



developer's
handbook &
**urban design
guidelines**

(Revision **January 2016**)



Our challenge is to deliver a new, charismatic model for city-fringe living.

Bowden will inspire through heightened levels of creativity,
connectivity and great design.

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Urban Design Guidelines Version	Date	Issued for	Comments / Amendments
1.0	Nov 2011	Project launch	Printed and digital.
1.1	Mar 2012	Stage 1 land release to developers and builders	Minor update reflecting agency name change. Digital only.
1.2	Jan 2014	Land releases to developers and builders	Minor update incorporating learnings from first stage land releases, DRP process and guide. Printed and Digital.
1.3	Jan 2016		

Introduction

What is the Developer's Handbook and Urban Design Guidelines?

This Handbook and Urban Design Guidelines work together with the Bowden Master Plan to set out the process and the key priorities and principles to guide and stimulate great urban design, movement, architecture and sustainable development.

The Handbook and Urban Design Guidelines form a manual for developers, designers and the professional community that underpins the delivery of Bowden according to the vision and the master plan. Ultimately these guidelines are investment protection for builder/developers and the future residents and businesses of Bowden.

This document is the starting point for good design and development in Bowden. The purpose is to provide a robust guiding and assessment framework within which both architectural diversity and quality can thrive, whilst affording priority to the public domain interface. The guidelines do not limit creativity; rather they provide a platform to achieve a built form to make a place where people will want to live, work, invest and visit.

By participating in the Bowden project, developers and designers are endeavouring to achieve over and above the minimum guideline requirements. These outcomes are achieved by a close working relationship and early provision of design information through to the Bowden Design Review Panel.

The Handbook and Urban Design Guidelines are structured in the following manner:

- Master Plan Overview - which provides the context for development in accordance with the Bowden Master Plan;
- Bowden East Framework - which contains precinct-wide guidelines that relate to the early stages of development as well as character statements for special places;
- Retail / Mixed-Use Core - which provides detailed guidelines for the Retail / Mixed-Use Core;
- Site and Block Development - which provides general guidance on site and block arrangements, such as building typologies and landscape design;
- Building Design for guidance on requirements for individual buildings;
- Apartment Design for further detail related to individual apartments or terraces; and
- Sustainability - which outlines the sustainability objectives that are to be achieved for all development.

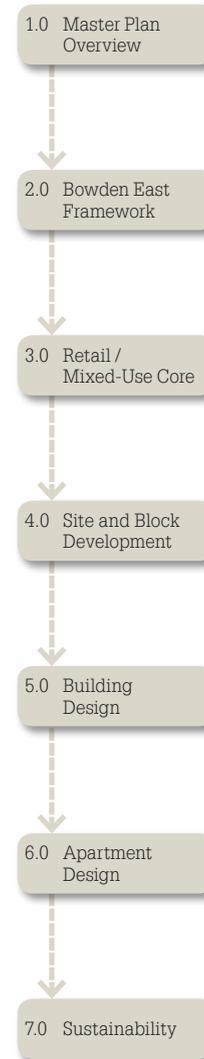


FIGURE 1: Structure and approach of the guidelines

Who will use the Handbook and Guidelines?

The Handbook and Urban Design Guidelines provide specific direction for developers and designers to navigate the development and design process to enable a release to market and, as such, inform the Renewal SA Bowden Design Review Panel to assess the design for individual development projects.

This document should be read in conjunction with the Building Code of Australia (BCA), *Disability Discrimination Act* and other relevant legislation and Australia Standards, Green Star requirements and the City of Charles Sturt Development Plan. It is the responsibility of the developer and design team to ensure any proposal conforms with necessary requirements of these instruments and for expediency, their inclusion is specifically excluded from the Bowden Design Review Panel process.

Any approval by Renewal SA under the Bowden Urban Design Guidelines does not guarantee approval under any of these other standards and requirements.

The Handbook and Urban Design Guidelines are also available to the community for reference, education and to provide a shared understanding of how Bowden will develop.

The Design Process

The design process for buildings in Bowden should incorporate a multi-disciplinary approach and may use other innovative processes such as community engagement, design competitions (including students), charettes and workshop processes for selected sites.

Where developers and designers use these and other processes, Renewal SA is willing to both participate and assist where practical.

The Bowden Design Review Panel process is core to the design development process: designers and developers should engage early and often with the panel before formally seeking a review on any proposal. Early engagement ensures developers can minimise design costs and assists a speedy review process and release to market.

How Land Purchasers will use this Handbook and Guidelines

The Land Sales Process

Renewal SA is the development facilitator and encumbrance. In providing an efficient and effective assessment and approval process under the Bowden encumbrance, Renewal SA will ensure that the built form and architectural outcomes are of the highest standard.

Prospective purchasers will be required to submit an offer in response to an invitation to offer relating to a specific development parcel or parcels.

To achieve the desired standards, the sale offer evaluation process will focus on three elements:

- design credentials of the purchasing team with emphasis on design capability and experience;
- organisational and financial capability; and
- commercial offer including price and any additional terms and conditions.

Renewal SA will seek the expert advice of the Design Review Panel in the evaluation process, specifically regarding the design credentials of the purchasing team.

The land sale process at Bowden is structured to reflect the characteristics of the development parcel offering and may change from time to time.

Design Review Panel - Proposal Approval Process

The Design Review Panel at Bowden operates specifically to work with developers and designers to encourage and support design quality to create the best possible living environment for future residents, maximise sales and protect the investment value of Bowden into the future.

The contract of sale conditions (refer to Section 5 in the *Special Conditions of Contract of Sale*) require the selected purchaser to submit a detailed development proposal in order to obtain approval against the encumbrance (based on the Urban Design Guidelines) from Renewal SA prior to the purchaser seeking statutory approvals. The detailed development proposal and Renewal SA assessment will be presented to a Design Review Panel. Information to be submitted is outlined in detail on page 5.

The Bowden Design Review Panel is established by Renewal SA to provide expert opinion and advice on each application against the Urban Design Guidelines.

The Bowden Design Review Panel comprises generally:

- a chairperson with internationally recognised urban design experience;
- the South Australian Government Architect;
- local eminent architects, urban designers and/or landscape architects;
- a person with residential and retail or commercial development experience.

The City of Charles Sturt has observer status at all Bowden Design Review Panel meetings. All discussions at a design review panel meeting are held in confidence and are non-binding for all parties.

Following input from the Bowden Design Review Panel, Renewal SA will make a determination and issue approval against the Urban Design Guidelines. Development plan consent from the relevant authority will then be required by the purchaser.

This process is shown in **Table 1** on page 3.

Individual project applications will need to demonstrate consistency with the objectives and controls and specifically the design requirements of the guidelines. Variations will need to be fully justified and will be considered by the DRP and Renewal SA on a case by case basis.



Land Sale

First Steps

- Prospective purchasers submit offers on development parcels pre-qualify in response to an invitation.
- Evaluation of offers. If successful, exchange and execution of sales contracts and payment of deposits.

Design Approval

Next Steps

- Introduction meeting(s) that provides the developer and their design team with:
 1. market intelligence (consumer expectations gleaned from the sales floor and commercial objectives);
 2. urban design advice to assist shaping concept design and thinking;
 3. Green Star certification process consultant briefing.
- Developer and design team presents initial concept plans and design thinking to the Bowden Design Review Panel at a preliminary plan review meeting.
 - possible refinement of design.
- Developer and design team firms up initial concepts and lodges formal detailed concept plans along with preliminary Green Star report to Renewal SA for assessment against the Urban Design Guidelines.
- Renewal SA assesses and determines the detailed concept plans with input from the Bowden Design Review Panel.
 - possible refinement of design.
- Renewal SA provides developer with preliminary approval of detailed concepts to proceed with lodgement of plans with relevant authority for development plan consent.

Statutory Approvals

Following Steps

- Developer lodges DRP approved plans with relevant statutory authority for development plan consent.
- Statutory authority assesses plans and decides whether to grant planning approval.
- Developer registers with Green Building Council of Australia including payment of Green Star assessment fees and signs Certification Agreement.
- Developer lodges technical drawings of approved concept design for building rules certification.
- Developer lodges documentation for Round 1 Green Star pre-certification and provides Renewal SA with a report from its Green Star consultant that certification of nominated rating can be achieved.
- Renewal SA provides final approval against the Urban Design Guidelines.

Land Sale

- Land settlement between Renewal SA and developer upon achieving the milestone of Development Plan Consent and other conditions precedent.

Construction

- Developer commences construction.
- Developer finalises Green Star submission for Round 2 assessment.
- Renewal SA undertakes development audits to ensure compliance with Urban Design Guidelines approval at key points during construction. City of Charles Sturt enforces Development Act compliance. Developer receives final BCA Green Star certification.
- Developer completes building.

TABLE 1: Land Sale, Design and Statutory Approval process

It is not intended that the Urban Design Guidelines be a set of highly prescriptive design requirements. Renewal SA recognises the potential for innovation and for alternative design responses on development sites.

However, allotment control plans have been prepared for each release site to illustrate specific site controls and prescribed outcomes comprising building typology, height, massing, density, capacity for natural lighting and ventilation that will be considered 'absolutes' for successful design submissions. Refer to Figure 2 for example.

The Urban Design Guideline examples represent a baseline for development quality and improved or alternate design outcomes are welcome and expected.

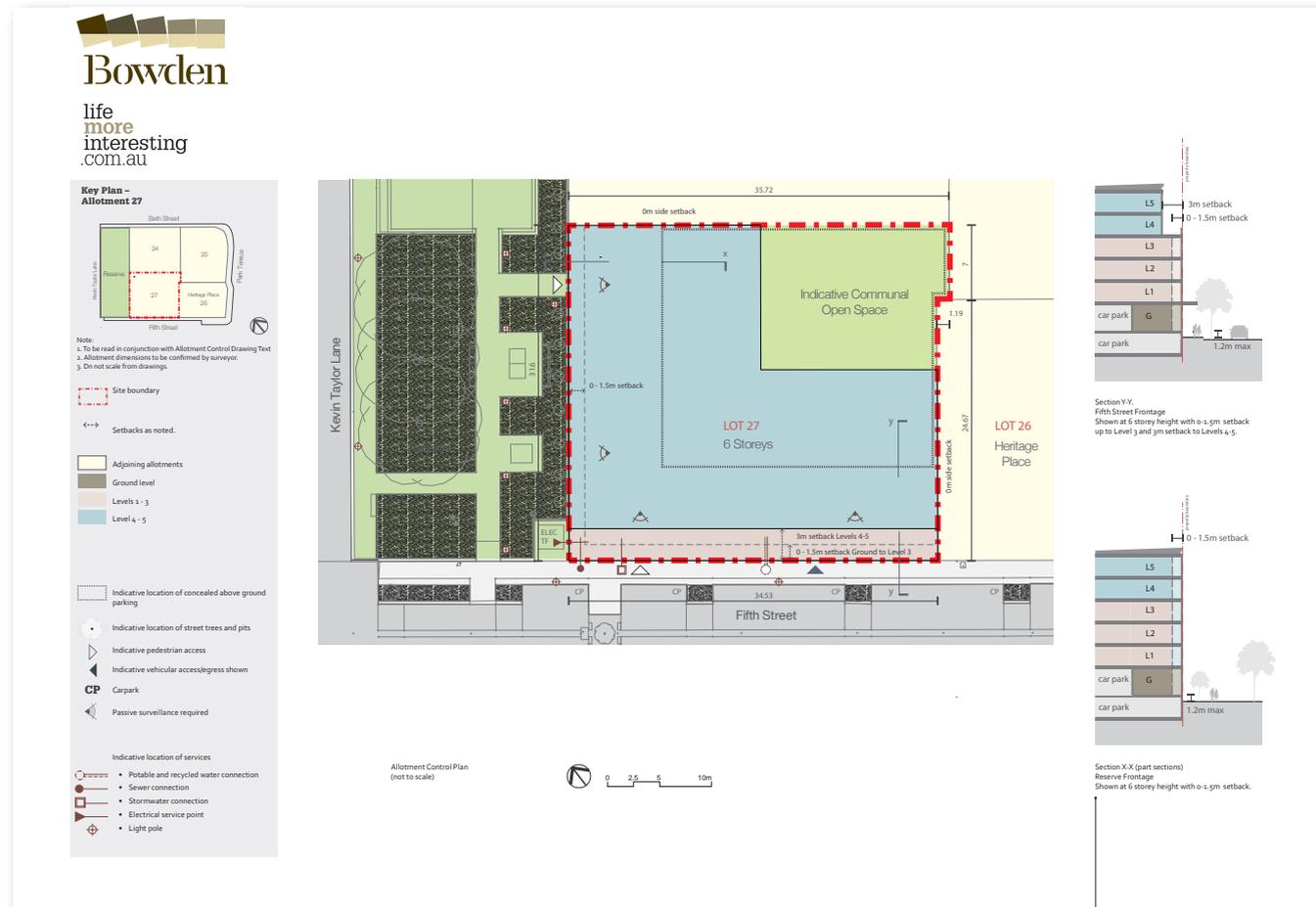


FIGURE 2: Example of Allotment Control Plan

Diagrammatic built form controls including setbacks, building height, access, car parking, private open space, views and passive surveillance.

Preparing a detailed development proposal for Design Approval

The requirement for submission of the purchaser's development proposal is specified in the special conditions of contract of sale. The development proposal to be considered by the Design Review Panel and approved by Renewal SA must be of sufficient detail and must include the following:

- A statement of design intent;
- Detailed floor plans at the scale of 1:100 at A1 and drawings of the proposed building(s) showing the internal building layout including indicative furniture provision, storage areas, dimensions and the external appearance, facade, style and character;
- Details of external materials and finishes to be used on proposed building(s);
- A building plan drawn to scale that shows northern, eastern, southern and western elevations;
- Cross-section plans that include dimensions, natural ground level, floor level, ceiling height and maximum height of building(s);
- A site plan showing the building within context of the surrounding urban environment;
- A site plan drawn to scale that shows the location of the building(s) (and other improvements the purchaser intends to construct) on the land as well as the intended location of any common areas, driveway cross overs and any other access points to and from the land;
- An accurate, three dimensional (3D) model of the proposed building(s);
- Colour perspectives and elevation drawings (i.e. streetscape view) of the proposed building(s) facade in context of the existing and/or approved adjacent building(s).
- A "crime prevention through environmental design" statement (CPTED) outlining how the proposal responds to CPTED principles;
- Shadow diagrams showing the effects of any proposed shading treatment and the extent of overshadowing of the proposed building(s) on adjoining properties for the following periods;
 - winter solstice (21 June) at the times of 9.00 am, 12.00 noon and 3.00 pm
 - equinox (21 March or 21 September) at the times of 9.00 am, 12.00 noon and 3.00 pm;
- A plan of any proposed earthworks or grading;
- A detailed landscaping plan;
- All other necessary details to prove that the building(s) will be constructed (and the land will be developed) in a manner that complies with the Urban Design Guidelines and Allotment Control Plan;
- A site plan detailing all internal and external service connection points including gas, recycled water, electricity and optical fibre;
- A preliminary version of the Green Star Application Template, completed with as much information as is reasonably known and/or available to the purchaser at that time.

Presentation material for review by the Bowden Design Review Panel is to be submitted no less than 7 working days prior to a scheduled meeting.



Presenting to the Bowden Design Review Panel

Bowden Design Review Panel sessions are convened to consider both the initial concept plans and design thinking by the proponent's design team (a preliminary plan review meeting); and to deliberate on the formally submitted detailed concept plans (main design review meeting).

The preliminary plan review meeting allows the proponent's design team to table 'butter paper' sketches and ideas to show progress and design options for discussion with panel members. The aim of this session is to provide the developer and the design team with confidence to continue targeting completion of a final detailed design for presentation to a main design review meeting. It is recommended this occur as soon as practical and prior to detailed conceptual working commencing.

The main design review meeting is where all plans, elevations, perspectives and information as specified in the special conditions of contract of sale are finalised and submitted for review and assessment against the Urban Design Guidelines. The sessions for both the preliminary plan review meeting and the main design review meeting will generally run for an hour. A typical session is structured as follows:

Introductions

Proponent / design team presentation
(15-20 mins)

Panel members' questions and discussion
(20 mins)

Chair's summary (5 mins)

Proponent / design team final comments
(2-5 mins)

Proponent / design team leaves

Panel debrief and determination (10 mins)

When presenting to the Bowden Design Review Panel, the proponent and/or design team should:

- Clearly articulate the site and area analysis and the design intent or vision for the project;
- Introduce and clearly identify the main design points of the concept plan;
- Explain the response to design opportunities and site constraints;
- Explain the response to the direction set by the Bowden Urban Design Guidelines and Lot Control Plan;
- Show how the design proposal fits within / relates to the context and long term vision for the area;
- Explain the sustainability initiatives used in the project.

It is recommended that presentations be highly graphical.





Background

Adelaide's continued growth as an enjoyable and prosperous place to live is set out in the South Australian Government's *The 30-Year Plan for Greater Adelaide*.

One key step envisaged is the planning and implementation of new mixed-use developments that focus on public transport and allow for enjoyable and sustainable forms of living and working.

The objective is to create pedestrian-friendly precincts containing a mix of medium to higher density housing, employment opportunities and community facilities located close to bus routes and rail and tram stations.

There is no "one size fits all model", however prerequisites for a successful walkable urban neighbourhood include:

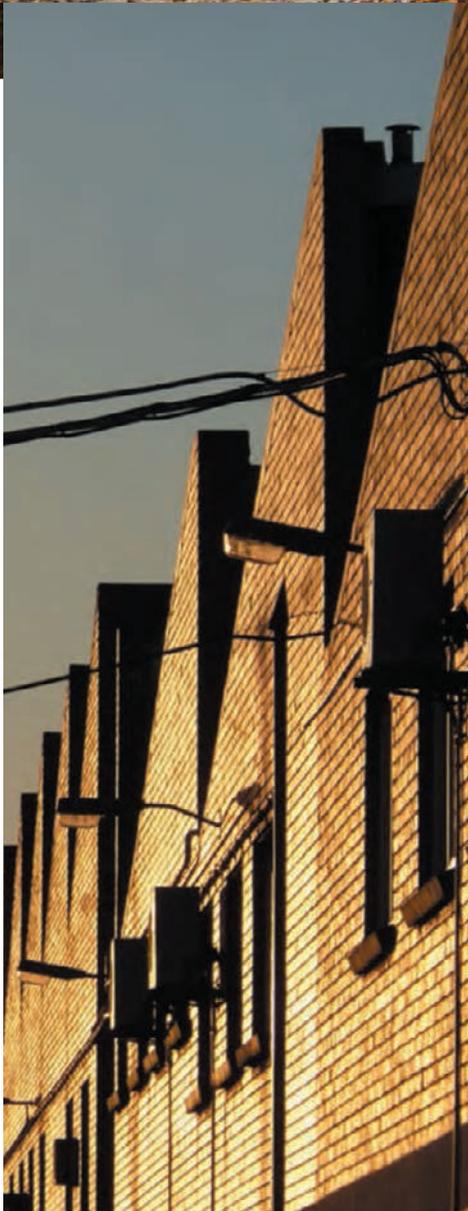
- high frequency public transport;
- higher levels of mixed development density and intensity; and
- local shops and community facilities.

Bowden has been purchased and prepared by the South Australian Government to show how the intentions of *the 30-Year Plan* can be realised.

These Urban Design Guidelines relate specifically to the Bowden East Precinct and the Town Centre / Mixed-Use Precinct that represents the early stages of the development.



Bowden development site and Adelaide CBD



Industrial character of Bowden

Vision for Bowden

In late 2008, the State Government acquired a 10.25ha parcel of land owned by Gerard Industries (known as the Clipsal site). In early 2010, the government acquired the adjoining 5.9ha site owned by Origin Energy (known as the Brompton Gasworks site).

Both sites are located within the City of Charles Sturt and are directly adjacent to the Adelaide parklands. The aim is to transform the combined sites into an inner-city, higher intensity, mixed use urban village.

The final vision developed collaboratively with the community and stakeholders states:

“Bowden Urban Village is a creative and diverse community, living and working in a high density sustainable urban environment.

Its character, parklands connections and integrated urban design will offer a new and distinctive place in Adelaide for residents and visitors.”



Model of the Bowden Redevelopment

Bowden is becoming a flagship walkable neighbourhood in metropolitan Adelaide by creating:

- A sustainable and commercially feasible residential, retail and commercial walkable neighbourhood;
- An internally and externally connected community both physically and virtually, in the context of the great Adelaide city;
- A project that is flexible, capable of adapting to changing market and demographic conditions;
- Expertise in infrastructure, streets, parks and development that is transferable to other infill sites locally and nationally; and
- A project that will lead the market and expand the range of dwelling types currently on offer in Adelaide.

To be successful, Bowden must have buildings and public realm (public streets, parks and squares) of the highest quality and amenity.

These guidelines are intended to promote and ensure high quality, innovative and coherent building design outcomes which are environmentally sustainable, commercially viable and respond to place.

Key areas the Design Review Panel will be seeking are addressed in any and all design proposals which:

- Have a strong sense of local identity and place, linking Adelaide generally and Bowden specifically;

- Respond to the Adelaide microclimate including sun, shade, breeze utilisation, building mass and weather protection;
- Have a street based, cohesive urban character with well-defined streets and building edges, and respectful of its neighbours;
- Demonstrate strong and logical architectural solutions that create interest and identity without being overbearing;
- Create opportunity for community interaction both within buildings and their surrounding neighbours; use appropriate materials, forms and colours related to Adelaide and Bowden traditions including unfinished and commercial materials with a natural colour palette;
- Capitalise on CBD/parkland views, especially from Park Terrace buildings, without creating a “wall” effect;
- Demonstrate innovation to provide a new inner city urban living experience where apartments and terraces have logical internal layouts including generosity of space and light, connected indoor-outdoor relationships and a high quality of design and finishes including features not normally expected in higher density homes; and
- Incorporate principles of environmentally sustainable design for energy use and water management.

The Essential Bowden

This section provides an overview of key design principles promoted in the guidelines to achieve quality design outcomes.

Bowden will be typified by a high quality architecture that seeks to integrate traditional urban planning and built form with contemporary design, while referencing both the Adelaide and neighbourhood vernacular.

The character of Bowden should develop from an understanding of recurring and identifiable local themes, including the use of materials, colours, roof forms, verandahs/protected spaces, sun shading/passive design principles, and the integration of Bowden's industrial building themes, while avoiding obvious reproductions.

The guidelines seek a fine-grained and coherent urban outcome and emphasise that the majority of buildings in urban precincts are contributory or 'background' street-defining architecture. Iconic or 'foreground' expression will be sought at key places such as Bowden centre, village entry points and major corner sites.

The successful architectural outcomes are likely to contain masonry with a cohesive palette of materials such as red brick, stone, concrete, and considered use of glass, steel and rendered detail.

A careful relationship of solid to void will be sought, rather than an unconsidered repetition of elements. Upper level setbacks may be necessary on the northern sides of shared streets for sunlight penetration, and will be a part of the built form character in parts of Bowden. Defined roofscapes that create visual interest are also part of the language that is sought by the guidelines.

Careful consideration of Adelaide's microclimate will inform the sustainable design of buildings and be reflected in differing elevational facade treatments.

The built form character is to be reinforced with dense street tree planting, simple and robust urban street paving palettes, quality furniture and detailing, and local storytelling through public art and interpretation elements.

The retail / mixed-use core that defines the town centre will benefit from the retention of key industrial buildings from the sites past. These structures will contain uses that enhance the liveability of the precinct including fresh food markets. The surrounding streets will provide for mixed-use development with an emphasis on ground floor retail / commercial with commercial and residential above.

Past Character

Bowden will be defined by a built form that references its residential and more industrial past.

Recurring and identifiable industrial and fine-grained residential building themes, including the use of materials, colours, roof forms and passive design principles are encouraged, while avoiding obvious reproductions.





Facade Design and Sustainability

Facade design is to respond to Bowden's microclimate with varied treatments to differing elevations, clearly expressed sustainable design elements, generous protected indoor/outdoor spaces and evidence of care and quality architectural detail.

The orientation of the street grid approximately 50° west of north presents opportunities for innovative facade design and sun control.



Materials and Colours

The Adelaide Plains have a tradition of built form dominated by masonry surfaces (red brick, rubble, bluestone, light sandstone) contrasting rendered or brick detail to architraves/corners and simple parapets or pitched roofs in tile and metal. While heritage facsimiles are not sought, references to local materials and colours will help to create a coherent visual language for new development.



Street Interface: Retail / Mixed-Use Areas

Bowden will be defined by built form that generally establishes a 'background' of street defining urban architecture, and a limited number of prominent sites and buildings that are more expressive and iconic 'foreground' elements.

In buildings over 4 storeys, be mindful of the importance of the Base (boundary, setback, lower levels) the Middle (main facade) and the Top (roof/parapet/upper level) in the facade composition.





Internal Layout

Apartment layouts that provide a high standard of residential amenity will be the hallmark of higher density living in Bowden. The apartment layouts will be functional, well organised and have enough space to meet the needs of the intended number of occupants.



