MEDIUM DENSITY DESIGN GUIDELINES

APRIL 2025

Tasmanian Government

Acknowledgment of Country

We recognise the deep culture and history of this island and acknowledge and pay respect to the Tasmanian Aboriginal people; the past and present custodians of this land.

Tasmanian Government

This publication was produced by the Department of State Growth.

The Department of State Growth wish to acknowledge the expertise provided by representatives from Councils in the Greater Hobart region. Their role in the Project Working Group has been fundamental in shaping the Medium Density Design Guidelines.

era PLANNING & ENVIRONMENT

The Medium Density Design Guidelines were prepared by ERA Planning and Environment, in collaboration with Cumulus Studio, HIP V. HYPE, Andy Fergus, and SBLA Studio.

Cover image: Goulburn Street Housing by Cumulus Studio. Photography by Adam Gibson

Habitat on Juers by Refresh Studio for Architecture. Photography by Ravens At Odds / Scott Burrows

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Introduction

The Medium Density Design Guidelines (guidelines) is a non-statutory, advisory document developed as part of the implementation of the 30-Year Greater Hobart Plan. The Greater Hobart Plan aims to deliver a compact city that caters for a growing population by providing the right development in the right places. It also aims for improved liveability, and affordable and diverse housing.

Delivering affordable, well-located housing is an aspiration for all Tasmania's cities and major towns. To achieve this, increased density in urban areas will be necessary, particularly in areas close to activity centres and key transport corridors.

These guidelines have been prepared for a diverse audience and are intended to facilitate a higher standard of medium density residential development in Tasmania, particularly Greater Hobart. The guidelines will be reviewed periodically to ensure they facilitate best practice housing design and support the Tasmanian planning system as it matures. The guidelines aim to:

- Support innovative design in medium density housing development
- Promote housing that caters to different ages and needs, including small family, large family and non-family households
- Encourage development that sets a good precedent and contributes to a positive community perception of medium density housing
- Promote designs that respond to the natural and built features of the area and, for precincts undergoing transition, the desired character as stated in the local planning framework and relevant strategic planning strategies
- Encourage development that is appropriate in scale and minimises impacts from building bulk, overlooking, and overshadowing
- Improve liveability by designing for:
  - Sufficient sunlight and natural ventilation
  - High quality private open space and communal open space
  - Climate resilience and resource efficiency
  - A strong sense of ownership, privacy and security for residents
  - Appropriate vehicle access and parking options
  - A greater uptake of active transport modes
  - Locally appropriate landscaping and urban greening.

How to use the guidelines

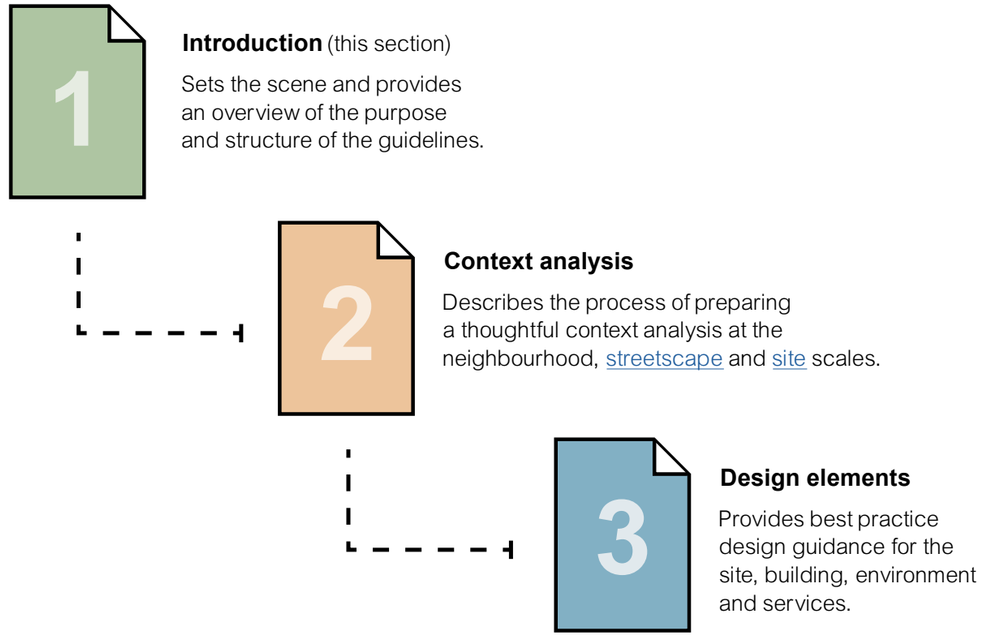
WHO ARE THE GUIDELINES INTENDED FOR?

The guidelines are intended to complement planning and building requirements, and focus on improving design quality. They have been prepared for:

- Developers, planners, architects, designers, builders and other professionals who are designing and constructing medium density residential development
- Planning and built environment professionals in local government who are encouraging quality development applications for medium density residential development
- The community, to better understand and communicate the design expectations of government in medium density development.

STRUCTURE OF THE GUIDELINES

The document is divided into three chapters, each representing a sequential stage in the design thinking process.



What is medium density housing?

Medium density development can range from small lot housing or multiple dwellings such as terraces, townhouses and low to mid-rise apartment buildings. Multiple dwelling developments are where two or more dwellings are proposed on a single site.

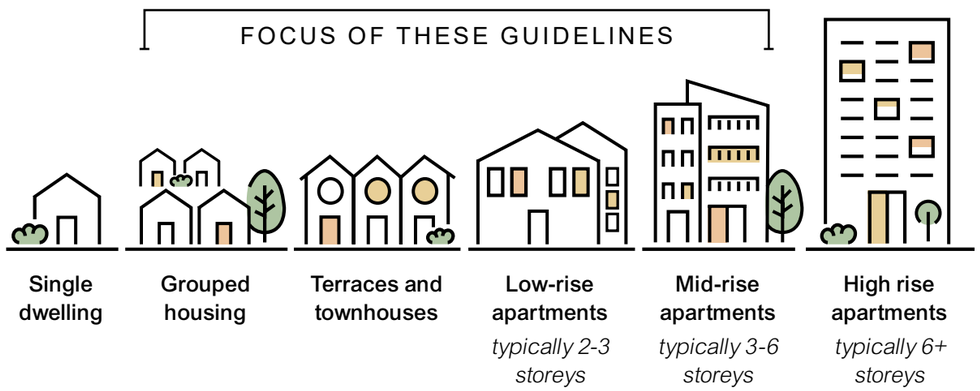
These guidelines are intended to influence residential development outcomes at the neighbourhood, streetscape and site scale. Their primary focus is on built form and dwelling components, and their relationship to the surrounding built and natural landscape. They also provide guidance on the interface between the private and public realm – a key element in creating desirable housing, streets and neighbourhoods.

These guidelines can be used anywhere in Tasmania, but their focus is on urban areas where increased density is a strategic policy priority, particularly where townhouse and low to mid-rise apartments are encouraged.

These urban areas have the services and infrastructure to support a growing community. Focussing here, we can enable a gentle increase in urban density where it is best suited, while also limiting urban sprawl which can stretch service provision, produce poor health and wellbeing outcomes, and impact our natural and agricultural areas.

There is limited housing diversity across Tasmania, with single detached dwellings accounting for almost 90% of total housing stock; a higher proportion than all other Australian states and territories (ABS). The figure below illustrates the housing types which may be considered medium density in Tasmania. These may also extend to mixed use development where residential and non-residential uses co-exist.

SPECTRUM OF HOUSING TYPES



What is good design?

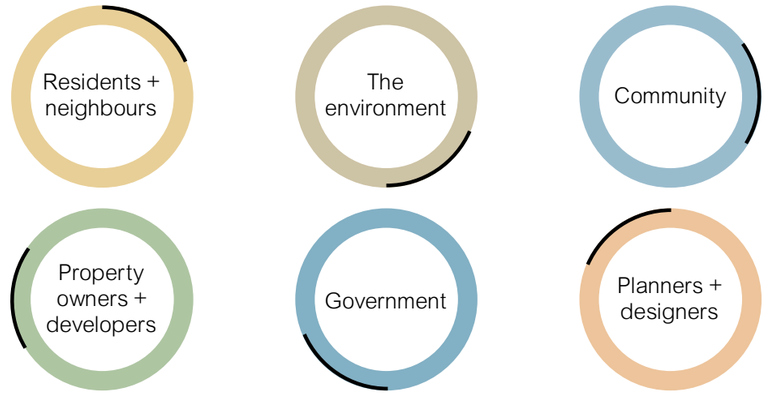
Good housing design is achieved through the design process, taking into account and responding to the neighbourhood, streetscape and site characteristics. Good designers appreciate the responsibility that comes with the transformation of a community's density and why raising the bar on design quality is an important pursuit.

As we look to gently increase density in our urban areas, we have a responsibility to consider existing communities and their local values, while also considering future trends and needs. Good design refines the purpose and aspirations of a project early on. It also improves how the development functions by responding to local context and the desires of future residents. Good design contributes to affordability, and prioritises liveability and the natural environment, taking a conscious approach to resource use. It creates a sense of ownership, a place that people enjoy living in, and creates other benefits including:

- Assisting the integration of new development into existing areas and improving support for gentle density and urban change
- Making spaces that are durable, sustainable, adaptable, that improve quality of life, and contribute to healthy neighbourhoods and cities
- Supporting community life and social interaction between residents and neighbours
- Improving environmental outcomes and creating healthy spaces through site greening, quality landscaping and water sensitive urban design
- Creating homes that support diverse living needs for modern households, and communities of all ages and abilities
- Enhancing economic outcomes through lower running costs (such as maintenance and energy consumption) or by attracting new people and business to an area
- Enhancing visual quality and build quality and positive contributions to place.

WHO BENEFITS FROM GOOD DESIGN?

It is evident that future residents are the first to benefit from good housing design. However, all Tasmanians can benefit from the positive outcomes associated with high-quality places and spaces.



Context analysis

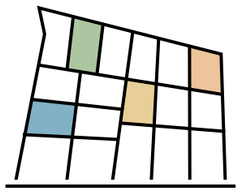
Good design starts with understanding the development site and the surrounding built and natural environment, climate and community. This is what is called a 'context analysis' the first stage in establishing an appropriate design response.

Context analysis occurs at a range of scales, starting with the surrounding neighbourhood and streetscape, through to a detailed investigation of the development site and those adjoining. The context analysis should consider how the site sits in the planning framework, including the zoning, overlays and relevant standards that apply to the site and the neighbourhood. The level of detail provided in a context and site analysis should match the scale and complexity of the proposed development.

Exploring various building design options in relation to the surrounding context is essential for identifying the most suitable development response for a site. Housing types, site and streetscape conditions, dwelling yield and feasibility should all contribute to the decision making process.

