architects, SA
Design Suggestions

- Orientate front buildings towards the primary street frontage to enable passive surveillance of the public realm.
- Orientate buildings where possible to prioritise good solar access to living rooms, balconies and communal or private open spaces.
- Consider impact of building orientation on overshadowing to neighbouring properties.
  - Consider orientating buildings perpendicular to the boundary to assist in minimising overshadowing.
  - Specific site conditions or established neighbourhood contexts may justify buildings that prioritise an alternate streetscape orientation, such as prioritising a park-like setting. Alternate approaches should be supported by strong contextual analysis demonstrating the rationale and benefits.
- Refer to Building Separation, Building Height, Street Setback, Daylight Access, Size & Layout and Energy Efficiency.

Additional Guidance for Apartments

- Provide adequate building separation within the development and to adjacent buildings.

Design Solutions

- Select building types or layouts which respond to the streetscape while optimising solar access.

Additional Guidance for Apartments

- Where streets are to be edged and defined by buildings, design solutions include:
  - align buildings to the street on east-west streets to maximise northern aspect
  - use courtyards, L-shaped configurations and increased setbacks to northern (side) boundaries on north-south streets.

Good access to sunlight improves the environmental performance of this apartment and allows plants to thrive on the balcony. Small House, Dominic Alvaro & Woods Bagot, NSW.
Building Height

Building heights, together with street setbacks, contribute to the overall streetscape character and can define how people perceive and interact with the whole area.

It is important that completed building heights respect the context of the neighbourhood, taking into account the following issues: daylight, roof design, wind protection, residential amenity, topography and heritage impact.

Particular care needs to be taken with taller buildings in established areas to ensure interfaces are sensitively managed.

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<td>• Facilitate good amenity internally and externally through appropriate building height and massing</td>
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<td>• Allow sufficient daylight access to all developments and the public realm</td>
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Building heights should reflect the desired future character of the streetscape, while responding to the existing context.

Byron Street Adelaide, Ashley Halliday Architects, SA
Design Suggestions

- Consider a transition in building height to reduce the visual prominence of taller elements, particularly in contexts with heritage buildings or existing low-rise neighbourhood character.

- Use podium forms or alignment of floors, balconies, parapets, or similar, to strengthen the relationship to adjacent buildings.

- Varying heights, with some tall elements and other lower elements, may result in better amenity and an improved outcome than a uniform tall building.

- Limit higher building elements to a portion of the site, as necessary, to achieve appropriate amenity:
  - Limit height or setback upper levels where overshadowing to the south would unreasonably compromise amenity.

- Street wall height-to-width ratios greater than 1:1 are generally appropriate for urban contexts, while ratios around 1:2 are more typical of suburban settings.

- Consider the building heights in relation to existing buildings that are unlikely to change.

- Consider building height, massing, and site configuration together to enable good solar access and a comfortable microclimate.

- The apparent impact of building height is the consequence of a series of related issues including context, building separation, massing and facade expression. Consideration should be given to all of these issues to determine if the proposed height is appropriate.

- Analysis of streetscape and neighbourhood context may determine that the nominated maximum permissible height is not a desirable outcome for part, or all, of the site (Refer to Neighbourhood Analysis).

- Changes of height, resulting in a stepped or terraced form, may assist in transitioning at the interface with lower buildings.

- Refer to Building Depth and relate building massing to achieve a compatible relationship with neighbouring buildings and context.

Design Solutions

Additional Guidance for Apartments

- Avoid tall shear facades that create windy conditions at street level, or mitigate by incorporating wind diversion elements in the facade, or shelter in the street.

- Locate taller buildings with sufficient separation to avoid unreasonable amounts of overlooking.

- Terracing of upper storeys can ensure adequate daylight access to dwellings, spaces, or adjoining properties on the southern side of taller buildings.

- Building heights should contribute to a street enclosure suited to the neighbourhood context.

- A transition of height and setbacks in the upper levels can help a building relate to existing significant features while acknowledging emerging contexts of taller buildings.

- The visual prominence of taller portions may be reduced through a transition of building heights and by stepping or terracing the built form. Measures such as lower podium forms may strengthen the relationship to adjacent buildings and their contexts.

- MAX. BUILDING HEIGHT

- EXISTING CONTEXT

- Terracing of upper storeys can ensure adequate daylight access to dwellings, spaces, or adjoining properties on the southern side of taller buildings.
Building Depth

Building depth is the distance between the front and rear of a building. It has a direct relationship with internal comfort through amenity, circulation, layout and room depth.

Shallower building depths provide residential buildings with greater natural ventilation and daylight access.

For mixed use buildings, depths may vary with deeper floor plates at the lower levels to accommodate commercial and retail spaces.

Performance Outcomes

• Establish building envelopes that enable dwelling layouts to provide good residential amenity
• Maximise opportunities for dual aspect dwellings

Image by Craig Arnold

Long, narrow site adopts courtyards to break up overall building depth and improve solar access and ventilation.
Cairns Street Adelaide, Tectvs Architects, SA
Design Suggestions

- Greater building depths may provide acceptable amenity where other measures are used to provide light and ventilation such as light wells, increased ceiling heights, setbacks or projections at higher levels.

- Ensure each individual dwelling has the opportunity to receive adequate daylight and natural ventilation. Use a range of building depths of up to 15m, measuring from glass line to glass line when testing development feasibility (Refer to Daylight Access).

- Building depth and associated guidance on height, natural ventilation and daylight access assists in establishing building envelopes that will consistently enable good amenity in residential developments.

- Refer to Natural Ventilation and Daylight Access.

- Refer to Building Height and relate building massing to achieve a compatible relationship with neighbours and context.

Additional Guidance for Apartments

- Vary building depth in response to orientation. For example, buildings facing north-south should be shallower to reduce the number of south facing apartments with limited or no direct sunlight access.

- Reinforce valued aspects of existing neighbourhood character through proportionate building depths.

A courtyard separates the living spaces from the utility spaces in this long, narrow block.

Avenue Road, SJB Architects, NSW
Building Separation

Appropriate building separation contributes to the overall urban form of a neighbourhood, promoting open space and liveability.

Externally, it encourages the usability of communal and private open spaces and on the inside, it assists with visual and acoustic privacy, views, natural ventilation and daylight access.

Factors such as building height, internal layouts and context will influence the amount of separation needed.

Performance Outcomes

- Provide building forms and spaces that contribute to the desired future character of an area
- Ensure adequate building separation to assist with good residential amenity

Image by Jaime Diaz-Berrio

Separation between buildings assists in provision of open space, landscape and visual and acoustic amenity between dwellings. Malvern Hill, Victoria, SJB Architects, VIC
Design Suggestions

- Provide sufficient separation to preserve amenity and enable equitable development potential on adjoining properties
- Reinforce any stated desired future character through the appropriate scale of buildings and the spaces between them
- Building separation ‘line of sight’ distances, may be reduced by techniques such as staggering opposite windows or provision of screens or blade walls
- Refer to Natural Ventilation, Visual Privacy and Daylight Access
- Refer to Building Height, Building Depth and relate building massing to achieve a compatible relationship with neighbours and context
- Provide acoustic and visual privacy for existing and new residents
- Control overshadowing of adjacent properties and private or shared open space
- Enable the provision of usable open space, deep soil zones and landscaping

Additional Guidance for Apartments

- On larger sites, consider separating buildings or dividing large buildings, to create smaller forms that may better relate to the desired future character of the neighbourhood
- Ensure building separation distances result in spaces between buildings that are appropriate for their intended use, including opportunities for planting and solar access
- Alternate approaches may be justified by demonstrating how the objectives are satisfied, and how other related matters such as acoustics, outlook, and open space are successfully managed

In areas undergoing transition towards higher density, building separation should minimise impact on adjoining dwellings while considering the future development potential of adjoining sites

Building separation allows for usable communal space and the line of sight between buildings to be maintained. The Gantry Apartments, Bates Smart & ASPECT Studios, NSW
Street Setback

Street setbacks establish the alignment of buildings along the street and significantly influence how buildings relate to each other.

Along with building height and street width, street setbacks define the proportion and scale of a street, contributing to the character of a neighbourhood and its public realm.

In the city, or on a main road, buildings may define a street edge with a continuous built form with minimal or no setback. In a suburban context, building setbacks may accommodate fences, gardens or other elements that add privacy and character to the street.

A suitable street setback incorporates both the character of the street and the development.