Placemaking

Placemaking in Bowden is both a process and a philosophy. Creating public and semi-public spaces that facilitate social and economic exchanges, where friends gather, celebrations are held and cultures mix is the hallmark of Bowden. It builds a community by bringing people together and in turn enhances the spirit and character of this unique place.



Street Interface: Residential Areas

Bowden will be a walkable and inviting urban village with streets defined by relatively small building setbacks creating attractive, active and "soft" edges. Lower levels of buildings will present 'solid' fine-grained frontages to the street with setbacks, boundary treatment, shades/screens and balcony designs creating a balance of privacy and community.



Solid to Void

Bowden will be an urban infill area with a simple and robust character. Establishing a greater proportion of 'solid' wall surfaces to contrast with deep shady balcony and window 'voids' will help to create an architectural consistency throughout the evolving village. Building proportions should reflect a masonry character with generally vertical openings cut into the street wall.



Roofscape

The roof is the visual 'finish' of a building, and careful resolution of the roofscape is expected at Bowden. A variety of elements can be employed including well expressed parapets, upper level material/colour change and setback, eaves, and a variety of simple rather than complex roof forms including hips, gables and skillions.



Design Quality

Both Renewal SA and the City of Charles Sturt are committed to design excellence at Bowden.

Buildings and new spaces are to be of the highest urban design quality and architectural standard. They should reflect contemporary aspirations for sustainable urban living and the ideals of a walkable community.

Specific design components comprising density, building height, building typology, nominated colours, cross ventilation and natural lighting are critical and deemed mandatory. In particular proposals that cannot demonstrate adequate cross ventilation and rely on 'borrowed light' are unlikely to receive approval from Renewal SA.

A rigorous process to ensure design quality has been established by Renewal SA including a Design Review Panel to assess design excellence and consistency with the guidelines. Developers and their design teams should seek early and frequent input from the Design Review Panel to minimise rework and expenditure on design.

Design Approach

- Develop an architecture that is clearly responsive to Adelaide's Mediterranean climate – deep shade and cool spaces in summer and sheltered, sunlit spaces in winter.
- Key considerations include:
 - incorporation of verandahs/protected openings;
 - 'thermal mass' insulation to walls and roofs;
 - solar penetration in winter;
 - passive environmental control;

- operable sun shades to provide a dynamic character to facades;
- relatively blank west walls for solar control;
- low embodied energy materials; and
- incorporation of solar/PV panels.

- Climate responsive design may be clearly expressed as part of the architectural character.
- The intent is to develop buildings where sustainability is an inherent part of good design practice rather than something that is overtly added on.
- Buildings should meet sustainable design principles in terms of solar access, natural healthy ventilation, wind control, visual and acoustic privacy, safety and security, resource, energy and water efficiency.
- Create a place where most buildings form the background setting, with buildings in important locations or with key functions forming a more architecturally expressive and iconic foreground.
- Development should demonstrate a high standard of architectural design, materials and detailing appropriate to the building type, context and location. Traditional building character and materials should form references for new development, though replica detailing is not sought.
- The form and external appearance of buildings should contribute to the quality and amenity of the public domain offering a rich and fine-grained streetscape.



Deep shade balconies



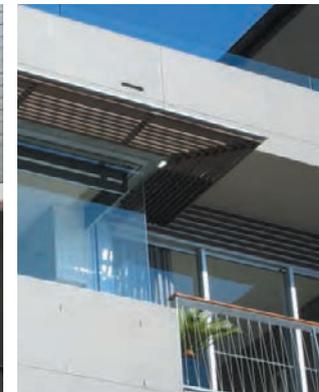
Deep shade balconies



Adjustable sun control



Sustainable elevations



Sunshading and quality detailing



Photovoltaic panels



Home in an Apartment Setting

Home is the most important place for most people. Home is 'our place' where we can relax and be ourselves. Positive attributes such as health and wellbeing, recreation, socialising, inspiration, shelter, protection, safety and comfort are associated with the word 'home'. The inviting design of our own place has a huge influence on our happiness.

If home is in an apartment building, there are some specific challenges to ensure it remains 'our place' and can adapt to our own and our family's changing needs.

Key influences on the sense of home include:

- the space, light and thermal condition of the dwelling;
- the journey from the street to the front door;
- the balance between privacy and access to places to meet easily with others; and
- the overall building design, including the location and layout of any shared spaces.

A survey of apartment dwellers in a major Australasian city identified some key likes and dislikes about apartment living.

Top five likes:

1. Lifestyle and city living
2. Proximity to work
3. Low maintenance
4. Proximity to shops and cafes
5. Better safety and security

Top five dislikes:

1. Noise from neighbours and city noise
2. Lack of outdoor space
3. Apartment size and lack of storage space
4. Living too close to neighbours
5. Parking issues

As Australians, we have a strong connection to the outdoors and are used to spending a lot of time outdoors, having barbeques with friends, gardening and playing sports. Creating a sense of outdoors in an apartment complex is not impossible. One way is to provide more generously-sized balconies, while another is to create community gardens either at ground level or on the roof.

Another key consideration is flexibility with space, providing enough storage for sporting, camping and/or DIY gear, or making room to store other possessions to meet residents' changing circumstances.

These guidelines provide tips that ensure people's enjoyment of apartment living is achieved through good quality apartment design.



Apartment living



Green Star

The development strategy and targets at Bowden build on the One Planet Living principles developed by World Wildlife Federation and Bio-Regional. These principles are reflected in the Green Star™ requirements for every proposal at Bowden. Every proposal is required to demonstrate a nominated Green Building Council of Australia rating certification.

Green Star is a comprehensive, national, voluntary environmental rating system that evaluates the environmental design and construction of buildings and communities.

Green Star was developed for the property industry in order to:

- establish a common language;
- set a standard of measurement for built environment sustainability;
- promote integrated, holistic design;
- recognise environmental leadership;
- identify and improve life-cycle impacts; and
- raise awareness of the benefits of sustainable design, construction and urban planning.

The Green Star rating tools assess building projects against a number of categories. These categories allow for a determination to be made on the environmental impact of a project's site selection, design, construction, maintenance etc. The nine categories included within the various Green Star rating tools are:

- Management
- Indoor Environment Quality
- Energy
- Transport
- Water
- Materials
- Land Use & Ecology
- Emissions
- Innovation.

Presently all proposals must achieve a minimum 5 Green Star 'design & as built' rating.

To ensure an efficient design process and avoid costly rework, design teams are encouraged to engage with the Bowden team and a Green Star Accredited Professionals (GSAP) appointed by Renewal SA early to discuss the Green Star certification process and receive guidance on costs and benefits of various design options.

Design teams should engage their own GSAP or may elect to engage the GSAP appointed by Renewal SA to assist with submission preparation.



1.0 Bowden Master Plan Overview

1.1 Overview and Context

The Bowden Master Plan is the result of contributions from the community, stakeholders and consultants and is a flexible and evolving plan.

Figure 3 shows the location of the development in the inner north-west of Adelaide.

The Bowden context represents an interesting mix of uses being located at the intersection of semi-industrial and commercial areas, the River Torrens, Adelaide parklands and CBD, historical and cosmopolitan North Adelaide and the adjacent residential suburb of Brompton. This eclectic mix of adjacent uses brings together classic, modern and sometimes conflicting themes and styles. Development at Bowden should reflect this juxtaposition of uses in both the architecture and the functions in a manner which references them without seeking to replicate.



Newly completed Kevin Taylor Park

1.2 The Wider Area Plan

The context for Bowden comprises the suburbs of Bowden, Brompton, Hindmarsh and Ridleyton that are bound by South Road, Torrens Road, Park Terrace and the River Torrens.

The Wider Area Plan (**Figure 3**) is a contextual plan of the Bowden area. Potential future changes in the vicinity of Bowden will focus on:

- preferred land uses and how they should be arranged;
- open space provision and access to the parklands;
- major movement and access routes; and
- transitions between various higher intensity activities.

Figure 3 illustrates the distribution of the primary roads within the Wider Area Plan, and highlights the crucial location of Bowden, surrounding the heart of the commercial spine of Gibson Street and adjoining all three southeast-northwest linkages.

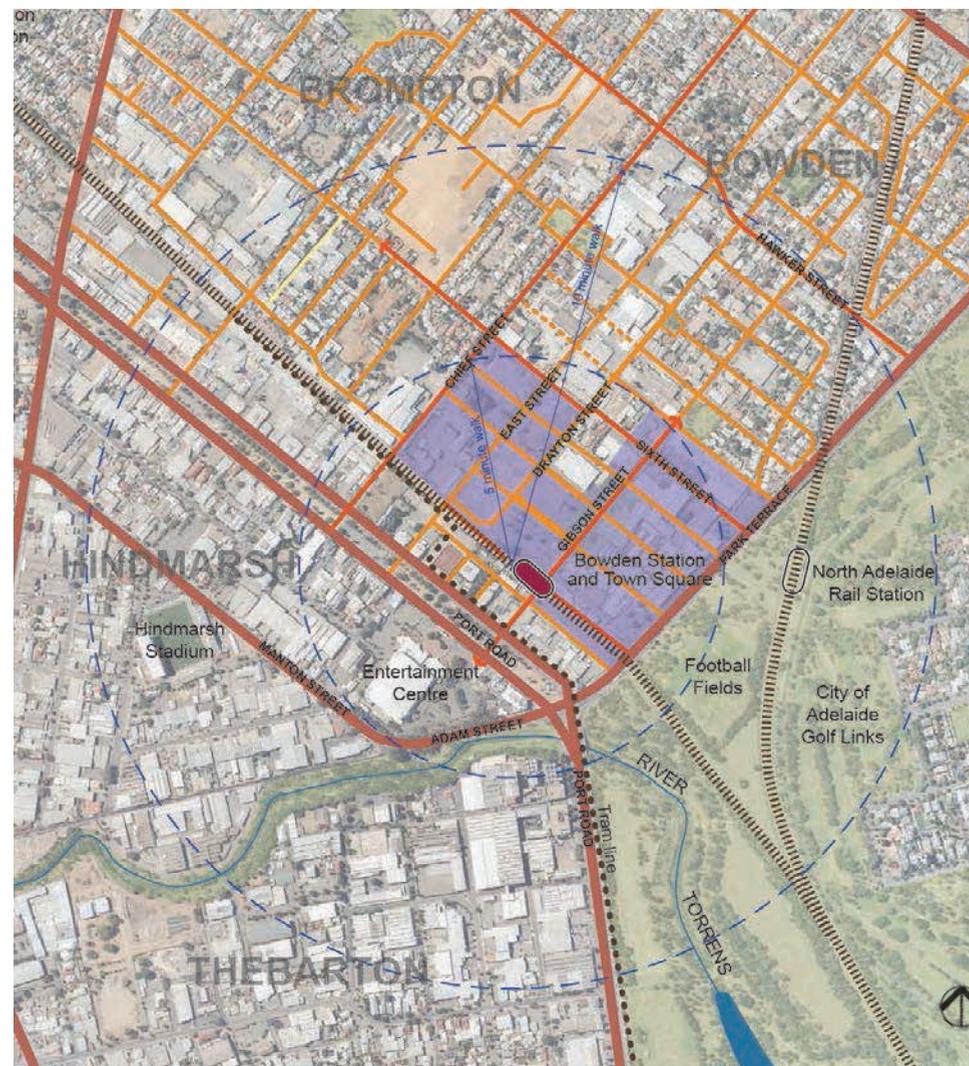


FIGURE 3: Wider Area Plan

1.3 Bowden Master Plan

The Bowden Master Plan responds to and reinforces the established wider street grid (orientated 50 degrees west of north-south) and infrastructure network that is its context.

The master plan delivers a highly permeable and legible street network for pedestrians and cyclists that directly connects with the wider area; created through maintaining and improving all existing streets and re-establishing and extending the alignment of streets across the large former industrial blocks.

The concept diagram (**Figure 4**) illustrates the conceptual framework for Bowden.

The main features are:

1. High concentration of retail, commercial and community activity close to public transport to activate the public domain and take advantage of convenient access. This is the heart of Bowden.
2. Gibson Street and Third Street as the Main Street precinct being the energy and focus of the village with a traffic-calmed shared pedestrian and vehicle environment.
3. Convenient on-street parking around the village centre on the relocated Second Street above the proposed underground rail corridor (if constructed).
4. Adaptive reuse of existing warehouses (Plant 3 and 4) between Third and Fourth Street as a new market and retail precinct next to Bowden Town Square. The precinct's location in the centre ensures a high degree of accessibility.
5. A series of interconnecting public open spaces. This is to make sure the evolving village will be highly walkable and be defined by a public domain of clarity and quality.
6. Legible urban streets that are efficient and can be shared between vehicles and pedestrians. Street reserves will be relatively narrow and will encourage low vehicle speed, shared streets.
7. Responding to the gasworks precinct with scale and activity that complements the industrial heritage of the area.
8. A secondary pedestrian / open space connection extending from the Entertainment Centre (outside project area).
9. Potential for a new focal point / landmark building at the junction of Port Road and Park Terrace subject to the railway alignment and potential undergrounding (outside project area).
10. An upgraded pedestrian cycle link from the heart of the development to North Adelaide railway station.
11. A signaled pedestrian/cycle crossing over Park Terrace linking the Bowden and the surrounding suburbs to the Adelaide parklands and CBD subject to the potential undergrounding.
12. The Town Square will be the green heart of the neighbourhood. Closely associated with the retail/mixed use core it will be able to accommodate daily passive uses as well as community events.



FIGURE 4: Bowden Concept Diagram

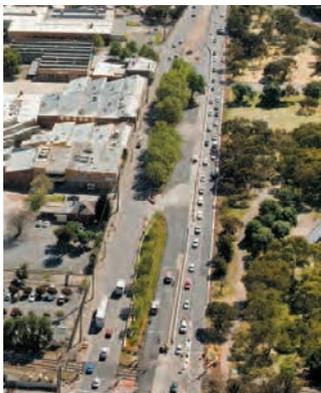


1.4 Roads, Street and Lanes

The Bowden Proposed Street Types Plan (Figure 5) identifies a hierarchical movement network that is based on access provision and street quality.

The plan reinforces the established and legible wider cadastral grid. The street hierarchy achieves:

- convenient and safe movement for pedestrians and cyclists to destinations in the immediate environs and to external destinations;
- convenient resident access to public transport;
- provision of appropriate access for emergency and service vehicles;
- discouragement of unnecessary through traffic movements; and
- creation of a unique 'village' atmosphere through low speed and shared spaces.



Park Terrace



FIGURE 5: Bowden Proposed Street Types Plan



1.5 Open Space

Open space has been developed as a co-ordinated group of spaces that deliver high accessibility and diversity of facilities, recreation opportunities and experiences. The open spaces range from urban squares to a heavily planted neighbourhood park (**Figure 6**).

The location and mix of open spaces has been developed considering the large open spaces in the nearby parklands and adjacent local parks to the north.

The network of open spaces within Bowden sits within a hierarchy that reflects three key components; catchment size, type of activities facilitated and physical size.

Bowden Town Square fronting Third Street, Gibson Street and Fourth Street will be an open space greater than 5,000m² incorporated into the heart of the development. The village park serves as an activator for street-edge uses, also provides frontage for markets and other uses in the retained buildings, amenity uses within the park and community uses mixed with residential living.



FIGURE 6: Open Space Plan

Incorporating *One Planet Living* principles, the park will contain hard surfaces capable of holding community events and food/art/craft markets adjacent to the proposed adaptive re-use of Plant 4.

The existing Plant 3 is currently proposed for community and cultural use that will also help to activate Bowden day and night.

Bowden Town Square is the arrival, waiting and departure point for people commuting to and from Bowden. It will function as a meeting place, a gateway to the main street, and be surrounded predominantly with hospitality-based retail activity. It is a formal hard-edged space, adaptable for a variety of future needs. Elements common to successful plaza design such as shade, shelter and greenery will be incorporated into its detailed design.

Kevin Taylor Park and the local parks are relaxed and intimate spaces, serving local residents and providing for active and passive recreation needs and urban cooling.

Open space proposed for the former Origin Energy gasworks site will interpret the strong industrial heritage.

It is currently anticipated that all dwellings within Bowden will be within 250m of a green space.

The design of apartments should maximise the locational advantages of parkland settings with living areas and private open space overlooking and interacting with the public domain.



FIGURE 7: Open Space Linkages

1.6 Street, Block and Development Parcel Structure

The street layout and development parcels have been carefully devised and form the basis for the delivery of an integrated and high quality walkable urban neighbourhood.

The provision of appropriate-sized development parcels will contribute to a finer grain, human scale, mixed-used development.

It is expected that Bowden will develop in stages, generally in accordance with **Figure 8**.

Notwithstanding, consideration will be given to development opportunities that arise from time to time that accelerate the project or provide exceptional outcomes.



FIGURE 8: Block and Parcel Plan

1.7 Precincts

The Bowden project area comprises three identifiable precincts and acknowledges an additional two adjoining precincts, each with their defining attributes and boundaries (Figure 9).

Variations in character across the precincts are a reflection of the site's history, changes in predominant land use, intensity of pedestrian, transit and vehicle activity, the type of streets, open spaces and the built form.

The following section provides a brief overview of each precinct, outlining the desired future character and key elements that will provide this.

1.7.1 Bowden East

The Bowden East precinct covers around 7.5ha, and will establish the new urban grain and character for the emerging village. The precinct will be primarily residential in character with some retail, cafés and local business on busier street frontages.

Development will scale from 3 to 4 storeys on Seventh Street to 6 to 10 storeys around the new Bowden Town Square. The character of the area will reflect the industrial and urban heritage of Bowden together with aspirations for a sustainable, high quality landscape.



FIGURE 9: Bowden Precincts



1.7.2 Retail / Mixed-Use Core Precinct

The Retail / Mixed-Use Core precinct will be the focal point of Bowden's residential Neighbourhoods and the wider urban area, providing a range of shopping, dining, recreation and entertainment functions within a mixed-use, urban environment.

Built Form Guidelines (refer to **Section 3.0**) have been prepared and will provide for:

- Active street frontages to Gibson, Second and Third Streets with posted verandahs, awnings for shade and multiple narrow width frontages designed for traditional shopfronts.
- Partially shaded and roofed pedestrian lanes as external retail environments.
- Appropriately located and designed vehicle entries to the multi-use blocks off Third street.
- Highly urban street facades with architectural emphasis at corners and iconic uses, particularly civic functions such as station, library, commercial offices, shopping centres and square.

The Retail / Mixed-Use Precinct will provide retail and commercial uses at the ground level, activating streets and creating a 'main street' typology. Opportunities for a mix of commercial and residential uses at the upper levels will ensure a town centre that is active at all times of the day and night.

1.7.3 Gasworks Precinct

The Gasworks precinct has a collection of State significant industrial heritage buildings and structures. This precinct requires sensitive insertion of new streets, landscape and buildings to articulate and revitalise the gasworks as a precinct of special heritage character. Potential uses include residential, commercial and institutional development as well as parks and open space. This precinct will be developed later in the cycle of renewal for Bowden, due to remediation and heritage requirements.

Future guidelines will be developed to respond to these uses and the particular opportunities of this area, which is currently anticipated to include a new tram stop at Second Street / Chief Street.



Gasworks



Entertainment Centre



Port Road

2.0 Bowden East (Early Stages) Framework

Bowden East

Bowden East is primarily defined by Seventh Street to the north-east, Third Street to the south-west, Park Terrace to the south-east and Gibson Street to the west. It also includes a block on the north-western side of Gibson Street between Sixth and Fifth Street. Refer to **Figure 10**.

The first stage of the project, referred to as the "North East Quarter" has commenced between Sixth Street and Seventh Street and will progress to encompass the area depicted in **Figure 26**.



FIGURE 10: Aerial view from the west of Bowden East



2.1 Activities Location and Mix

2.1.1 Predominant Activities

Bowden East will be a mixed use neighbourhood incorporating residential, commercial, retail, open space, creative and community land uses.

Other activities are encouraged in each parcel to contribute to overall mixed use character, vibrancy and vitality.

The type of activity at the ground floor of each development parcel, particularly on street edges, plays a central role in the character of the street and broader precinct.

The most practical and marketable mixed use developments provide:

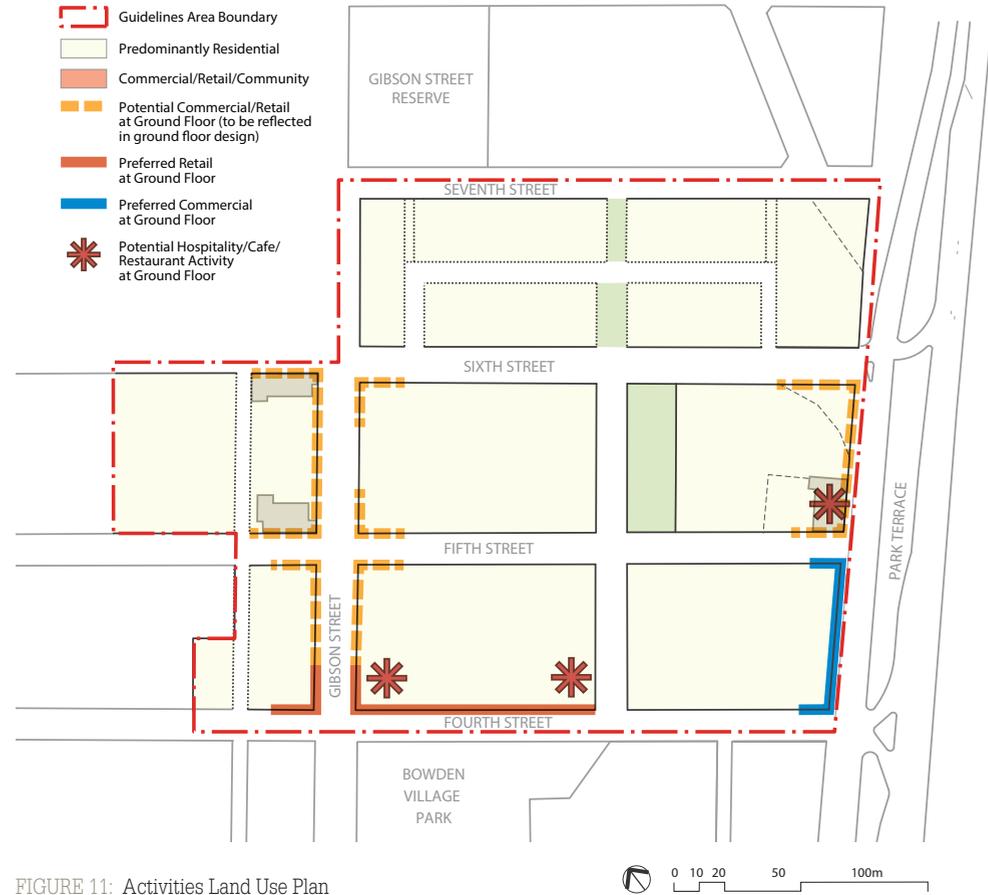
- separate entrances for each use
- pedestrian and lift access
- increased ground floor height
- designated car parking for the commercial portion of the development
- physically separate residential uses from other uses.



Neighbourhood café



Mixed uses with active frontage at ground level



Design Requirements:

- The overall build out of each parcel should ensure that at least 50% of the floorspace and/or land is used for the nominated predominant activity as shown in **Figure 11**.
- Within mixed use multi-storey developments comprising commercial and residential activity, provide separate pedestrian entrances, lift access, increased ground floor height and designated car parking.
- Demonstrate appropriate noise attenuation and odour abatement between retail/commercial and residential uses and surrounding uses.



Queen Street Café at suburban Croydon is an example of creating people places that engage

2.1.2 Residential Dwelling Mix

A choice in dwelling types and the subsequent diversity of households and life stages supported by this dwelling choice is an essential principle in developing the Bowden community.

Incorporating a mix of townhouses, terraces and apartment types and sizes will result in a development that meets the needs of a broad cross-section of the community and is able to respond well to future needs.

Innovative forms of housing will be encouraged, such as co-housing and similar offerings to respond to socio-economic and demographic changes in metropolitan Adelaide.

The size, siting and mix of affordable housing will be subject to government agency and other input. These recommendations will be taken into account by Renewal SA when assessing proposals for affordable housing.

These guidelines apply to all types of housing including student and affordable housing.

Design Requirements:

As general guidelines:

- For buildings over four storeys, achieve a variety of dwelling types. As a broad indication:
 - One bedroom dwellings should comprise no less than 10% of total dwelling stock.
 - Three bedroom dwellings should comprise no less than 10% of total dwelling stock.
- Smaller studio and larger three-plus bedroom apartments and other innovative, market responsive housing types are encouraged.
- Housing that caters to the needs of the disabled and aged.

2.1.3 Small Office Home Office (SOHO)

A desired element in the mix of uses in Bowden is dwellings that accommodate various forms of live-work activity such as 'Small Office Home Office' (SOHO). SOHO dwellings should be at street level and either single level or dual level with a separation of work and living between floors.

Design Requirements:

- Proposals that include SOHO dwellings are designed to achieve good outcomes for both the work and living components of the dwelling and compatibility with adjacent activities. Particular considerations include:
 - clearly separate entrances to the office space and to the private dwelling;
 - separate bathroom facilities;
 - separate car parking;
 - the ability for easy future adaptation;
 - business signage that is consistent with the signage guidance in Section 5.12; and
 - increased ceiling height at ground floor level (minimum 3.0m).