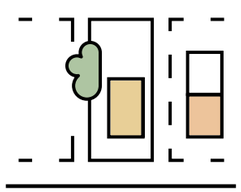
It is recommended that development applications for medium density housing be accompanied by a written explanation that outlines how the development and the design responds to planning scheme requirements, as well as the broader context. This approach to documentation may extend to technical inputs from experts like architects, landscape architects, sustainability specialists, and arborists. Consider engaging European and Palawa heritage for sites within conservation areas and for heritage listed properties

SCALES OF CONTEXT ANALYSIS

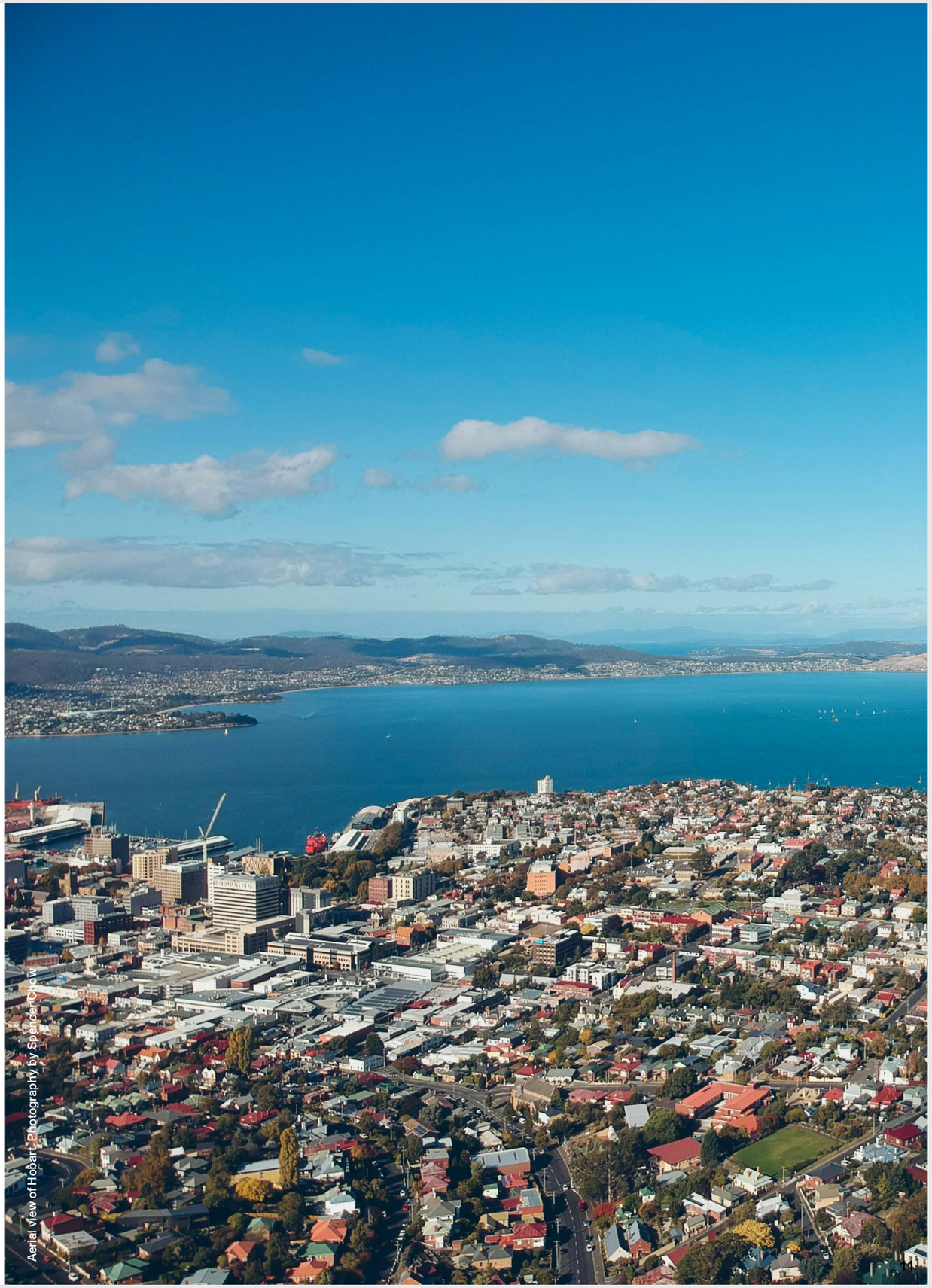


Neighbourhood

Streetscape



Site



Aerial view of Hobart. Photography by Spencer Chow

Neighbourhood

Neighbourhood context shows how urban blocks, streets and transport modes are connected and arranged. This includes open space, heritage areas, and the location of civic and social infrastructure such as schools and hospitals.

Context analysis at this scale should cover the relevant controls for land use and zoning, and the physical features of the neighbourhood such as built form, topography and landscape patterns that may impact the design process. This includes details about street layout, drainage and vegetation patterns, and open space and transport networks. It should also cover infrastructure and service requirements and any local landmarks or heritage areas.

This stage of the process is also an ideal time to consider if there are any specific housing needs that have been identified for the area. This may include suitability for densification or housing types that cater to specific demographics.

Each development site can typically support a variety of residential housing types and land tenure arrangements. At the neighbourhood scale, the suitability of a development proposal can be determined by considering both the current and anticipated future development in the area.

KEY CONSIDERATIONS

- ☐ How is the proposed development aligned with the zone purpose?
- ☐ What are the desired future outcomes for this neighbourhood?
- ☐ Is the site affected by planning codes or overlays? For example, bushfire, landslip or flooding?
- ☐ What facilities, services and public open spaces are accessible in the neighbourhood? For example, schools, daycare, health services, and sporting fields.
- ☐ How well is the neighbourhood serviced by public and active transport routes? For example, are bus services accessible and frequent?
- ☐ Is the neighbourhood serviced by water, sewerage and telecommunication infrastructure?

NEIGHBOURHOOD CONTEXT PLAN

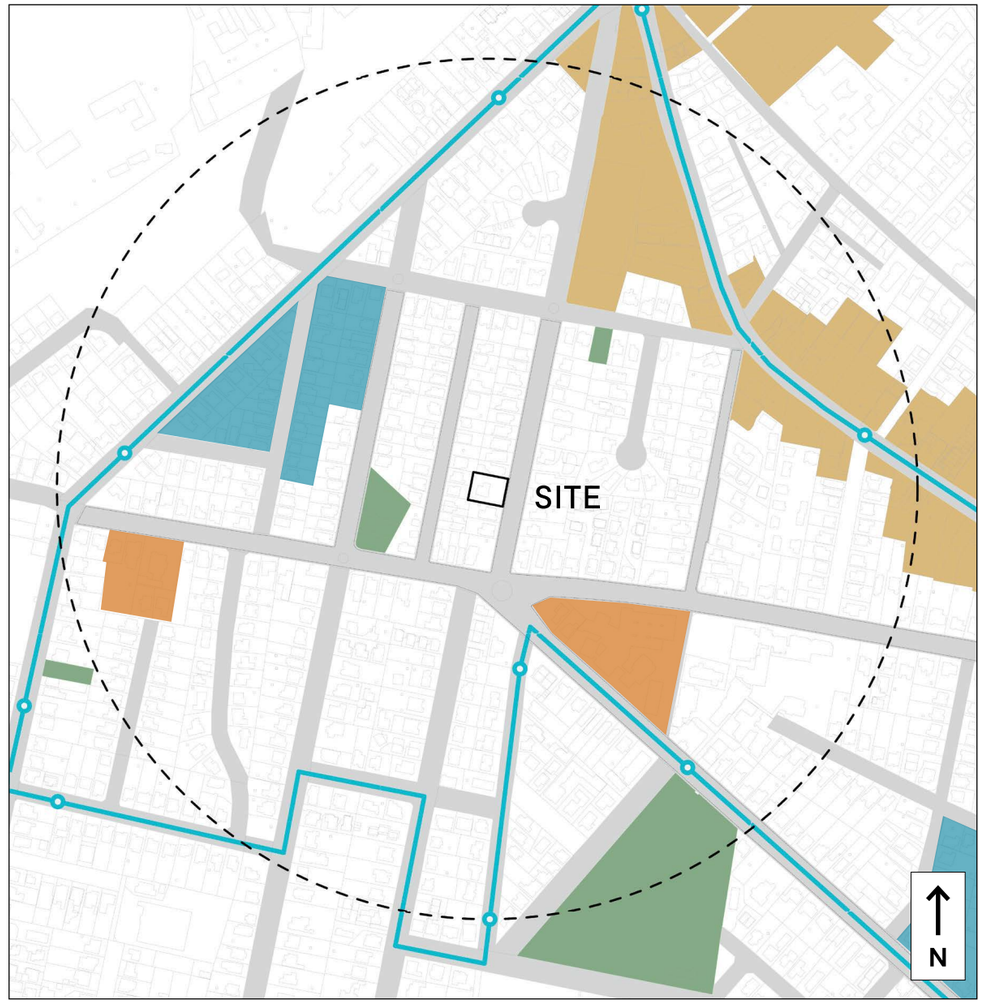


Fig 1. Context plan at the neighbourhood scale showing the broader urban structure, landscape setting and the site's proximity to services, facilities, and open space.

KEY

- Activity centre
- Social infrastructure
- Public open space
- Heritage area
- Bus route/stops
- 400m radius

Streetscape

Streetscape context looks at features in the immediate vicinity of the site and helps to assess how future development will connect with the street environment. It includes details such as nearby land uses, street design, subdivision and movement patterns, building scale, and existing street trees.

Evaluating the streetscape involves looking at the local planning requirements, which may indicate a desired character or local area objective. In areas experiencing change, development might need to align with the planned future character rather than the current streetscape. Where character is not defined, the streetscape analysis should be used to guide a thoughtful evaluation of the locality and an appropriate design response.

KEY CONSIDERATIONS

- ☐ How is the development compatible with surrounding land uses?
- ☐ Are there any nearby sources of noise, light or odour that may impact residential amenity? For example, vehicular traffic or industrial activity.
- ☐ What is the predominant setback and subdivision pattern of the street?
- ☐ What housing types exist in the immediate area?
- ☐ How does the development relate to the existing built environment and planned future character? Consider preparing streetscape elevations or longitudinal cross-section diagrams.
- ☐ What housing types are needed to support the local community, now and into the future?
- ☐ How do vehicles, pedestrians, cyclists, people with limited mobility, and people with prams navigate the street?
- ☐ What are the vegetation and landscape features of the street? For example, are there established street trees; is a notable slope present?
- ☐ Does the street contain any heritage places or elements of cultural significance?
- ☐ What kinds of streetscape elements are present? For example, footpaths, verge plantings or certain fencing treatments?

STREETSCAPE CONTEXT PLAN

Fig 2. Context plan at the streetscape scale showing the surrounding built form, prevailing street setback, open spaces, and access patterns.

KEY

- Street and footpath
- Traffic direction
- Contour
- Private open space
- Public open space
- Heritage places
- Existing trees
- Average setback

Site

Site context evaluates the individual site and its adjacent properties including neighbouring development and the interface with the street.

Relevant site conditions to consider include existing vegetation and trees, fences and street walls, footpath treatments, and on-street parking. At this scale, it is important to understand site orientation in relation to sun and wind. The site's slope and geology should inform potential earthworks and drainage arrangements.

This is an important stage to also identify any infrastructure or access easements, and relevant stormwater management arrangement to inform a site responsive design. This information is best sought via a detailed survey of the land.

KEY CONSIDERATIONS

- ☐ Has a detailed site survey been undertaken by a qualified professional?
- ☐ Has a Before You Dig Australia search been done to identify the location of infrastructure on the site. For example, stormwater, water, sewerage and gas lines?
- ☐ What is the orientation of the site and neighbouring development?
- ☐ What slope or level changes are present on the site?
- ☐ How does the site receive sunlight and what is the prevailing wind direction?
- ☐ Are there any significant views to and from the site, or neighbouring sites?
- ☐ How can mature trees be prioritised for retention?
- ☐ How have the active and passive areas on adjoining lots been considered?
- ☐ What building materials and finishes are used in surrounding developments?
- ☐ What is the composition of the adjoining footpath and verge?
  For example materials, path width, landscaping and street furniture.
- ☐ What on-street parking, bicycle parking and car share opportunities are available?
- ☐ How have opportunities for through-site links or connections to open space corridors been explored? This is important for larger developments and on consolidated sites.

SITE CONTEXT PLAN

Fig 3. Context plan at the site scale showing the immediate context of the site, the street, and surrounding properties.

Design elements

This chapter has four sections, each covering a core element of the design process for medium density housing development.

The site

This section seeks to create a site design that responds to the context analysis and contributes to the surrounding neighbourhood.

The chapter covers the following topics:

SITE LAYOUT

- Site cover
- Setbacks
- Building separation

SITE RESPONSE

- Building form
- Building scale
- Sloping sites

STREETSCAPE

- Building entries
- Public domain interface

The building

This section seeks to provide a functional and comfortable living environment for residents, visitors, and the community.

The chapter covers the following topics:

DWELLING DESIGN

- Dwelling mix
- Dwelling layout
- Material selection
- Facade design
- Roof design
- Liveable housing design
- Flexibility and adaptability

DWELLING AMENITY

- Solar and daylight access
- Natural ventilation
- Thermal comfort
- Acoustic privacy
- Visual privacy

The environment

This section seeks to create a development that incorporates site greening and quality open spaces and is responsive to a changing climate.

The chapter covers the following topics:

LANDSCAPING

- Deep soil zones
- Tree plantings
- Views to greening
- Landscape design

OPEN SPACE

- Communal open space
- Private open space

CLIMATE RESILIENCE

- Stormwater management
- Sea level rise and flood risk
- Urban heat and bushfire

The services

This section seeks to enable safe and equitable access for all transport modes and well considered service design.

The chapter covers the following topics:

PARKING AND ACCESS

- Car parking
- Circulation and access
- Bicycle parking

SITE SERVICES

- Utilities
- Storage
- Waste management

The site

The way a site is structured and arranged contributes to how residents interact with the natural and built environment and how they go about their day-to-day lives. It also influences how well a development fits in the streetscape. It's important to remember that the development is just one part of a street or neighbourhood.