**Performance Outcomes**

- Establish a street edge with spatial proportions and landscape appropriate to the context and desired character
- Create a threshold between the public and private spaces to allow legible access, residential amenity, public safety and social interaction
- Provide an appropriate relationship with adjacent or adjoining buildings

*Setback accommodating generous front garden which contributes to the character of the street.*
Billabong Houses, Lumen Studio, SA
Design Suggestions

- An appropriate street setback should consider:
  - The consistency of existing established streetscape and frontages
  - Any special buildings or features that may be at odds with the existing character
  - The desired character of a neighbourhood and anticipated activities and land-uses

- Use setbacks that enable a person on a balcony or at a window to easily see the street to improve passive surveillance

- Integrate existing street planting and provide opportunities for new planting appropriate to the neighbourhood context
  - In established areas, new development should be consistent with the existing streetscape. Achieving a similar, or slightly reduced setback assists the integration of new development and is consistent with a good contextual response. This is important in areas with strong character or heritage merit

- Provide setbacks that enable small gardens, terraces, or balconies close to the street to encourage social interaction between residents and the wider community

- Refer to Building Height and relate street setback to achieve a streetscape response compatible with neighbours and context

Additional Guidance for Apartments

- Use setbacks that enable a person on a balcony or at a window to easily see the street to improve passive surveillance

- Consider upper level setbacks to reinforce the desired character of the buildings on the street, provide greater amenity and limit overshadowing

Design Solutions

- Standards for setbacks are described in policy requirements as set dimensions

- Relate street setbacks to building use and location. For example, zero setback may be appropriate for mixed-use buildings or corner allotments

 Significant landscaping in the public realm is complemented by landscaping within the front setback of adjacent developments. AV Jennings, St Clair, SA
Street Interface

Street interface is the point at which housing meets the public realm. It establishes the character and vitality of a neighbourhood, creating streets that are inviting, interactive and walkable.

Street interfaces that balance open space, adjacent footpaths and landscaped areas feel more inclusive and approachable to the broader community.

Balancing residents’ privacy with room for activities and a variety of uses creates places where people feel safe and at home.

Performance Outcomes

• Balance activity in the public realm with the needs of residents
• Enhance the safety, amenity and appeal of the public realm
• Provide efficient and safe pedestrian linkages within sites to connect streets, destinations, and communal facilities
• Contribute to the desired streetscape and create safe and healthy neighbourhoods

Street Interface that balances landscaped areas in the public realm with residents’ privacy. Pavilions on the Park, Allen Jack+Cottier Architects, NSW
**Design Suggestions**

- Provide a habitable room at ground or first floor, with a window(s) facing toward the street.
- Limit the height or extent of solid walls or fences facing streets.
- Services such as water and gas meters should be in convenient and discreet locations.
- Refer to Access & Entrances, Street Setback and relate street edge treatment to achieve a compatible relationship with neighbours and streetscape.
  - Provide links through large sites that allow direct connections to public open space, main streets and public transport.
  - Create direct pedestrian links with clear sight lines that can be observed by residents.
  - Some building elements that are partially located outside the allotment boundary can positively contribute to the street and public realm. While still subject to approval, these may include awnings, planter boxes or integrated seating.

**Design Solutions**

- Integrate services such as water and gas meters with garden fencing.
- As a guide, solid walls should be limited to 1.2m high above footpath level and where higher, not exceed 50% of the building frontage.
- Use screening, open fencing, or planting, to provide additional security or privacy.

**Additional Guidance for Apartments**

- Locate mailboxes within lobbies, or screen walls perpendicular to street alignments. Integrate into fence design where individual entries are provided.
- Raise ground floor levels for dwellings and private open space by up to 1.2m where appropriate, and without compromising equitable access, to enable passive surveillance of the public realm and visual privacy.
- Limit the protrusion of undercroft car parks to not more than 1.2m above finished ground level, if equitable access can be maintained.

**Additional Guidance for Apartments**

- Utilise planting to soften the edges of raised terraces or fencing and to screen items such as undercroft parking.
- On larger sites, substations, transformers, pump rooms, and hydrant boosters should be in discreet locations, screened or integrated with the facade expression.
- Locate any carpark ventilation louvres to minimise visual prominence.
- Consider the inclusion of awnings to the street where setbacks and ground floor uses allow, to provide pedestrian amenity.
- Avoid creating a building edge where people can hide and create safety issues.
  - Mail boxes should be in convenient and discreet locations.
Visual Privacy

While creating neighbourhoods that feel inviting and engaging is important, it’s equally important to protect the visual privacy of residents.

There needs to be a balance between achieving a reasonable level of privacy between buildings and creating appealing spaces for other residents. Contributing factors to this balance include: Site organisation, building typologies, landscape and the use of screening elements.

Passive surveillance of communal spaces is essential to promote safety in these areas.

Performance Outcomes

- Provide a reasonable level of visual privacy for residents and neighbours
- Enable outlook and views without adversely affecting others

Image by Brett Boardman

Building separation, horizontal slot windows and screening to balconies contribute to privacy between dwellings.
Erko Apartments NSW, SJB Architects, NSW
Design Suggestions

- Minimise overlooking within the site, and of adjoining properties, through appropriate site layout and building orientation.
- Consider providing additional secondary measures such as tree planting to further reduce overlooking of existing established lower-scale housing.
- Use screening selectively to prevent overlooking but maintain outlook in appropriate areas.
- Offset the placement of windows on adjacent buildings to avoid direct line-of-sight.
- Consider deep window reveals to prevent oblique views.
- Provide visual and acoustic privacy between dwellings on the same site or adjacent buildings.

Additional Guidance for Apartments

- Avoid direct line of sight at internal corners of L or U shaped buildings. Where possible, locate non-habitable rooms, or common areas such as stairs, to increase the distance between dwellings.
- Utilise solid balustrades to help minimise incidental overlooking and improve privacy for residents.

Design Solutions

- Use table to provide minimum separation ‘Line of sight’ distances to achieve visual privacy.

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Safety

The way our built environment is designed today, creates a foundation for safety, security and crime prevention into the future.

A safe neighbourhood enables casual surveillance of public areas, a clear definition of what’s private and public and well-lit spaces where residents feel secure.

It’s also important to consider a new development’s impact on the safety of people who use public spaces nearby. Encouraging passive surveillance of these areas, as well as providing windows and doors that open onto the street can aid in creating a safe environment.

Performance Outcomes

• Provide safe and secure dwellings for residents
• Contribute to the actual and perceived safety of the public realm

Clear line of sight for passive surveillance from apartment to courtyard and out to public realm. The main access route is unobstructed. Casba Apartments, SJB Architects, VIC
Design Suggestions

- Provide a clear distinction between the public and private realm through measures such as:
  - a level change at the site and/or building boundary (subject to accessibility requirements)
  - entry awnings
  - fences, walls and gates
  - change in surface materials
  - planting
  - signage

- Orientate entrances to the public realm
  - Orientate living areas to enable views over public or communal open spaces
  - Consider bay windows, corner windows or balconies which protrude beyond the main facade to enable greater views of the street or public realm
  - Avoid blind or dark alcoves
  - Provide appropriate levels of lighting to common areas and main routes in multiple dwelling sites
  - Employ principles of Crime Prevention Through Environmental Design (CPTED)
  - Where criteria are not met, it should be demonstrated that other measures are being implemented to address the safety of residents and that development is not negatively impacting upon the safety of the public realm

- The clear definition of public, private and communal space is an important aspect of safety and security. A clear address establishes the threshold between the public and private domain

- Refer to Street Interface and Access & Entrances

Additional Guidance for Apartments

- Provide clear lines of sight between entrances, foyers and the public realm
- Provide direct access to ground level apartments from the street, rather than through a common foyer
- Ensure access to all private and communal entries is well-lit
- Provide casual views to common areas such as lobbies, foyers, hallways, recreation areas and car parks, where they exist
- Ensure dwellings cannot be accessed from neighbouring buildings
- In mixed-use developments, separate the residential component’s car parking from other building uses and control access from public and common areas
- Provide separate access for residents in mixed-use buildings
- Include intercom systems for visitors to communicate with residents
Creating a sense of openness and space is a vital part of any liveable residential development and it offers a range of benefits.

No matter the size, developments can provide the opportunity for residents to engage with each other and the environment around them. Private and communal rooftops or balcony gardens contribute to residents’ well-being as well as the biodiversity and sustainability of the local area.