Examples of medium density residential buildings

Live work

SOHO



2.2 Public Domain Relationship

2.2.1 Definition to Prominent Sites and Corners

A high quality urban public domain of streets and spaces will be an essential part of Bowden. The visual form should reflect a mixture of bold and muted urban design forms, closely linked to location, to accentuate prominent sites and their likely activity-generating uses.

Prominent sites are highly visible from the public domain and provide opportunities for architectural expression to enhance the character of the area.

Important corners are secondary and require distinctive treatment such as emphasis, articulation and splayed treatments.

Buildings located at prominent sites should be bold and distinctive in style and character with exceptional urban design reflecting their prominent location. Other buildings should be more restrained in architectural expression and urban design so as to not distract from the built form on the prominent sites.

Architectural expression for prominent sites and for important corners should be created through the use of distinctive built form, use of materials/colour, additional height and/or other means.

Figure 12 defines prominent sites and important corners.



Corner emphasis

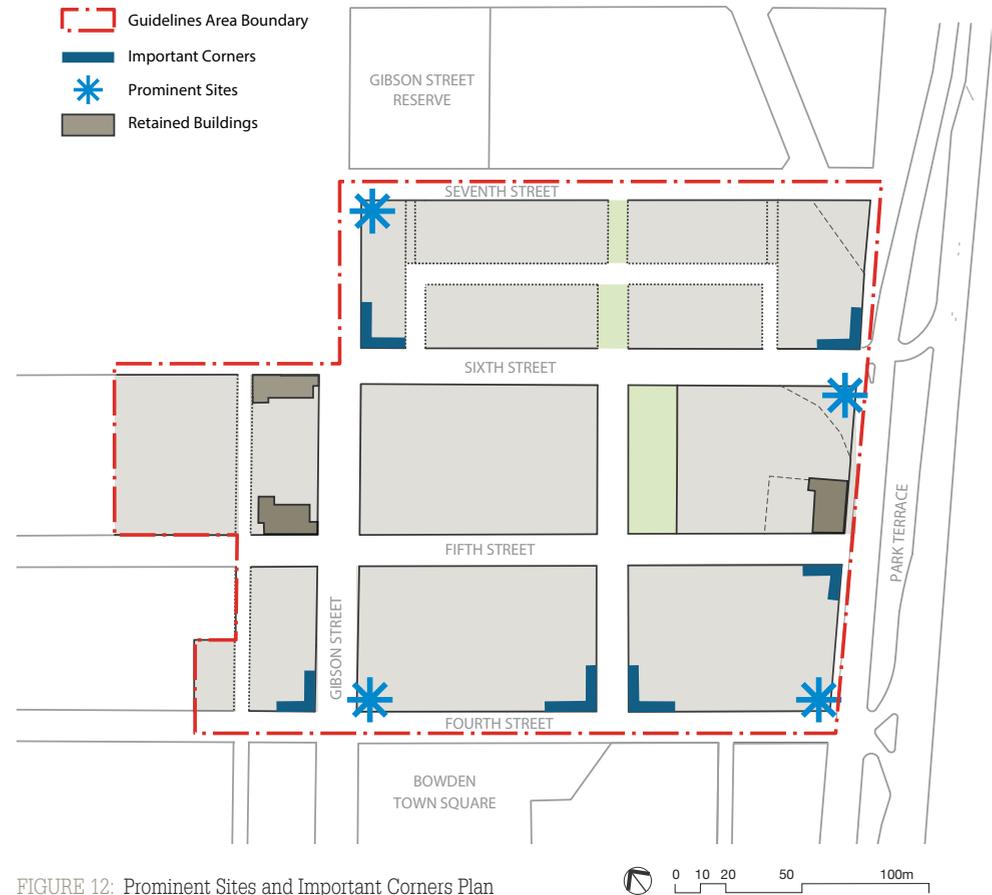
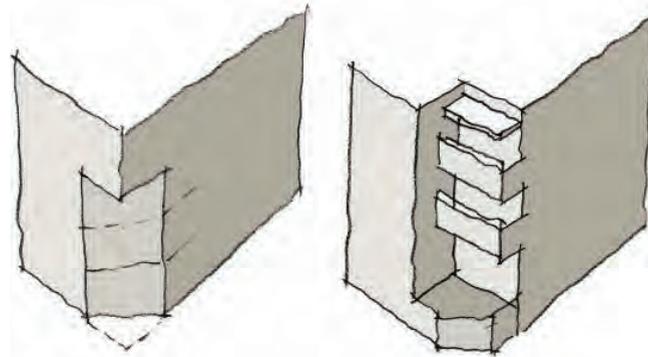


FIGURE 12: Prominent Sites and Important Corners Plan



Design Requirements:

- For buildings greater than three storeys located on corner sites, consider a different geometric form and street interface/setback and/or additional height to mark the corner location.
- Corner locations should be articulated and expressed volumetrically, addressing both streets and facades.
- Splayed corners above ground level should be treated through indentations of the building, by upper floor projections, setbacks or by other means.
- Corner emphasis can incorporate street verandahs – with balcony spaces over the footpath.



Splayed corner treatments



Corner emphasis



Articulated corner for splayed site



Articulated corner

2.2.2 Ground Floor - Street Level Interface

The edge, where buildings meet the public domain, is vital to the quality and vitality of the street. Soft edges provide a combination of transparency and privacy, encouraging interaction between the facade and the footpath. These are opposed to hard edges which lack activity and interaction with the street such as car park edges, non-active frontages, service areas and plant rooms.

Soft edges apply to “active frontages” such as shops and cafés as well as residential apartments and dwellings.

Soft edges for retail have multiple narrow shopfronts, transparent facades, large windows, openings and goods on display. Soft edges in residential areas have semi-private front yards or well designed terraces with entry gates encouraging lively interaction.

The ground floor of a building and how it interfaces with the adjacent footpaths and other open spaces impacts on the types of activities that can be successfully accommodated.

Ground floors that are consistent with the adjacent street level are important for the success and accessibility of retail, commercial, SOHO and community activities.

Ground level residential uses are encouraged to be raised above the footpath. Where residences are close to the public street edge, variations in level can contribute to occupant privacy while not impacting negatively on street level amenity.



Ground floor residential street interface



Residential soft edge



Screen to residential interface at ground floor

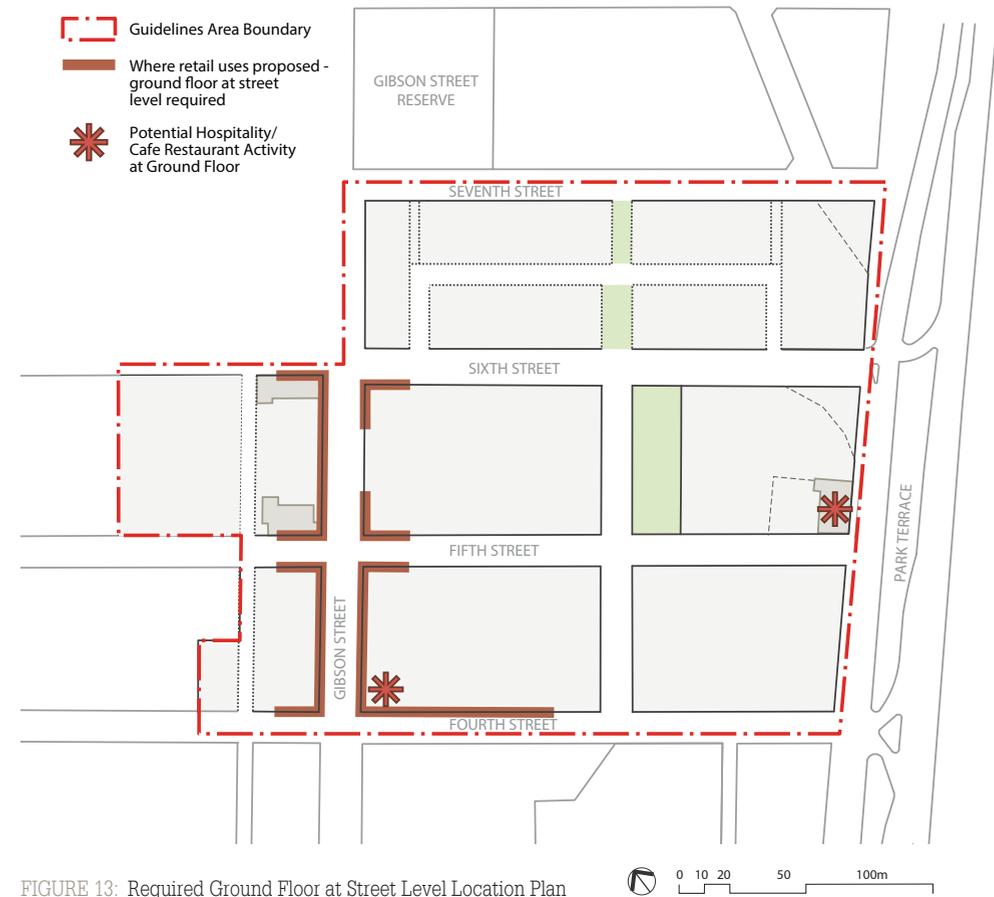


FIGURE 13: Required Ground Floor at Street Level Location Plan



Figure 13 indicates locations where the ground floor must be at the same level as the footpath of the adjacent street. This is to accommodate retail, community and commercial activity at ground floor or the potential future adaptation to such a use.

Where retail activity is proposed along a street front, its concentration is important to facilitate a vibrant and dynamic retail precinct.

A range of different sizes in retail floor areas within the retail precinct provides opportunities to attract a greater range of retail operators and uses which can, through a diversity of activities, also contribute to dynamic retail precinct.

Design Requirements:

- Uses of the ground floor of a building should be in accordance with **Figure 13** (Required Ground Floor at Street Level Location Plan).
- Design any building sections with retail, commercial and community use at ground floor so that the ground floor for at least part of the premises is at the same level as the finished footpath level of the adjacent street and/or open space.
- Buildings with residential use at ground floor can be designed so that the ground floor is raised above the finished footpath level to provide for occupant privacy. 1.2m is the maximum height to limit any adverse street wall outcomes at pedestrian sight line level. Facia treatments and innovative transitions (such as stoops) should be explored to obviate blank walls. Refer to **Figure 14**.
- Wherever possible, there should be access to ground floor apartments directly from the footpath.
- Retail tenancies located on the ground floor, excluding corner sites, should generally have a width to depth ratio in the order of 1:3.

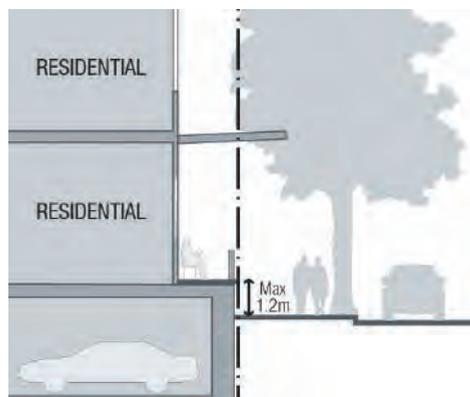


FIGURE 14: Maximum height that ground floor may be raised above finished footpath level
UDG V3.0



Ground floor retail street interface



Facia treatment where ground floor is raised above finished footpath level

2.3 Building Envelope

2.3.1 Building Height

Building heights across Bowden are a considered response to the immediate context, to the strong public domain network and the vision for the site as a high density, mixed-use walkable neighbourhood.

Taller development up to 12 storeys is located in the south-east corner of the site and building heights of 3 to 5 storeys are to the north-east edge.

Heights are expressed as the preferred minimum number of storeys. Greater heights may be achievable subject to planning and design considerations.

The Allotment Control Plan for each development parcel will confirm the designated building height.

Where innovation in product, design, affordability and/or sustainability is proposed, Renewal SA will consider an additional storey to those prescribed in these guidelines and the development parcel's allotment control plan.

Design Requirements:

- Demonstrate all buildings are in accordance with **Figure 16** (Building Height Plan) and explanation above.
- The use of considered variations across the height range within an individual building and across development parcels is encouraged to add interest to the street and deliver positive outlooks for occupants.

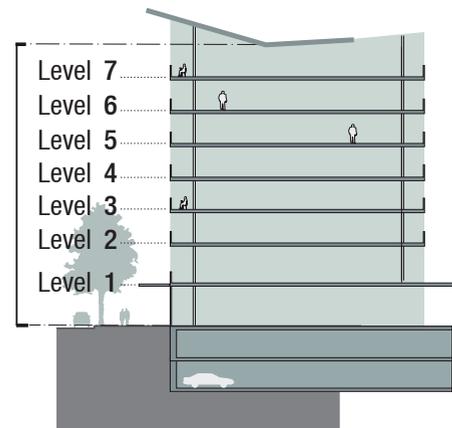


FIGURE 15: Building Height



FIGURE 16: Building Height Plan



2.3.2 Building Setbacks – Ground Floor

The relationship of buildings to the public street boundary and other development parcel boundaries strongly contributes to streetscape character. The building street setbacks contribute to the desired character of each precinct and reflect the desired activities. Building setbacks are measured from the development parcel boundary.

The guidelines in this section are intended to work together with Upper Levels Setback (Section 2.3.3), Public Domain Relationship (Section 2.2) and specific Precinct Characters guidance on built form articulation to achieve appropriate built form outcomes (Section 2.6).

Issuance of the Allotment Control Plan for each development parcel will confirm the designated building setbacks to boundaries.

Design Requirements:

- Demonstrate the development proposal is generally in accordance with **Figure 17** (Building Setback Plan) and **Figures 18, 19, 20, 21** and **22** for all development parcel boundaries.



FIGURE 17: Building Setback Plan - Ground and Upper Levels

Setback Types:

▪ **No Setback – Build to Development Parcel Boundary**

Purpose: Street edge alignment is required to strongly enclose the street or open space, facilitate active retail and/or commercial edges and reinforce the street grid pattern and existing built form character where relevant (such as Gasworks and the Warehouse Precincts).

Specific Requirements:

- Buildings are to align with the development parcel boundary line, and to form a hard edge to the street.
- Projection of sun shading devices into the street reserve on upper levels, recessed balcony voids and recessed windows can provide visual depth to the facade while maintaining a strong architectural presence.

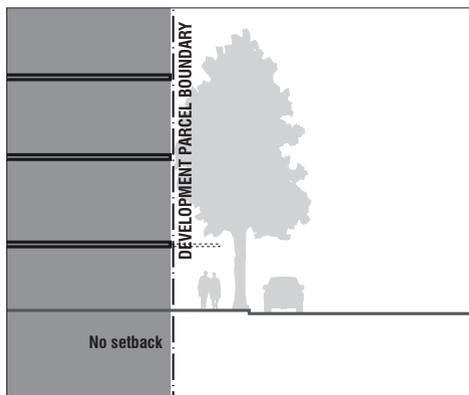


FIGURE 18: No Setback Section

▪ **No Setback or 1.5m Setback**

Purpose: Street edge or near edge alignment is required to strongly enclose the key 'backbone' streets which have a good width embedded in the public street corridor (15m+).

Specific Requirements:

- Buildings are to align with the street edge, defined by the development parcel boundary line and form either a hard edge to the street through no setback or have a setback of 1.5m (precisely 1.5m consistently rather than any setback between 0 and 1.5m). The 1.5m setback zone may be used for private open space, terracing or gardens.
- First floors and above may continue the 1.5m setback or may return to no setback.
- Balconies may extend over public space at the discretion of the statutory assessment authority.

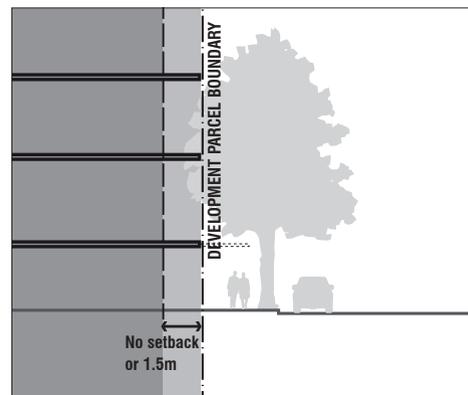


FIGURE 19: No or 1.5m Setback Section

▪ **Minimum 1.5m Setback up to Maximum 3m Setback**

Purpose: Buildings are setback to respond to lengths of street that are quieter, narrower and of a more residential character.

Specific Requirements:

- Buildings are to be setback from the development parcel boundary between a minimum of 1.5m up to a maximum of 3m. Any setback between the minimum and maximum is acceptable. The maximum 3m setback is established to maintain a degree of enclosure to the street.

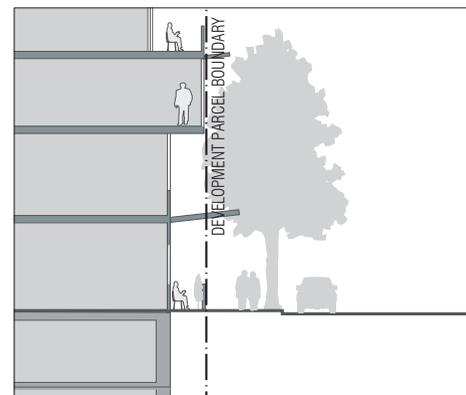


FIGURE 20: Example of No or 1.5m Setback Outcome

- This setback range provides a transition space between the public street and private building where landscaping, courtyards, terraces, balconies and entry porches can be located.
- To north-facing street sides, a 3m ground floor setback is desirable for a sunny private open space.

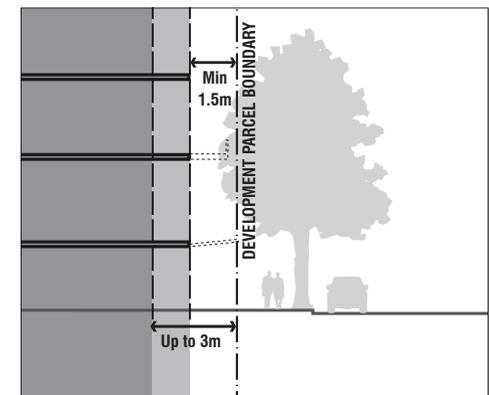


FIGURE 21: Min 1.5m up to Max 3m Street Setback Section

2.3.3 Building Setbacks – Upper Levels

Introducing an upper level setback contributes to consistent street enclosure and moderates the perceived height of buildings from the street. In certain instances a setback allows for sunlight to street level apartments and contributes to the distinctive character of particular precincts.

Setbacks at upper levels vary with respect to building heights (refer also to **Figure 16**). Issuance of the Allotment Control Plan for each development parcel will confirm the designated upper level setbacks of a building.

Design Requirements:

- Demonstrate the development proposal is in accordance with **Figure 22** (Upper Level Setbacks) and explanation below for all development parcel boundaries.
- Roofs, pergolas or other minor elements may be permitted within the setback zone where demonstrated that there will be no overshadowing impact on the public domain.

Upper Level Setback Types:

▪ Setback at Level 3

Purpose: This requirement is to allow winter sun to penetrate to street level for 13.5m wide streets.

Specific Requirements:

- Setback built form above Level 3 a minimum of 3m from the building line established by the nominated street setback.

▪ Setback at Level 4

Purpose: This requirement contributes to the establishment of consistency in the built form envelope and avoids excessive street wall height.

Specific Requirements:

- Setback built form above Level 4 a minimum of 3m from the building line established by the nominated street setback.

▪ Setback at Level 6

Purpose: This requirement contributes to the consistent strong enclosure of development parcels bordering the Bowden Town Square.

Specific Requirements:

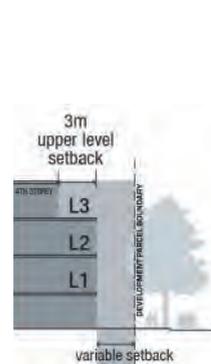
- Setback built form above Level 6 a minimum of 3m from the building line established by the nominated street setback.

▪ No Upper Level Setback

Purpose: There is no upper level setback requirement for development parcels bordering Park Terrace.

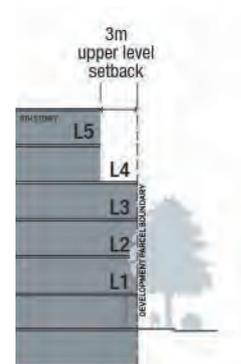
Specific Requirements:

- For new buildings (not applicable to existing heritage/character structures) refer to awning guidelines in Section 4.12.



3m Setback at Level 3 Fifth St

FIGURE 22: Upper Level Setbacks



3m Setback at Level 4, North East of Bowden Village Park - Fourth St



Examples of upper level setbacks

2.4 Existing Heritage and Character Buildings

The Bowden Master Plan ensures heritage listed and other identified character buildings are retained in future development. These buildings are suitable for adaptive reuse and innovative design solutions.

The detailed design process offers the opportunity to ensure an eclectic mix of buildings and structures are addressed positively as assets in creating a special place.

Creative adaptive reuse solutions are anticipated.

Design Requirements:

- Development proposals involving buildings identified in **Figure 23** or in the immediate vicinity of it should demonstrate how the design proposal responds to its significance including incorporating and recognising the central elements of the buildings.
- Development proposals explore and incorporate the recommendations of the Bowden Cultural Mapping Study.



Former Park View Hotel



46 Gibson Street shop/house

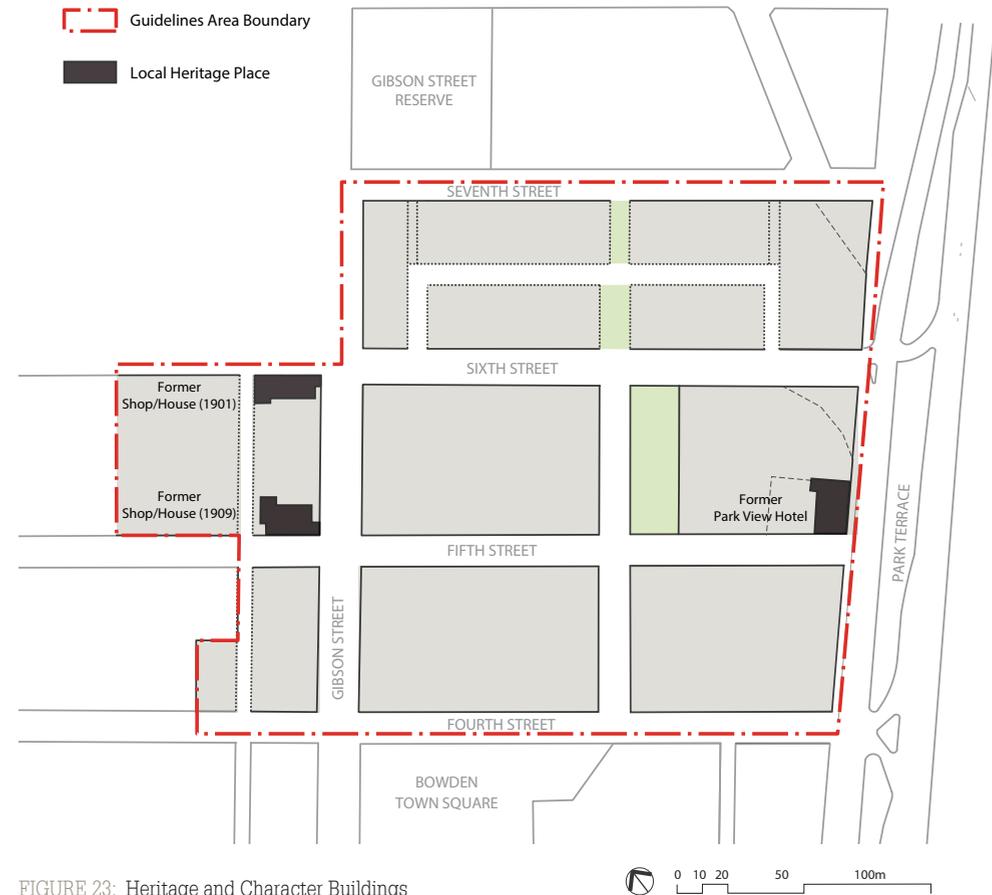


FIGURE 23: Heritage and Character Buildings



2.5 Access and Rear Lanes

2.5.1 Vehicle Driveway Crossovers

Vehicle access should be integrated with site planning early in the design process to avoid conflicts with streetscape requirements and traffic patterns, and to minimise potential conflicts between pedestrians, cars and cyclists at Bowden. Preferred access to each development parcel is indicated in **Figure 24** (Driveway Crossover Location Plan).

Issuance of the Allotment Control Plan for each development parcel will confirm the designated vehicle driveway crossover location.