Many existing urban and residential areas are characterised by single dwelling lots. While some existing areas are intended to retain their existing character others are changing urban environments. Evolving the built character of an area over time requires a thoughtful design approach.

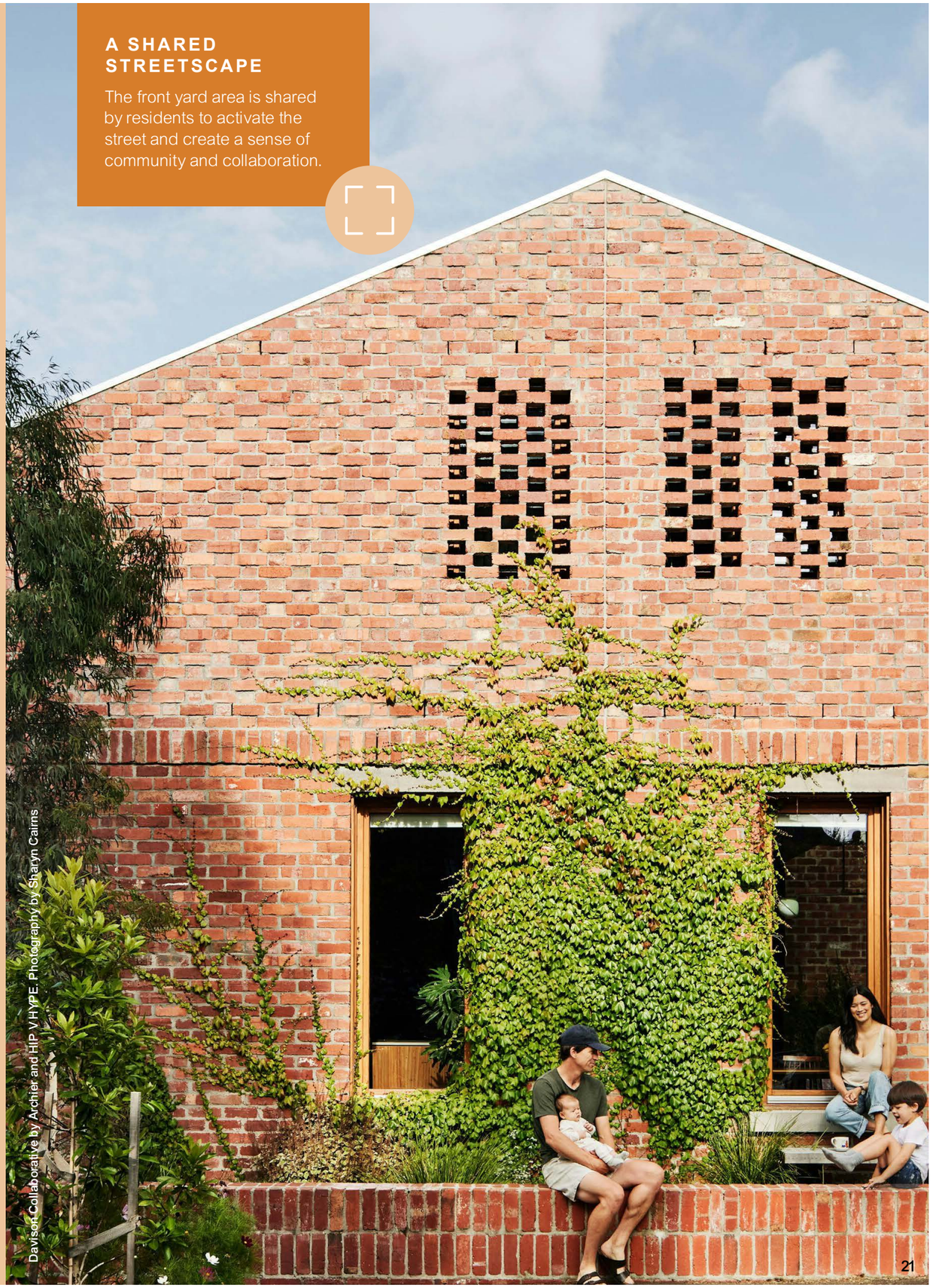
In established residential areas, larger developments in particular, need diversity in dwelling size, type and design. The larger the site in comparison to surrounding sites, the more important diversity becomes in achieving good design outcomes.

DESIGN PROMPTS

- ☐ Has the scale and siting of the development maintained important views to prominent natural and built features?
- ☐ How does the development reinforce positive elements of the locality and contribute to the desired future character?
- ☐ How does the mass and scale of the development respond positively to adjoining streets and neighbouring buildings?
- ☐ Does the site design allow for equitable future development of adjoining sites?
- ☐ How does the development respond to the site's topography?
- ☐ How does the development respond to the site's opportunity for solar access and prevailing winds?
- ☐ On larger sites, does the development provide sufficient diversity in dwelling size, typology and design?
- ☐ How well does the development engage with the street interface?

A SHARED STREETSCAPE

The front yard area is shared by residents to activate the street and create a sense of community and collaboration.



Davison Collaborative by Archier and HIP V HYPE. Photography by Sharyn Cairns

Site layout

Site layout refers to where key features such as buildings, open space and car parking are located on a site, how they are accessed by residents and visitors, and how they are perceived by neighbours and the public.

Site layout guides how the development footprint responds to its local context and the surrounding built and natural environment. Site layout provides the core building blocks of the design process and is an important early step in creating a well-informed design response.

SITE COVER

Site cover relates to the portion of a site covered by built form. It should respond to neighbouring buildings and the surrounding streetscape and will influence the massing and scale of a development.

Design response:

- Ensure site cover allows for tree retention and other important elements such as landscaping and deep soil areas.
- Ensure site cover helps to achieve good solar access and natural ventilation.
- Explore the balance of scale and site cover in response to local context, such as more compact development in urban areas.
- Ensure site cover is informed by private open space, communal open space, and car parking considerations.

BUILDING SEPARATION

Building separation is the horizontal distance between buildings within a site, or from those on adjoining sites. It can be achieved by locating open space, access ways and car parking between buildings.

Appropriate separation is critical to ensuring resident amenity and land-use compatibility. It improves ventilation and acoustic and visual privacy while allowing sunlight to reach the ground plane.

Design response:

- Provide separation distances to facilitate daylight access, solar access and visual privacy between buildings within a site, and on neighbouring sites.
- Ensure separation in proportion to building height and the location of open space.
- Separation should be guided by adjoining land uses and should prioritise compatibility; an access or landscape buffer provides good separation opportunities.

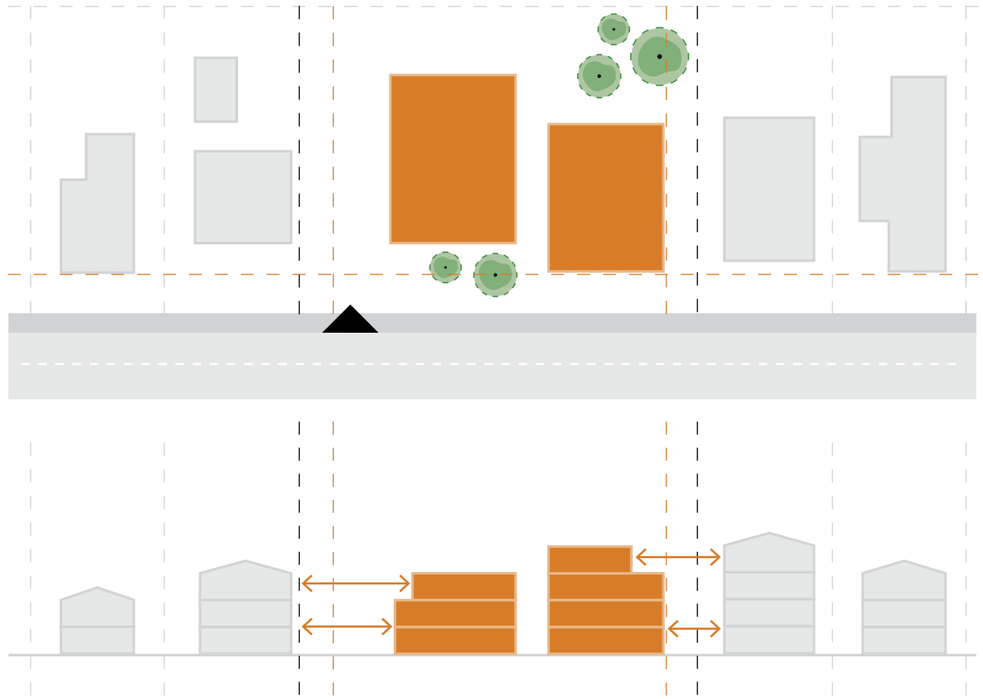


Fig 4. Site cover and building separation responding to the context and scale of neighbouring development and opportunities for tree retention.

KEY

- Lot boundary
- Required setbacks
- Building separation
- Vehicle crossover
- Trees

SETBACKS

Setbacks refer to the alignment of buildings along the street (front setback), and to neighbouring properties (side and rear setbacks). They play an important role in spatially defining the relationship between a new development and its surroundings, including heritage places.

Design response:

- For front setbacks, respond to the prevailing street pattern and maintain consistency where it positively contributes to the streetscape.
- In areas experiencing change and increased density, align front setbacks with the desired future character of the street.
- Where front setbacks are required, design them to give something back to the public domain; improve streetscape quality and enable passive surveillance by providing plantings or a place to pause.
- For side and rear setbacks, prioritise visual and acoustic privacy, tree planting and retention; use the development's mass and scale to inform setbacks.

Site response

Site response guides how the mass, scale and form of a building responds to its local context and the topography and landscape it sits within.

Site response establishes the suitable scale for future development, considering the size and height in relation to the streetscape, as well as block and lot dimensions. Site response is an important early step in creating a well-designed place for residents to enjoy and neighbours to interact with.

BUILDING FORM

The form of a building refers to its physical shape, structure and overall appearance. The form is a critical aspect of architectural design. It contributes to the building's aesthetic and the way it is perceived in the surrounding context.

Design response:

- Consider the relationship to the existing context, urban patterns and desired future character of the locality. Test massing arrangements as the starting point for the design response.
- Use contextually appropriate forms as a way to positively respond to neighbouring buildings and mitigate the effects of building mass and site cover.
- Respond to special characteristics such as heritage, views and topography, and orientate building form to maximise sunlight from the north.
- Avoid repetitive building forms and design elements, particularly on sites comparatively large for their context, to assist with integrating new development in established neighbourhoods.

BUILDING SCALE

Building scale is how the combined footprint and height of a building in its three-dimensional form is viewed. Appropriate building scale is representative of how well a development relates to its setting and topography, including neighbouring buildings. It also defines the physical proportions of our streets and public spaces.

Design response:

- Demonstrate that the design thinking process goes beyond planning scheme requirements and creates an appropriate mass and scale relative to the site context, neighbouring buildings and desired future character.
- Set a scale that limits impacts on solar access and visual privacy in neighbouring sites.
- Consider the future development potential of adjoining lots.
- Ensure the relationship between scale and mass is considered on sites with complex built and natural features (e.g. landforms or steep topography).
- Ensure the relationship between scale and site cover encourages tree retention and deep soil zones.

THE ROLE OF SCALE

While building height often dominates planning discussions, it is not the most significant factor impacting our neighbourhoods. Taller buildings that are well designed and respond to their context can deliver significantly better outcomes for residents and neighbours than ill-considered, low rise buildings that are bulky and not responsive to site conditions or context.

SLOPING SITES

Development on sloping sites comes with extra complexity. The design process should work with the natural topography of the land and visually limit extensive earthworks which can affect the site's natural drainage and water flows, soil stability, and increase engineering requirements for retaining walls.

Design response:

- Work with the natural characteristics of sloping sites to reduce the amount of cut and fill required.
- Site the development in response to slope and potential for overshadowing and overlooking.
- Where external level changes are needed, consider using a terraced approach and incorporate plantings to screen retaining walls.
- Ensure water management and drainage solutions are designed to effectively manage flow direction and mitigate surface erosion.
- Consider vehicle entry and garage location to minimise cut and fill.
- Ensure the siting and design of pedestrian entries can accommodate residents with limited mobility.