It’s all about allowing for spaces outside of the home where people can relax, feel comfortable or socialise.
Heller Street Apartments, Six Degrees, VIC
Image by Chloe O’Loan
Landscape

Effective landscape breathes life into residential developments, bringing enjoyment, identity and better environmental performance.

Landscape includes plants, soft and hard surface treatments or small structures in communal and private spaces. Features such as vertical gardens or green roofs that include edible plantings add another dimension to smaller development spaces.

The South Australian summer often sees high temperatures and dependence on air conditioning. The addition of trees and other plantings can contribute to reducing temperatures and create more liveable spaces while reducing energy consumption.

Performance Outcomes

- Integrate high quality landscape to improve residential amenity
- Provide a positive contribution to the streetscape character and the public realm
- Provide sustainable and biodiverse landscapes with appropriate species selections
- Provide deep soil zones to enable large plant specimens

Image by Andrew Lloyd

The large roof terrace provides a range of spaces, from intimate social spaces to large sports areas.
Quays Project, Docklands, Taylor Cullity Lethlean, VIC
Design Suggestions

- Use trees of an appropriate scale to suit the context
- Optimise planting in areas adjacent to the public realm
- Provide deep soil zones in locations to enable maximum benefit from new or existing tree planting. Consider engineered solutions where space is limited, such as structural soils or structural soil cells, to enable healthy root growth
- Contribute to biodiversity by:
  - Maintaining existing mature planting
  - Using indigenous or other appropriate species that support native wildlife, where possible
- Select plant species suited to the climate, soil profile, location, anticipated irrigation and maintenance
- Provide sufficient planting medium in all beds
- Improve the microclimate by:
  - Locating trees to the east & west for shade
  - Use deciduous trees for optimal sunlight access
  - Use pergolas or arbours with deciduous plantings
- Provide efficient irrigation systems for successful plant establishment
- Existing site features or constraints may prevent proposals from providing deep soil zones. Where a proposal does not achieve deep soil requirements, alternative forms of planting should be provided, such as in planters, green roofs, or vertical gardens
- Refer to Green Infrastructure, Storage, Communal Open Space and Storm Water Management

Additional Guidance for Apartments

- Provide opportunities, where possible, for productive gardens supported by composting facilities and dedicated garden storage areas

Design Solutions

- Provide deep soil zones and incorporate trees at not less than the following rates:

<table>
<thead>
<tr>
<th>Site Area</th>
<th>Min. deep soil</th>
<th>Min. dim. Trees/Deep Soil Zone</th>
</tr>
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<tbody>
<tr>
<td>&lt;300m²</td>
<td>10m²</td>
<td>1.5m 1 small tree/10m² deep soil</td>
</tr>
<tr>
<td>300-1500m²</td>
<td>7% site area</td>
<td>3m 1 medium tree/30m² deep soil</td>
</tr>
<tr>
<td>&gt;1500m²</td>
<td>7% site area</td>
<td>6m 1 large or medium tree/60m² deep soil</td>
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Definitions:

- **Small Tree**
  - <6m Mature Height
  - <4m Canopy Spread

- **Medium Tree**
  - 6-12m Mature Height
  - 4-8m Canopy Spread

- **Large Tree**
  - >12m Mature Height
  - >8m Canopy Spread

A deep soil zone in this terrace allows for mature vegetation.
Malvern Hill, SJB & Tract, VIC

Image by Simon Wood
Communal Space

Communal space provides important amenity for residents, especially for those living in group housing or apartments. The benefits of communal spaces cannot be underestimated in terms of creating a sense of community and providing safe and connected environments.

The amount and type of communal space needed should be determined by the context of the development at the design stage and guided by its future residents.

Where townhouses and group housing has more generous private space, there may be less need for communal areas.

In larger developments where existing public space is limited, some or all of the communal space may be opened up to the public.

Performance Outcomes

• Provide visual amenity and a comfortable microclimate

• Design open space to meet the needs of residents and complement existing public open space in the neighbourhood

• Provide universally accessible areas that enable passive and active recreation opportunities for residents

Additional Guidance for Apartments

• Provide opportunities for social interaction for residents and their guests

Image by Andrew Wuttke

Image by Sam Noonan

Communal rooftop productive gardens encourage social interaction.
The Commons, Brunswick, Breathe Architecture, VIC

The Bowden housing development offers the community and residents public space for markets, outdoor dining, sports and play areas.
Plant 4 Bowden, Ashley Halliday Architects & Bowden Main Park, ASPECT Studios, SA
Design Suggestions

• Refer to Landscape, Building Separation and Access & Entrances and configure communal space to integrate resident needs and neighbourhood context

Additional Guidance for Apartments

• Design publicly accessible open space to complement existing public spaces in the vicinity
• Ensure all communal spaces are highly visible while preserving privacy to the dwellings
• Clearly delineate private areas from communal space
• Requirements for communal space generally increase with density, particularly in apartment buildings
• Incorporate a range of facilities and amenities such as seating, BBQ areas, shelter and play spaces
• Configure open space to accommodate multiple users at the same time
• Accommodate the needs of various age groups and abilities, including children, elderly and the disabled
• Provide convenient and universal access to open space from common lobbies, entries and circulation areas
• Configure communal space to provide good sunlight access
• Utilise terraces at podium or roof level where good sunlight access cannot be achieved to common areas at ground level
• Provide direct street frontage where public access is made available to communal areas
• Consider opportunities for public access through open space to provide useful neighbourhood connections

Design Solutions

• It may be appropriate to reduce communal space for developments adjacent existing high-quality public open spaces such as parks or recreation reserves. Where dispensation is sought, it should be demonstrated that the existing spaces will meet the needs of residents

Additional Guidance for Apartments

• Provide communal space in group housing or apartment developments that meets the following criteria:
  - 5m² per dwelling up to 12.5% of the site area
  - A minimum consolidated area of 50m²
  - Have a minimum dimension of 4m
  - Achieve direct sunlight to at least 50% of the primary usable area for 2 hours between 9-3pm on June 21st (winter solstice)
Stormwater Management

The effective management of stormwater run-off from buildings is important in preserving our natural waterways.

Water Sensitive Urban Design (WSUD) techniques can reduce the overall amount of stormwater, facilitating re-use and improving the quality of water that enters the system.

The management of this water can be on site or as part of a larger system that may include detention (delayed release) or retention where water is retained on site.

Performance Outcomes

- Reduce the volume of stormwater entering the stormwater system
- Reduce the amount of sediment and pollutants entering the stormwater system
- Contribute to water conservation

Well designed developments carefully consider rainwater harvesting for re-use on site. Creek Chic Residence, Troppo Architects, SA

Water run-off is directed to garden areas and vegetated pits. Airia Apartments, McGregor Coxall, NSW

Image by Jamie Gill

Image by Simon Wood
Design Suggestions

- Minimise impervious areas and use permeable surface treatments
- Use rainwater tanks or similar to capture roof run-off for re-use on site
- Incorporate raingardens, vegetated swales or wetlands on larger sites
- Direct run-off to maximise on-site infiltration
- Retain existing trees and vegetation, where possible
- Minimise site gradients to control overland flows
- Improve the quality of stormwater through the use of:
  - raingardens and biofiltration systems
  - sediment filters and litter traps
- Refer to Landscape, Green Infrastructure and Energy Efficiency

Additional Guidance for Apartments

- Incorporate roof gardens where appropriate to increase residential amenity and environmental sustainability
Green Infrastructure

Green infrastructure refers to a network of assets that bring environmental benefits and support the ecological wellbeing of neighbourhoods. This includes public or private open spaces, transport corridors and waterways.

As well as helping to achieve Carbon Neutrality, green infrastructure contributes to community health and wellbeing.

To incorporate green infrastructure into any development effectively, integrated planning and design must take place in the early stages of project development.

Performance Outcomes

- Improve the amenity and environmental performance of a building or development
- Contribute to societal health and well-being
- Maintain or enhance ecosystems and biodiversity
- Utilise water, land, and natural resources sustainably

Image by Don Brice

Green infrastructure, including stormwater management and aquifer recharge is incorporated into public space.
Lochiel Park Green Village, Oxigen, SA
Design Suggestions

- Maximise opportunities for planting that will increase tree canopy cover
- Maximise planting within the street verge, front setbacks, and areas of public or communal open space
  - Plan and design sites and buildings to establish or strengthen an interconnected network of green spaces
  - Utilise a variety of appropriate tree and plant species to increase biodiversity and habitat
  - Integrate existing established trees or significant planting
  - Utilise Water Sensitive Urban Design (WSUD) techniques to manage storm water and where possible, capture for re-use
  - Consider opportunities for vertical gardens to assist with cooling
- Use plant species that support native fauna, including birds and insects
- Refer to Landscape, Private Open Space, Stormwater Management, Communal Open Space and Energy Efficiency

Additional Guidance for Apartments

- Utilise green roofs/roof top terrace gardens to cool buildings, provide amenity, and improve performance of co-located PV cells
Public Art

Thoughtfully integrating public art into residential developments can help to create a positive identity and provide a meaningful way to engage with the local community.