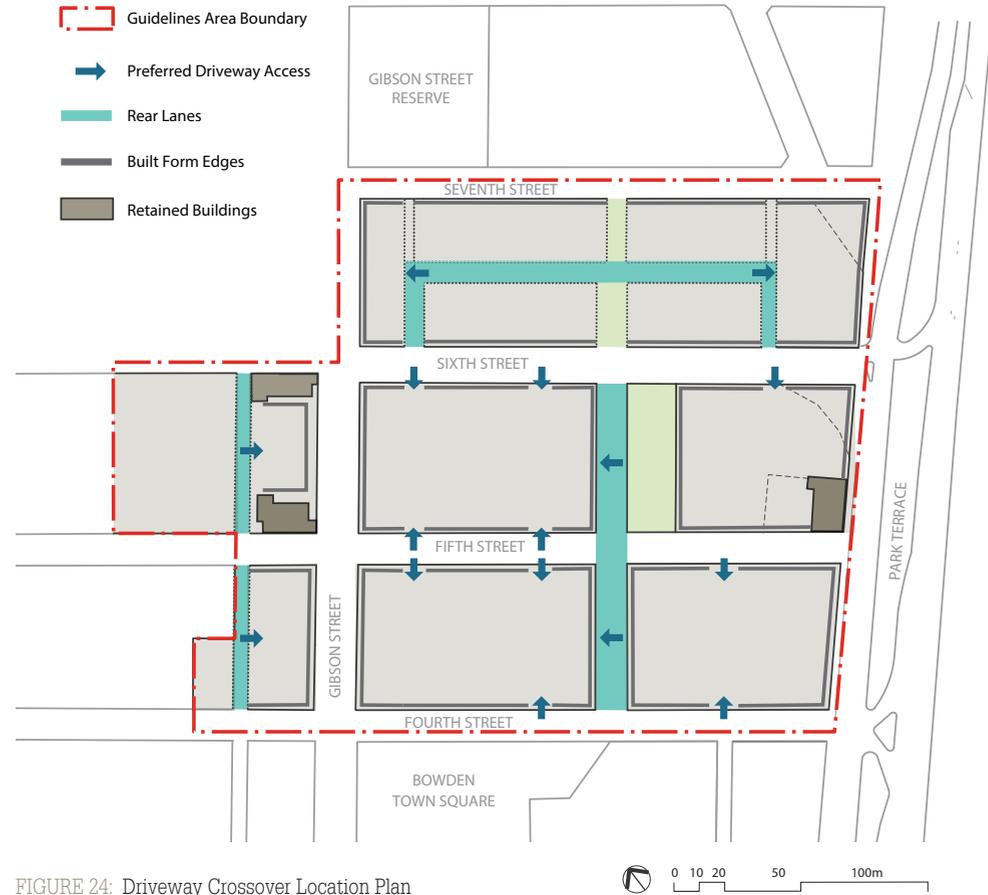


FIGURE 24: Driveway Crossover Location Plan

Design Requirements:

- Demonstrate consistency with **Figure 24** (Driveway Crossover Location Plan) and Allotment Control Plan.
- Minimise the number of vehicle access points to each development parcel, including using shared access points.
- Ensure the maximum width of any driveway crossover is 6m.
- Design all vehicle driveway crossovers to be at footpath grade and to meet the *Disability Discrimination Act* and Australian Standards.
- Vehicle access must address vehicles of all types including cars, service, and emergency vehicles.
- Driveways to underground parking required to have a landing at grade to the vehicular entry / exit point and contain measures to prevent any flooding from the street.
- Improve the appearance of car parking and service vehicle entries through design strategies such as:
 - entries to be designed as an integral part of the building facade;
 - locating garbage collection, loading and servicing areas visually away from the street; and
 - recessing carpark entries from the primary facade line. Avoid 'black holes' in the facade by including security doors to carpark entries and returning the exterior materials into the recess for the distance visible from the street.

2.5.2 Rear Lanes

The framework incorporates rear lane vehicular access that allows for a maximum development frontage to streets and public spaces. The frontage is not broken by driveways and visitor car parking can be accommodated.

Design Requirements:

The lanes at Bowden will be designed as shared zones to be more than utilitarian service areas and will be made attractive and desirable spaces by:

- High quality landscaping and lighting.
- Design control of fences and garages: for example rear fences to be minimum 50% transparent.
- Encouraging studios, granny and 'fonzie' flats above garages where appropriate (such as at corners). Two storey minimum requirement.
- Ensuring passive surveillance with apartments and terraces overlooking laneways (without compromising the privacy of the dwelling's occupants).
- Refer to **Section 5.10** Fences and Walls and **Section 5.11** Garage Doors.



Effective integration of vehicle entries



Studios above garage



Studios above garage

2.6 Precincts and Special Places

Bowden East incorporates a number of precincts, historic buildings and special places. These are:

- North East Quarter (Stage One Block bounded by Seventh Street, Gibson Street, Sixth Street and Park Terrace).
- Warehouse Precinct.
- Kevin Taylor Park.
- Park Terrace Frontage.

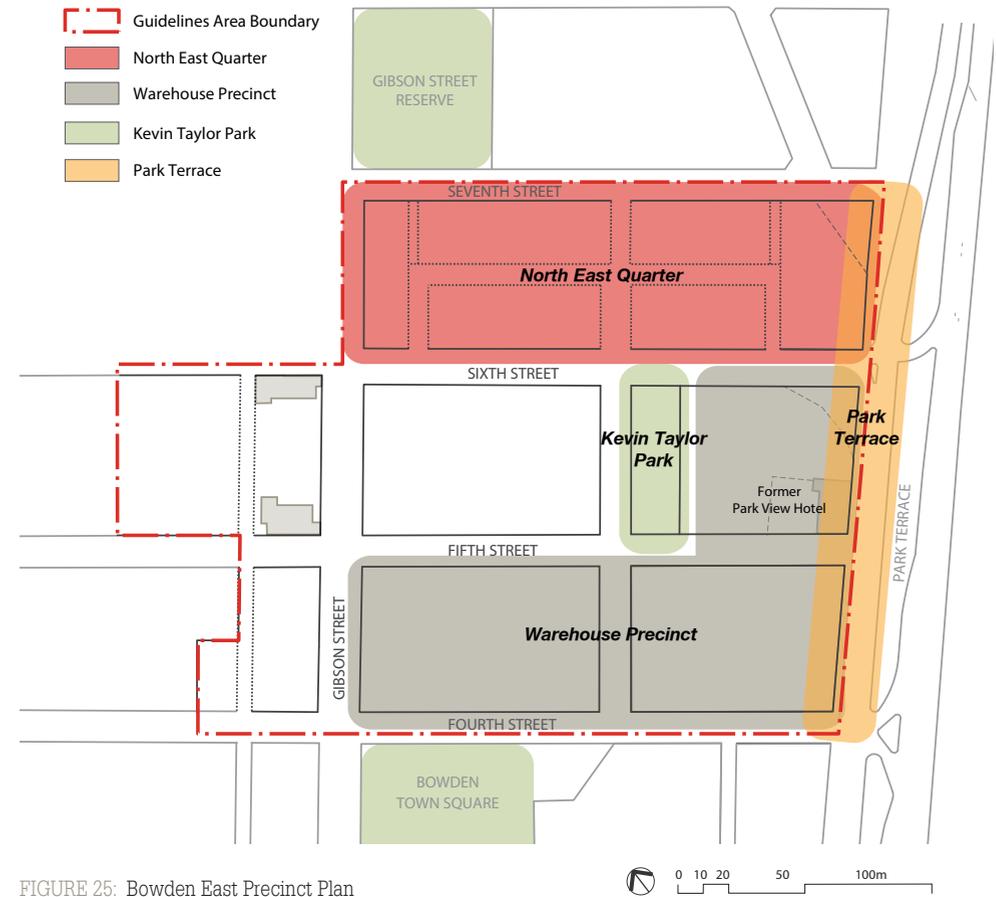


FIGURE 25: Bowden East Precinct Plan



2.6.1 North East Quarter (Stage One)

Character Statement

The North East Quarter will interface Bowden East with the established residential neighbourhood. There will be a transition from three storey townhouses/terraces fronting Seventh Street up to four storey apartments fronting Gibson and Sixth Streets. Apartments at the western end of Seventh Street will have a pleasant outlook over Gibson Street Reserve, creating opportunities for casual surveillance. Residential buildings will frame Sixth Street as the key northern access point into Bowden from Park Terrace. Regularly spaced building entries, ground floor terraces and courtyards with colourful planting and balconies will create visually interesting streets.

The urban block is serviced by a rear lane that eliminates all driveways from frontage streets, allowing for maximum definition and activation at the street level. Individual lots are relatively small, creating a fine grain residential character.

The block is also highly permeable with pedestrian walkways combined with landscaped laneways, allowing multiple cross movements between Sixth and Seventh Streets to Gibson Reserve and Park Terrace.

Design Requirements:

- For 3 to 4 storey residential buildings, a new typology should be developed based on innovative apartment and townhouse/terrace type models, including individual dwellings extending over multiple storeys.
- Apartment design should explore multiple core, single level, double level maisonette and crossover typologies.
- Identify each dwelling through facade treatments while maintaining an overall coherence of design along the overall length of the facade. Clearly different design styles and changes of materials for each dwelling are not supported.
- Access to allotments is to be from rear service laneways.



Gibson Street Reserve



Examples of low rise urban housing in Bowden



2.6.2 Warehouse Precinct

Character Statement

The Warehouse Precinct will be a neighbourhood of residential apartments with ground and/or first floor mixed uses that include commercial activity, particularly where fronting Park Terrace. The character should reflect the synthesis of existing industrial forms and materials with best practice sustainable apartment buildings between four and eight storeys in height.

The local heritage-listed former Park View Hotel is a key element. Kevin Taylor Park will create a diversity of options for outdoor recreation.

Design Requirements:

- The precinct will require careful and considered integration of contemporary architectural and public domain design.
- New buildings are to be industrial in their aesthetic, composition and detailing, drawing on the existing industrial and manufacturing character of the precinct. Selection of materials should be sympathetic to the existing palette of materials with a judicious introduction of new materials and detailing.
- The former Park View Hotel has been retained and will be used in the medium term as an Information and Display Centre and café.

Table 2 sets out the following heritage/buildings of interest that are to be retained.

Building Name	Listing Class	Potential for Retention	Key Features and Issues	Potential Future Uses
Former Park View Hotel	Local	High	Brick hotel with timber balcony. Distinct building type and style from neighbouring industrial character warehouses. Maintain discrete setting in streetscape.	Commercial and/or retail/entertainment uses preferred.

TABLE 2: Heritage/buildings of interest to be retained



Café in refurbished former Park View Hotel



2.6.3 Kevin Taylor Park

This local park is in the centre of Bowden East and is part of a linked sequence of spaces between the Station Square and the existing Gibson Street. Now completed, its design includes the retention of the beautiful pepper trees, a water feature and striking arbour that evokes the site's industrial heritage, as well as BBQ and street furniture. The park will be fronted by apartments to provide enclosure, surveillance and an active edge.

2.6.4 Park Terrace

Park Terrace is the interface between Bowden, the parklands and the CBD. Buildings along Park Terrace will form the outside wall to the village and be seen from close and long distances. Although the aspect is to the east, the views over parklands to the CBD are a major asset to be realised.

Built form fronting Park Terrace has been carefully considered to respond to traffic volumes of Park Terrace as well as maximising the benefit of the expansive views over the North Adelaide parklands.

Park Terrace frontage south of Fourth Street will be predominately active with mainly commercial uses, ideally with large floor plates.

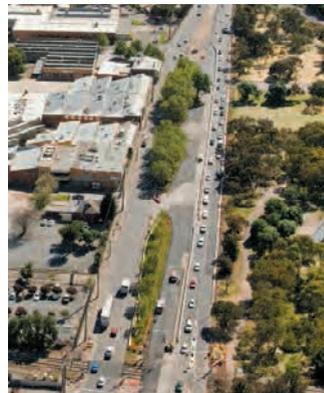
A proposed pedestrian and bicycle path, the Greenway, alongside the rail – which would connect the Bowden and proposed Greenway to North Adelaide Parklands with Park Terrace – is designed to encourage pedestrian and bicycle traffic to/from the city and Bowden and surrounding areas.

Park Terrace frontage north of Fourth Street is likely to have a gradual change in activity to predominately residential with some commercial uses.

The guidelines encourage a graduation in building heights from east to west; taller buildings within individual blocks are to be located towards the southeast end of blocks.



Kevin Taylor Park



Park Terrace looking north



Former Park View Hotel now a café, information centre and offices

3.0 Retail / Mixed-Use Core

The Retail / Mixed-Use Core precinct will become the focal point for Bowden's residential neighbourhoods and the wider urban area, providing a range of shopping, dining, recreation and entertainment functions within a mixed-use, urban environment.

This precinct will incorporate two existing industrial buildings (known as Plant 3 and Plant 4), remnants of the site's former use, reinvented as a market place and community hub. Adjoining these buildings, a new Bowden Park will form the primary public realm space for Bowden, accommodating a range of passive recreational activities. This cluster of buildings and spaces will provide a great place for people with a unique and place-based character.

The precinct will be activated by a range of shops, cafes, restaurants and other commercial uses, located along the ground floor frontages of Third Street and surrounding streets. Third Street forms the "main street" location and will be the key space for pedestrians.

The following sections provide more detail for the urban design framework for the Retail / Mixed-Use Core:

- activities, location and mix.
- public domain relationship.
- building envelope.
- heritage and character buildings.
- access and parking.
- precincts and special places.



FIGURE 26: Artists impression of a refurbished Plant 4

3.1 Activities Location and Mix

3.1.1 Predominant Activities

This precinct will be a mixed-use hub, with a focus on retail, dining and entertainment functions, especially at ground floor level. At ground and upper levels, a mix of residential, commercial and community uses configured around a central open space, will contribute to a vibrant and diverse cluster of activities, by daytime and evening.

The ground floor activities, and those at upper levels, as well as the built form character and configuration, will play an essential role in creating a vibrant, active and attractive meeting place for the Bowden community and surrounding residents.

Developments in this precinct are expected to provide for a range of land uses, integrated horizontally and vertically, with well-resolved interfaces and functional outcomes. These will include consideration of:

- Access arrangements for different land uses within a building;
- Security and privacy;
- Acoustic measures and separation as required;
- Flexibility and adaptability to accommodate changing uses over time, especially at ground floor level.



FIGURE 27: Activities Land Use

Given the limited extent of the functional activation of the Village, the creation of a walkable and visually interesting and safe built environment becomes relatively more important. The use of different ground floor product options provides opportunity for uses other than retail to engage with the streets and lanes in and around the Village Centre.

The manner in which buildings address the street is particularly important in this precinct, being the most “public” location in Bowden. This relates to considerations such as the location and configuration of on-site car parking, floor levels, entrances and building servicing and loading.

Design Requirements:

- Retail and dining activities at ground floor should be concentrated along Third Street, and the laneway linkage to the train station.
- Ground floor frontages to other streets may incorporate further café/dining, commercial and residential uses.
- Upper levels should incorporate commercial and residential uses.
- On-site car parking should not be visible at street frontages. Car parking is to be located in full basement levels, or at ground floor level but ‘sleeved’ by active uses.
- Land uses and tenancies that provide evening activation as well as daytime are particularly encouraged.



FIGURE 28: Estimated Extent of Village Retail Edge



3.1.2 Retail and Hospitality Mix

Market analysis has determined the likely level of demand for retail across Bowden Village at around 4,000 square metres (which includes a specialty supermarket at 1,000 square metres). Assuming a 15 metre shop depth and lesser frontage area for the small supermarket, this equates to around 220 linear metres of active edge.

Retail activity should ideally be provided in an adaptable format. This is in essence a risk management strategy as well as good design practice.

3.1.3 Temporary Activation

Opportunities for temporary and changeable activities at ground floor level, both inside buildings and externally, should be explored and implemented as the precinct develops over time, especially in remnant industrial buildings and along important streets and movement routes. Markets, coffee kiosks, food trucks and street food vendors can become attractors of pedestrian activity when effectively located, and can be an essential ingredient of urban renewal areas.

3.1.4 Residential Dwelling Mix

Similar to Bowden East, it is envisaged that the Retail / Mixed-Use Core precinct will feature a diversity of residential dwelling types and sizes. However the mix in this precinct will focus mainly on apartment types, with some flexible townhouse types within apartment buildings.

Standalone townhouses and terraces will generally not be appropriate in this more intensive core area.

Innovative forms of housing will be encouraged, such as flexible/adaptable apartments, dual-key units that are 'subdividable', and multi-level, dual-aspect apartment designs.

The size, siting and mix of affordable housing will be subject to government agency and other input. These recommendations will be taken into account by Renewal SA when assessing proposals for affordable housing.

Design Requirements:

- Apartment developments should provide a mix of 1, 2 and 3 bedroom units.
- Other apartment types, such as studios, townhouses (within apartment buildings) and affordable housing options are also encouraged.
- Apartments should provide for spacious, functional layouts.
- South-facing apartments are discouraged.
- All habitable rooms should have access to direct natural light and ventilation.



Examples of temporary activation in the public realm



3.1.5 Small Office Home Office (SOHO)

As discussed in **Section 2.0**, a desired element in the mix of uses in Bowden is dwellings that accommodate various forms of live-work activity such as 'Small Office Home Office' (SOHO). SOHO dwellings should be at street level and either single level or dual level with a separation of work and living between floors.

Design Requirements:

- Home-based business with a separate entrance on ground should be encouraged immediately adjoining the village centre precinct.
- Proposals that include SOHO dwellings should be designed to achieve good outcomes for both the work and living components of the dwelling and compatibility with adjacent activities.
- Street-frontage units that can provide for a range of potential residential and commercial occupation are encouraged, as shown below.

3.1.6 Commercial Offices

It is envisaged that the precinct will also incorporate commercial office space, including small studios and 'strata' office suites, and larger commercial office buildings.

It is generally preferred that these are a mix of street-entered offices and office entered via a shared lobby. A predominance of lobby-entered offices will reduce the vibrancy of the ground floor (and public realm) in the village and will reduce walkability. The preference therefore for improved amenity and walkability is for ground floor entered offices. This encourages double height/volume design and mezzanines.

3.2 Public Domain Relationship

3.2.1 Establishing a Walkable Urban Environment

Creating a town centre and wider urban area that facilitate and encourage walking and pedestrian movement is an essential outcome for Bowden. Research has identified five (5) major factors of supporting walkability, as follows:

- Imagability - the quality of a place that makes it distinct, recognisable and memorable.
- Enclosure - the degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other elements.
- Human Scale - the size, texture, and articulation of physical elements that match the size and proportions of humans and, equally important, correspond to the speed at which humans walk.
- Transparency - the degree to which people can see or perceive what lies beyond the edge of a street or other public space, and perceive human activity within buildings.
- Complexity - the visual richness of a place and at the pedestrian scale.
- Developments within Bowden should aim to address these five factors in the design of the built form.



SOHO home offices and commercial office space above ground floor retail

Encourage grounded and vertically proportioned street facades

Avoid buildings that appear to float on glass

3.2.2 Prominent Sites and Corners

The Retail / Mixed-Use Core will be partly defined and characterised by the two historic industrial buildings (Plant 3 and Plant 4). The design of nearby buildings, streets and spaces should reinforce the prominence of these buildings.

While these buildings are not heritage-listed or protected, they will provide distinct characteristics and visual qualities to the locality. Further, the potential for interventions in their built fabric through adaptive re-use will allow for enhanced functionality and accessibility.

Other significant locations include the Park Terrace frontage sites, and the sites interfacing the railway corridor, which is to be grade-separated (to run below Park Terrace).

Buildings on Third, Fourth and Gibson Streets facing the future Town Square will also be highly prominent in the visual experience of local residents and visitors.

The relationships between buildings in town centres is an identified component of walkability and creating a cohesive urban place. This presents a challenge for Bowden and the town centre because it is to be developed by different developers with different architects, over an extended period. Therefore a series of basic requirements are provided below to support a level of cohesion between different buildings.

-  Guidelines Area Boundary
-  Important Corners
-  Prominent Sites
-  Retained Buildings

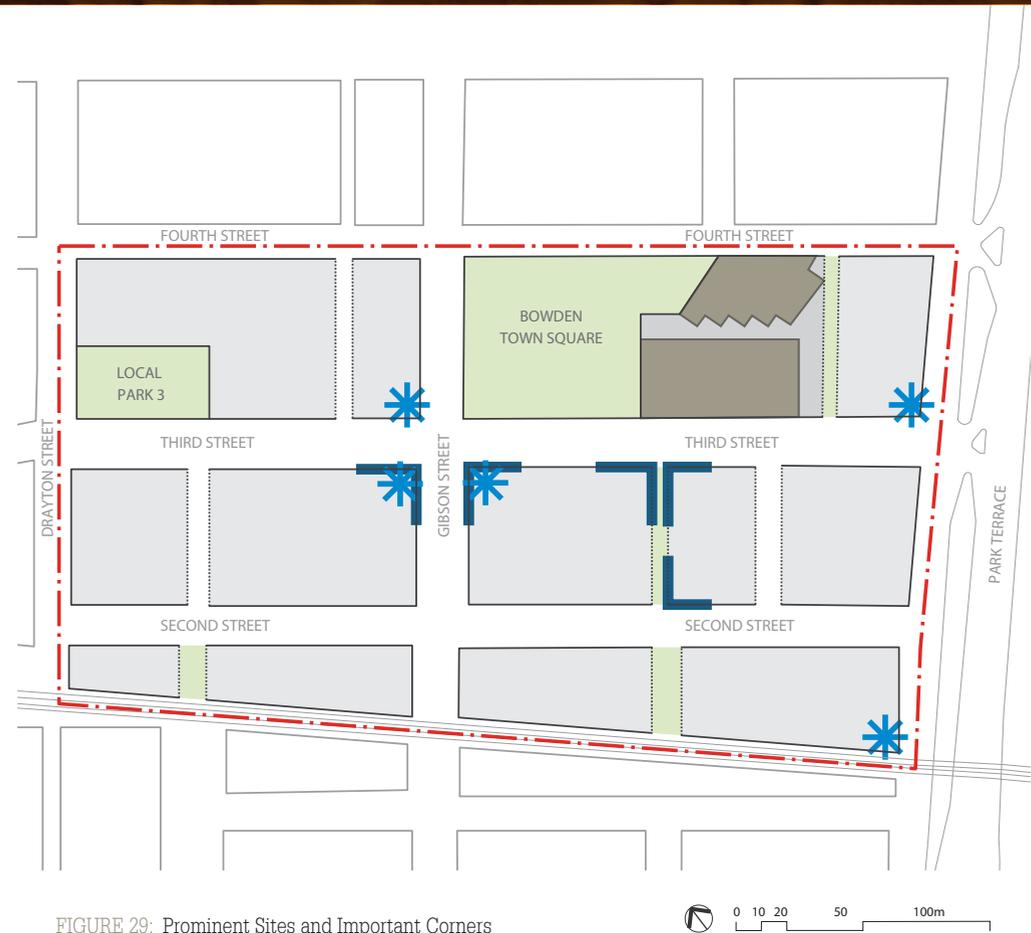
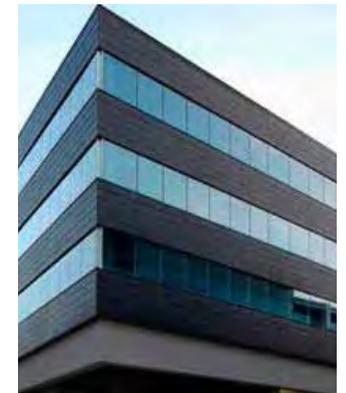


FIGURE 29: Prominent Sites and Important Corners

Design Requirements:

- Existing industrial buildings should be adaptively re-used for optimal activation and accessibility, while retaining their integrity and robust industrial character.
- Buildings fronting the Town Square across Third, Fourth and Gibson Streets should exhibit highly refined, resolved architectural design, providing for visual interest and a sense of civic quality.
- The corners of buildings which face the Town Square (corners of Gibson Street with Third and Fourth Streets) should receive particular design attention, to visually 'frame' the Square while also encouraging pedestrian movement further along these streets, beyond the village centre.
- Buildings should establish a 'human-scale' measure at approximately the lower three storeys. This is based on two important principles:
 - The need to 'bring a tall building to the ground' through solid vertical elements and windows that provide visual complexity and break the larger form in a manner that enhances the pedestrian experience.
 - The need to introduce more detailed facades with deep indentations and shadow and/or bold projections within the vertical forms that relate to human form and proportions (human form standing) within the lower three levels.



Facade designs that celebrate and address street corners

Avoid non-descript, harsh building corners



3.2.3 Ground Floor - Street Level Interface

The ground floor interface is an essential component of the Retail / Mixed Use Core precinct. It is envisaged that ground floor areas will accommodate a mixture of shops, cafes, restaurants, personal services and commercial spaces, as well as residential dwellings, in different parts of the precinct.

It is also preferred that ground floor spaces be flexible and adaptable to accommodate different uses over time.

Key considerations relating to the ground floor condition include:

- Ground floor relative level, and access conditions;
- Ground floor facades, materials, detail design,
- Building/tenancy entrances and identification of doorways;
- Signage and advertising;
- Location of deliveries/servicing and back of house functions;
- Canopies and weather protection;
- Footpath width and treatment, and vehicle crossovers.

-  Guidelines Area Boundary
-  Where retail uses proposed - ground floor at street level required
-  Some level change acceptable for Soho/Adaptable spaces
-  Potential Hospitality/ Cafe Restaurant Activity at Ground Floor



FIGURE 30: Required Ground Floor at Street Level



Design Requirements:

- On-site car parking, back of house and servicing areas and infrastructure should not be visible from the Town Square.
- The floor level for ground floor shops and commercial spaces should be generally equal to street footpath level, however in some cases it may be appropriate to raise the ground floor.
- The preference is for the design of ground floor frontages to be integrated with the building's lower levels. With a 'plane transition and/or setback to a different design treatment above the street frontage, between levels 3-5. This is demonstrated in the images below.