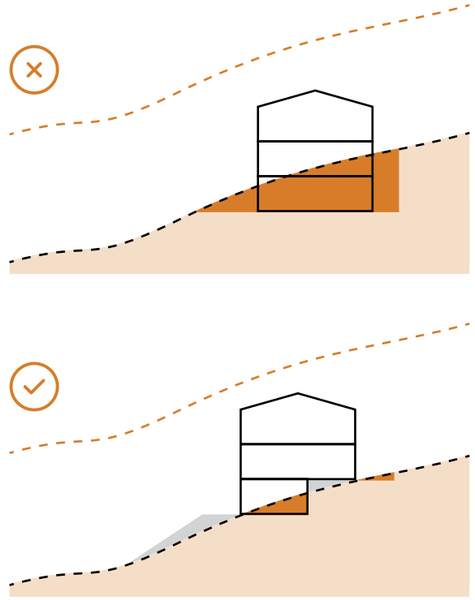


Fig 5. Approaches to development on sloping sites and resulting earthworks.

KEY

- - - - **Natural ground level**
- - - - **Maximum building height**

Streetscape

A well-designed frontage welcomes visitors, improves public safety and access, and delivers overall benefits to future residents and the community.

The way landscaping, fencing and access points present to and interact with the street are all important considerations when achieving an active and pleasing transition between public and private space.

BUILDING ENTRIES

Building entries that consider the relationship between landscaping, privacy, and access are better placed to address the street in a unique and personalised manner. These considerations help to create an identity for each dwelling which fosters a sense of ownership for residents while contributing variety and interest to the streetscape.

Design response:

- Clearly define building entries and make them visible from key access points.
- Ensure building entries are of a sufficient size to allow community connections and informal interactions between residents, neighbours and the public.
- Ensure the form and treatment of entries fosters a sense of security and opportunities for passive surveillance.
- Prioritise weather protection and privacy and provide visual interest when designing building entries.

PUBLIC DOMAIN INTERFACE

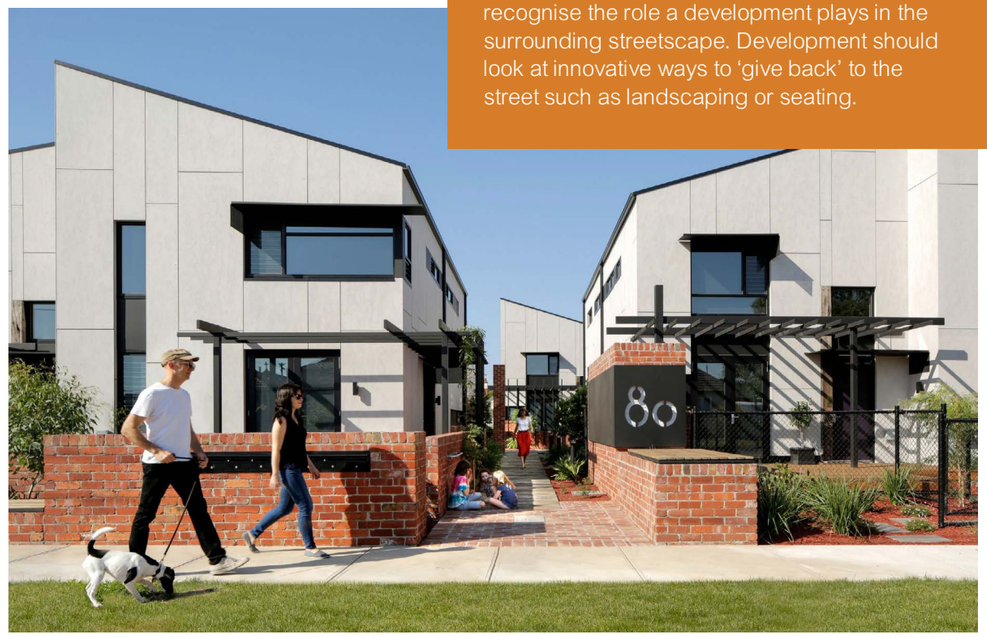
The public domain interface is a transition area and refers to the space where development meets public land. The interface is an important contributor to the streetscape and a place where residents and the community can interact.

Design response:

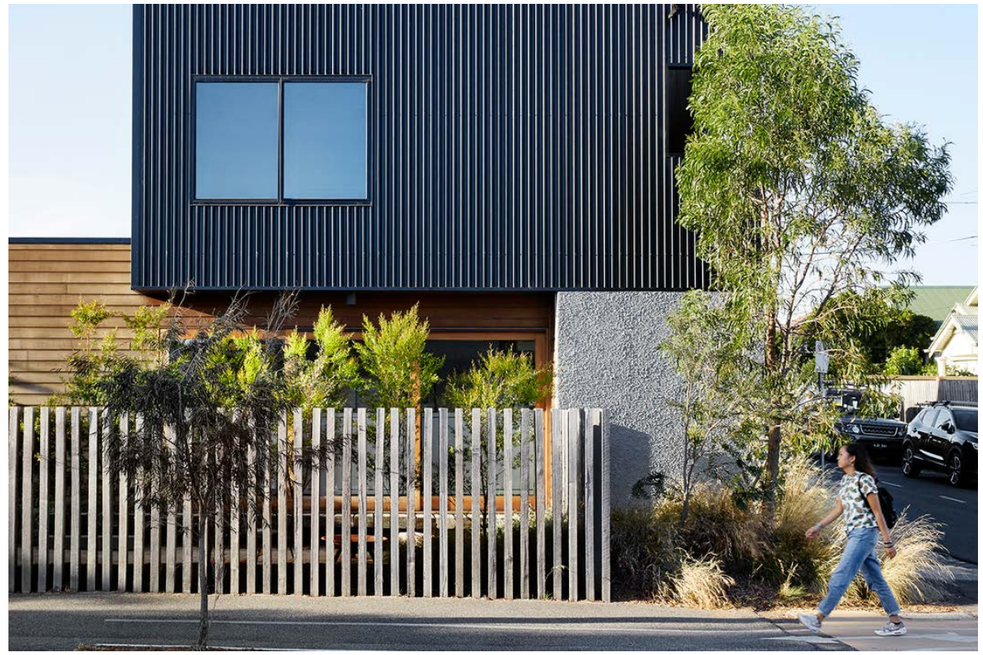
- Ensure the development contributes to the vibrancy and safety of the public domain and creates a positive relationship with adjoining properties.
- Consider how material, landscape and colour selection can improve how the development is viewed from the street. This extends to fences and gates.
- Ensure the public domain interface is easily identifiable for residents and visitors and provides clear and legible wayfinding.
- Maximise opportunities for passive surveillance through street-facing window and balcony placement; avoid blank walls and high fences.
- Integrate vehicle access with the streetscape rather than letting it dominate through bulky garages and excessive hardstand.
- Consider opportunities to provide pedestrian connections through sites to improve the walkability and permeability of large blocks.

GIVE BACK TO THE STREET

As densities increase, it is important to recognise the role a development plays in the surrounding streetscape. Development should look at innovative ways to 'give back' to the street such as landscaping or seating.



Open entry treatment provides an attractive view towards the dwellings and communal gardens.



Frontage landscaping, visually permeable fencing, and overall building form contributes to the streetscape, while considered changes in materials connect to the surrounds.

Top: Clyde Mews by Six Degrees Architects. Photography by Alice Hutchison. Bottom: North Street by HIP V. HYPE. Photography by Tess Kelly.

The building

Built form, design details and internal layout are essential elements in creating great places for people to live. The relationship between these ingredients is even more important as we look to increase density.

Thoughtfully designed residential buildings optimise orientation and provide a connection to the outdoors. When done well, this can facilitate solar access, natural ventilation and an appealing outlook, which in turn contribute to resident amenity and building performance. In addition, high-quality design considers future redevelopment opportunities on neighbouring sites to ensure the benefits of well-designed built outcomes can be equally shared. Future residents and their neighbours will benefit from residential design done well.

DESIGN PROMPTS

- ☐ Has an appropriate density and yield been achieved without compromising dwelling function and resident and neighbour amenity?
- ☐ How does the overall layout share amenity equitably among the proposed dwellings?
- ☐ How does the internal layout of the building provide for the functional needs of the intended number of occupants?
- ☐ What types of internal and external storage spaces have been provided for residents?
- ☐ How do shared amenities and circulation spaces help build a sense of community among residents?
- ☐ How has the design process considered the Livable Housing Design Standard?
- ☐ What Crime Prevention Through Environmental Design (CPTED) principles have been applied to the design?
- ☐ How has the design process considered adaptive reuse or repurposing materials?

LINKING DESIGN AND AMENITY

Providing access to sunlight and a considered materials palette helps to create buildings that prioritise collective amenity and quality design.

Slate, Brighton by Maynard Architects. Photography by Tess Kelly

Dwelling design

As we look to increase housing densities, we must also ensure that we create efficient, flexible, and high amenity spaces for future residents, and their changing needs.

A well-designed dwelling provides functional benefits such as sunlight and fresh air in key living spaces, adequate privacy and comfort in private open spaces, and a sense of address.

DWELLING MIX

A mix of dwelling types and sizes provides better housing choice and supports housing diversity. By accommodating a range of household types, medium density development can support the needs of the community now and into the future. This is particularly important for apartment buildings which are often a long term part of our urban areas and have less opportunity to be renovated.

Design response:

- Design for flexible configurations to support diverse household types and stages of life including single person households, families, multi-generational families and group households.
- Consider social and affordable housing demand and the needs of different cultural and socioeconomic groups.
- Provide a mix of dwelling sizes in larger developments.
- Prioritise larger apartments on the ground floor or roof level where there is potential for more open space, or on corners where more building frontage is available.

DWELLING LAYOUT

Dwelling layout refers to the location and arrangement of rooms in a dwelling. It shapes the way we move through a space and the way different rooms function; it also considers their intended use, their size and the spaces that join them.

Dwelling layout is an important factor in providing resident amenity as it dictates how a design can deliver sunlight, fresh air, and privacy. It is important that dwelling layout also considers open space connections and outlook.

Design response:

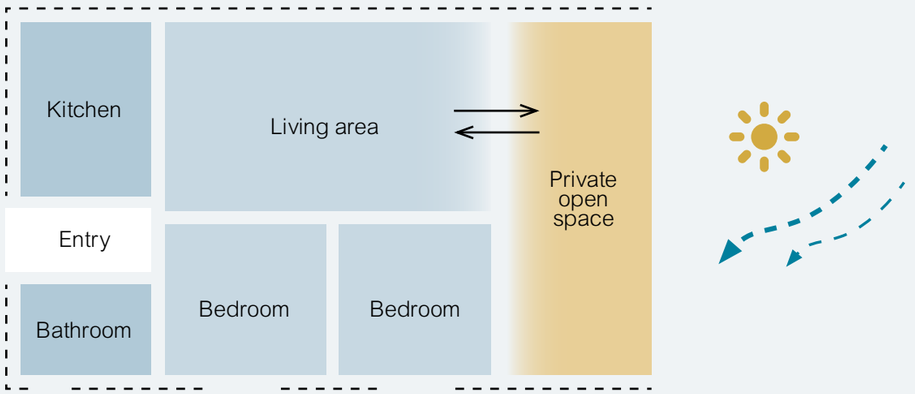
- Balance resident privacy and opportunities for indoor-outdoor connections.
- Minimise long corridors and ensure circulation areas are efficient, and where possible, design them to serve more than one function, including resident interaction.
- Prioritise north-facing dwellings and actively minimise south-facing dwellings.
- Provide multiple dwelling aspects in order to maximise daylight and allow for cross ventilation.
- Consider the size and arrangement of spaces in relation to varying performance levels under the Livable Housing Design Standard.

Ferrars & York by Six Degrees Architects and HIP V. HYPE. Photography by Tess Kelly Samee Lapham.

Dwelling layout prioritises flexibility, opportunities for solar access and ventilation while connecting internal and external spaces.

DWELLING LAYOUT

Fig 6. The internal and external layout of dwellings can be considered in zones relating to how they're used by residents. This will influence how each zone is positioned to receive sunlight and ventilation, to provide privacy, and to connect to open space.



MATERIAL SELECTION

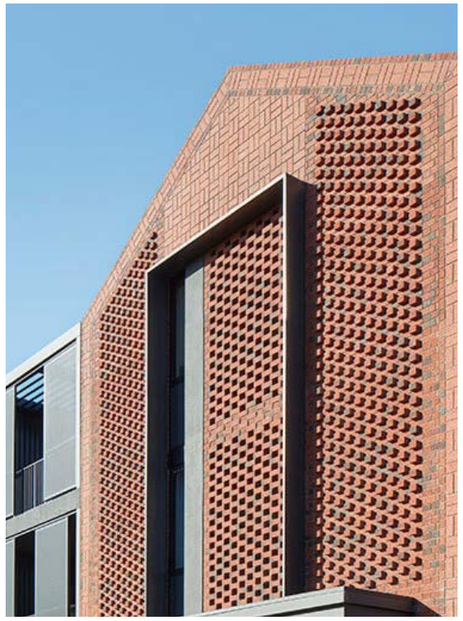
Good design uses an informed approach to material selection that considers texture, colour, durability, climate and visual appeal. It is important to remember that material selection goes beyond the building facade. It should be considered when designing fences and street walls and parking, waste and storage areas.