The art itself may include sculptures, murals, street art, lighting, soundscapes or digital projections. It can be permanent or temporary, stand alone or integrated into building designs, landscapes and functional elements such as seating or signage.

Location, cost and cultural context all play a part in the nature of any public art within a development.

Performance Outcomes

- Create opportunities for the inclusion of public art within residential developments
- Establish links to surrounding sites to reflect the identity, heritage and culture of the neighbourhood

Street art can help strengthen local character and reinforce community, SA
Design Suggestions

• Public art should be visible for both residents and the wider community to enjoy
• Ensure works are durable and minimise ongoing maintenance requirements
• Invite local councils and art organisations to assist in sourcing and integrating public art or artists
• Integrate public art into the overall design vision of the development
• Reinforce the identity and visual character of the neighbourhood by contributing to the sense of place and social interaction
• The type of art and budget will necessarily relate to the scale of the development. Even modest art works can make a positive contribution to a development.
• Public art may be an integral element of the architecture and does not necessarily need to be procured as a separate additional item

• Artists and Designers can engage creatively with communities in order to explore and articulate issues of local significance. Artists can contribute to the development through research or as commentators and can produce permanent or temporary works that addresses the context and functions of a site
• Refer to Neighbourhood Analysis, Communal Open Space and Street Interface, to inform the procurement of appropriate and contextual works

Additional Guidance for Apartments

• Create opportunities for public art to assist with functional requirements of the site such as foyers and entries, landscaping, shading and structures, signage and way-finding
Building design has the ability to affect performance, affordability and sustainability, no matter the household type or scale. Elements of effective building design include: room dimensions, access to daylight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space and ease of access for anyone entering.

The key to achieving effective building design is understanding the relationships between these elements and using them to create positive living environments.
Universal Design

Universal design promotes inclusivity and creates environments that can be accessed, understood and used by all.

Universal housing principles support independent living, contributes to social and economic inclusion and the sustainability of communities.

Universal design includes simple features that make homes easier and safer for everyone. They consider comfort, access, movement and future adaptation. These measures improve liveability for all residents and visitors.

Note: The design elements described in this section should only be applied to the parts of building classes not covered by the NCC (BCA volumes 1 and 2).

Performance Outcomes

- Address universal design in dwellings and the public realm to promote best-practice in access and inclusion planning for all community members
- Versatile dwellings that meet the changing needs of occupants over their lifetime
- Homes are safe, comfortable, and easy to access for everyone
Design Suggestions

- Traditionally, provision of universal design features has been achieved by modifying existing homes on an ‘as required’ basis, resulting in significant and costly modifications. Alternatively, all new residential developments should adopt a universal housing design approach at the time of construction, in order to:
  - Minimise the cost of adapting housing for persons with a disability
  - Enable the modification of any house, at any time, to allow residents to stay in their own homes if they become mobility impaired
  - Enable access by visitors with mobility devices

- Provide appropriate circulation spaces, including doorways, to enable comfortable movement within all rooms and corridors

- Avoid changes in levels or surfaces and provide a safe, step-free path of travel from the street to the dwelling door

- Use materials and construction techniques that are suitably robust (firm and slip-resistant) and enable cost-effective modifications

- Consider the height and form of light switches, door handles and power points for ease of use

- Ensure toilets and showers are easily accessible, and consider reinforced walls around toilets, baths and showers to enable grab rails to be installed if required

- Position windows to enable people of various heights and diverse physical abilities to operate them easily
When it comes to liveability, few things affect residents’ satisfaction more than the layout and size of their home. How spaces can be furnished, quality of daylight, natural ventilation, privacy and flexibility all play a part in quality of life.

Internal layouts should provide multi-use spaces that can be modified in the future as well as cater for ageing in place. Efficient and logical design has longevity and can appeal to a range of different residents over time.

**Performance Outcomes**

- Provide functional layouts offering good residential amenity
- Support a variety of household activities now and into the future
- Provide a diversity of housing choice which addresses the broadest range of household types

Row house layout integrates open space while retaining privacy to courtyard gardens.

Twin Peaks housing, Durbach Block Jaggers Architects, NSW

This example demonstrates living areas opening directly to external private open space.
### Design Suggestions

- Provide dwellings that are sized to comfortably accommodate the number of residents and their needs.
- Where possible, configure spaces and layout to maximise principal views and sunlight access through north facing aspect.
- Ensure room sizes, layouts and circulation allow easy access for movement of people and furniture.
- Relate the scale and configuration of kitchens, bathrooms and laundries to the likely occupancy.
- Provide sufficient space in laundries, including when concealed in cupboards.
- Avoid direct access and visibility from living areas to bathrooms and laundries, where possible.
- Provide storage space in all bedrooms (Refer to Storage).
- Consider using circulation areas for other benefits such as additional storage and access to natural light.
- Refer to Daylight Access, Natural Ventilation, Building Separation, Ceiling Heights, Privacy and Universal Design when configuring house and apartment layouts.

### Design Solutions

- Master bedrooms should have an area of not less than 10m² and other bedrooms 9m², excluding storage.
- Bedrooms should have a minimum dimension of 3m in one direction.
- Living rooms or combined living/dining areas should have a minimum width of 3.6m.
- Where minimum areas or room dimensions are not met, the useability and functionality of the alternative should be demonstrated through scaled furniture layouts and/or other drawings or visualisations.

**Additional Guidance for Apartments**

- Provide habitable room depths that do not exceed 2.5x ceiling height (open plan arrangements may extend to 3.0x ceiling height where full height glazing is provided).
Private Open Space

Well-designed private open space gives residents the perfect space to enjoy outdoor living. Comfortable environments that allow for recreation, views and planting, while responding to weather conditions offer this amenity.

In larger developments like apartments, private open spaces can also enhance the appearance of the whole building. Repetitive elements like balconies, balustrades, planters, fencing and screens provides opportunities for visual interest and character.

Private open space enhances liveability and should not be compromised by proximity or intrusion of services such as air conditioner units.

Performance Outcomes

• Enhance residential amenity through functional and appropriately sized private open space
• Locate private open space adjacent to living areas to improve liveability
• Ensure private open space elements, such as balconies, contribute positively to the architectural expression
• Locate service areas such as bin storage and laundry hanging spaces in separate screened locations
• Ensure appropriate visual screening of service areas if nearby private open space

Privacy walls and screening positively contribute to the architectural expression.
Flinders House, Ashley Halliday Architects, SA

Image by Sam Noonan

Image by Peter Bennett

The primary private open space should be connected to living areas and incorporate planting. Surry Hills Terrace, Anthony Gill Architects, NSW
Design Suggestions

- Ensure the primary private open space is visually and physically accessible from the living, dining or kitchen areas
- Ensure private open space receives adequate sunlight. Where possible, the primary open space should have a northern orientation
- Design balustrades, fencing or screening to balance the provision of views with privacy
- Allow overlooking of public spaces from private open space and balconies to provide passive security
- Discreetly locate clothes drying, bin storage, bicycles or services such as air conditioners, and screen from public view
- Provide primary areas of private open space in accordance with the size criteria
- Incorporate deep soil zones or integrated planters to enable planting
- For balconies, a minimum width of 2.2m is recommended to accommodate circulation around a table
- Provide potable water and gas points to primary private open spaces
- Provide external lighting to enable night time use. Avoid light spill that may impact adjoining residences
- Provide shading and shelter to enable the open space to be used in inclement weather
- Alternatives such as Juliet balconies or winter-gardens may be acceptable in sites exposed to significant wind, noise, or pollution
- Consider multiple areas of private open space to improve amenity

Additional Guidance for Apartments

- Integrate storage for gardening equipment or other dirty items

Design Solutions

- Provide primary areas of private open space to accommodate intended number of residents in accordance with the size criteria
- Minimum private open space for other forms of residential development including row houses or group dwellings:
  - 20m²/4m minimum dimension

Additional Guidance for Apartments

- Where the minimum amount of private open space is not met, additional communal open space should be provided
- In this instance, additional amenity should be provided within the dwelling or communal areas

Minimum private open space for apartments (consolidated area/minimum depth)

<table>
<thead>
<tr>
<th></th>
<th>Studio</th>
<th>1 Bed</th>
<th>2 Bed</th>
<th>3 Bed</th>
</tr>
</thead>
<tbody>
<tr>
<td>4m²/1.8m</td>
<td>8m²/2.1m</td>
<td>10m²/2.4m</td>
<td>16m²/2.6m</td>
<td></td>
</tr>
</tbody>
</table>

Solid balustrades or screening can assist in balancing passive surveillance of public realm areas, provision of views and privacy. Roof Terrace, Osigen, SA

Balconies are appropriately sized, are functional and contribute to resident amenity. Invarijji Affordable Eco-Housing, Troppo Architects, SA

Good quality private open space can be provided in a variety of forms, such as informal landscaped or lawn areas. Tennyson Heights House, John Adam Architect, SA
Common Circulation Areas

Common circulation areas are internal spaces shared by residents within apartments or other multi-dwelling developments like lobbies, corridors, stairs and lifts.