3.2.4 Windows and Doors

Windows and doors are at the interface of public and private realm. Both provide opportunity for transparency as through them pedestrians can see into buildings. In walkable streets there is a need to ensure that transparency does not come at a cost to complexity. Doors must be distinguishable from windows.

Ideally doors should be recessed and/or framed to give definition to the entrance to a building and celebrate the transition from public to private. Framed doors and windows are a component of complexity, as opposed to glazing, which reduces complexity but provides an element of transparency. Transparency however can be suggested and oblique. Glass curtain walls are not an acceptable design response for the ground, 1st and 2nd levels..

It should be noted, however, that extensive glazing at ground floor level may be appropriate where buildings are highly detailed and refined, and the ground floor 'plane' is interspersed at regular intervals (4-6m) with vertical 'breaks' (structural columns or other dividing elements).

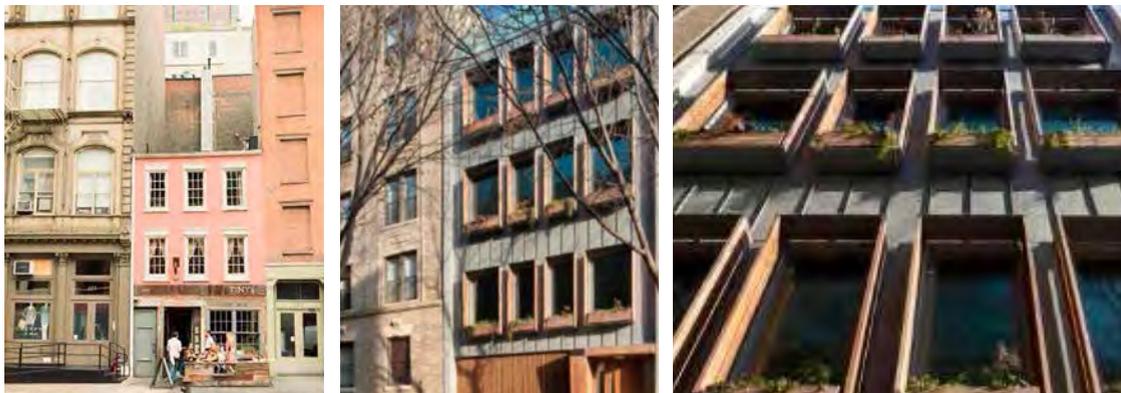
3.3 Building Envelope

3.3.1 Creating Cohesive Built Form

The basis of a common conversation between buildings along and across streets relates to spatial continuity and intimacy at pedestrian scale and visual complexity within a contained space. Buildings are also required to hold, grip and contain space along and across streets.

Research has shown that the 'common in conversation' of different buildings is a major factor in the appreciation of the walk and is fundamental to 'imageability', in making a place distinctive and memorable. This means that in an urban environment 'place' is more than just a building and the space around it. Buildings need to combine and define space in order to create 'place'. A memorable urban place is where the buildings combine well to facilitate walking and is also good enough to encourage resting.

This is achieved through the individual buildings responding to their surrounding context, which includes not just the landscape and land use, but also the surrounding built form, both old and new.



Create a sense of human scale and streetscape rhythm

3.3.2 Building Proportions

Most important to the street is the dominance of vertical elements and vertical proportions. **Figure 31** shows how buildings are to be brought to ground and how the upper levels of the building are tied to the ground level. The preference is for the building to carry the vertical elements to the ground across three floors (including ground floor).

Figure 31 shows how windows and doors contribute to a vertically proportioned facade that is visually rich and fine grained, irrespective of the building's size. The support elements of the building should be exposed in addition to windows and doors. The intent is to begin the break up of the horizontal mass of the building to provide a human scale environment. It requires the design to recognise the equal primacy of the public realm for three levels (including ground floor) and for all buildings to contribute collectively to the quality of the visual environment for pedestrians travelling at walking speed.



FIGURE 32: Vertical proportions

The rhythm or separation of the building piers is likely determined by a range of factors in building design. We see no need to require these elements at a specific regular measurement (except to say that they should not be so far apart as to appear meaningless), rather we prefer that the dynamics and physics involved in the overall building design determine their increments. However the definition or depth and width (thickness) of these piers on the building exterior will be an important factor in their ability to provide visual richness and verticality.



FIGURE 31: Building Heights

3.3.3 Building Setbacks - Ground Floor

Setback Types:

Retail/commercial ground floor: 0m setback

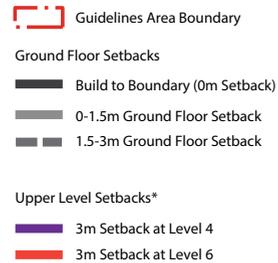
- In general, retail units at ground floor should have a frontage at the street footpath edge.
- Cafes should be located adjacent to wider footpath areas (refer landscape plans) to allow for outdoor dining. General footpaths are 3m wide, so would only allow limited outdoor seating.

Residential ground floor: 0-2m setback

- Buildings with residential dwellings at ground floor may have a limited setback, for the provision of private terrace/garden spaces;
- In these cases, ground floor may be located up to 1.2m above street level.

Flexible/adaptable ground floor: 0m setback

- Ground floor units which can accommodate a range of activities are encouraged.
- For example, 3-level (equivalent) spaces could accommodate:
 - 2-storey residential dwelling with raised ground floor;
 - Ground floor shop with two-level dwelling above;
 - 3-storey SOHO unit with ground-floor office and dwelling spaces above.



* Setbacks at upper levels vary with respect to building heights.

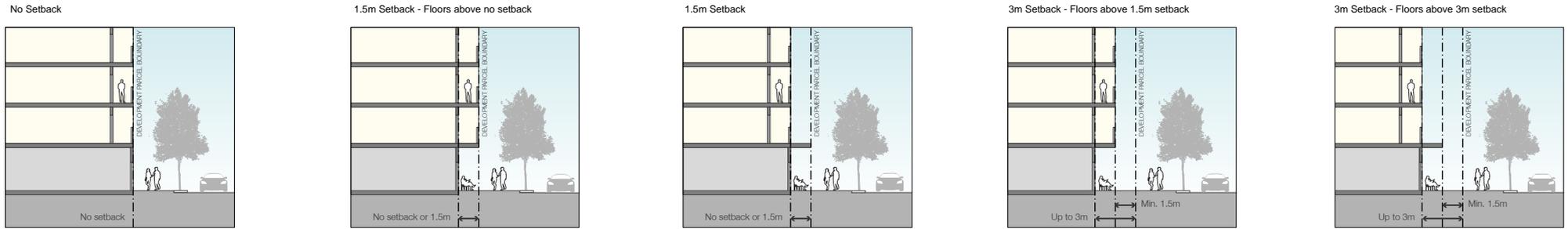
3.3.4 Building Setbacks - Upper Levels

The upper level setbacks identified in **Figure 33** are designed to provide consistent streets walls to the Retail / Mixed-Use Core Precinct.

The distinction between building base / street frontage (generally the lower 3-6 levels) and upper levels, as well as the expression of a 'top' to the building, will relate to the overall building height and form. An appropriate balance and proportional relationship between the different horizontal elements, as well as expression of vertical modules, are strongly encouraged.

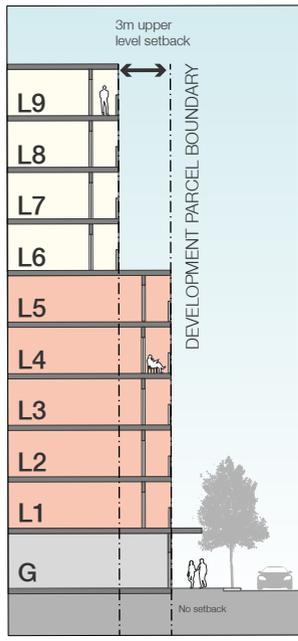


FIGURE 33: Building Setbacks



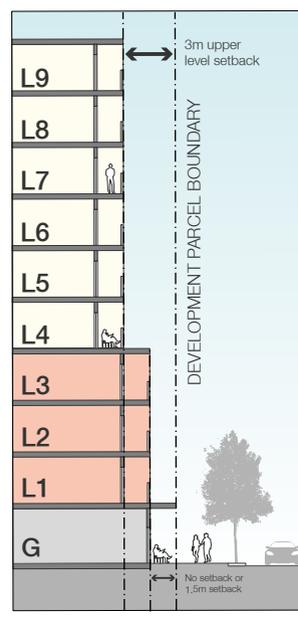
Second, Third and Gibson Streets

Ground no setback
Levels 1 - 5 no setback
Level 6 and above - 3m setback



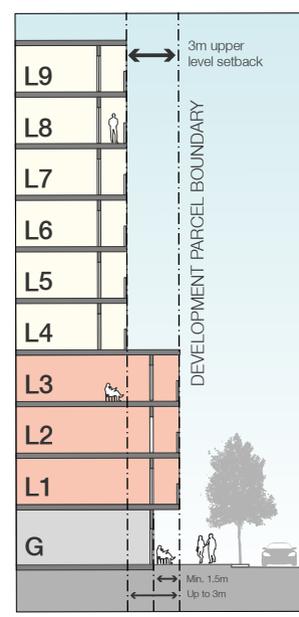
Second Street

Ground to Level 3 - 1.5m setback
Level 4 and above - 3m setback



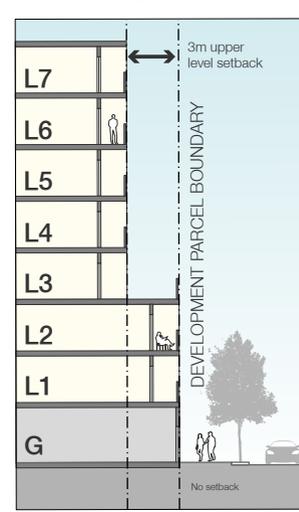
Second Street

Ground - 0 - 1.5m setback
Level 1 to Level 3 - 0m setback
Level 4 and above - 3m setback



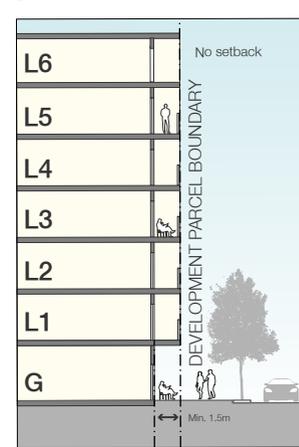
Second Street

Ground no setback
Level 3 and above - 3m setback



Fourth Street

Ground floor - 1.5m setback
Level 1 and above - no setback



- Predominantly Residential
- Commercial/Retail/Community
- Mixed-use:
Retail/Commercial OR
Soho at Ground Floor and Res/Commercial Above

FIGURE 34: Building Setbacks

3.3.5 Creating a Base and 'Plane Transition'

The proposed controls require buildings to converse with each other along the street or lane at three different levels.

1. The upper levels and building top.
2. The plane transition to ground.
3. Street front at ground.

This is the widely accepted notion of buildings having a bottom, middle and top and establishing form relationships along a street (**Figure 35**).

In order to support walkability, activation and to achieve a fine grain pedestrian environment, the first three levels should be highly activated with vertical elements and high quality human scale materials. The middle levels, three to six should form a 'plane transition' that provides a strong architectural response to the middle portion of the building that makes up the upper section of the street wall. The levels above this, six and above form the top of the composition and contribute to a varied sky line.

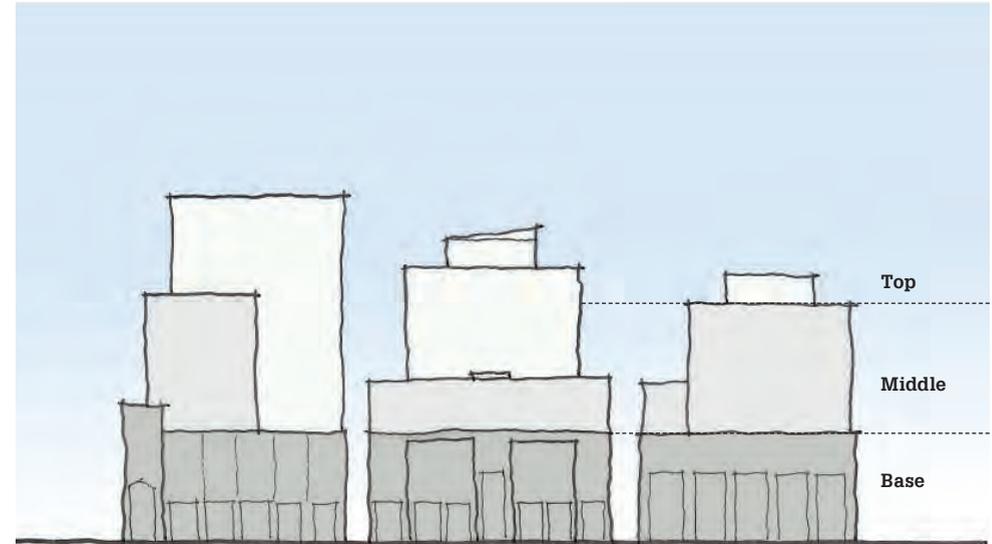


FIGURE 35: Vertical Separation

The rhythm or separation of the building piers is likely determined by a range of factors in building design. We see no need to require these elements at a specific regular measurement (except to say that they should not be so far apart as to appear meaningless), rather we prefer that the dynamics and physics involved in the overall building design determine their increments. However the definition or depth and width (thickness) of these piers on the building exterior will be an important factor in their ability to provide visual richness and verticality.

3.4 Existing Heritage and Character Buildings

The Bowden Master Plan prefers heritage listed and other identified character buildings are retained in future development. These buildings are suitable for adaptive reuse and innovative design solutions.

The detailed design process offers the opportunity to ensure an eclectic mix of buildings and structures are addressed positively as assets in creating a special place.

Creative adaptive reuse solutions are anticipated.



Design Requirements:

- Development proposals involving buildings identified in **Figure 36** or in the immediate vicinity of it should demonstrate how the design proposal responds to its significance including incorporating and recognising the central elements of the buildings.
- Development proposals explore and incorporate the recommendations of the Bowden Cultural Mapping Study.



FIGURE 36: Heritage and Character Buildings

Building Name	Listing Class	Potential for Retention	Key Features and Issues	Potential Future Uses
Plant 3	Not Listed	Medium	1956 factory addition designed by Gerard Industries with southern glass facades.	Community-based artist, commercial and retail uses preferred. Arts, food and culture focus.
Plant 4	Not Listed	Medium	1961-1968 Brick facades including sawtooth roof form.	Commercial and retail uses preferred. Food market and culture focus.

TABLE 3: Heritage/buildings of interest to be retained



3.5 Access and Movement

3.5.1 Linking the Town Centre Train Station

The planned rail line grade separation and redevelopment of the Bowden train station presents opportunities for enhanced public transport linkages to the town centre. The Bowden Master Plan shows a laneway linkage connecting the future train station location to Third Street. It is proposed that this laneway be developed as a vibrant, retail/commercial space with pedestrian priority.

Design Requirements:

- Avoid back of house functions (servicing, loading docks, car park entries) along the laneway between the train station and Third Street.
- Small, fine grain retail and commercial tenancies at ground floor level, which front and open out onto this laneway are encouraged.

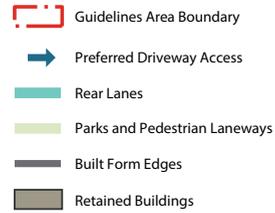


FIGURE 37: Driveway Crossover Location

3.5.2 Locating 'Back of House' Functions and Vehicle Entry

While it is acknowledged that buildings must have a 'back', particularly those comprising retail and commercial functions (to accommodate servicing, loading and deliveries), it is essential that these are appropriately located within the street/pedestrian network, to manage associated impacts on the public realm and avoid conflicts with pedestrians.

Figure 37 indicates preferred locations into development blocks for vehicles. These include cars entering on-site car parking, as well as loading for residential and commercial land uses. They are located to avoid impacts on important pedestrian streets.

Design Requirements:

- On-site car parking should generally not be visible from streetscapes. Basement or concealed podium car parking is preferred in the retail core.
- Entry gates and vehicle doors should be designed to be integrated with the overall facade composition. The width and height of these entrances and loading bay areas should be kept to a minimum in the streetscape.

3.5.3 Streetscape Detailed Design

The streets within this precinct have been designed in keeping with established Bowden streets and overarching design parameters, including materials, kerbing design, street tree planting and street furniture.

3.6 Precincts and Special Places

The Retail and Mixed-Use Core comprises several distinct sub-precincts, which are envisaged to display varied characteristics, dependent on interfaces, proximities and proposed land uses, as identified below.

The overarching characteristics of these sub-precincts are as follows:

- Town centre/town square precinct: Highly refined, mid-rise buildings with distinct street frontages, articulated with vertical proportions and high levels of activation, especially at lower levels.
- Park terrace frontage: Higher, prominent commercial buildings designed to respond to long-range visibility and higher-speed movement.
- Transport link/arrival: Active, vibrant laneway link to town centre, with mixed-use commercial and more robust built form adjoining rail corridor. Potential for consolidated precinct car parking adjoining rail corridor.
- Live/work: Residential focus, with SOHO / home business opportunities at ground floor street frontages.
- Mixed-use rail frontage: Mixed-use commercial development and robust built form adjoining rail corridor



Service, walls and laneways



Texture / visually rich



Integrated landscape



Promote sense of journey vs access - Adventure



Design Requirements:

- New buildings should be designed to reflect the general character envisaged for each sub-precinct, and the local contextual conditions.
- Building facades should be robust yet refined, responsive to context and orientation, and reflecting a considered yet simple design approach, without being 'minimal' in expression.

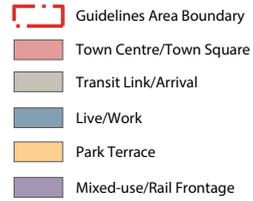


FIGURE 38: Precinct Plan



Visual markers vs continuance



Retail - Gathering



3.6.1 Bowden Village Markets

The two retained warehouse buildings (Plants 3 and 4) will be the focus of a lively arts, food and culture scene, providing the evolving village with an urban vibe.

Intended uses for these evocative industrial structures are produce markets and demonstration gardens, cooking school, café/restaurant, art and craft studios and galleries, lifestyle/ecology education, retail and community/performance space.

The adaptive reuse of the retained warehouse buildings will be characterised by active frontages to Third Street, a portion of Fourth Street and activation of the laneway between Plant 3 and 4.

Coupled with the opportunity to reflect these uses into the adjacent Bowden Town Square, this area has the potential to become a cultural and retail landmark in Adelaide.

3.6.2 Bowden Park

Bowden Park is the central public open space for the development area. This will be designed with a formal grassed area and lined with avenues of trees.

Key features will include water management/ lake, café/outdoor eating, tree grove, productive landscape and children’s play area with an environmental water theme. The character of this park will be semi-formal with a mixture of hard and soft landscapes.



Plant 4 warehouse



Plant 3 warehouse



Art moderne facade of Plant 1

4.0 Site and Block Development

4.1 Block Orientation

The diagonal orientation of the Bowden streets at approximately 50° west of north is not ideal for passive solar design. However, it will facilitate the penetration of sunlight into the streets despite the relatively dense nature of the development. This will occur mid morning for north-east to south-west oriented streets, and mid afternoon for north-west to south-east oriented streets. Although the sun is not at its strongest at those times of the day in winter, it will mean that most streets will get some sun at some time of the day in mid winter.

In summer however, it will mean that the north-west oriented streets and buildings will experience exposure to sunlight at the hottest times of the day.

Overall the result will be that most dwellings will receive some sun and hence good daylight levels at some part of the day in winter, however the detailing of building facades will require careful attention to exclude the sun in summer. This can be viewed as an opportunity for innovative facade designs with deeply set windows and moveable sun screening elements. Particularly on western facades, broad eaves and sun shading devices will add to the visual interest of the buildings.

Solar access to retail streets should be optimised, along with solar shading to footpaths in summer, especially the south side of Third Street.

North-West Orientation

- Maximum exposure to solar radiation in summer.
- Large roof overhangs and sun protection devices.
- Preference for narrow window openings capable of solar protection.
- Adjustable screen and awnings to maximise winter sun angles.
- Living areas to be distributed toward street facades.
- Higher solid to void ratios towards street.
- Rear facades to favour privacy and avoid over-looking.
- Plan to avoid extended over-shadowing of central communal landscaped zone.

South-West Orientation

- Will receive some sun on street facades in winter and extensive afternoon sun in summer.
- Maximise north (rear) facing components for living areas.
- Adjustable shade devices to south-west to exclude worst summer radiation.
- Higher solid to void ratios towards street for solar control.
- Large balconies/extension of living spaces.
- Generally apply as recommendations for north-east orientation to rear side.

North-East Orientation

- Generally most comfortable orientation.
- Plan to avoid unit to unit over-shadowing.
- Distribute living rooms to northerly positions.
- Generally more glazing, lower solid to void ratios.
- Large balconies as extension of living spaces.
- Screening and shade devices to minimise summer sun angles.
- Treatments to south-west (rear) to favour privacy, for example small windows.

South-East Orientation

- Will receive early morning sun only to street facades.
- Maximise north (rear) facing components for living areas.
- Generally apply north-west orientation to rear side.



FIGURE 39: Typical Bowden street block - 50° west of north

4.2 Building Typologies

A mix of building typologies should be considered in the early planning stages for each block. This should include the opportunity for consolidation/co-ordination to enable the delivery of efficient basement and/or wrapped podium car parking and communal open spaces.

There may also be single or multiple vertical access cores depending on the size of the building.

The general principles are to:

- Maximise north to north-east facing apartments
- Maximise cross-ventilated apartments
- Minimise building depth
- Minimise south to south-west facing apartments
- Minimise double-loaded corridor access apartments.

Design Requirements:

- Generally, building on blocks should:
 - Promote solar control
 - Encourage dual aspect and cross ventilation
 - Allow for future adaptability.

In the Retail / Mixed-Use Core, the integration (vertical and horizontal) of retail, commercial and community / civic uses is encouraged. This, along with the potential for larger / higher buildings, is expected to inform the building typologies utilised.

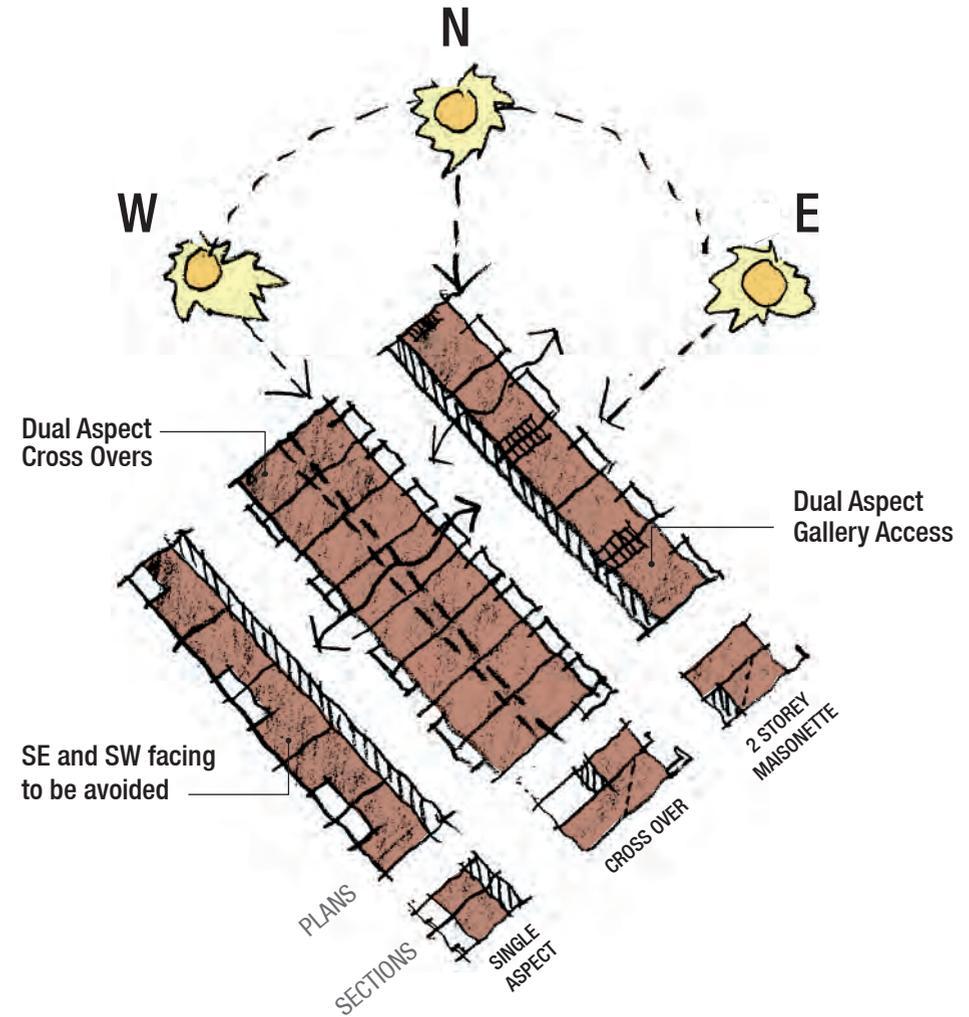


FIGURE 40: Building and Unit Orientation



4.3 Building Depth

Building depth contributes to sustainable design performance and internal amenity for occupants.