Material selection contributes to the development's carbon impact; robust materials that maintain their visual appearance and structural integrity are generally more sustainable throughout the life of the development. It is also important that development considers opportunities for adaptive reuse of existing building fabric to reduce the embodied energy and waste impact associated with demolition and new construction.

Design response:

- Use local, sustainably sourced or recycled materials where possible, particularly those reflective of the Tasmanian landscape.
- Reinforce the residential use of the building through material selection; avoid treatments that are common in commercial construction such as overtly prefabricated panels or flat untextured surfaces.
- Provide an illustrated materials schedule with a development application; specify the material type, finish and colour, and where it will be used.
- Use materials that respond to surrounding development in a positive and complementary way.
- Prioritise materials with no toxic emissions for the health and safety of residents and those in the construction industry.
- Ensure the design of individual dwellings within a development provides a clear sense of address and home coming for residents.
- Avoid large areas of high reflectivity on facades.
- Balance visual interest through a limited selection of different materials without creating visual clutter.

Timber battens provide vertical and horizontal expression and respond to natural settings.

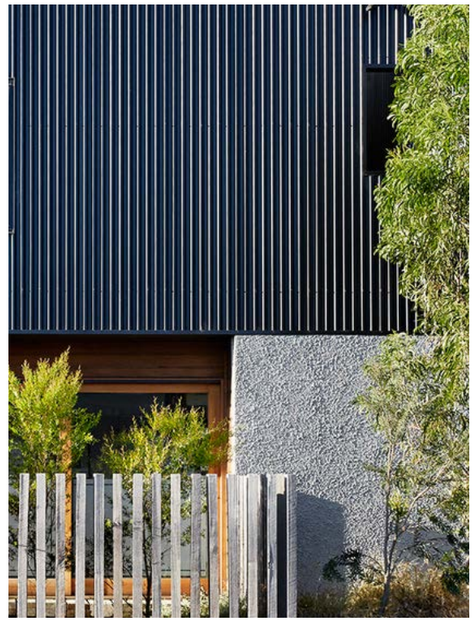


Textured brick treatments provide depth and shadow to the facade.

Top: Heller Street Residence by Six Degrees Architects. Photography by Patrick Rodriguez. Bottom: Clifton Central by MJA Studio. Photography by Jack Lovel.

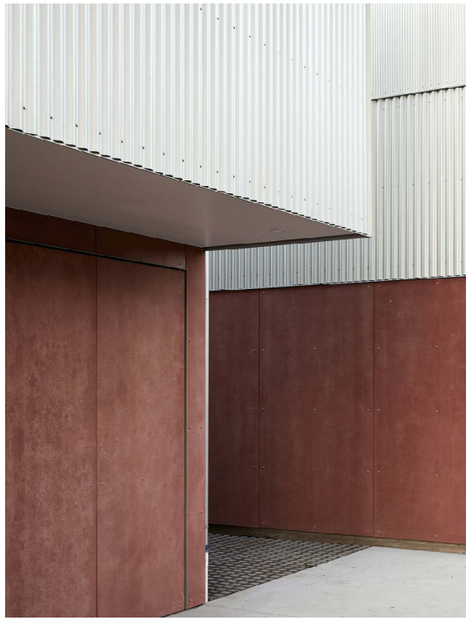
Top: Goulburn Street Housing by Cumulus Studio. Photography by Adam Gibson. Bottom: North Street by HIP V. HYPE. Photography by Tess Kelly.

Brick finishes are complementary to local heritage and provide durability.



Materials allow for connections between residents and passers-by.

Colours and materials seamlessly integrate with landscape features.



Practical and durable materials change with shifting light and shadows.

Top: Anne Street Garden Villas by Anna O'Gorman. Photography by Christopher Frederick Jones. Bottom: Maggie Street by Curious Practice. Photography by Alex McIntyre.

FACADE DESIGN

Front facades create an important contribution to the streetscape, while side and rear facades can influence the amenity of neighbouring sites.

Facade design should be cohesive and articulate the building form and design elements in a contextually appropriate way. A simple and considered approach provides residents and visitors with a legible development that is welcoming and accessible.

Design response:

- Design facades to reflect the layout and structure of internal dwellings.
- Provide shadow and depth to a facade through articulation of doors and windows without creating visual clutter.
- Avoid blank facades without windows facing a street or public space, including visually obtrusive garage entries.
- Integrate or screen services and utilities so as not to dominate the facade design or roof silhouette.
- Provide active frontages in mixed use developments (e.g. ground floor retail and hospitality uses) to promote social interaction and streetscape activation.

ROOF DESIGN

The roof is an important element of the overall design and structure of a building. It should be approached as a design opportunity that can positively contribute to the local context and outlook. As densities increase, roofs can provide opportunities for additional loft dwellings or communal open space.

They can add to the environmental sustainability of buildings through optimising orientation for solar panels and water capture. Roof forms can also be used to respond to the surrounding context and reduce the perceived height of buildings.

Design response:

- Use roof treatments that integrate well into the building design and respond positively to the streetscape.
- Design roof forms that are simple, uncluttered and visually appealing.
- On sloping sites, design the roof as the fifth facade which is often viewed from above from adjacent/other elevated properties.
- In larger developments, consider subtle but consistent variations in roof form to add visual interest to the streetscape.
- Orientate solar panels towards a northerly aspect where possible to maximise efficiency.

LIVEABLE HOUSING DESIGN

Tasmania is home to a diverse population with changing needs. Employing liveable housing design principles in housing development ensures we can provide for an aging population, young children and families, and people living with a disability.

Incorporating liveable housing design principles as we increase housing densities helps to deliver more inclusive and robust housing stock. It ensures that simple and practical design features are incorporated into new buildings that would be difficult and costly to retrofit at a later date.

Design response:

- Consider how a range of users might access a dwelling and promote dignified access for a community with different needs (e.g. wheelchairs, mobility scooters, prams and bicycles).
- Design with the core principles of accessible housing design in mind; these include level access, ample doorway widths, and opportunities for ground level dwellings or lifts.
- Design to allow for retrofitting of mobility aids (e.g. grab rails) in the future.
- For two storey dwellings with three bedrooms or more, consider how needs can be met on the ground floor.

FLEXIBILITY AND ADAPTABILITY

As housing tenure and profiles change, so do the needs of residents and the way we use our homes. It is important to consider how dwelling design and layout can facilitate different and flexible uses, both now and into the future. This can span working from home offices, storage needs, and intergenerational family units.

Design response:

- Design the location of load bearing walls to facilitate a more flexible arrangement of future spaces.
- Provide internal storage to accommodate larger items such as sports equipment, bicycles, mobility devices and prams.
- Consider the mobility and accessibility needs of different generations and design spaces that can be easily modified to accommodate them.

LIVABLE HOUSING DESIGN STANDARD

According to the Australian Bureau of Statistics, approximately 26.8% of Tasmanians are living with disability, a significantly higher proportion than the national average of 17.7%.

Adhering to the Livable Housing Design Standard enables new dwellings to better meet the needs of the Tasmanian community. The National Construction Code requires dwellings in Tasmania to meet the Silver Livable Housing Design Standards

Dwelling amenity

Buildings that prioritise liveable housing design, thermal comfort and amenity are key to creating healthy and comfortable spaces for people to call home.

Design approaches that allow buildings to respond naturally to the seasons can result in reduced greenhouse gas emissions and lower operational costs for residents. Similarly, using liveable housing design principles can make homes suitable to a range of resident needs and abilities, and futureproof housing stock.

SOLAR AND DAYLIGHT ACCESS

Solar access and daylight access refers to the amount of direct and indirect sunlight a dwelling receives, without interference from other structures. It relates to seasonality and when to prioritise 'heat seeking' (winter) or 'shade seeking' (summer).

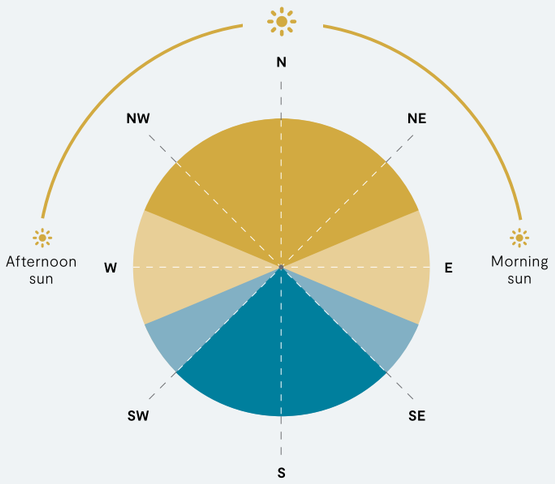
Orientating dwellings for optimal solar access and warmth can greatly improve energy efficiency, particularly in the Tasmanian climate. Good solar access also reduces reliance on energy intensive heating and improves overall dwelling comfort.

Design response:

- Prioritise access to sunlight in key living spaces and open spaces.
- Use shading devices to improve indoor comfort during summer (particularly westerly aspects), while allowing sunlight and warmth during winter.
- Design developments to allow solar access on neighbouring sites.
- Provide windows directed towards multiple aspects to maximise daylight in living areas.
- Ensure room depths allow for good daylight penetration and avoid dark interior spaces. A maximum depth of 7 meters is recommended for living areas and kitchens.

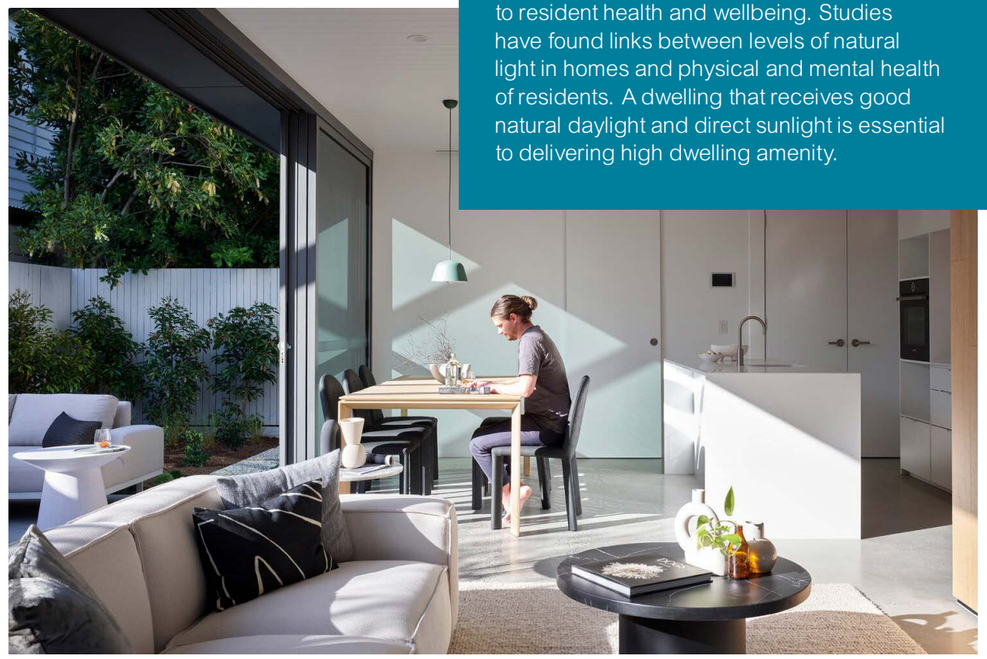
PATH OF THE SUN

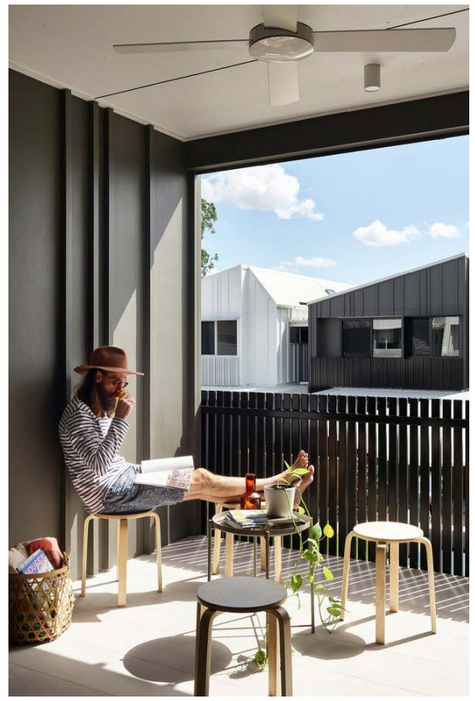
Fig 7. Sun path diagram showing the way window orientation affects solar access.