Common circulation areas should be durable and reasonably low maintenance, providing safe and comfortable spaces for anyone who uses them. They should also encourage social interaction where possible to help build a sense of community.

**Performance Outcomes**

**Guidance for Apartments**

- Provide good amenity and safe, efficient and comfortable access to dwellings
- Provide opportunities for social interaction while enabling privacy for residents

*Image by Rob Ramsay*

*Corridor width, seating, daylight access and legible signage contribute to the amenity of this lobby area. Bennett Street Housing, JCY Architects & Urban Designers, WA*
**Design Suggestions**

**Guidance for Apartments**

- Avoid primary windows from habitable rooms to open onto common circulation areas, including external gallery circulation.
- Promote social interaction by providing seating near lobbies and adjacent windows or planters.
- Provide daylight and natural ventilation to all common areas, including egress stairs, where permissible.
- Allow for movement of furniture and white goods in circulation areas.
- Size lifts, lobbies and corridors to accommodate bicycles, strollers, mobility aids and the movement of furniture and white goods.
- Provide direct, legible access between vertical circulation lobbies and apartment entries.

**Design Solutions**

**Guidance for Apartments**

- Lift car size is dependent on factors including number of levels, occupancy and delivery/removal of white goods and furniture.
- Provide a minimum ceiling height of 2.7m to common circulation areas (BCA min. 2.1m).
- The maximum number of dwellings accessed from a circulation core on any level of a building should not exceed 8.
- Where corridors exceed 12m in length from a core, introduce variations such as wider sections at apartment entries.
- Refer to Size & Layout, Storage, Access & Entrances and Universal Design.

No more than 8 apartments should be accessed from a circulation core. Common circulation areas should include windows for daylight and natural ventilation.

Direct legible access to apartment building entry.
Alta Apartments, Tectvs, SA

Image by Darren Yoon
Storage

Providing for ample storage opportunities is essential to the liveability and functionality of a home, especially in smaller proportioned dwellings.

A smart approach is key, making use of secondary spaces under stairs and roof voids that otherwise may not be used.

It’s important to consider storage in the early stages of a development to make the most of available space.

Performance Outcomes

• Provide appropriate, well designed storage in all dwellings

• Provide flexible, accessible storage to cater for varied household types

Additional Guidance for Apartments

• Ensure storage located outside of dwellings is convenient, weatherproof, secure, and integrated into the building design
**Design Suggestions**

- Provide easy access to primary storage from circulation or living areas.
- Integrated balcony storage should be screened and protected from the weather.
  - Accommodate a range of storage needs including small items such as books or linen and large items such as sporting or outdoor items.
  - Where dwellings include gardens or planters, provide dedicated storage for gardening equipment.
  - Use adjustable systems so residents can adapt the storage to their needs.
  - Integrate garden shed storage into carports or garages and screen from view.
  - Storage should be distributed evenly among bedrooms to cater for various future tenure (such as house sharing) or changing needs of residents.

**Design Solutions**

- At least 50% of storage should be located within the dwelling.
- In addition to storage in bedrooms, kitchens, or bathrooms, dwellings should include the following minimum built-in storage:
  - Bedroom wardrobes should be a minimum of 600mm deep.

**Additional Guidance for Apartments**

- All bedrooms should provide either a built-in robe or allocated space 1.5m long x 2.0m high, in addition to the minimum room size. Master bedrooms should include a minimum 2.0m long x 2.0m high space.

**Design Solutions**

<table>
<thead>
<tr>
<th>1 Bed</th>
<th>8m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Bed</td>
<td>8m³</td>
</tr>
<tr>
<td>3 Bed+</td>
<td>10m³</td>
</tr>
</tbody>
</table>

**Additional Guidance for Apartments**

- Ensure storage located in common areas is clearly allocated to specific dwellings and screened from view.
- Provide convenient and equitable access from the street to common area storage, avoiding stairs and minimising level changes.
  - Where dwellings include gardens or planters, provide dedicated storage for gardening equipment.
  - Use cages, lockers, or platforms for storage over parking bays.
  - Consider incorporating wider lobby spaces or hanging racks to enable residents to store bicycles within their dwelling.
Ceiling Heights

Ceiling heights affect the amenity of a dwelling and the perception of space. Ceiling heights relate directly to daylight access and natural ventilation – these elements should be considered together.

Ceiling height can be used to integrate services and define different areas. The upper level of a multi-storey development offers an opportunity for dynamic living space with raked ceilings that reflect the roof pitch above.

Increased ceiling heights should be considered in mixed-use buildings where the ground or other levels contain non-residential dwellings to provide greater flexibility and adaptability.

Performance Outcomes

- Provide sufficient ceiling height to enable effective daylight access and natural ventilation
- Provide well proportioned rooms with good quality interior environments
- Provide flexibility for alternate future uses

Increased ceiling heights can contribute to interesting facades and increase daylight access.

Image by Jeremy Wright

Turner House, Freadman White Architects, VIC

Bulkheads for services should be discrete and integrated above joinery or wet areas. Paddington, Sydney, Anthony Gill Architects, NSW

Image by Peter Bennetts
Design Suggestions

• Ensure ceiling heights relate to the depth of a room. Increased ceiling heights can assist daylight penetration into deeper rooms.

• Provide higher ceilings to help spaces with smaller floor area feel more generous and better proportioned.

• In open plan layouts locate bulkheads over a distinct zone such as the kitchen.

• In rooms with raked ceilings, reduced headroom at the edge of the room may be acceptable.

Additional Guidance for Apartments

• In multi-storey apartment buildings align wet areas vertically to limit bulkheads over habitable rooms.

• In multi-storey apartment buildings, provide ceiling heights which promote future adaptability to alternate uses, such as retail or commercial.

Design Solutions

• Minimum ceiling heights (measured from finished floor level to finished ceiling level):
  - Habitable Rooms 2.7m (BCA min. 2.4m)
  - Non Habitable Rooms: 2.4m
  - Foyer: 2.7m (BCA min. 2.1m)

• Refer to Building Height, Daylight Access and Size & Layout when configuring the internal spaces of homes.

Variation in ceiling heights can create interesting spaces. Loft on Seventh Street Bowden. Williams Burton Leopardi, SA
Daylight Access

Access to direct light and heat from the sun brings a range of advantages for residents and developers alike. Daylight access improves the internal experience of a home, offering natural warmth and light. It also improves environmental performance and reduces living costs by requiring less artificial heating and lighting.

To maintain comfortable living conditions through South Australia’s hot summers and cold winters, daylight access must be carefully managed.