Design Requirements:

- Demonstrate buildings are of a depth that facilitates sunlight access and cross ventilation for internal amenity and contributes to sustainable design performance.

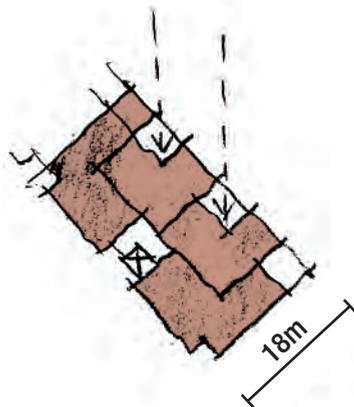


FIGURE 41: Building depth

4.4 Building Separation

The space between residential buildings (or residential floors and other buildings) is important for occupant amenity, both visual and acoustic privacy and infiltration of daylight to interior and outdoor spaces. The appropriate separation of buildings is to be considered in relation to the storey height of a building.

Spacing between buildings through block links and open spaces within development parcels should respond to solar access conditions, wider neighbourhood connectivity and definition of streets and public spaces.

In the Retail / Mixed-Use Core this separation may happen above a continuous podium treatment.

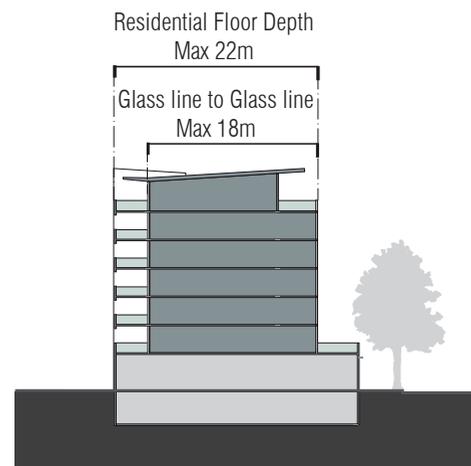


FIGURE 42: Building depth

Design Requirements:

- Demonstrate how appropriate building separation, in combination with other design initiatives, achieves internal amenity, visual and acoustic privacy and appropriate daylight access.
- The following separation distances are a useful guide, however it is recognised that successful urban outcomes can be achieved through other methods.

For buildings floors up to 4 storeys:

- 12m between habitable rooms/balcony edges
- 9m between habitable rooms/balcony edges and non-habitable rooms
- 6m between non-habitable rooms.

For buildings floors between 5 – 8 storeys:

- 18m between habitable rooms/balcony edges
- 13m between habitable rooms/balcony edges and non-habitable rooms
- 9m between non-habitable rooms.

For buildings floors nine storeys and above:

- 24m between habitable rooms/balcony edges
- 18m between habitable rooms/balcony edges and non-habitable rooms
- 12m between non-habitable rooms.

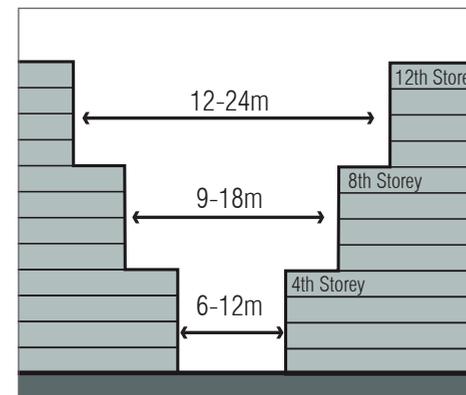


FIGURE 43: Building separation

4.5 Street Wall

A street wall is the part of a building that faces and defines the street edge. The guidelines encourage well defined and cohesive street walls that foster a sense of safety by casual surveillance from living rooms, balconies and front terraces and promote interest by detailed design at street level.

Design Requirements:

- Buildings should engage, frame and activate the street.
- Buildings are to generally align with block edges where indicated to clearly define the public domain of street hierarchies and open spaces.
- Avoid the occurrence of blank walls, particularly at ground level.



Example of street walls

4.6 Safety and Security

Bowden is to be a place where residents, workers and visitors feel safe and secure at all times.

The more windows, doors and balconies that overlook public and communal space, the better.

Design Requirements:

- Apply Crime Prevention Through Environmental Design (CPTED) principles to all development proposals. In particular development proposals are to:
 - clearly delineate the distinction between public and private space
 - maximise the legibility and safety of building entrances
 - optimise casual surveillance opportunities
 - eliminate potential for concealment, such as in recesses or nooks in the ground floor building line
 - appropriately restrict access to private areas
 - facilitate and encourage pedestrian movement, through multiple building entrances from the street.
- Avoid or manage potential conflicts between pedestrians, cyclists and vehicles, especially at/close to building entrances.
- A CPTED statement is to be included as part of design submissions, detailing how proposals respond to these principles.



Casual surveillance of communal open space

4.7 Landscape Design

Bowden will be a place where landscape and buildings perform as an integrated system to achieve greater sustainability performance, amenity and visual quality for occupants and people in the public domain.

Design Requirements:

- Maximise the benefits of communal and private outdoor spaces through landscape design that supports outdoor living and improves microclimate and the energy performance of adjacent buildings.
- Target a minimum of 50% of communal outdoor space to be softscape planting (turf, ground covers or shrubs).

- Maximise opportunities for each development to include trees of a scale appropriate to the built form scale that facilitates growth to a mature canopy and long term health.
- Integrate landscape design with water and stormwater management.
- Select plant species appropriate to the Bowden context and the specific microclimate within the development, maximising use of endemic and native species and opportunities for urban biodiversity.
- Incorporate features to support fauna biodiversity.
- Landscape design of communal spaces should encourage and facilitate usage and activity, such as through effective sun shading and sense of privacy / enclosure.



Integrated landscape design

4.8 Deep Soil Zones

Deep soil zones are areas of soil where there is no constructed development component at any depth (e.g. basement) and where planting is in natural ground. Deep soil zones are useful in achieving the integration of large trees in developments and facilitate the infiltration of water into the ground. Refer to **Figure 44**.

Design Requirements:

- Maximise deep soil planting within the areas available, given other design parameters.
- Deep soil zones are to be of dimensions that achieve their function as planting space for large trees.
- Locating deep soil zones is encouraged within key communal outdoor space areas or elsewhere where a large tree will benefit the maximum number of residents and where the tree can contribute to the public domain.

4.9 Podium Planting

Planted landscapes are encouraged on built elements including podiums and rooftops. These environments can positively contribute to the quality and quantity of green space available to residents and provide opportunities for greater ecological diversity within the precinct.

Design Requirements:

- Planting beds are to be of a depth adequate to support healthy growth of the chosen species.
- Plant selection should consider the different conditions elevated planting may experience.
- Building structures must incorporate elements appropriate to the increased weight and drainage requirements of planted landscapes.



FIGURE 44: Deep soil zone



4.10 Landscaping on Structures

Basement car parks, upper levels and roof terraces or green roofs are likely to result in areas of planting over built structures.

Design Requirements:

- Coordinate the design of basement car parks with the design of outdoor spaces to ensure the growth and long term health of planting to achieve the guidelines for Landscape Design (Section 4.7) and Communal and Private Outdoor Space (Section 4.10).
- Design for landscaping on structures to provide optimum conditions for plant growth by:
 - providing soil depth, soil volume and soil area appropriate to the size of the plants to be established;
 - providing appropriate soil conditions and irrigation methods; and
 - providing appropriate drainage.
- In terms of soil provision there is no minimum standard that can be applied to all situations as the requirements vary with the size of plants and trees at maturity. **Table 4** sets out the advisory design standards for a range of plant sizes.
- Green roofs can be extensive - with low build-up height and soil depth suitable for self-generative plants like succulents and grasses, or intensive with higher build up and soil depths suitable for trees, shrubs and vegetables.
- Renewal SA will consider an additional storey in developments that provide green roofs and/or rooftop gardens spaces.

Plant Type	Minimum Soil Depth	Minimum Soil Area
Large trees (up to 16m canopy diameter at maturity)	1.3m	10m x 10m
Medium trees (8m canopy diameter at maturity)	1m	6m x 6m
Small trees (4m canopy diameter at maturity)	800mm	3.5m x 3.5m
Shrubs	500-600mm	
Ground cover	300-450mm	
Turf	100-300mm	

TABLE 4: Soil provision standards



Examples of landscaping over basement car parks or on building roofs



Site plans with central landscaped communal space



4.11 Communal and Private Outdoor Space

Outdoor space provides for a range of important functions in higher density residential development, including recreational opportunities for residents, social exchanges amongst neighbours, water management, daylight access, landscaping that delivers quality outlook, visual privacy, urban biodiversity, improved sustainable design and reduced heat island effect.

Communal Outdoor Space

Communal outdoor space is space within a private development that is shared by all residents and/or workers. Communal outdoor space may include a degree of public access to be secure.

Place making principles should be evident in the design and functionality of communal outdoor space ensuring it is valued by residents and admired by their visitors.

Design Requirements:

- Locate and design communal outdoor space to maximise solar access, accommodate the intended activities, be accessible to all users, contribute to visual privacy between apartments and create a pleasant outlook.
- On larger sites for apartment living, communal outdoor space should generally be at least 25% to 30% of the site area. This space requires sunlight in winter and shading in summer.
- Common open space within a development should receive at least 2 hours of sunlight in mid-winter for 25% of the area.
- Communal outdoor space should be overlooked by habitable rooms to ensure passive surveillance.
- Using roofs to provide communal outdoor space is encouraged. Also refer to **Section 5.7** (Roof Level Design).
- Maximise the benefits of Water Sensitive Urban Design (WSUD) elements in communal outdoor space.
- Landscape design of the communal outdoor space should provide high level amenity to residents.



Examples of communal outdoor space

Private Outdoor Space

Design Requirements:

1. Provide private outdoor space for each apartment (excluding studios) in the form of a courtyard, terrace, balcony, deck or roof terrace. Outdoor spaces that reflect the size of the dwelling are encouraged.
2. Locate primary areas of private outdoor space adjacent to the main living area.
3. For larger apartments of three or more bedrooms consider secondary private outdoor spaces for additional amenity.
4. Where ground floor private outdoor space fronts the street or public open space, design the space to contribute to a pleasant streetscape while providing a degree of privacy to residents, but allowing for visual / social interaction with the streetscapes. Locate and design all private outdoor space to optimise usability, sunlight in winter and shade in summer, amenity and privacy between apartments.
5. Private open space may be substituted for the equivalent area of communal outdoor space (as described at the beginning of this section) where the communal outdoor space is not publicly accessible and at least 50% of communal open space is visually private from public areas.
6. For terrace houses, target a minimum 30% of lot area to cater for outdoor living areas. Minimum size target is 20m² with a minimum 3-4m width, positioned for best solar access.
7. For private open space at a courtyard or roof level, target a minimum dimension of 3m and an area of 24m².
8. The primary balcony should have a minimum depth of 2.0m. The minimum provisions should be in the order of:

	Depth	Size
Studio (where there is no separate bedroom)	No minimum requirement (may be 6)	
One bedroom	2.0m	8m ²
Two bedrooms	2.0 - 2.4m	11m ²
Three or more bedrooms	2.0 - 2.4m	15m ²

TABLE 5: Balcony sizes



Screen feature on balcony



Examples of private outdoor space



4.12 Vehicle and Bicycle Parking

A key aim for Bowden is to manage and reduce vehicle usage over time through a combination of physical and behavioural measures. Good access to public transport, cycling and walking networks offers an alternative to reliance on cars.

Other measures such as the implementation of share car programs may also assist in reducing car use.

4.12.1 On-Site Car Parking Provision

Design Requirements:

▪ Residential:

- Aim to provide private on-site car parking spaces at the average rate of 0.75 parking spaces per dwelling unit (subject to developer innovation initiatives approved by the DRP and Renewal SA this could increase to 1.0).

▪ Commercial and Retail:

- For shops, provide 3 car parking spaces per 100m² gross leasable area.
- For tourist accommodation, 1 space for every 4 bedrooms up to 100 bedrooms and 1 space for every 5 bedrooms over 100 bedrooms.

- For all other non-residential uses provide 3 parking spaces per 100m² of gross leasable floor area at ground floor level and 1.5 parking spaces per 100m² for gross leasable floor area above ground floor area.

A lesser car parking rate may be applied where justified based on local circumstances, for example where:

- the proposed development is adjacent to a designated pedestrian and/or cycling path;
- the proposed development is within convenient walking distance to readily accessible and frequent public transport;
- convenient on-street car parking is readily available;

- the proposed development is on or adjacent to the site of a heritage place that hinders the provision of on-site parking;
- there is the opportunity to exploit shared car parking areas between uses based on compatible hours of peak operation;
- suitable arrangements are made for any parking shortfall to be met elsewhere or by other means; or
- there are studio apartments, student accommodation, affordable housing and retirement villages.



Accessible public transport



Innovative on-site parking



Examples of public bike parking



Share cars



On street parking

4.12.2 On-Site Car Parking Location

Design Requirements:

- Locate on-site car parking to minimise impact on the provision of active building frontages edging all streets and open spaces at both street level and the first to third storeys. This may also contribute to street character and opportunities for casual surveillance.
 - Demonstrate that on-site car parking is not visible from any public street or open space. This can be achieved by wrapping car parking with residential or other uses, or mitigating the visual impact through the use of innovative screens, artworks and/or landscape elements.
 - The provision of on-site car parking for development parcels in Stage 1 (fronting Sixth and Seventh Streets) may be achieved through ground levels/carports, only accessed from Leighton lane.
- For all other development parcels:
 - Strong preference is given to below ground basements fully below the finished street level. Refer to Figure 45.
 - Semi-basements that extend above the finished street level to a maximum of 1.2m only may be considered as an alternative in locations where a raised ground floor is allowed. Refer to Figure 46.
 - Natural ventilation to basement and semi-basement car parking is encouraged on sustainability grounds. Ventilation grilles and screening of openings into facade design will require detailed design attention. Design solutions could include metal artwork, recessed walls, concealed louvres and other visual screening.
 - Configure and resolve detailed design of basements to achieve guidelines for Communal Outdoor Space (Section 4.11), Deep Soil Zones (Section 4.8) and Landscape Design (Section 4.7).
 - Alternatives to basement car parks will only be considered where it can be clearly demonstrated a basement configuration cannot be achieved within a development parcel. Only above-ground car parking that is fully 'wrapped' by active uses (commercial, retail and/or residential) to all street and open space frontages will be considered as a possible alternative. Refer to Figure 47.
- Vehicular entry to and exit from on-site car parking on Fourth Street, Fifth Street, Sixth Street or Gibson Street should be in a forward direction.

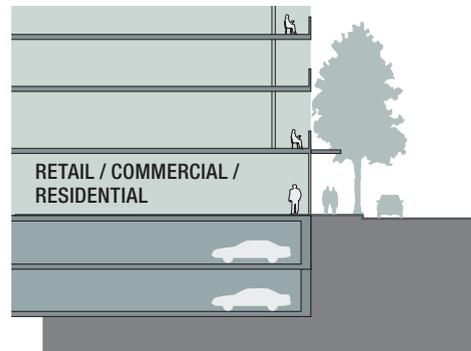


FIGURE 45: Preferred parking location in full basements

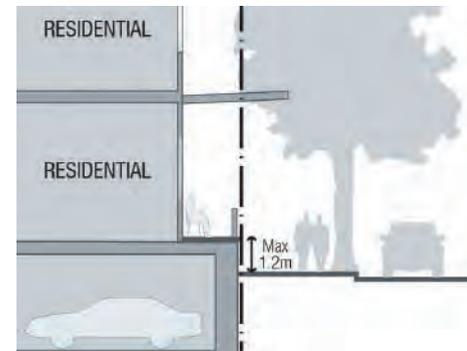


FIGURE 46: Maximum height of semi-basements above finished street level

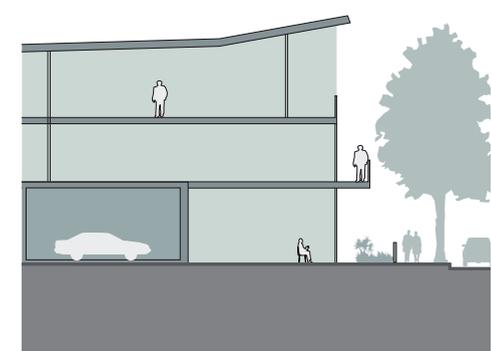


FIGURE 47: Above ground parking 'wrapped' an active use to all street frontages



4.12.3 Bicycle Parking

The provision of good quality facilities for cyclists within buildings with convenient external access is essential to encourage the use of bicycles for transport in preference to cars.

Consider place making principals when locating facilities for cyclists within the building.

Design Requirements:

- Lockable on-site storage for bicycles should be provided in convenient and highly accessible areas such as at ground level near building foyers and lift lobbies or at an apartment entry where the use is residential.
- Provide a minimum of 1 bicycle space per dwelling.
- Visitor bicycle parking facilities should be provided in convenient locations at a rate of 0.25 visitor spaces per dwelling.
- Retail and/or commercial premises should consider the supply of at least one shower and change facility (including lockers) accessible by all tenants in each building.
- See also storage in **Section 6.9**.



Dedicated and highly accessible bicycle storage



Secure on-site bike parking for residents



Bike storage in apartment as a feature for residents

5.0 The Building

5.1 Green Star Requirements

Bowden has set a number of sustainability targets based on high level objectives approved by the State Government. Renewal SA has adopted the Green Star rating system for this project. Buildings in Bowden will be required to achieve a minimum 5-Star rating and, on selected sites, Renewal SA may require buildings to achieve a 6-Star rating. This will be reviewed / updated as required.

5.2 Designing for Adelaide's Climate

The design of buildings for Bowden should express a strong commitment to Ecologically Sustainable Development (ESD) principles; in particular passive thermal design, optimal orientation, effective sun shading, cross ventilation and open plan living. This should be evident in the external architectural expression.

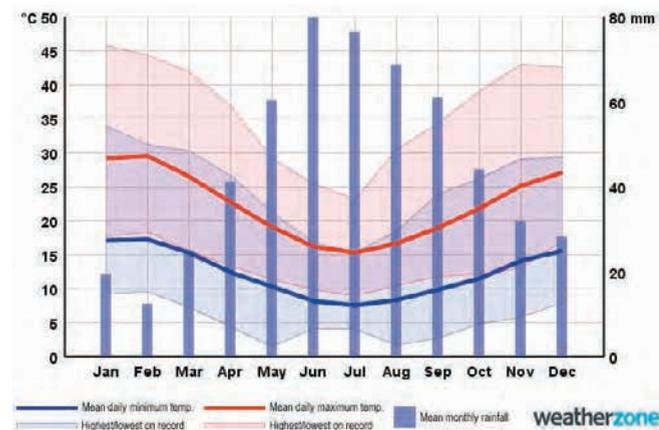
Adelaide is located on the coast and has a predominately temperate climate often referred to as Mediterranean. There are hot, dry summers and mild, wet winters. The average summer temperature is 29°C with some days over 40°C. The average winter temperature is 15.5°C.

From a climatic point of view, the ideal orientation for living areas is north to north-east to receive the morning winter sun and avoid hot afternoon summer sun. There should be only minimal openings to the west; openings should be to the north and east and to the south-west for cross ventilation purposes as breezes are mainly from the south-west and west in the afternoons.

North-east facades should have large overhangs for shadow/shade. Vertical and horizontal shade devices should be provided to all east/north-east and west/north-west and south-west glazing. Eaves are generally not required for south/south-east facades

In summer the cooling influence of land and sea breezes is an important factor. Design should capture breezes from the south-west and use open plan interiors for maximum cross ventilation. Louvres rather than top-hung awning windows can be used to maximise air flow.

Buildings need insulation to keep heat in during cold weather and keep heat out in hot weather. High insulation values are desirable to walls and roofs. Insulated thermal mass is beneficial, suggesting use of masonry.



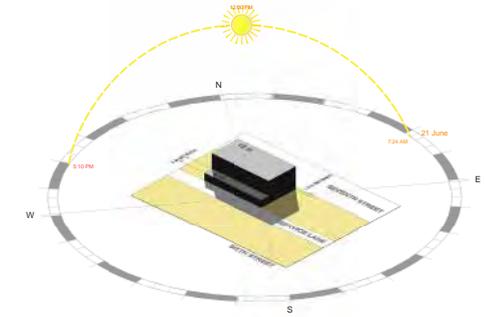
Adelaide's Climate

5.3 Energy Efficient Design

Design Requirements:

The mandating of minimum 5-Star Green Star ratings for buildings (with some higher 6-Star rated buildings) will dictate the adoption of energy efficient design practices. As a part of developing an overall energy efficient design strategy for buildings, the following are to be incorporated:

- Response to the diagonal street grid and the implications for sun control together with overshadowing of adjacent properties and public areas.
- Good passive solar design principles that reduce the reliance on mechanical systems for heating and cooling, and promote the use of natural daylight over artificial lighting. In particular, adopt good passive solar design principles in the design of facades including shading devices that exclude sun in summer and allow it into buildings in winter; locating living spaces to take advantage of winter sunlight.
- Apartment buildings should be designed with narrow depths, dual orientation and multiple entrance lobbies that allow for natural cross ventilation and good solar access.
- High level of insulation as a simple means of reducing the energy consumption of buildings.
- Ceiling fans in living and bedrooms where ceiling heights are a minimum 2.7m.
- Energy efficient light fittings and appropriate use of light sensors.
- Outdoor clothes drying spaces (other than balconies) or internal drying spaces within apartments to reduce reliance on clothes dryers.
- The use of green roof and green facade/green wall elements to reduce heat loads on internal building spaces.



Mid winter shadow study for a Stage 1 typical block in Bowden



Effective sun shading



Adjustable external screens



Sun shading, eaves and screens



Ceiling fans in habitable rooms



Natural light and ventilation in common areas



5.4 Base / Middle / Top

Buildings that demonstrate 'good manners' to the street usually have a base that is clearly related to pedestrians and the ground. The middle section provides visual interest and helps define the street edge. The top section finishes off the building.

Dividing a building into three distinct sections responds to the character of traditional urban architecture and reflects the mixed uses they contain.

Design Requirements:

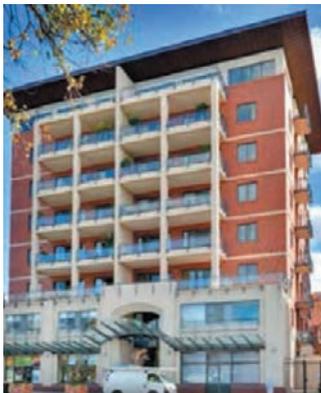
- Buildings of four storeys or greater should be designed to demonstrate base / middle / top principles.

5.5 Solid to Void Ratio

Bowden is set in an area of mixed industrial and residential character that has a strong sense of solidity in its traditional built form. The development of Bowden aims to capture a sense of simple and permanent architectural 'walls' to define the street, and to avoid frontages that read as continuous voids.

Design Requirements:

- Building facades are to be articulated by creating contrast between solid elements (such as walls) and voids (for example windows, doors and balcony openings), generally with a higher solid to void ratio.
- On facades where sunlight access is good and living areas are located, limit the balcony openings for bedrooms to avoid a continuously open void form. If required, consider side access from bedrooms to living area balconies.
- Indented or partially indented balconies add to the solidity of the facade, and should be used, particularly at lower street defining levels.



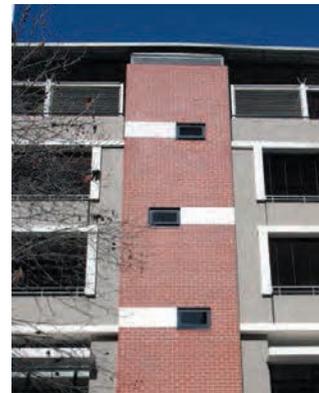
Base / Middle / Top



Base / Middle / Top



Solid to Void ratio



Indented balconies



5.6 Building Facade Design

The facades of buildings are the significant vertical enclosing elements of the public domain.

The architectural quality of facades will be influenced by the articulation of functional requirements, environmental sustainability, proportion, transparency, the interplay of light and shade, materiality and colour.

Design Requirements:

- Demonstrate that all buildings positively contribute to the character of Bowden and the quality of experience in the public domain through high quality architectural composition of facades.
- Demonstrate facades are diverse in character, providing a fine grain reflecting the character of the locality and region. The use of replica style forms and detailing is not encouraged.
- Demonstrate street frontages of retail and commercial uses that maximise their important role in the building's positive contribution to the public domain, for example through active frontages, frequent entrances and glass.
- Demonstrate a clear relationship between the whole building form and the individual facade and building elements.
- Compose facades with an appropriate scale, rhythm and proportion, which respond to the building's use, height and different street frontage conditions, while avoiding an unconsidered repetition of elements.
- Demonstrate that the building is to be vertically proportioned in height, form and architectural articulation.
- Openings for windows and doors are generally to have a vertical emphasis. Where a horizontal opening is used, this should be detailed with vertically proportioned framing, which can be emphasised with lighter coloured material.
- Facades should respond to Bowden's microclimate; explore different elevational treatments related to orientation; incorporate external shading components and use high quality, durable materials and finishes. Highly reflective finishes are not permitted.
- Facades should provide a richness of detail and architectural interest, especially at visually prominent locations.
- Integrate public art into the building fabric and spaces.
- Rainwater downpipes and balcony drainage are to be carefully integrated with facade design.
- Demonstrate that all building facades incorporate Crime Prevention Through Environmental Design (CPTED) principles.