LET THE SUN SHINE IN

Access to adequate daylight is vitally important to resident health and wellbeing. Studies have found links between levels of natural light in homes and physical and mental health of residents. A dwelling that receives good natural daylight and direct sunlight is essential to delivering high dwelling amenity.





Bottom: Habitat on Juers by Refresh Studio for Architecture. Photography by Ravens At Odds / Scott Burrows.
Top: Hawthorn Siblings by Refresh Design. Photography by Scott Burrows

NATURAL VENTILATION

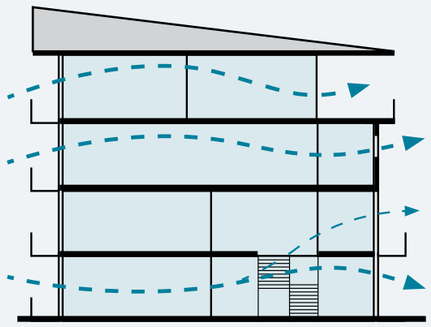
Natural ventilation is the flow of air between the outside and the inside of the building. Effective ventilation and passive cooling are important to reducing a dwelling's energy consumption in response to changing seasons.

Design response:

- Locate windows to enable natural air flow, and provide multiple aspects to enable cross ventilation.
- Balance ventilation with requirements for acoustic privacy and protection from strong prevailing winds.
- Ensure alternative sources of ventilation can be provided to dwellings in noise affected environments such as busy roads or adjacent to industry.
- Consider noise impacts where mechanical ventilation is proposed, such as the use of heat pumps.

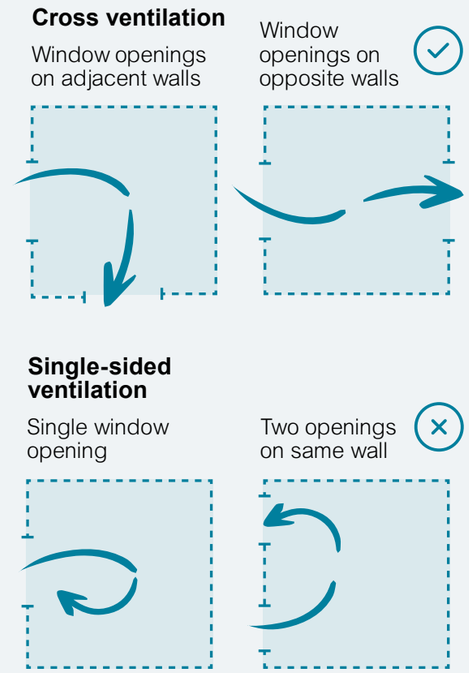
BUILDING VENTILATION

Fig 8. The location of windows and openings affects ventilation throughout a building. Providing dual aspect ventilation encourages air flow from prevailing winds.



WINDOW PLACEMENT

Fig 9. Window placement affects the level of ventilation provided through a dwelling, and influences how air moves through a space. Window placement that allows for cross ventilation provides greater air flow and should be prioritised in the design process.



THERMAL COMFORT

Thermal comfort refers to air quality and temperature and has a direct impact on resident health and wellbeing, as well as the amount of energy used for heating and cooling a dwelling. Thermal comfort is a critical consideration in a Tasmanian climate.

Design response:

- Incorporate passive design approaches to efficiently control dwelling temperatures throughout the seasons.
- Encourage heating and cooling systems that minimise energy loads.
- Consider how window size and placement can balance access to natural light with energy efficiency.
- Avoid heavily tinted glazing to maximise daylight and beneficial solar access.
- Insulate roofs, walls and floors and ensure window and door openings have seals to retain heat in winter months.
- When using high density materials such as concrete, consider its use and placement to maximise the benefits of high thermal mass.

ACOUSTIC PRIVACY

Acoustic privacy is achieved by managing the way sound travels between apartments and communal areas and between apartments within a building. Designing for acoustic privacy considers the site context, surrounding uses, building separation and how internal spaces are arranged in a building.

Design response:

- Locate window and door openings away from noise sources.
- Limit the acoustic impact of service infrastructure on sleeping and living areas.
- Locate storage and circulation areas to buffer noise from external sources.
- Use appropriate acoustic treatments for horizontal or vertical separation between dwellings.
- Consider the need for sound attenuation treatments between rooms, particularly in apartment development.

VISUAL PRIVACY

Visual privacy ensures private spaces can be enjoyed without overlooking between dwellings and neighbouring sites. It is influenced by site response and topography, and what is occurring on neighbouring sites. Good design ensures that the need for privacy is balanced with important design outcomes including outlook, natural ventilation and solar access.

Design response:

- Encourage the provision of adjustable privacy devices (such as fins, louvres, and balustrades) that allow for occupant choice in moderating their desired level of comfort.
- Where buildings are sited close together, position windows to look away from rather than towards existing neighbouring windows.
- Consider the location of windows and outdoor spaces on adjacent sites when situating balconies and openings.
- Provide privacy and safety for residents while maintaining the same for neighbours.
- Consider the needs and experiences of residents to ensure privacy and safety are provided accordingly.

The environment

Well designed housing provides residents with opportunities for outdoor recreation as an extension of the dwelling, and a visual and physical connection to the natural environment and climate. These connections provide residents with access to natural light and ventilation, space for food production and the opportunity for recreation in their own outdoor environment.

As we increase dwelling density, providing residents with meaningfully landscaped areas through a mix of communal and private open spaces becomes more important. Larger, consolidated outdoor spaces also provide environmental benefits through tree retention, urban gardens, biodiversity, and water management.

These spaces can take many forms, from a private balcony or courtyard, through to a shared roof terrace or communal garden. Importantly, these spaces work together to inform site planning and design processes. They also contribute to the greening of the site, streetscape, and broader neighbourhood.

DESIGN PROMPTS

- [ ] Has planting selection considered the local climate and natural biodiversity?
- [ ] Does the landscape provide spaces for play and recreation?
- [ ] Are open spaces functional, fit-for-purpose and easy to maintain?
- [ ] Is there adequate provision for deep soil and mature canopy trees?
- [ ] Does the landscape design contribute to the local streetscape and neighbourhood?
- [ ] Are communal areas safe, welcoming and fit for purpose?
- [ ] Does the landscape integrate with the built form?
- [ ] How is water managed across the site?
- [ ] Have climate impacts been managed effectively?

Clyde Mews by Six Degrees Architects. Photography by Alice Hutchison

INTEGRATING THE NATURAL ENVIRONMENT

Access and exposure to green spaces and mature trees provide endless benefits. Designs that actively prioiritise warm, welcoming green spaces are encouraged.

Landscaping

Thoughtful landscape design enhances the natural features of a site and contributes to overall site amenity.

Landscape design that is considered early in the development process and responds to the local context improves sustainability and amenity outcomes for residents, neighbours and the public. The best results come from a collaboration between designers, developers and builders to ensure that landscaping is a design priority, and never an afterthought.

DEEP SOIL ZONES

Deep soil zones are areas of soft landscaping with no obstructions above or below ground. They have sufficient area to support mature tree growth and natural drainage.

Design response:

- Identify deep soil zones during the context analysis and site planning phases to prioritise tree retention and co-location with communal and private open space.
- Ensure deep soil zones are suited to larger, long living shade trees and maximise tree canopy coverage.

TREE PLANTINGS

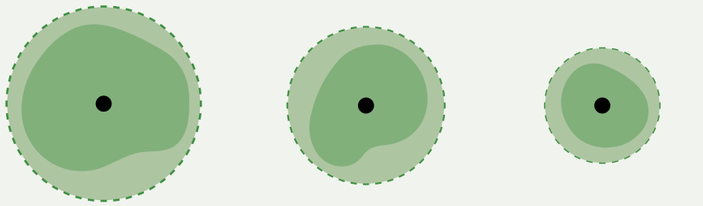
Tree retention and new tree plantings not only improve site resilience and amenity, they also deliver positive biodiversity and amenity outcomes for the surrounding neighbourhood.

Design response:

- Prioritise the retention of existing moderate and high value trees with input from a suitably qualified arborist to ensure viability.
- Plant species that are climate resilient, and those that can provide shade in summer and access to sunlight in winter.
- Select species that suit the region's soil conditions and rainfall.

DEEP SOIL AREA

Fig 10. The approximate deep soil area required to support different sized trees at maturity.



Large tree	Medium tree	Small tree
Height: over 12m	Height: 8-12m	Height: 3-8m
Spread: over 9m	Spread: 6-9m	Spread: 2-6m
Deep soil area: 64m^2	Deep soil area: 36m^2	Deep soil area: 9m^2

VIEWS TO GREENING

Site greening in common view lines provides residents with a natural outlook and reduces the visual dominance of built form.

Design response:

- Prioritise site greening along driveways and at ends, and where it can be viewed from access points and open space areas.
- Provide opportunities for internal living spaces to have a green outlook and connection to nature.
- On sites with views to iconic or significant natural features, protect and enhance views.

LANDSCAPE DESIGN

The approach to landscape design should consider the needs of future residents, including their comfort, safety, and capacity for ongoing maintenance. It should also consider the site's existing natural setting, climate and topography.

Design response:

- Engage the services of a suitably qualified landscape architect to provide a well-considered landscape plan which clearly specifies hard landscaping and soft landscaping elements.
- Select materials that are robust and sustainable, particularly for driveways, open space, and high use areas. Where possible, prioritise the use of permeable pavements.
- Prioritise soft plantings in common areas to create buffers between dwellings, parking areas and open space.
- Provide productive garden areas for residents and consider the inclusion of indigenous and endemic plant species.
- Ensure lighting arrangements promote resident safety and limit impacts to dwellings and neighbouring development.

CONTRIBUTING TO CANOPY COVER

The City of Hobart has an ambitious target of increasing tree canopy cover across its urban areas to 40% by 2046. The benefits of urban greening and canopy cover are vast - not only for the environment but also for the economy, for physical and mental health, and for future generations.

To achieve such targets, development must consider Australian Standard 4970-2009 which provides guidance on the principles for protecting trees on land subject to development.

Hawthorn Siblings by Refresh Design. Photography by Scott Burrows

Open space

Open spaces can take many forms, from shared gardens and rooftops to private courtyards and balconies. They provide residents with green outlooks and connections to nature, and they enhance opportunities for an indoor-outdoor lifestyle.

Communal open spaces play a key role in supporting connected communities. They should be located, designed and managed in a way that allows residents to interact, to socialise and to play safely. Private open spaces that are well-designed and sited can expand primary living spaces and improve dwelling flexibility. The design of these spaces should prioritise functionality, comfort and amenity while also seeking to enhance the environmental performance of the dwelling.

The balance of communal and private open spaces within a development will be informed by a site's location and existing environment. Balconies may be appropriate for smaller sites when complemented by access to larger communal spaces or nearby public recreation areas. Larger sites may present opportunities to create shared food gardens in tandem with larger scale private terraces.

Outdoor living spaces are most functional when they can accommodate seating and landscaping relative to the size of the dwelling and are sited to respond to climate and site conditions. Where possible, these spaces should be orientated to a northerly or westerly aspect to obtain access to sunlight and shelter from prevailing winds.

COMMUNAL OPEN SPACE

Communal open space is an important component that contributes to the liveability of multiple dwelling developments. It provides residents with areas to socialise and recreate beyond their dwellings and private gardens.

These spaces provide a connection to the natural environment and important breathing room between dwellings. They also enhance the appeal of a development and the general wellbeing of residents.

Design response:

- Design spaces to be flexible enough to adapt to resident needs and connect to high-quality landscaping and deep soil zones.
- Ensure the scale, siting and design of communal open space responds to the density of the development and how many people it needs to serve.
- Design the enclosure and coverage of communal open space to respond to the local climate and provide good solar access.
- Incorporate flexible shelter systems so spaces can have indoor and outdoor functions depending on the seasons.
- Consider material and surface treatments to distinguish between private and public spaces.
- Consider communal gardens, BBQ areas or communal laundries to promote a sense of community.
- Consider how the use of communal open space will be managed or maintained by residents or body corporate.
- Consider increasing communal open space in line with a reduction in private open space in instances where communal living or co-housing is intended (e.g. student accommodation). Such space should be designed to facilitate social interaction, be easily accessible and feature quality landscaping.