Performance Outcomes

- Ensure that daylight access is provided to all habitable rooms and private open space and encouraged in all other areas where possible
- Contribute to thermal comfort by providing sunlight access in winter while avoiding overheating in warmer periods
- Enable adequate daylight to dwellings to reduce demand for artificial lighting and create good internal amenity
- Provide residents with the ability to adjust the quantity of daylight to suit their needs
Design Solutions

B Every habitable room, including bedrooms, should have a window in an external wall with a glazed area not less than 10% of its floor area

- Primary living rooms and private open spaces of at least 70% of dwellings should receive a minimum of 3 hours direct sunlight between 9am-3pm in mid winter (2 hours minimum may be acceptable in denser areas such as city centres)

- Shading should prevent direct sunlight from entering habitable room windows at midday in the months of December, January and February

- ‘Battle axe’ bedrooms: Provide sufficient width and glazing to the space providing access to daylight to enable adequate daylight levels:
  - The maximum length of the narrow room extension should not exceed twice the width of the window

Additional Guidance for Apartments

P Where possible, maximise the number of dwellings facing north, or within 20 degrees of north

- Coordinate balcony depths and corresponding ceiling heights to enable winter sun penetration

Design Suggestions

P Prioritise appropriately shaded glazing to north-facing rooms and limit glazing to the east and west

P Where possible, external shading to enable sunlight penetration in winter and provide effective shading during peak heat loads in summer

- Use operable shading devices to provide increased amenity by enabling user choice, control and adaptability to seasons

- Utilise a range of techniques including dual aspect dwellings, shallow room depths, mezzanines, light wells, bay windows, high level clerestory or roof windows to improve sun and daylight access

- Consider reflective surfaces and light colours to assist with daylight penetration into dwellings

- Borrowed light to bedrooms is not a desirable outcome, and is not recommended

P Refer to Building Height, Daylight Access and Size & Layout when configuring the internal spaces of homes

Additional Guidance for Apartments

P Light wells: May be used as access to daylight, provided that habitable rooms do not have light wells as their only outlook. Refer to table

<table>
<thead>
<tr>
<th>Building type</th>
<th>Minimum area and dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 4 storeys/12m</td>
<td>9m² (min. width 3m)</td>
</tr>
<tr>
<td>5-8 storeys/up to 25m</td>
<td>29m² (min. width 4.5m)</td>
</tr>
<tr>
<td>9+ storeys/over 25m</td>
<td>51m² (min. width 6m)</td>
</tr>
</tbody>
</table>

Note: The light well minimum areas and dimensions may need to be varied for buildings containing multiple levels of non-residential uses

P Do not use light wells as the primary source of daylight to living areas. Where provided, light wells must be of sufficient size and proportion to enable effective daylight penetration and achieve visual and acoustic privacy requirements

- A maximum of 15% of dwellings receive no direct sunlight to habitable rooms and/or private open space between 9am-3pm in mid winter

Image by Julian Rutt

High level clerestory window used to improve daylight access to an upstairs bedroom. Billabong Houses, Lumen Studio, SA
Natural Ventilation

Natural ventilation is the movement of fresh air through a space to provide thermal comfort. Along with other environmental design measures, it can greatly reduce reliance on air conditioning. This improves amenity, energy efficiency, cost of living and resident health.

Good airflow is easy to achieve in terrace housing with dual aspect, but apartments need more consideration around orientation of the building, configuration of apartments and air movement in shared spaces.

Layout and depth play a big part in a dwelling’s natural ventilation. Generally, as buildings get deeper, it’s harder to create natural airflow.

**Performance Outcomes**

- Provide direct access to natural ventilation to all habitable rooms
- Provide effective natural ventilation to non-habitable rooms where possible
- Plan and detail single aspect dwellings to maximise natural ventilation
- Optimise the use of openable windows to the exterior for all rooms

Effective cross ventilation is achieved when the inlet and the outlet have approximately the same area, allowing air to be drawn through the building using opposite air pressures on each side of the building. 6 on Sixth, Bowden, Tridente Architects, SA
Design Suggestions

• Orientate windows towards desirable prevailing breezes such as sea breezes or gully breezes
• Limit the depth of habitable rooms or apartment plans to enable effective air movement
• Use window and door types that provide large opening areas, adjustment and flexibility
• Provide equivalent amounts of openable area to opposing sides of dwellings to generate natural cross ventilation
• Plan internal layouts and door locations to enable clear paths of air movement with minimal obstruction or changes of direction

Additional Guidance for Apartments

• Maximise the number of dual-aspect dwellings providing cross ventilation
• Enable effective natural cross ventilation of habitable rooms in row houses or group dwellings

Design Solutions

• Ensure the area of unobstructed openable area of windows is not less than 5% of the floor area served
• Natural ventilation may be undesirable where sites are subject to significant noise or fumes. Where the impact is limited to certain times of day or year, the natural ventilation criteria should still be met
• Refer to Building Depth, Size & Layout and Energy Efficiency to optimise opportunities for effective natural ventilation

Additional Guidance for Apartments

• Ensure at least 60% of apartments are naturally cross ventilated
• High wind speeds at the upper levels of tall buildings or exposed sites may prevent comfortable natural ventilation. Exemption from meeting the criteria on these grounds should be supported by appropriate technical evidence
• Active measures such as the use of ‘thermal chimneys’ or plenums can assist with generating ventilation but should not be relied on as the primary means of achieving the natural ventilation objectives
Energy Efficiency

Good energy efficiency helps to minimise the energy consumption of heating, cooling and the general operation of a building or dwelling.

Improved energy efficiency begins with passive design principles like orientation and shading. Beyond this, the management of thermal comfort, daylight access and natural ventilation all reduce energy consumption, operating costs and contribute to carbon neutrality.

Performance Outcomes

- Optimise passive environmental performance to reduce energy consumption associated with heating and cooling
- Utilise built-in appliances and building services that have high energy efficiency ratings
- Integrate renewable energy systems such as photovoltaics, battery storage systems and active energy management and monitoring systems
- Maximise the appropriate use of natural light

This development integrates passive design principles including appropriate orientation, communal gardens and use of recycled materials.

K2 Apartments, DesignInc, VIC

Images by Peter Hyatt
Design Suggestions

- Provide adequate daylight to all habitable rooms
  - Optimise natural ventilation to reduce reliance on air conditioning
  - Optimise the benefit of controlled sunlight access to dwellings
  - Locate private or communal outdoor drying areas to receive sunlight
  - Incorporate photovoltaic panels or make provisions for future installation
  - Allow space for future battery storage units
  - Incorporate smart technology (or infrastructure) that allows energy consumption to be measured and displayed, and/or systems to be controlled remotely
- Refer to Orientation, Materials, Daylight Access, Natural Ventilation, Green Infrastructure and Stormwater Management

Additional Guidance for Apartments

- Provide opportunities for grey water re-use
- Connect to recycled water provision (purple pipe), or allow for future adaptation

Design Solutions

- Selection of energy efficient appliances and fittings can significantly reduce the total energy costs for residents.
- Selection of materials with low embodied energy or high proportions of recycled materials can significantly reduce the greenhouse emissions of a development.
- On-site energy generation, such as solar boosted hot water and photovoltaic panels, reduces the use of fossil fuels and contributes to carbon neutrality
  - Orientate living spaces to face north, or within 20 degrees of magnetic north
  - Position windows and doors to achieve cross ventilation to assist summer cooling
  - Group rooms with similar heating or cooling requirements into zones
  - Provide doors to circulation spaces to effectively separate zones
  - Use high performance glazing (low-e or similar)
  - Select high thermal mass flooring for north facing living areas
  - Insulate floors, walls, roofs and providing weather seals to doors and windows
  - Provide effective shading of windows and external walls
  - Utilise ceiling fans in conjunction with evaporative cooling, in preference to refrigerated air conditioning.
  - Use materials with low embodied energy
Acoustic privacy allows residents to enjoy their own homes without being disturbed by unreasonable noise.

To work effectively, it requires the reduction of unwanted sound transmission between neighbouring properties and apartments within the same building. This includes general noise associated with common areas and shared open spaces.

This section outlines general considerations for acoustic privacy. For sites near a rail corridor, major roads or underneath flight paths, refer to the Minister’s specification SA 78B Construction requirements for the control of external sound.

Performance Outcomes

- Minimise noise transfer between dwellings through consideration of building siting, building layouts and the use of acoustic treatments.