FIGURE 48: Building Facade Design



Incorporate sustainable design elements



Adaptable screening



Attention to facade detail

- Design solutions may include but are not limited to:
 - strongly articulating building entries;
 - distinguishing between the base, middle and top/roof sections of the facade;
 - selecting balcony types that respond to the building orientation and proximity to the public domain;
 - using architectural features to give a human scale at street level;
 - recessing elements such as windows or balconies to create visual depth in the facade;
 - emphasising the difference between solid and void to create a strong sense of shadow and light; and
- further expressing upper level setbacks through a change in materials, colour or change in facade detail or rhythm.
- Ensure that buildings meaningfully engage with all street and/or open space frontages through the placement of windows, balconies, entrances, internal active spaces and the like. The design of buildings with a focus on one frontage only to the detriment of the other frontages is not supported.
- Respond to how a building may be viewed from all sides giving particular attention to how facades ‘turn the corner’.
- Integrate a variety of sun shading devices, adjustable privacy screens and balcony edges into the overall design.

Balconies

- The general intention is to provide an urban ‘wall’ or facade for the middle part of buildings. This requires a preference for fully or partially recessed balconies and terraces – subservient to the main facade. Balustrades may be solid, translucent (opaque) or transparent (glass or perforated metal).
- The degree of visual privacy from the public domain should decrease with the height of the balcony. Upper level balconies can be more transparent.
- Balconies on first and second floors in particular should be predominantly solid and/or opaque.
- The design of balconies may include adjustable or fixed shutters for privacy and solar control.
- Provision of water taps and gas points on balconies should be considered to increase the functionality of balconies.



Recessed balconies



Innovative balcony and screen design



Solid, translucent and transparent balustrades



Projecting balconies



Recessed balconies for deep shade



Design emphasis to balconies



5.7 Roof Level Design

The roof is a key component of design and architectural expression. Quality roof design considers the contribution of the roof to the overall performance and function of the building and the character of its context, particularly if it is viewed from above in close proximity from other buildings.

At Bowden, many building roofs will be overlooked from other nearby buildings.

There will inevitably be a combination of roof forms, especially on mid-rise buildings including traditional pitched roofs, industrial-style skillions, as well as green and accessible roofs.

Expressed roofs for terrace houses are preferred to develop a coherent roofscape that can accommodate solar and PV panels. Avoid rooftop terraces that can compromise privacy between dwellings.

Design Requirements:

- Buildings are required to have a visual 'finish' at the roof level. This can be in the form of a roof with eaves, a parapet, a top floor recessed or a separately detailed element or a combination of the above.
- Treat roof spaces and forms as a considered aspect of the overall building form (a 'fifth elevation').
- Maximise the opportunity for roofs to deliver one or multiple functions including:
 - communal and/or private outdoor recreation opportunities;
 - green roofs for improved sustainability performance, food cultivation and urban biodiversity. (refer to Section 4.10 Landscaping on Structures);
 - internal roof spaces as habitable rooms; and
 - efficient installation of renewable energy technology including solar panels, solar hot water systems and other technologies.
- The considered use of pitched roof elements is encouraged to reflect traditional roof forms of Adelaide and the Bowden industrial legacy.
- Metal deck roofing is the preferred material.
- Integrate service elements (for example service plant, lift overruns, vent stacks, ventilation equipment) into the roof design to minimise visual intrusion and create "clean" roofscapes.
- Plant and roof equipment should be designed and coordinated to have a clean, positive visual impact to integrate sustainable features.
- Roof gardens/green roofs are a preferred solution and may be mandated on some buildings.



Examples of roof design and articulation



5.8 Cohesive Materials and Details

The guidelines encourage a limited materials and colour palette to achieve cohesive built form. Desired streetscape variety will be generated by individual interpretation of specific site briefs and the response to sites by each architect/developer consortium.

Design Requirements:

- Adopt a cohesive materials palette as an integral part of the building design.
- Select materials that contribute to the building's sustainability performance, including consideration of green walls.
- Select durable high quality materials that withstand the effects of weathering and contribute to the value of buildings and the streetscape appearance over the long term.
- Maximise the use of materials that are self-finished and/or pre-finished.
- Encourage innovative use of lightweight materials such as Zinalume, Custom Orb, CFC sheets, Corten Steel and the like.
- The use of superficial and superfluous detailing and highly saturated colour palettes is discouraged.
- Activity within non-residential buildings should be readily visible through the windows. The use of reflective or dark glass that prevents this is not supported.

BOWDEN PROJECT | GENERAL GUIDE: COLOURS + MATERIALS

ADELAIDE REFERENCES



1. MAIN FACADE



2. ACCENT



3. ROOF



material palette





Adelaide has a tradition of building in red brick, masonry, rubble, sandstone, bluestone and rendered decorative elements/architraves/quoins.

- Facades are to be of smooth face bricks, rendered masonry or painted concrete surfaces. High quality off-form concrete may be used but not as the predominant material. Metal cladding is suitable, particularly for upper level facades and accent walling. Other materials will be considered at the discretion of Renewal SA / Bowden Design Review Panel.
- The colour of external facades is to be predominantly mid to darker red/earth tones. Light sandstone/beige/grey on rendered or painted lightweight areas should be used to articulate the facade.
- Highly coloured, reflective or white facades are not generally encouraged.

- Precast concrete is not to be used as the primary facade material unless there is acceptable articulation, surface treatment, and integration with other architectural elements. Articulation of the join pattern also needs to be considered as part of the design pattern.
- For roofs, corrugated sheet metal in Colorbond or Zinalume is acceptable. Colours preferred to be neutral (not white or off-white) with low visual impact. Standard Colorbond colours would include the lighter greys of Shale Grey and Windspray and darker tones of Woodland Grey and Headland with more traditional (slate and red roof) colours used selectively.
- Change of material/colour associated with upper level setbacks is encouraged.

To achieve a cohesive quality across the Bowden project, the following materials and colour palettes are encouraged:

- Face Brick Base Course, Fencing - select from one of the following:
 - ‘Adelaide Red’ – Littlehampton Clay Bricks & Pavers
 - ‘Chapel Red’ – Austral Bricks
 - ‘Colonial Red’ – Austral Bricks
 - ‘Smooth Red’ – PGH Pavers & Bricks
 - ‘Flame Red’ – Boral Bricks

- Paint colour to external walls, balconies, slab edges etc. - select from one of the following:

- white – Dulux China White (or competitor equivalent)
- charcoal – Solver Charcoal 2787 (or competitor equivalent)
- mid grey – Dulux Raku (or competitor equivalent)
- light grey – Solver Southwards 6304 (or competitor equivalent)

Developer consortiums are not limited to these colours, but they should be used rather than a similar colour. Constant use of these colours throughout the development is required.



Mid warm earthy red tones



Mid warm earthy ochre tones



Darker slate tones



Neutral grey tones



5.9 Building Entry and Pedestrian Access

Quality and equitable pedestrian access where all residents, employees and visitors can access buildings and public and/or communal spaces is central to an inclusive community and user friendly places.

Building entrances are the primary interface of a building with the public domain, contributing to the character and legibility of a street and forming a significant component of the overall facade composition.

Place making principles should be reflected in the design and functionality of the space in and around the building entry.

Design Requirements:

General

- Provide pedestrian access into all buildings and into the public spaces of retail, commercial and residential developments, including residential communal areas. Access must be equitable for those with mobility impairments, using strollers, wheelchairs or bicycles and satisfies relevant sections of the *Disability Discrimination Act*.
- Ensure equitable access is provided to all public and shared entries.
- Locate the primary entry of a building to address a development parcel's primary street frontage.
- Design entries and associated elements (such as signs, street numbers, mail boxes) to emphasise their visible presence from various approaches to the building.
- Provide distinct and separate entries from the street for pedestrians and cars and for commercial and residential access in mixed-use buildings.
- Entries are to be generous and safe with double height spaces to larger developments.

Residential

- Each individual ground floor dwelling is encouraged to have a separate entry and address to the public street to activate the street edge. The majority of street level apartments are to achieve this.
- Design shared entries for upper level dwellings to be clearly legible as the 'higher order' entries for example through facade modulation or awning projection.
- Provide an entry canopy for protection from sun and rain.



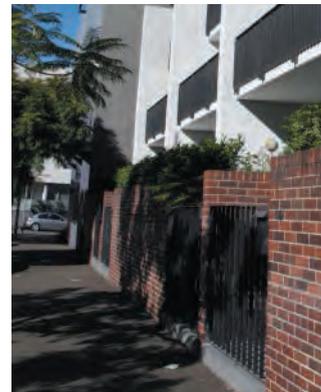
Double height entry



Pedestrian through-site link



Individual entry from street to apartments



Individual entry from street to terraces



Individual entry from street to apartments



Higher order entry and individual entry to ground floor apartments



5.10 Fences and Walls

The design of fences and walls has a significant impact on streetscape character, the clarity of separation between public and private realms, casual surveillance of the street and the usability of ground floor private open spaces. Front fencing is a particularly important design element that can contribute to a cohesive urban street character.

The guidelines encourage a contemporary design with a limited palette of materials that relates to Adelaide precedents. Privacy is to be achieved by dwelling design, solid side fencing and a combination of masonry, permeable fences and landscaping. Built solutions that incorporate landscape elements are encouraged.

The majority of front fencing will be for apartment buildings – either at a similar level to the footpath or elevated up to 1200mm above the footpath. In Stage 1, front fencing will also be designed for terrace housing.

Design Requirements:

- Development is to have consistent and integrated front fencing of an urban character that provides for resident safety, privacy and community interaction.
- The design of the fences and walls is to:
 - delineate between public and private space with front fencing located on the property boundary as a clear definition of space;
 - allow sight lines between buildings and the street to enhance safety and opportunities for casual surveillance;
 - provide privacy and security while not eliminating opportunities for outlook, natural light and ventilation;
 - provide an articulated, visually interesting edge to the street with a mix of solidity and transparency;
- contribute to the development positively addressing the street; and
- provide for visual / social interaction.
- Fencing may incorporate landscaping to soften particular edges such as retaining walls.
- Integrate letterbox and numbering into boundary treatment detail.
- Use durable materials that are easily maintained and graffiti resistant.

Front Fences

- Materials

Materials should be used in combinations as a “kit of parts” to provide walls, piers and plinths with open elements of palisade design.

Preferred materials are:

- stone (sandstone and bluestone) as pillar elements
- solid walling masonry (smooth-faced brick of selected red/ochre or blue colours) with a face brick base course as pillar elements
- render (painted natural colour selection)
- metal (painted steel – neutral grey-black)
- timber (slats).

The materials and/or colours of the fence should relate to those of the building and should be part of the colour palette that is representative specifically of Bowden and generally of the Adelaide vernacular and outlined in Cohesive Materials and Details (**Section 5.8**).



Landscape incorporated



Brick and metal palisade



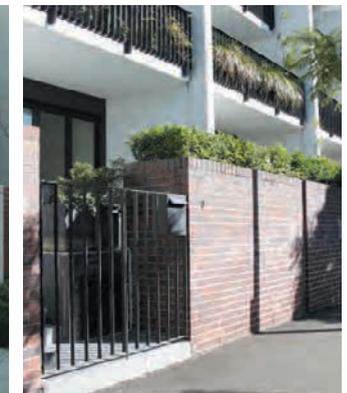
Raised 1200mm above footpath



Metal palisade



Combination solid and void with landscape buffer



Gates to be permeable

- Solid to Void

The relationship between solid and transparent/permeable will depend on specific design circumstances. As a general guideline this should be a maximum of 25% solid. The open component is to include the front gate. Other open areas can incorporate planting to provide privacy screening if required. The length of solid walls should be limited to no more than 5m.

- Heights

Consideration of height reflects two situations: where the ground floor of the apartment is elevated and where the apartment or terrace is at a similar level to the street.

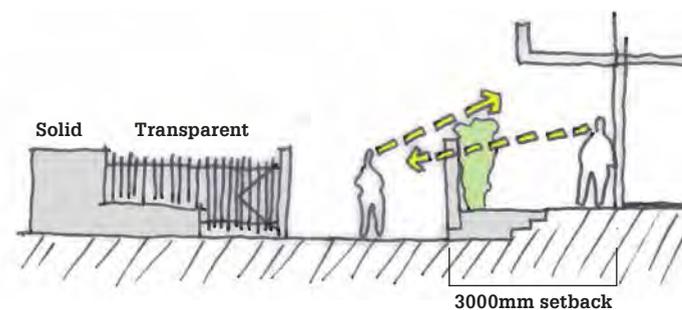
- Where the ground floor of the apartment is elevated, the wall/fence height is to be 2200mm to comply with Building Code. The lower component (from ground level to 1200mm) is to be solid, or have some car park ventilation. The upper component is to be a balustrade. The height of transparent elements (50%) should be reduced wherever possible to a maximum of 1600mm (including gates).
- Where the apartment or terrace is at similar level to the street, the maximum height of front fences should be 1800mm. The length of solid components should be limited, with preferred infill of 1500mm or 1200mm palisade fencing.
- Fences returning to the building wall should be a maximum height of 1800mm.

Laneway and Cross Site Link Fences

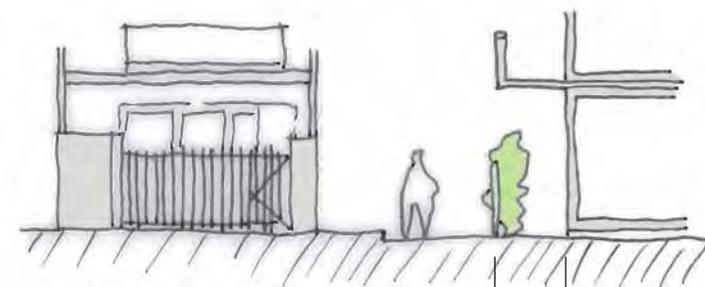
Laneway fences are to be 1800mm maximum height. Solid fences should screen service/refuse areas. Fifty percent of the rear fence is to be visually permeable. Preferred materials are masonry, palisade and vertical timber battens. Metal fencing is not permitted.

Dividing/Side Fences

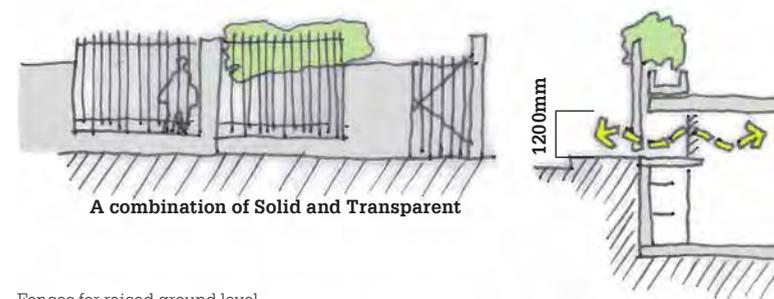
These are to be a maximum of 1800mm high, masonry or timber (lapped and capped paling) and must be located 1.0m behind the front building line. Metal fencing is not permitted.



North facing terraces minimum 3m setback



South facing terraces maximum 1.5m setback



Fences for raised ground level



5.11 Garage Doors

Garage doors are not to be overly featured and should be similar to the colours of surrounding walls. Innovative approaches to gain light and/or ventilation through garage doors are encouraged.

Well designed open carports for terrace housing are also permitted.

Design Requirements:

- Garage door materials can include special finishes such as metallic perforated sheeting, glass/perspex, polycarbonate sheeting, pre-finished sheet metal in horizontal bands and timber in neutral colours and natural finishes.
- Segmented door systems such as tilt up or panel lift and sliding doors are preferred.
- Continuous runs of garage doors are only permitted in rear laneways.

5.12 Awnings and Signs

Awnings

Awnings improve the amenity of footpaths and building entries for pedestrians by providing all weather protection and contributing to building identity. Awnings are particularly important in areas of high pedestrian activity and ground floor active uses.

Awnings may require Council approval for encroachment onto public land.

Design Requirements:

- Provide continuous awnings to all buildings along Park Terrace and Third Street as shown on **Figure 52** (Awning Location Plan).
- In other areas provide as a minimum awnings to retail frontages, and over commercial and common residential entries.
- All awnings are to have a soffit height in the range of 3.0 - 4.2m above finished footpath level.



Metallic perforated sheeting



Timber louvre panels allow natural ventilation



Fineline sectional door



Recessive black mesh



Addition of artistic elements in design

Design Requirements:

- Awnings/verandahs to be a minimum depth of 3.0m where achievable, to reflect the deep, shady character of Adelaide’s established vernacular.
- Provide under-awning lighting for pedestrian safety.
- Design awnings to ensure they do not inhibit trees in the public domain achieving full mature canopies.
- Glass-roofed awnings may be used in selected locations taking into account function and orientation.
- Awnings may be required for re-use of existing warehouse buildings and other active uses to Bowden Village Park.
- Design awnings to ensure they do not inhibit on-street car parking.

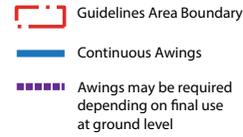


FIGURE 49: Continuous Awning Location Plan



Fixed and retractable awnings



Contemporary interpretation



Traditional protection



Signs

Thoughtful integration of signs contributes to way finding and identification of buildings and individual businesses. This should be achieved without visual clutter or impacting on the desired precinct character.

Design Requirements:

- Integrate signs and building numbers into the overall fabric of development through consistency with the building scale, proportions and detailing.
- A maximum of one under-awning sign for a residential building and one per commercial or retail tenancy.
- Awning edge signs are discouraged.



Examples of signs

5.13 Waste Collection

Well designed waste collection strategies should facilitate recycling and reduce the amount of waste going to landfill.

The City of Charles Sturt is committed to ensuring all residents in Bowden gain access to best practice recycling and waste collection services. For apartment buildings, this often means using shared bulk bin services, rather than the smaller wheelie bins more typical of suburban locations.

The approach to waste collection should be integrated, well designed and for the collection of bins have regard to designated waste truck parking zones in the streets and laneways.

Alternate waste collection schemes that improve efficiency and reduce environmental impacts will also be considered where supported with a waste management plan.

Design Requirements:

- Within buildings, and individual dwellings, provide correctly sized and suitable facilities to enable the easy collection, storage and disposal of recyclable and segregated waste, including green and organic kitchen waste for composting.
- Provide recyclable, compostable and waste bins in equally accessible locations.
- Within buildings or on allotments, provide appropriately sized, suitably positioned and secure facilities for storage and for presentation with proper access for residents, building management and for waste collectors. Within buildings or on allotments provide a temporary storage area for hard waste.
- Provide on-site composting facilities or use Council's green waste collection service for residential buildings.
- Provide facilities that are appropriate in type and size, including a dedicated area for on-site storage, sorting and collection of waste and recyclable materials that meets City of Charles Sturt requirements for waste storage and collection. Refer to the City of Charles Sturt Residential Waste and Recycling Guidelines for New Developments.
- Locate on-site waste storage and collection areas in locations that are unobtrusive, minimise odour and noise to residents, and mitigate any adverse impacts on neighbouring properties.
- Provide an appropriate waste management plan with building development applications in consultation with Council.
- During construction, provide and maintain appropriate temporary waste facilities that maximise recycling opportunities for both construction and domestic type waste.
- Developments must comply with Council requirements in relation to site management matters including, but not limited to, erosion and stormwater control during the construction phase.

5.14 Indoor Environment Quality

The creation of pleasant indoor environments with good air quality, access to daylight, good thermal performance and appropriate noise attenuation can influence the health and well-being of occupants. The adoption of best practice design in relation to these issues is encouraged.



Shared bulk bin service

6.0 The Apartment

6.1 Apartment Size, Layout and Flexibility

The internal layout of an apartment establishes how functional and enjoyable an apartment is to live in as well as its environmental performance. Aspects such as access to sun and daylight, natural ventilation and acoustic and visual privacy directly contribute to the health and wellbeing of occupants, their ability to carry out normal household functions easily, socialise and to feel safe and secure.

Flexibility (the potential to use the rooms in a home in a variety of ways) and adaptability (the potential to modify spaces) should be key considerations in the layout design.

These elements, along with other internal and external amenities, contribute to the liveability of Bowden. This is important in establishing a permanent residential community at Bowden and adding value and social cohesion to the area.

Design Requirements:

- Provide sufficient space within the apartment and in each room to live comfortably.
- The following space for apartment sizes (excluding balconies) should be met and considered as a minimum. The guidance provides for apartments ranging from studios to four bedroom (six person) apartments. For occupancy greater than six people, allow approximately 10m² per extra person.
 - Studio apartments, up to two persons 35m²
 - One bedroom apartments, two persons 50m²
 - Two bedroom apartments, up to four persons 70m²
 - Three bedroom apartments, up to six persons: 95m²
- A feeling of spaciousness within an apartment should be created through a high standard of design and layout that does not rely on apartment size alone.
- Design apartment layouts that are flexible and adaptable and allow for a variety of household activities and furniture configurations, as well as aging in place.
- Facilitate natural ventilation and daylight through good passive design and good apartment configuration. Common rules of thumb include:
 - limit the depth of single-aspect apartments to 8m;
 - ensure the back of an apartment kitchen is no more than 8m from a window; and
 - for apartments greater than 15m deep, the apartment width is at least 4m to prevent long narrow residences.



Room flexibility and adaptability



- Ensure circulation by stairs, corridors and through rooms is planned as efficiently as possible, to maintain the maximum amount of usable floor space. Circulation should be integrated into living spaces except at entrances, where maintaining privacy is critical, and the front door should be screened from living areas.
- Configure spaces to exploit principal views and a north-facing aspect, and to ensure orientation to the street.
- Consider providing offices, study nooks, en-suites and utility rooms.
- Provide enough space to meet the needs of the residents by:
 - allowing enough space for standard sized beds, circulation and storage in the bedrooms;
 - providing a private open space large enough for the occupants to sit outside together around a table;
 - providing kitchens with ample bench space and cooking space;
- Plans must show standard sized furniture in all rooms, sufficient to illustrate the points above.
- Refer also to **Section 4.11** (Communal and Private Outdoor Space).



Room flexibility and adaptability



6.2 Apartment Mix and Designing for Families

As previously stated, a choice in dwelling types and the subsequent diversity of households and life stages supported by this dwelling choice is an essential principle in developing the Bowden community.

A mix of apartment types, sizes and tenures within a development provides greater housing choice for a more diverse range of households. A mix of types also contributes to community safety, with the potential for more apartments to be occupied throughout the day.

Apartments in Bowden should be a viable form of housing for larger groups of people, including families.

Designing for families is a key part of ensuring that apartments are seen as a long term home ownership solution, and not just for rental or shorter term accommodation; an important element of community building.

Design Requirements:

- Ensure the design of apartments is ‘tenure blind’ (so affordable and private stock are indistinguishable in design terms), and avoid large areas of the same tenure. This includes designing for both rental and owner occupied accommodation.
- Refine the appropriate apartment mix for a location by considering population trends as well as current market demands, and note the apartment’s location adjacent public open space, facilities and retail centres.
- Locate a mix of apartments on the ground level where units are more accessible for the disabled, the elderly and families with children.
- Develop flexible apartment configurations that will support a variety of household changes and alternative uses in the future.
- Ensure larger apartments (three or more bedrooms) are provided, particularly on the ground floor, directly fronting outdoor areas where children can play.
- For buildings over four storeys, achieve a variety of dwelling types. As a broad indication:
 - One bedroom dwellings should comprise no less than 10% of total dwelling stock.
 - Three bedroom dwellings should comprise no less than 10% of total dwelling stock.



Apartments as a dwelling choice for families



Flexible room configuration

6.3 Daylight Access

Management of daylight in buildings contributes to occupant amenity and can improve energy efficiency. Daylight is both skylight (diffuse light from the sky) and direct beam radiation sunlight and is dynamic throughout the day, year and changing weather.

Adequate sunlight access is to be provided to internal and external spaces during mid-winter.

Design Requirements:

- 75% of residential dwellings in each development parcel must receive at least 2 hours of direct sunlight to living rooms during mid winter.
- Design all residential development so that all habitable rooms have direct access to daylight. Light wells or borrowed light are not to be a primary source of daylight for habitable rooms. Provide shading devices that allow occupants to adjust their buildings on a day to day basis, according to the weather conditions, as a supplement to fixed passive solar design.
- South facing single aspect dwellings are discouraged. As a guideline figure these should account for no more than 10% of dwellings in any development. Where such an outcome is proposed, clearly demonstrate how good daylight access will be achieved.
- Single aspect apartments should be limited in depth to 8m.
- Common areas such as foyers and lift lobbies should have access to natural daylight.