OPEN SPACE AND RESIDENT WELLBEING

Shared spaces provide a range of important social benefits. They promote a sense of belonging and enable community resilience, social engagement, and social support. Time spent in well-designed communal areas enhances the way residents value these spaces and each other.

Buildings that offer generous shared spaces, such as communal laundries, food gardens and outdoor cooking areas provide more opportunities for neighbours to meet and create community.

Habitat on Juers by Refresh Studio for Architecture. Photography by Ravens At Odds / Scott Burrows

PRIVATE OPEN SPACE

Private open spaces, such as balconies and courtyards should create a safe and private space for residents to enjoy. The size, siting, and design of private open space will be influenced by a range of factors including dwelling size, orientation, and connections to landscaping and views.

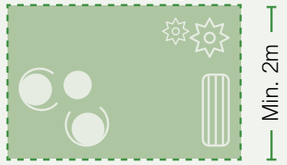
Design response:

- Design the space to be of sufficient size and configuration to provide residents with flexibility and functionality.
- Prioritise direct physical and visual connections between private open space and primary living areas.
- Find a good balance between privacy and an appealing outlook from the dwelling to external spaces.
- Ensure privacy screening devices do not compromise the outlook and daylight to private open spaces.
- Respond to the Tasmanian climate when designing private open space: glazed or semi-enclosed spaces may be more suitable than exposed ones where facing south, or toward a prevailing wind.
- Avoid locating services such as air conditioning units on balconies. Alternatively, increase the size of the balcony by 1.5m^2 to maintain functionality.

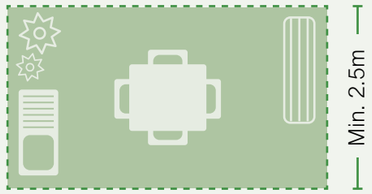
BALCONIES AND COURTYARDS

Fig 11. The recommended private open space areas to be provided for different sized dwellings and the types of features they should accommodate. These figures are most applicable to apartment balconies and ground floor courtyards.

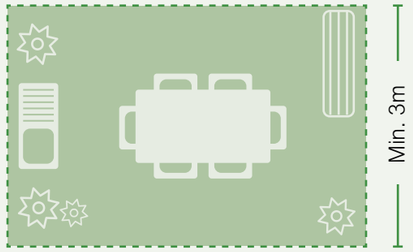
One bedroom (8-10m^2)
Two-person seating area and clothes drying.



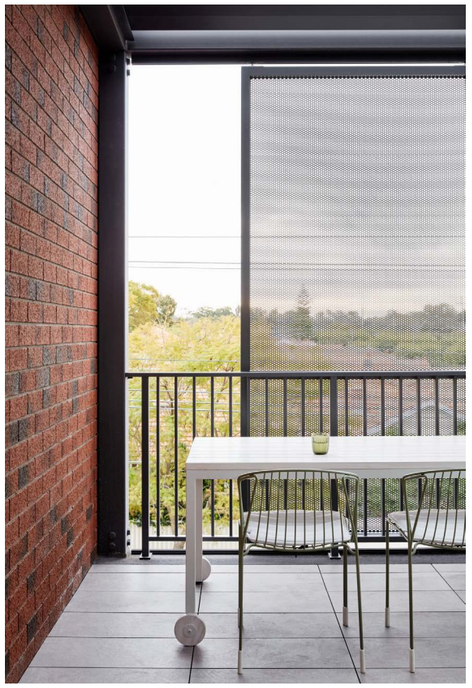
Two bedrooms (10-12m^2)
Four-person table and seating area, planting, BBQ, and clothes drying.



Three + bedrooms (12-15m^2)
Six-person table and seating area, planting, BBQ, and clothes drying.



Top left: Habitat on Juers by Refresh Studio for Architecture. Photography by Ravens At Odds / Scott Burrows. Bottom left: Ferrars & York by Six Degrees Architects and HIP V. HYPE. Photography by Tess Kelly Samee Lapham. Top right: Umarkoo Wayi – Ganbu Guljin by Breathe. Photography by Andrew Wuttke. Bottom right: Clifton Central by MJA Studio. Photography by Jack Lovel.



Climate Resilience

The global climate is changing, and while Tasmania has a traditionally temperate climate, there are areas across the state that are already experiencing the impacts of changing weather patterns.

By the end of the century, Tasmania will experience warmer average temperatures, additional extreme hot weather days, and more intense rainfall events. Given buildings are designed to last well over 50 years, they should be designed with these trends in mind to ensure they meet the needs of both the existing and future climate.

Effective and sustainable design must also consider the climate change risk to a site arising from land hazards such as coastal inundation, flooding and bushfire. Additionally, as the climate changes there is a need to consider the water cycle at all stages of the design process. This includes early site planning that prioritises deep soil zones for drainage, the design of dwellings and circulation spaces that can capture and recycle stormwater and wastewater, and landscaping that is appropriate for local and future rainfall patterns.

STORMWATER MANAGEMENT

Best practice water management considers all aspects of the water cycle including drinking water, rainwater, groundwater and wastewater. It also considers how a development may impact the quantity and quality of site runoff.

The correct management of stormwater can prevent potential impacts to people and property in flood events, minimise soil erosion, and limit pollution of local waterways.

Excessive use of hard surface materials such as concrete, bitumen and paving can increase stormwater runoff across a site as well as reduce stormwater quality. In comparison, permeable surfaces enable water to be absorbed directly into the ground and help filter pollutants, creating a development that is gentler on the water cycle.

Design response:

- Design buildings to reduce the need for potable water for irrigation of landscaped areas. Consider rainwater tanks which will also deliver improvement to stormwater quality.
- Integrate swales and rain gardens in the landscaping design or other water sensitive urban design (WSUD) measures to support natural stormwater management.
- Ensure WSUD measures respond to the site's soil conditions and local climate and weather patterns.
- Avoid expansive concrete driveways which encourage stormwater runoff. These also become heat sinks in summer (see urban heat and bushfire).
- Use permeable systems and materials in shared spaces such as car parks, terraces or pedestrian paths.
- Break up large areas of impermeable surfaces with landscaping or other permeable surface treatments.

RAIN WATER CAPTURE

Rain water tanks come in a range of shapes and sizes to integrate with built form. They are also an excellent way to help manage stormwater quality and reduce potable water use.

Stevens Street by Officer Woods Architects. Photography by Robert Frith, Acorn

SEA LEVEL RISE AND FLOOD RISK

The effects of climate change increase the potential for water from the coast, rivers and other drainage lines to inundate land during rainfall events and high tides. A resilient development is one which mitigates risk to people and property arising from these events.

Design response:

- Consider available data. Contact your local council or review publicly available information through websites such as the LIST Map or Tas Alert RiskReady to understand whether your site may be impacted in the future.
- Include contingency in your design response to flood risk including raising finished floor levels for added protection, and siting development and infrastructure to avoid areas of risk.
- Where potential inundation areas on a site cannot be avoided, consider responses such as waterproofing with flood resistant barriers or materials such as concrete or tiles.

URBAN HEAT AND BUSHFIRE

As the climate warms and Tasmania experiences extended summer periods, the design process will need to place a greater focus on cooling solutions.

Design response:

- Consolidate shared hardstand surfaces and increase areas for soft landscaping to reduce heat absorption and keep the site cool in summer.
- Specify light coloured horizontal surfaces to reduce potential for trapping urban heat.
- Provide flexible or adjustable shade protection for large north and west facing windows.
- Consider vegetation location and choice near large windows to offer protection during summer and solar access across the colder months.
- Consider building form, siting, materials and landscaping choices that improve resilience to bushfire. These include non-combustable materials, perimeter pathways, appropriate fire separation distances, and understanding the applicable Bushfire Attack Level.

The services

The use and functionality of a dwelling extends beyond the built form. The way we access our homes and shared spaces is an important design consideration, whether on foot, cycling or in a vehicle.

Access and movement in medium density development should safely cater to multiple resident groups and transport modes; best practice puts pedestrians at the top of the movement hierarchy.

Our homes require site services to keep the lights on, keep water running and to keep us safe and connected. They are an important part of all residential development, and their location and design should be well integrated into the streetscape to have a positive impact on resident amenity and the public domain.

DESIGN PROMPTS

- ☐ Is pedestrian access easy to find and safely connected to the public domain?
- ☐ Are vehicular access points sited and designed to minimise streetscape impacts?
- ☐ Has safe and accessible parking been provided for alternative modes of transport?
- ☐ Are waste management areas screened from the public domain?
- ☐ Are site services suitably screened from neighbouring properties and the streetscape?
- ☐ Do waste management areas consider other resource recovery streams to divert additional resources from landfill?

DRIVEWAYS AS SHARED SPACES

The permeable cobblestone driveway treatment emphasises the shared nature of the space, elevating pedestrian priority and slowing vehicle movements.

Ruskin Elwood by HIP V. HYPE and Fieldwork Architects. Photography by Tess Kelly

Parking and access

By its nature, medium density housing will provide for a diverse resident base with a range of transport needs – from private vehicle, bicycles and motorbikes to car shares, electric vehicles (EVs), prams and mobility scooters. Importantly, parking and access should be informed by the needs of residents and their visitors.

Parking design should be informed by broader strategic planning initiatives. It should also reflect future transport trends and a site's proximity to services and infrastructure.

As densities increase, the space required to meet on-site parking allocations can be significant. This may compromise the space and quality afforded to living areas, outdoor space and landscaping. It is important to prioritise an integrated parking and access arrangement that can contribute to site safety and amenity, rather than reduce it.

PARKING DESIGN

Recessed garages and interspersed landscaping soften the presence of car-centric building elements while increasing amenity, shade and canopy cover.

Hamilton Hill Affordable Homes by MDC Architects. Photography by Dion Robeson

CAR PARKING

Car parking design should provide a balanced response to a range of factors, including site topography, housing type, resident and visitor needs, and the location of private and shared open space.

Beyond the site, considerations include the proximity and availability of public and active transport infrastructure and broader streetscape and local amenity impacts. Parking should also be considered as part of the landscape design process with a strong preference for tree planting and permeable materials.

Design response:

- Reduce car dominance by minimising the length of driveways and avoiding individual parking entries for each dwelling.
- Consolidate or cluster parking areas to allow for additional landscaping or other uses, such as recreation and play, when cars are not present. This is particularly applicable to visitor parking.
- Where individual garages are provided, prioritise adaptability and access to natural light and ventilation.
- Where car parking is external to the building form, consider integrating the car parking into the landscaping to reduce its dominance.
- Incorporate car share spaces for larger developments and EV charging capacity in parking areas.
- Consider how parking interacts with the streetscape and avoid parking and hardstand in front setback areas.

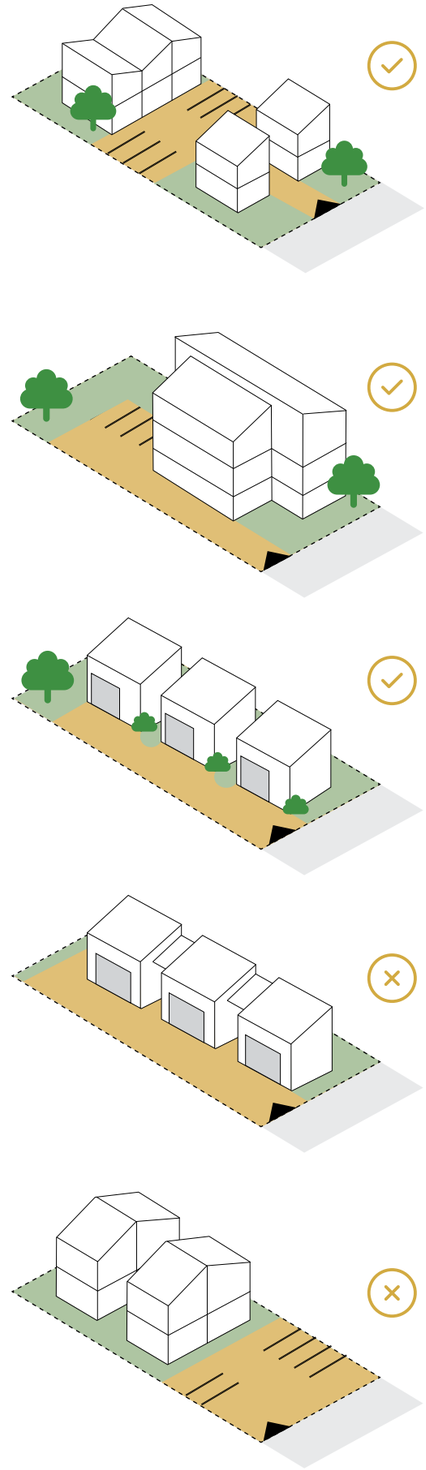


Fig 12. Car parking that creates more space for landscaping and deep soil areas should be encouraged.