Balcony orientation, double glazing and acoustic screening in response to the proximity of the train line. The Commons, Breathe Architecture, VIC

Building layout and acoustic treatments can reduce noise transfer and achieve acoustic privacy for residents.
Design Suggestions

P Provide adequate separation between buildings within a development and from neighbouring properties or adjacent noise sources such as roads

P Locate non-habitable rooms and storage areas so that they can act as acoustic insulators

P Where appropriate, locate doors and windows away from noise sources
- Spaces with similar acoustic requirements should be grouped together such as bedrooms
- Avoid placing bedroom next to noise sources such as lifts, neighbour’s bathrooms, or common areas
- Locate balconies and private open space with regard to existing adjoining properties and uses
- Use acoustic treatments such as absorptive floor finishes, acoustic underlay, soft window dressings, door seals, solid core doors and performance glazing
- Landscaping is not an effective acoustic barrier

Additional Guidance for Apartments
- Separate noisy areas such as lobbies and entries from quiet spaces

Design Solutions

P Apply special consideration to significant noise associated with traffic, rail, or flight path. Additional setbacks or non-residential spaces can assist in buffering this noise. Semi-enclosed ‘winter-gardens’ are an alternative to balconies in these environments

P Building separation should be the primary consideration in achieving acoustic privacy. Where minimum distances described in the Building Separation section are not met, additional acoustic measures should be provided

P An acoustic assessment may be required to demonstrate that acceptable amenity will be achieved

B Provide insulation within all internal walls to reduce noise transfer within dwellings
- Provide a minimum 3m separation between bedroom windows and noise sources such as garage doors, driveways, service areas, mechanical equipment, play areas and communal circulation
- Refer to Building Separation Use Table to provide minimum separation distances to achieve acoustic privacy

Additional Guidance for Apartments

B Extend walls in apartment bathrooms to the underside of the floor above
Waste

Minimisation and smart management of domestic waste in any development is good for residents, the community and the environment.

Poor waste management can result in unpleasant odours, unattractive views and even disruptive noise. A well integrated approach prevents these problems and encourages everyone to take up sustainable behaviours such as recycling and composting.

An effective waste management plan should be developed early in the development process, incorporating building design and property management.

Performance Outcomes

- The impact of waste management on the streetscape and residential amenity is minimised
- Domestic waste is minimised through the provision of safe and convenient source separation and recycling
- Waste management encourages sustainable behaviour
Design Suggestions

- Adequately sized storage areas for rubbish bins should be discreetly located away from frontages, entries and the public realm.

- Integrate collection areas, visually and physically, with built elements such as fences, walls, buildings and garages.

- Circulation is designed to allow easy movement of bins between storage and collection points.

- Individual bin storage is out of public view.

- If located internally, waste and recycling storage areas should be well ventilated.

- Residents must be able to wheel bins out to the street via a stepless path.
  - All dwellings should incorporate provision for both waste and recycling.
  - Incorporate opportunities for composting.
  - Integrate kerb-side collection areas with the public realm design.

Additional Guidance for Apartments

- A garbage chute or waste store located at each circulation core can provide convenient access and avoid waste transfer in lifts.

- Larger developments with centralised storage areas should be supported by appropriate property management systems such as a caretaker.

Design Solutions

- For larger developments or significant group dwelling sites, a waste management plan should be prepared in conjunction with the relevant authority and private contractors.
  - Provide water point and drainage at bin storage areas.
A well designed building complements its surrounding landscape, the existing and future character of the street and delivers enjoyment to the whole community.

To achieve a contemporary character, buildings must display good proportions and a balanced composition of elements that reflect the internal layout.

Good design selects materials that are durable and efficient for longevity.
Facade design greatly influences the appearance of the whole building and how it relates into a neighbourhood context.

While we typically think of the front of a building affecting the public realm, the side and rear facades are also important to neighbouring properties.

Where development is located within existing established neighbourhoods, facade design needs to carefully integrate the contemporary needs of residents with the prevailing character of the area. This can be achieved by applying design techniques that consider composition and proportions of building elements, materials and colours.

**Performance Outcomes**

- Contribute to the identity of a building
- Positively contribute to the experience of the streetscape
- Respond sensitively to the defining characteristics of neighbourhood context

Image by Timothy Soar
Design Suggestions

- Ensure building facades contribute to an appropriate scale, rhythm and proportion that relates to the neighbourhood context.
- Ensure a human scale and interest in the lower levels of buildings.
- Reinforce important corners through changes in setbacks, materials or colour, roof form or height.
- Provide consistent expression to both the street frontages on corner sites. Extend key elements of front facade treatment, such as materials or parapets, around side facades.
- In repetitive building types such as row houses, provide variety, but maintain an overall consistency in expression, by using a family of materials or through repeated patterns or spacings.
- Place windows and doors, and use awnings, eaves, verandahs, or similar, to provide variation of light and shadow and contribute to a sense of depth in the facade.
- New development in established areas should respond to local built form characteristics, including materials, textures and colours.
- Refer to Neighbourhood Analysis, Access and Entrances, Street Interface and Street Setback.

Additional Guidance for Apartments

- Use techniques such as aligning key floor levels, parapets or balconies with similar characteristics of existing buildings to assist in creating a contextual streetscape response.

Facade elements at lower levels should reflect a human scale, with quality materials and detailing. Entries should be clearly defined. 6 on Sixth, Bowden, Tridene Architects, SA.
Roof

A roof’s form and the silhouette it creates can define a building’s identity and prominence within the neighbourhood.

Many of Adelaide’s older buildings feature pitched roof forms with strong gables or hips. Contemporary roof forms can still contribute positively to an area’s character without necessarily following this formula.

Care should always be taken to ensure new buildings make a positive contribution to the streetscape.

A residential roof can be used for additional open space, storage or other measures that improve the performance of the building.

Performance Outcomes

- Relate roof design to both the scale and type of building and its context
- Incorporates the integration of sustainability initiatives such as photovoltaic panels

This example demonstrates how the roof design responds to sunlight access and orientation. Charles Sturt Residence, C4 Architects, SA

Roof design can contribute to the building’s appearance. Forest and Beach House Byron Bay, Troppo Architects, NSW
Design Suggestions

- Relate roof form to the scale and type of building
- Consider emphasising the roof expression at important corners or element such as entries
- Consider attics or ‘mansard’ roofs for additional residential accommodation in the roof space and to reduce apparent scale
- Provide good levels of amenity where habitable space is incorporated into roof forms. Consider incorporating openable skylights, dormer windows or roof terraces
- Provide eave overhangs to assist in shading external walls and improve thermal performance
- Optimise the areas of roof suitable for the inclusion of photovoltaic cells
- Consider green roofs for improved thermal performance, environmental benefits and contribution to local biodiversity
- Refer to Neighbourhood Analysis, Site Analysis, Street Interface, Energy Efficiency, Green Infrastructure and Materials
Materials

The materials chosen for facades and roofs play a big part in defining the character of a building and how well it integrates into its surrounds.

A key factor in choosing materials is the consideration of how well they fit in context. This includes how materials respond to local climate, how they relate to the local character and where and how they were produced.

The use of locally sourced materials has a positively impact on the local economy, businesses and industry.

Performance Outcomes

- Material selections are contextually appropriate and fit for purpose
- Minimise the embodied energy of building materials
- Material selections prioritise locally sourced materials, products or systems
Design Suggestions

- Primary external materials, such as wall cladding, should carefully respond to the existing and desired future character of a neighbourhood
  - Materials should be durable and age well, with minimal ongoing maintenance requirements
  - Utilise low-embodied energy materials
  - Utilise recycled materials where appropriate and fit for purpose
  - Optimise the efficiency of building design, and associated structures such as car parks, to minimise material consumption
  - Select locally available products to minimise transportation requirements and to support local industry
  - Use natural paints, or low-VOC water-based paints and adhesives

- New developments in established areas should recognise local characteristics, building materials, textures and colours. These can be re-interpreted and incorporated into new buildings as a way to harmonise it with the locality
  - Refer to Neighbourhood Analysis, Site Analysis, Street Interface and Energy Efficiency
Services

External services are enclosures and fixtures like mailboxes, utility metering, air conditioning or TV antennas. While many represent requirements for a development, it’s important these elements are well integrated into the building design to protect the quality of the streetscape.

Further consideration applies to multiple dwelling developments, where external services like air conditioning units are grouped together in visible locations.

Performance Outcomes

- Integrate services and equipment into the building design to minimise visibility and the impact on residential amenity
Design Suggestions

- Locate services discreetly to minimise visibility from public realm, communal open spaces, residences and adjoining properties
  - Integrate photovoltaics with the roof design to enable flush mounting, where possible, without additional support frames
  - Consolidate service connection points, and metering of row houses or group dwellings, and integrate with the overall building design
  - Refer to Acoustic Performance, Visual Privacy, Private Open Space, and Access & Entrances

Additional Guidance for Apartments

- Avoid locating air conditioning units on balconies. Consolidate in one or more locations and provide adequate screening and acoustic attenuation. Air conditioning units that are placed on balconies should be fully screened from public view and still enable comfortable use of the balcony
  - The location and extent of building services should be established and agreed with utilities and authorities at the earliest stage
Glossary

**av**
Defined as walking, cycling, and skating. Public transport can also be included, but only if the initial mode of transport to the bus, train or tram was not by car.