6.4 Natural Ventilation

Ventilation of buildings through effective movement of fresh air to achieve indoor thermal comfort is a fundamental component of sustainable building design, reducing the need for mechanical ventilation.

Design Requirements:

All residential habitable rooms are to have direct access to fresh air. Proposals are to demonstrate the incorporation of a range of strategies to maximise natural ventilation including (but not limited to):

- Positioning major building components and employing building configuration and sections to make use of prevailing breezes and cross ventilation.
- Inclusion of doors and operable windows that capitalise on ventilation potential created by building and apartment configuration.
- Targeting 70% of residential units in a development to be naturally cross ventilated, with a minimum of 60%.
- Ensuring that single aspect apartments have a wider facade than their depth or be double storey with a void space to encourage natural ventilation.
- Providing common areas such as foyers, lift lobbies and corridors are naturally ventilated.

6.4.1 Air Quality – Arterial Road Frontage

Development sited along major arterial roadways is subject to exposure to pollution such as particulate matter emitted from vehicle engines and the wearing of vehicle components and road surfaces.

Design Requirements

Developments with a Park Terrace frontage should shield sensitive uses and areas through one or more of the following measures:

- Use building design elements such as varying building heights, widths, articulation, setbacks and shapes to provide greater scope for winds and breezes to disperse and carry away particle pollution.
- Within individual buildings, place rooms more sensitive to air quality further away from the emission source.
- Consider whether open-able windows or a mechanical ventilation system will provide the best ventilation of the indoor areas:
 - Where windows must be kept closed, the adopted ventilation systems must meet the requirements of the Building Code of Australia and Australian Standard 1668 - The use of Ventilation and Air-conditioning in Buildings.
 - Locate mechanical ventilation air inlet ports away from the emission source.
 - Use filters appropriate to the nature of the particulate pollutant.

6.5 Ceiling Heights

Ceiling heights impact significantly on the sense of space within internal spaces, their flexibility and the ability of daylight to penetrate floor plates and apartment depths. Ceiling height is measured from the finished floor level (FFL) to the finished ceiling level (FCL).

Design Requirements:

- 3.0m minimum for ground floor where future flexibility between residential, retail and commercial is desired.
- 2.7m minimum for all residential habitable rooms.
- 2.4m minimum for all residential non-habitable rooms.
- For two storey residential units (including double height spaces with mezzanines) the second storey may be a minimum of 2.4m if 50% or more of the overall apartment has a minimum of 2.7m.

6.6 Internal Circulation

Common internal circulation spaces within multi-unit residential buildings can be likened to streets and footpaths that service detached housing. The design of common internal circulation spaces within multi-unit residential buildings contributes to the building's form and articulation and adds to resident interaction, amenity and safety. Common internal circulation spaces include entries, lobbies, stairs, lifts, corridors and plazas.

Consider place making principles when designing common internal circulation spaces within multi-unit residential buildings.

Design Requirements:

- Residential designs should incorporate multiple lifts and stair cores (rather than a single central core) in buildings with a large footprint to increase the amount of vertical circulation points and reduce the number of apartments served by the core.
- In general, where units are arranged off a double-loaded corridor, the number of units accessible from a single core/corridor should be limited to eight. Exceptions may be considered in the case of innovative unit typologies such as cross-over apartments.
- Ensure lifts and stairs serve no more than 20 apartments each.
- Common spaces such as entries, lobbies, stairs, lifts corridors and plazas should be designed to encourage positive social interaction. Consider grouping facilities such as the mailbox, bicycle storage and lift lobby on one location to encourage interaction and exchange between residents.
- With multiple cores, innovative arrangements in apartment and access combinations are encouraged and could include cross over, maisonette forms with central or single-sided rear access.

Refer also to **Section 4.2** (Building Typologies).



Front door with screen - permitting residents to hear, see and take part in activity occurring in their 'street' - the corridor



Grouping of lifts, letterboxes and gathering point in lobby



6.7 Visual Privacy

Achieving a good balance between visual privacy and positive outlook, casual surveillance, ventilation and daylight access is important in an urban neighbourhood like Bowden.

Design Requirements:

- Design building configurations to minimise direct overlooking between apartments and into apartments from circulation and communal spaces.
- Employ detailed design elements to increase privacy without compromising access to natural ventilation and light. This may include adjustable privacy screens to windows, balconies and ground floor private outdoor spaces.

6.8 Acoustic Privacy

Buildings should be designed to protect occupants from existing noise and potential noise sources. The aim is to ensure noise levels are low enough indoors to enable the majority of people to work, relax, read, study, have conversations and sleep without a high level of interference from road, rail and point source noise.

Noise sources affecting Bowden include traffic noise from Park Terrace and Port Road, the train and tram lines, and entertainment and commercial developments.

Development proposals will be required to meet statutory acoustic standards, as they apply in South Australia.

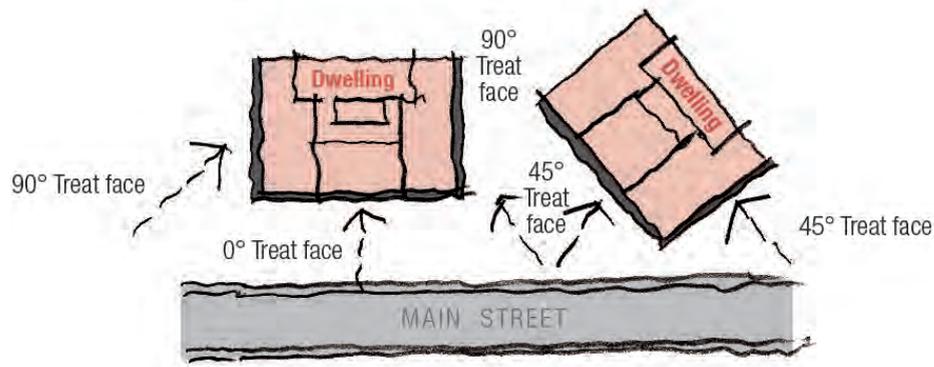


FIGURE 50: Determination of treated facades

6.8.1 Internal Noise Levels

Residential development adjacent to arterial road/rail/tram corridors should be designed to achieve the following noise levels with windows and doors closed.

Noise Source	Criteria – Internal Noise Level L _{Aeq} dB(A)			
	Living Areas		Sleeping Areas	
	Day (7am to 10pm)	Night	Day (7am to 10pm)	Night
Road traffic	35 (over 15 hours and averaged over all living rooms in the building) 40 (over 15 hours and the maximum in any room)			30 (over 9 hours and averaged over all bedrooms in the building) 35 (over 9 hours and the maximum in any bedroom)
Industry and commerce	35 (15 minutes)		32 (15 minutes)	30 (15 minutes)
Patrons in a public place	35 (over 15 hours and averaged over all living rooms in the building) 40 (over 15 hours and the maximum in any room)			30 (over 15 minutes and averaged over all bedrooms in the building) 35 (over 15 minutes and the maximum in any bedroom)
Music				45 dB(C)1 L10, 15min
Rail traffic	35 (over 15 hours and averaged over all living rooms in the building) 40 (over 15 hours and the maximum in any room)			30 (over 9 hours and averaged over all bedrooms in the building) 35 (over 9 hours and the maximum in any bedroom)

TABLE 6: Internal Noise Levels

The dB(C) L10, 15min is a different descriptor compared to the other noise sources in Table 5 which identifies noise sources with low frequency and beat such as music.



Design Requirements:

Development should be designed to maximise the potential for acoustic privacy for building occupants through measures such as:

- Siting and orienting the building away from the noise source and/or providing an external area that limits noise levels.
- Arrangement of apartments/tenancies within a building to minimise noise transfer between individual apartments/tenancies.
- Locating noise sensitive rooms such as bedrooms and private open space areas away from a noise source.
- Locating and designing entrances to be sealed and to provide air lock entries to sensitive rooms.
- Window location and design through thicker glass or double glazing of windows in recognition of a noise source.
- Sloping of roof or flat/parapet design to assist in noise passing overhead rather than penetrating through the roof of the dwelling.
- Selecting appropriate construction materials, such as sound-absorbing materials or materials that reduce sound transmission for glazing, external walls, floors, roofs, ceilings and doors.
- Use of buildings that serve as a buffer between different uses, e.g. the location of offices between residential and noise generating uses.

- Constructing shared walls and floors between apartments/tenancies in a way that minimises the transmission of noise.
- Separating openings of adjacent apartments/tenancies by a distance of at least 3.0m.
- Use of acoustic barriers / fencing / walls / mounds.

A noise assessment of the Bowden site has been undertaken by Renewal SA and provides conceptual treatment recommendations in order to achieve acceptable noise levels. Acoustic treatments are for habitable rooms exposed to a noise source where the angle between the facade and the sources (such as main road) is 90° or less. The treatments generally consist of upgrading the building facade construction.

The type of acoustic treatments expected to be required to comply with Table 5 will include:

- Upgrade external door construction to solid core or laminated glass door.
- Upgrade external window construction to a double glazing arrangement incorporating an additional laminated glass pane.
- Incorporate acoustic seals to all external doors and windows.

- Restrict the use of air vents or use acoustic type vent or mechanical ventilation systems.
- Upgrade external light-weight wall construction.
- Upgrade roof and ceiling constructions of dwellings on the top level of multi-storey buildings.

Developers may propose alternative means of acoustic control that would need to be supported by an acoustic study.

6.9 Storage

Appropriate storage space consistent with apartment size is important to the liveability of a residence, particularly in multi-unit buildings. Satisfaction surveys show that a lack of storage space is a major dislike for apartment occupants.

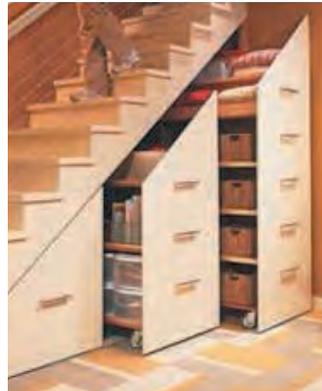
Storage space must be considered early in the design stages of a development and ideally be built-in as this allows for the most efficient use of available space in each apartment.

Design Requirements:

- The majority of required storage space should be provided within the apartment and should be easily accessible. This is best provided by designed-in storage cupboards located in entry ways, hallways or in the living space.
- Bedroom wardrobes should be a minimum 600mm deep internally and 1.5m wide.
- In addition to kitchen cupboards and bedroom wardrobes, conveniently accessible and secure storage facilities (excluding bike storage) should be provided at the following rates:
 - studio apartments: 8m³
 - one-bedroom apartments: 8m³
 - two-bedroom apartments: 8-10m³
 - three-plus bedroom apartments: 10-12m³
- A maximum of 50% of this secure storage may be located in the basement or within common areas.
- Owner-supplied freestanding storage units must also be allowed for in the apartment plan, including units for audio-visual equipment and personal effects.
- Consider providing dedicated storage rooms on each floor within the development. These rooms can be used or leased by residents as required.
- See also bicycle parking in **Section 4.12**.



Designed-in storage provision



Secure basement storage

6.10 Communications

All developments in Bowden will have the opportunity to be connected to fibre-based telecommunications, enabling significantly faster internet speeds.

The provision of good, high speed telecommunications access will be an integral part of this project enabling residents and workers to access information on energy and water consumption and performance in their dwelling and building. It will also enable residents to readily establish home offices, reducing the need to travel to work.

At a minimum, these services will include internet access and telephony. However, there may be a broad range of new or improved services offered by retail service providers over time, such as:

- Internet Protocol Television (IPTV).
- Telemedicine.
- Video calling.
- Education delivery.

To maximise the benefit of a connection to the network, it is important to take the time to identify the likely future positions of customer equipment in individual premises, and to include those requirements in the building design.

Design Requirements:

- Install wiring in each new dwelling according to the requirements of the NBN Co Preparation and Installation Guide for Single Dwelling Units and Multi Dwelling Units. Refer to the NBN Co website for the latest version.

6.11 Building Services Facilities

The positioning and integration of building services facilities, particularly any interfacing with the street, influences the quality of the public domain.

Building services facilities include (but are not limited to) waste collection and disposal, sprinkler valve sets, substations, communications rooms and egress stair discharge points.



Integrated building services



Photovoltaic Panels

Design Requirements:

- Where possible and appropriate, locate building services facilities away from street frontages, preferably in basement car parks, unless regulations require direct street access with no alternative available.
- Service meters are to be integrated with building design. Any plant equipment, antennae/dishes, hot water storage tanks, water or vent pipes are to be concealed from street/public view. No roof top mounted air conditioning is permitted.
- Solar or photovoltaic panels can be located on a roof, preferably related to roof pitch and shape.
- Rubbish bins and clothes drying areas should be screened from public view.
- Consider installing an in-home monitoring system that provides real time monitoring of electricity, gas and water.
- Design windows to enable cleaning from inside the building.
- Where street frontage locations are unavoidable, locate only on streets where driveway access is permitted.
- Minimise the lengthy co-location of building service facilities unbroken by active uses.
- Location on the following street frontages is prohibited:
 - Gibson Street
 - frontage to open space
 - building corners.

7.0 Sustainability

7.1 Development Sustainability Performance

The guidelines are underpinned by environmental, social and economic sustainability principles.

This section articulates specific practices to be adopted in the design and construction of individual developments in Bowden by linking development types to the nationally recognised environmental rating system Green Star.

This rating system has been chosen as it covers a broad range of sustainability issues; is well tested; and is widely accepted throughout Australia. Green Star continually revises its rating assessment tools to reflect changing practices to ensure that the highest environmental performance is achieved.

Development proposals will be assessed using the version of each rating tool current at the time of lodgement. As a minimum, all buildings are expected to attain a 5-Star rating 'as designed' prior to final approval against the Urban Design Guidelines, and will require a 5-Star rating 'design and as built' following construction.

Renewal SA will engage an experienced Green Star accredited professional to assist builders/designers with the process of achieving the Green Star ratings under the Green Star Multi Unit residential tool. This service is outlined in Table 7 and will be subsidised by Renewal SA up to a capped amount for builders/designers who enter into a sale contract with Renewal SA.

7.2 Mandatory Green Star Rating Accreditation (Green Building Council of Australia)

Development Type	Applicable Tool
Office	Green Building Council of Australia Green Star Office Design and As Built Green Building Council of Australia Green Star Office Interiors
Retail	Green Building Council of Australia Green Star Retail Rating
Residential	Green Building Council's Green Star Multi Unit Residential sustainability design as built rating tool.
Mixed use	Green Building Council's Custom Tool.

TABLE 7: Mandatory Green Star Rating Accreditation (GBCA)

7.3 Energy

Bowden aims to minimise environmental impact of residential homes, reduce electrical connection costs for developers and reduce operating costs for occupants. Better energy systems are continuously being developed in order to achieve these objectives. A number of different technologies have been investigated by Renewal SA for implementation by Bowden developers. Adopting the new technologies will contribute towards the required Green Star ratings for Bowden and reduce operating costs that can be communicated at point of sale as part of the offering to purchasers.

As a developer, you may be required to pay significant capital costs upfront for infrastructure that is only used to its full capacity on a handful of days during the year. Peak electrical load in South Australia, driven by air conditioning demand, can be significantly reduced using smart technologies that have little or no impact on the comfort levels in people's homes. This has the benefit of reducing upfront connection costs for project developers and ongoing electricity costs for users.

The following are examples of suitable technologies for possible inclusion in development projects.

Energy Generation systems

- Grid connected solar photovoltaic
- Grid connected solar photovoltaic with battery
- Tri-generation
- Co-generation
- Geo-thermal heating and cooling systems
- Solar thermal heating and cooling systems
- Other similar technology

Demand management / monitoring systems

- Electrical load management systems
- Electric car battery smart grid technology
- Batteries for large scale energy storage
- Other similar technology

Electrical meters provide billing data to authorities along with other useful information and outputs that assist with the more efficient use of electricity and related infrastructure.

Design requirements

- Consider use of on-site energy generation / management systems that reduce greenhouse gas emissions and peak electrical load. As a minimum provision, install on-site energy generation in the form of a solar PV array of a minimum capacity of 0.2kW per dwelling. Alternative systems can be proposed which provide an equivalent reduction in peak energy, ongoing emissions, and ongoing energy consumption.
- Nominate electricity billing meters* that meet the national Smart Metering Infrastructure Minimum Functionality Specification referring to interval metering and home area networks (to facilitate communication between meter and AS4755 compliant equipment).
- Specify and install electrical appliances and, where single split air conditioning units are installed, air conditioning units of the highest available energy efficiency star rating available.
- Where applicable use refrigerative air conditioning systems, water heaters, swimming pool pumps or embedded generators with demand response capabilities that comply with Australian Standard AS4755.

*details of compliant meters can be provided on request by Renewal SA.

7.4 Water

A key target for Bowden is to reduce water consumption within the development compared to standard practice. This is to be partly achieved through the use of recycled water supplied by SA Water's recycled water network.

Design Requirements:

- Specify and install appliances and plumbing fixtures of the highest relevant rating for all buildings.
- All terraces must demonstrate rainwater capture and reuse within individual sites.
- All development within Bowden must demonstrate connection to the Bowden recycled water scheme, including (but not limited to) use in irrigation, toilet flushing and washing machines. Washing machine connection is subject to an alternative potable water connection being provided and use of recycled water will be at the resident's discretion.

7.5 Materials

The use of locally sourced materials is encouraged to support the Green Star principle for sustainable materials.

Design Requirements:

- The use of low embodied energy materials is encouraged, subject to appropriate whole-of-life analysis.
- Adoption of techniques is encouraged that reduce the amount of material used for construction, the environmental impact of the selected construction materials, and the efficient use of those materials. Particular attention is drawn to the credits available in the materials section of the Green Star rating tools.
- The use of materials with low global warming and ozone depleting potential is encouraged. Particular attention is drawn to the credits available in the emissions section of the Green Star rating tools.
- Illustrate the volume of materials sourced from within a 500km radius of the Adelaide GPO, expressed as a percentage.

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- Wellington City Council, Central City Apartment Dwellers Survey, 2009

We are pleased to include artworks from the talented local creative community in Bowden and surrounding areas within this publication.

Checklist

Urban Design Approval Checklist	
Conformance with Bowden Urban Design Guidelines	Applicant to Confirm
Applicant to provide a concise response, in written point and graphic form, how the proposed design responds to the following required design qualities: <ul style="list-style-type: none"> Architectural character Responsive to local climatic conditions Inherent sustainability design principles Contribution and expression appropriate to setting Standard of design, materiality and detailing Contribution to public domain amenity 	
2.0 Location, Activity, Height & Setback	
Activities Location and Mix (Section 2.1) <ul style="list-style-type: none"> Predominant activity comprises >50% of floorspace Entrance separation in mixed use developments Activity at ground floor Dwelling mix 	
Public Domain Relationship (Section 2.2) <ul style="list-style-type: none"> Architectural expression relative to site location Definition of visually significant corners Street level interface at the ground floor Retail frontage depth – ability to cluster activity 	
Building Envelope (Section 2.3) <ul style="list-style-type: none"> Building height Building setback (ground floor and upper levels) 	
Existing Heritage and Character (Section 2.4) <ul style="list-style-type: none"> Responsiveness to adjacent retained heritage and character buildings and structures 	
Access and Rear Lanes (Section 2.5) <ul style="list-style-type: none"> Vehicle driveway crossovers location and width Containment of vehicle driveways within the building facade Development responses to rear lane frontage 	
4.0 Site and Block Development	
Block Orientation (Section 4.1) <ul style="list-style-type: none"> Orientation of proposed development to site 	
Building Typologies (Section 4.2) <ul style="list-style-type: none"> Extent of typology combination 	
Building Depth (Section 4.3) <ul style="list-style-type: none"> Demonstrate appropriate building depth to facilitate sunlight / daylight access 	
Building Separation (Section 4.4) <ul style="list-style-type: none"> For buildings floors up to 4 storeys For buildings floors between 5 – 8 storeys For buildings floors 9 storeys and above 	
Street Wall (Section 4.5) <ul style="list-style-type: none"> Building alignment and extent of engagement to street edge 	
Safety and Security (Section 4.6) <ul style="list-style-type: none"> Application of Crime Prevention Through Environmental Design (CPTED) principles CPTED Statement 	
Landscape Design (Sections 4.7 - 4.11) <ul style="list-style-type: none"> Plant species selection Integration of stormwater management with landscape design Deep soil zones for large tree integration Provision and design of landscaping on structures 	
Communal and Private Outdoor Space (Section 4.10) <ul style="list-style-type: none"> Design and amenity of communal open space Solar access Passive surveillance Design, amenity and location of private open space 	
Vehicle and Bicycle Parking (Section 4.12) <ul style="list-style-type: none"> Provision of on-site car parking Justification (if any) for lesser provision of on-site carparking On-site parking location and impact of building frontage Provision and location of bicycle parking and storage 	
5.0 The Building	
Energy Efficient Design (Section 5.3) <ul style="list-style-type: none"> Assessment of design against minimum thermal performance 10% > statutory NATHERS star rating (Green Star rating) Application of passive solar design principles 	
Building Facade Design (Sections 5.4 – 5.6) <ul style="list-style-type: none"> Demonstration of base / middle/ top principles for buildings 4 storeys and greater Demonstration of facade articulation through use of solid and void elements Expression of fine grain reflecting the character of the locality and region Scale, rhythm and proportion that responds to the building's use, height and street frontage Consideration and response to the locality's microclimate Balcony design subservient to main facade 	
Roof Level Design (Section 5.7) <ul style="list-style-type: none"> Treatment of roof space and design to complement building facade Demonstrate roofs can deliver one of the following functions – communal or private outdoor space, green roof, or installation of renewal energy technology Integration of service elements into roof design to minimise visual intrusion/create 'clean' roof scapes 	



<p>Cohesive Materials and Details (Section 5.8)</p> <ul style="list-style-type: none"> Integration of a cohesive materials palette integral to the building design Selection of high quality, durable materials Material and colour palette selection reflecting the locality's building tradition 		<p>6.0 The Apartment</p>	<p>Visual Privacy (Section 6.7)</p> <ul style="list-style-type: none"> Direct overlooking between dwellings addressed Privacy design elements 	
<p>Building Entry and Pedestrian Access (Section 5.9)</p> <ul style="list-style-type: none"> Equitability in access to the building for all users Distinction / separation for pedestrian and vehicle access and for commercial and residential in mixed used developments Entry design emphasising visual presence Street activation with individual entry treatments for ground floor dwellings 		<p>Apartment Size, Layout & Flexibility (Section 6.1)</p> <ul style="list-style-type: none"> Apartment typology size Width/depth of single/double aspect apartments Demonstration of furniture provision in all rooms Kitchen provision Flexible and adaptable layout 	<p>Acoustic Privacy (Section 6.8)</p> <ul style="list-style-type: none"> Achievement of statutory acoustic standards for internal and private / communal open space noise levels 	
<p>Fences & Walls, Garage Doors (Section 5.10 – 5.11)</p> <ul style="list-style-type: none"> Design contribution to public realm Articulation, solidity and transparency Fencing /wall materials and height considerations Landscaping Garage door materials, finish and repetition 		<p>Apartment Mix and Designing for Families (Section 6.2)</p> <ul style="list-style-type: none"> Dwelling mix Larger dwelling placement 	<p>Storage (Section 6.9)</p> <ul style="list-style-type: none"> Provision of secure storage space specific to dwelling typology Maximum limit of storage space located in basement or common area 	
<p>Awnings and Signs (Section 5.12)</p> <ul style="list-style-type: none"> Awning provision and design contribution to public realm Signage integration 		<p>Daylight Access (Section 6.3)</p> <ul style="list-style-type: none"> Solar access / direct sunlight to the living areas for nominated period 	<p>Communications (Section 6.10)</p> <ul style="list-style-type: none"> Connection to fibre based telecommunications 	
<p>Waste Collection (Section 5.13)</p> <ul style="list-style-type: none"> Provision of facilities (appropriately sized and positioned) to the requirements of City of Charles Sturt 		<p>Natural Ventilation (Section 6.4)</p> <ul style="list-style-type: none"> Minimum target achieved for naturally cross ventilated dwellings Ventilation of common areas Positioning of sensitive uses and mechanical ventilation / air inlet ports for dwellings with arterial road frontage 	<p>Building Services Facilities (Section 6.11)</p> <ul style="list-style-type: none"> Appropriate siting of building services facilities Concealment of plant equipment and service elements Exclusion of roof top mounted air condition units 	
<p>Ceiling Heights (Section 6.5)</p> <ul style="list-style-type: none"> Achievement of minimum ceiling heights 			<p>7.0 Sustainability</p>	
<p>Internal Circulation (Section 6.6)</p> <ul style="list-style-type: none"> Application of multiple lift and stair cores for dwelling served Single core / doubled loaded corridor dwelling thresholds 			<p>Development Sustainability Performance (Sections 7.1 – 7.5)</p> <ul style="list-style-type: none"> Achievement of nominated Green Building Council of Australia (GBCA) Green Star rating 'as designed' Specify and install electrical appliances of the highest available energy efficiency star rating available. All proposed refrigerative air conditioning systems, water heaters, swimming pool pumps or embedded generators include demand response capabilities that comply with Australian Standard AS4755 Connection to recycled water scheme (including as a minimum to toilets and irrigation and optionally to washing machines) 	



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