CIRCULATION AND ACCESS

Circulation and access relate to the way vehicles, bicycles and pedestrians enter, exit and move through a site. Circulation and access should be an early consideration in the design process to enable safe vehicle and pedestrian movements.

Design response:

- Separate pedestrian and vehicle access and provide clear sight lines between them and to the street.
- Ensure common circulation areas are well lit, accessible and easy to identify from building entries.
- Design driveways as shared spaces using alternative materials and soft landscaping that promote slow vehicle movement and prioritise pedestrians.
- Ensure circulation spaces provide adequate access and turning space for service vehicles such as waste removal trucks and emergency services.
- Consider the Tasmanian climate when designing pedestrian access and incorporate weather protection in areas such as walkways and building entrances.

BICYCLE PARKING

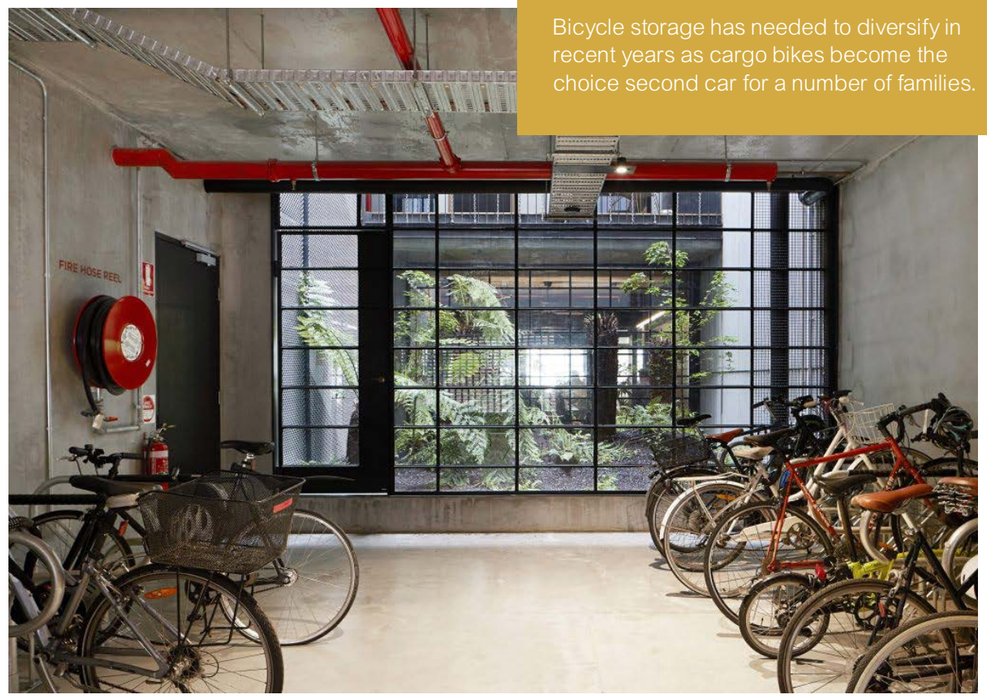
The design and provision of wheel-in bicycle parking and associated facilities should respond to the type and scale of development. The key aim is to ensure facilities are accessible, secure, and fit-for-purpose. To cater to a range of residents, consider parking for other modes such as cargo bikes, scooters, mobility devices and prams.

Design response:

- Provide parking in a designated, ventilated and secure area that enables residents to easily access their bikes.
- Where resident parking is provided in a car park or garage, ensure bikes and cars can move safely and independently.
- Provide appropriate shelter for visitor bicycle parking areas and locate them near dwelling entries.
- Provide universally accessible, time-limited charging points for e-bikes and mobility scooters.
- Provide for a range of bicycle types and sizes, including smaller children's bikes as well as larger heavier cargo or e-bikes which cannot easily be lifted.

BICYCLE STORAGE

Bicycle storage has needed to diversify in recent years as cargo bikes become the choice second car for a number of families.



Nightingale 1.0 Breathe Architecture. Photography by Shannon McGrath.

Site services

Few things make a building more unappealing than obtrusive services sticking out on balconies, roofs, facades or frontages, not integrated into alcoves, or without covers or screening.

By thinking about services upfront, and incorporating room for them into the design, you are able to reduce their visual impact, in some cases making them disappear from view altogether.

UTILITIES

Medium density development may need a range of utilities and services, including home batteries, drainage pipes, heat pumps, meters, substations, fire hose reels and hydrants. Good design ensures that such items are located to maximise operational efficiently and well integrated to minimise streetscape impacts while making them safe to access and maintain.

Design response:

- Consult with service providers early in the design process to ensure services are accessible and compliant.
- Restrict energy infrastructure to electricity only, to maximise Tasmania's natural advantage in renewable energy and to reduce carbon emissions.
- Ensure sustainability infrastructure, such as solar panels and rainwater tanks, are optimally located to respond to local climate to maximise their performance.
- Screen utilities in the front setback, or soften them with landscaping, fencing or covers.
- Ensure access is provided for the maintenance of utilities and services.

STORAGE

Adequate storage is an important factor in medium density development. Storage areas should be functional, secure and easily accessible, whether from shared spaces or in individual dwellings.

Design response:

- Provide storage space in proportion to dwelling size and that is capable of housing bulky items, such as sports equipment.
- Ensure storage areas located in shared spaces, such as car parks, are well lit and have good passive surveillance and security.
- Provide adequate storage space for household goods in internal spaces such as kitchens and laundries.

DWELLING STORAGE

Fig 13. The recommended storage space to be provided for different sized dwellings. This is in addition to storage provided in kitchens, bathrooms and bedrooms.

Studio / one bedroom | Two bedrooms | Three or more bedrooms

WASTE MANAGEMENT

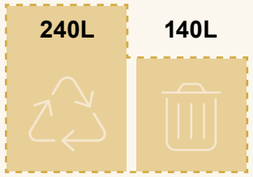
Effectively managing and minimising waste is important for achieving good amenity and environmental outcomes. Like all services, waste management should be considered early in the design process to ensure adequate space and access can be provided.

Design response:

- Engage with local council to understand and plan for the relevant waste requirements.
- Prepare a waste management plan that addresses the construction and operational phases of the development.
- Show dedicated waste storage and collection areas on plans and ensure they are large enough for the required number of rubbish, recycling and green waste bins based on local requirements.
- Position waste areas in a secure and convenient location which is readily accessible for residents and waste collection services.
- Instead of individual bin storage for each unit, create centralised waste collection areas that serve multiple dwellings. This reduces the space needed for bins and simplifies collection logistics.
- Design waste areas to be well ventilated and screened from the public domain and open space areas.
- Include composting facilities for communal open spaces that incorporate food gardens.
- Consider the recovery of additional streams including e-waste, textiles and soft plastics.

BIN STORAGE

Fig 14. The approximate bin storage requirements for different sized bins.



Standard two bin system requires approximately one square metre of space.

Standard three bin system requires approximately 1.5 square metres of space.

ORGANIC WASTE SYSTEMS

Councils have introduced Food Organics and Garden Organics (FOGO) bins as part of their commitment to reducing waste and promoting sustainability. Where available, FOGO bins should be provided in new residential developments.

Glossary

Accessibility

The measure of how safely and efficiently a person of any age, ability or income, can access or move through a space.

Acoustic privacy

A measure of sound insulation between dwellings, between dwellings and communal areas, and between external and internal spaces.

Activity centre

A place that provides a focus for retail, commercial, services, employment, and social interaction in cities and towns.

Adaptable housing

Housing that is designed and built to accommodate future changes to suit occupants with mobility impairment or life cycle needs.

Adaptive reuse

The renovation and reuse of pre-existing buildings for new purposes.

Affordable Housing

Housing for purchase and rental, including social housing, that is appropriate for the needs of very low-, low- and moderate-income households. This is generally understood to mean housing that costs no more than 30 percent of a household's gross income.

Amenity

Qualities that make or contribute to making a place, building or dwelling harmonious, pleasant or enjoyable.

Building height

The vertical distance from existing ground level at any point to the uppermost part of a building directly above that point, excluding protrusions such as aerials, antennae, solar panels, chimneys and vents.

Bushfire Attack Level or BAL

An evaluation of the potential bushfire risk to a house or block of land based on conditions in the area immediately surrounding the site. This considers factors including the nature of the surrounding vegetation, its distance to the building area and the slope of the ground under the vegetation.

Canopy tree

A tree which at its expected mature size is capable of providing summer shade for a person.

Car share

A commercial system providing access to a shared pool of cars on demand for rent.

Circulation space

The common areas of a building used by residents such as foyers, corridors and stairwells.

Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) is a multi-disciplinary approach to crime prevention that uses urban and architectural design and the management of built and natural environments. CPTED is also known as Designing Out Crime, defensible space, and other similar terms.

Communal open space

The indoor or outdoor areas of a development which are for the exclusive and shared use of residents.

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.

Design response

Explanation and demonstration of how a proposed building development or public space design is informed by and responds to the site and context analysis.

Dwelling

A building, or part of a building, used as a self-contained residence and which includes food preparation facilities, a bath or shower, laundry facilities, a toilet and sink, and any outbuilding and works normally forming part of a dwelling.

Dwelling aspect

The primary outlook or view from a dwelling, particularly in relation to living areas.

Dwelling orientation

The direction that a dwelling faces.

Embodied energy

Embodied energy is a calculation of all the energy that is used to produce a material or product, including mining, manufacture and transport.

Facade

The external face of a building, generally facing a public street or space.

Frontage

The property boundary of a lot which abuts a road.

Hard landscaping

Non-plant material in landscape design, such as driveways, steps, walkways, and fencing.

Hardstand

A paved area often used for vehicle parking, typically made of concrete, asphalt, or compacted gravel.

Landscaped area

An area of a site containing plants, trees and pervious surfaces, located to enhance the streetscape and natural qualities of a development.

Liveable housing

A liveable home is designed and built to meet the changing needs of occupants across their lifetime. Liveable homes include easy living features that make them easier and safer to use for all occupants including: people with disability, people who are ageing, people with temporary injuries, and families with young children.

Massing

The perception of the general shape, size, and three dimensional form of a building.

Mixed use development

A range of complementary uses within the same building or site. The different uses typically include residential, commercial or retail.

Passive surveillance

Observation from the public space or adjacent buildings by fellow users of the space or those with a view of the space. Also referred to a 'eyes on the street'.

Private open space

An outdoor area for exclusive use by occupants of that single dwelling, excluding areas proposed or approved for vehicle access or vehicle parking.

Public open space

Land for public recreation or public gardens or for similar purposes.

Rain garden

Specially-designed garden beds that filter stormwater runoff from surrounding areas or stormwater pipes.

Sense of address

Ensuring a building or dwelling is recognisable, and has a clear identity, often through outward orientation and marked entries. This assists individual dwellings to be identified from the street, thus enhancing a sense of ownership for residents.

Setback

The distance from any lot boundary to a building on the lot.

Sight line

Lines of clear, uninterrupted sight from a viewer's location to other locations and distances.

Site

The lot or lots on which a use or development is located or proposed to be located.

Site analysis

Detailed description and examination of the features of a site, to determine how these features will effect and contribute to the design of a proposed development. A site analysis directly informs the design response.

Sloping site

A site with a slope of 15% or greater.

Soft landscaping

Natural elements such as trees, shrubs, grass, mulch and soil.

Solar access

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

Storey

The part of a building between floor levels, excluding a mezzanine level. If there is no floor above, it is the part between the floor level and the ceiling.

Streetscape

The visual quality of a street depicted by road width, street planting, characteristics and features, public utilities constructed within the road reserve, the setback of buildings and structures from the property boundaries, the quality, scale, bulk and design of buildings and structures fronting the road reserve.

Sunlight

A direct beam radiation from the sun.

Swale

A vegetated channel used to convey stormwater and manage runoff.

Utilities

Utilities for local distribution or reticulation of services and associated infrastructure such as a footpath, cycle path, stormwater channel, water and sewer pipes, retention basin, telecommunication lines, gas pipelines or electricity substations and power lines.

Vehicular access

The land over which a vehicle enters or leaves a road from land adjoining a road.

Water sensitive urban design

Integrating and managing the water cycle in an area through collection, treatment and reuse to minimise environmental impacts and improve aesthetic and recreational appeal. It includes managing potable water use, and stormwater, groundwater and wastewater.