**Affordable housing**
Dwellings appropriate to the needs of households with low and moderate incomes (that is, up to 120% of gross annual median income). The criteria for affordable housing (including price points) is published in the Government Gazette and is reviewed annually.

**Affordable living**
Expands upon affordable housing to include transportation costs. By taking into account the combined costs of housing and transportation associated with the location of the home, it provides a more complete understanding of affordability. Affordable living also takes into account; indirect costs such as accessing employment areas, services and facilities; household expenditure on electricity, gas and water; and the costs of adaptable housing for older people or people with a disability.

**Amenity**
Refers to the liveability, comfort or quality of a place that makes it pleasant and agreeable to be in for individuals and the community. Amenity is important in the public, communal and private domains and includes the enjoyment of sunlight, views, privacy and quiet. It also includes protection from pollution and odours.

**BCA**
Building Code of Australia.

**Building height**
The greatest vertical distance between the base of the ground floor and the highest structure on the roof.

**Building depth**
The overall cross section dimension of a building envelope. It includes the internal floor plate, external walls, balconies, external circulation and articulation such as recesses and steps in plan and section.

**Carbon emissions**
The carbon dioxide and carbon monoxide in the atmosphere produced by vehicles and industrial processes.

**Carbon neutral**
A carbon neutral activity emits no net greenhouse gases. This can be achieved by reducing carbon emissions from housing-related activities and/or by offsetting emissions with changes to activities unrelated to the dwelling.

**Case Management and Pre-lodgement Service**
This is a collaborative process in which proponents and key decision-makers, including statutory referral agencies work closely to achieve the best design, planning and development outcomes for everyone involved. The process is particularly effective for complex projects where addressing issues early in the design stage can have significant benefits for the applicant and the community.

**Clerestory**
High level windows.

**Climate change**
Climate change is a long-term change in the statistical distribution of weather patterns over periods of time that range from decades to millions of years. It may be a change in the average weather conditions or a change in the distribution of weather events with respect to an average, for example, greater or fewer extreme weather events. Climate change may be limited to a specific region, or may occur across the whole Earth.

**Communal open space**
Outdoor space located within the site at ground level or on a structure that is within common ownership and for the recreational use of residents. Communal open space may be accessible to residents only, or to the public.

**Core**
Vertical circulation (lift and stairs) within a building. A single core may include multiple lifts serving the same floor area.

**Courtyard**
Communal space at ground level or on a structure (podium or roof) that is open to the sky, formed by the building and enclosed on 3 or more sides.

**Daylight**
Consists of both skylight (diffuse light from the sky) and sunlight (direct beam radiation from the sun). Daylight changes with the time of day, season and weather conditions.

**Demographic**
The study of statistics to illustrate the condition of communities.
Density
A measure of the population or the number of dwelling units in a given area.

Development Plans
Development Plans seek to promote the provisions of the Planning Strategy and include planning or development objectives or principles. They are the principal document in South Australia used to assess development.

Dual aspect dwelling
Cross ventilating dwellings which have at least two major external walls facing in different directions, including corner, cross-over and cross-through dwelling.

Embodied Energy
The energy consumed by all of the processes associated with the production of a material or building including natural resources, manufacturing and transportation.

Facade
The external face of a building.

Glass line
Inside face of windows on the external walls of a building.

Greenhouse gas emissions
Naturally occurring gases in our atmosphere that trap heat and keep our earth warm enough for life to survive. Carbon dioxide (CO2) is the primary greenhouse gas in our atmosphere and its concentrations are increasing as a result of human activities. The main human activity that emits CO2 is the combustion of fossil fuels (coal, natural gas and oil) for energy and transportation, although certain industrial processes and land use changes also emit CO2.

Green infrastructure
The network of green spaces and water systems that delivers multiple environmental, social and economic values and services to urban communities.

Green roof
A roof surface that supports the growth of vegetation, comprised of a waterproofing membrane, drainage layer, organic growing medium (soil) and vegetation.

Green wall
A wall with fixtures to facilitate climbing plants. It can also be a cladding structure with growing medium to facilitate plant growth.

Growth Areas
These areas have been identified for urban expansion in the Planning Strategy. They will be subject to further intensive investigations and public consultation.

Habitable room
A room used for normal domestic activities, and includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room and sunroom; but excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods, as defined by the BCA.

Healthy neighbourhoods
Healthy neighbourhoods are places where people can live, learn, work and play. They offer a wide range of services that can be easily reached on foot or by bicycle, including schools, health care, shops, parks, playing fields and public transport. They also provide streets and public spaces which support diverse and vibrant public life, biodiversity and physical activity.

Heritage
Local heritage place means a place that is designated as a place of local heritage value by a Development Plan. State heritage place means either a place entered, either on a provisional or permanent basis, in the State Heritage Register or a place within an area established as a State Heritage Area by a Development Plan.

High rise development
Buildings of more than seven storeys in height.

Household formation
The process whereby individuals in the population form separate households.

Household type
The composition of the group of people living within a household: Couple with children, couple without children, single parent family and other families of related persons, single person or groups.

Housing type
Refers to the physical type of dwelling. For example: Unit, apartment, townhouse, duplex, detached house or specialist accommodation.
Infill
The rededication of land in an urban environment to new construction. Infill also applies within an urban area to construction on any undeveloped land that is not on the urban fringe.

Juliet balcony
A shallow projecting balcony or railing at the outer edge of a window opening.

Liveability
A measure of city residents’ quality of life used to benchmark cities around the world. It includes socio-economic, environmental, transport and recreational measures.

Low rise development
Buildings of between one and two storeys in height.

Medium rise development
Buildings of between three to six storeys in height.

‘Missing Middle’ housing
Increasing housing choice and options to meet the needs of a changing population.

Natural cross ventilation
Natural ventilation which allows air to flow between positive pressure on the windward side of the building to the negative pressure on the leeward side of the building providing a greater degree of comfort and amenity for occupants.

Neighbourhoods
Local areas within towns and cities recognised by people who live there as distinct places with their own character and approximate boundaries.

Non-habitable room
A space of a specialised nature not occupied frequently or for extended periods, including a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom or clothes-drying room, as defined by the BCA.

Planning and Design Code
The State Planning Commission will be responsible for preparing and maintaining a new ‘Planning and Design Code’, which will require a new approach to the drafting, presentation and interpretation of zoning rules. The new code will be based on a more design-oriented style of zoning that focuses on built form and mixed use development. The code will set out a comprehensive set of planning rules for development assessment purposes, classified into zones, subzones and overlays. These will be applied in each region in a manner consistent with the relevant regional plan. This will make the code the single point of reference for development assessment.

Podium
The base of a building upon which taller (tower) elements are positioned.

Private open space
Outdoor space located at ground level or on a structure that is within private ownership and provided for the recreational use of residents of the associated dwelling.

Public realm
Any publicly owned street, pathway, right of way, park, publicly accessible open space or any public or civic building and its facilities.

Solar access
Is the ability of a building to continue to receive direct sunlight without obstruction from other buildings or impediments, not including trees.

Street setback
Space along the street frontage between the property boundary and the building.

Sustainable development
Forms of development that meet the needs of the present without compromising the ability of future generations to meet their needs.

Universal design
International design philosophy that enables people to carry on living in the same home by ensuring dwellings are able to change with the needs of the occupant.

Urban design
The collaborative and multi-disciplinary process of shaping the physical setting for life in cities and towns. It involves the design of buildings, groups of buildings, spaces and landscapes, and the establishment of frameworks and processes that facilitate successful development.
**Urban form**
The structural elements that define the city physically, such as natural features, transportation corridors (including the fixed rail/tram transit system), open space, public facilities, as well as activity centres and focal elements.

**Urban renewal/regeneration**
The process of improving the economic, social and environmental sustainability of a particular urban area. It typically involves urban redesign, infrastructure renewal and investment, and the creation of more attractive residential environments.

**Urban sprawl**
The expansion of human populations away from central urban areas into low-density, monofunctional and usually car-dependent communities. In addition to describing a particular form of urbanisation, the term also relates to the social and environmental consequences associated with this type of development.
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Your Turn!

The Design Guidelines have been developed to promote well-designed housing in South Australia.

This is your opportunity to provide feedback and help shape future neighbourhoods.

To download the Guidelines please visit odasa.sa.gov.au.

Feedback can be emailed to odasa@sa.gov.au or join in the conversation at yoursay.sa.gov.au.
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