

Parkside Walk: Jolimont

BUILT FORM GUIDE



CONTENTS

1. VISION	3
2. INTRODUCTION	
2.1 Purpose	4
2.2 Relationship to government	4
2.3 Structure	4
2.4 Approval process	5
3. YOUR NEIGHBOURHOOD	6
4. BUILT FORM DESIGN	8
5. ENVIRONMENTAL PERFORMANCE	11
CHECKLIST A	14
CHECKLIST B	16
SUBMISSION DOCUMENTATION	17
Application form 1	18
Application form 2	19



E: Estate.Architect@cox.com.au
 www.coxarchitecture.com.au

Title:	Parkside Walk: Jolimont, Built Form Guide - REV 5- GRAPHIC UPDATE		
Issued For / On:	LC / 30.10.2017	Delivery / Medium:	Email / PDF
Document Author:	Cox	Document Approval:	KW (Cox)



1. VISION

The vision for Parkside Walk is:

“To transform a once hidden pocket of Jolimont into a vibrant inner city community in a parkland setting. A new place which is integrated into the surrounding neighbourhood structure and enhances connections by linking green spaces and amenities.”

This vision is underpinned by a set of objectives for the site as follows:

- To provide a density of 200 - 350 dwellings;
- To provide a mix of built form and lot types that respond to current housing needs in the Jolimont area;
- Open the site to the wider community and enhance pedestrian and cycle movements between the local amenities of the area.
- Integrate the built form interface with surrounding public and private spaces including Mabel Talbot Park, Henderson Park and Wembley Sports Park;
- To create a sense of arrival from Salvado Road.

2. INTRODUCTION

2.1 Purpose

This Built Form Guide applies to all single residential, grouped and apartment developments at Parkside Walk in Jolimont. The Built Form Guide will ensure developments respect and enhance the proposed character of the area and encourage residents to use climate appropriate design. The Guide will also assist you and your chosen architect or builder to design a home, which, alongside your neighbours, forms a distinctive, diverse and harmonious urban environment.

Specifically, this document promotes:

- Climate responsive design
- Environmental performance, and
- Livability.

2.2 Relationship to other documents/policies

The Built Form Guide is designed to facilitate quality housing within the development.

The Guide should be read in conjunction with:

TOWN PLANNING SCHEME

The Town Planning Scheme No 1, Outline Development Plan and any relevant policies.

OUTLINE DEVELOPMENT PLAN

In order to meet the Council's dwelling target for the Former Nursery Site, the Town of Cambridge has adopted an Outline Development Plan (ODP) to facilitate medium to high density residential development.

LOCAL PLANNING POLICY

Council has adopted Design Guidelines in the form of Local Planning Policy (LPP) 3.12: Parkside Walk, Jolimont (Design Guidelines). The objective of the LPP is to enable variations to the R-Codes in order to achieve improved environmental and design outcomes.

RESIDENTIAL DESIGN CODES

The requirements of the R-codes apply in all respects except where modification is indicated by the Local Planning Policy.

NATIONAL CONSTRUCTION CODE (NCC)

All construction must comply with the current building code of Australia.

2.3 Structure

The Parkside Walk Built Form Guide is structured in two parts to assist proponents in preparing their designs and applications.

1. DESIGN OBJECTIVES

The Design Objectives outline the design intent underpinning the mandatory development controls

2. DEVELOPMENT CONTROLS

The General Development Controls must be met for single, grouped and multiple dwelling development proposals unless specifically stated otherwise. They will collectively ensure that the Design Objectives are met.

Single and grouped dwelling developments are required to meet the Development Controls within Checklist A on page 16 and 17. Multiple residential developments are required to meet the Development Controls within Checklist B on page 18 and 19.

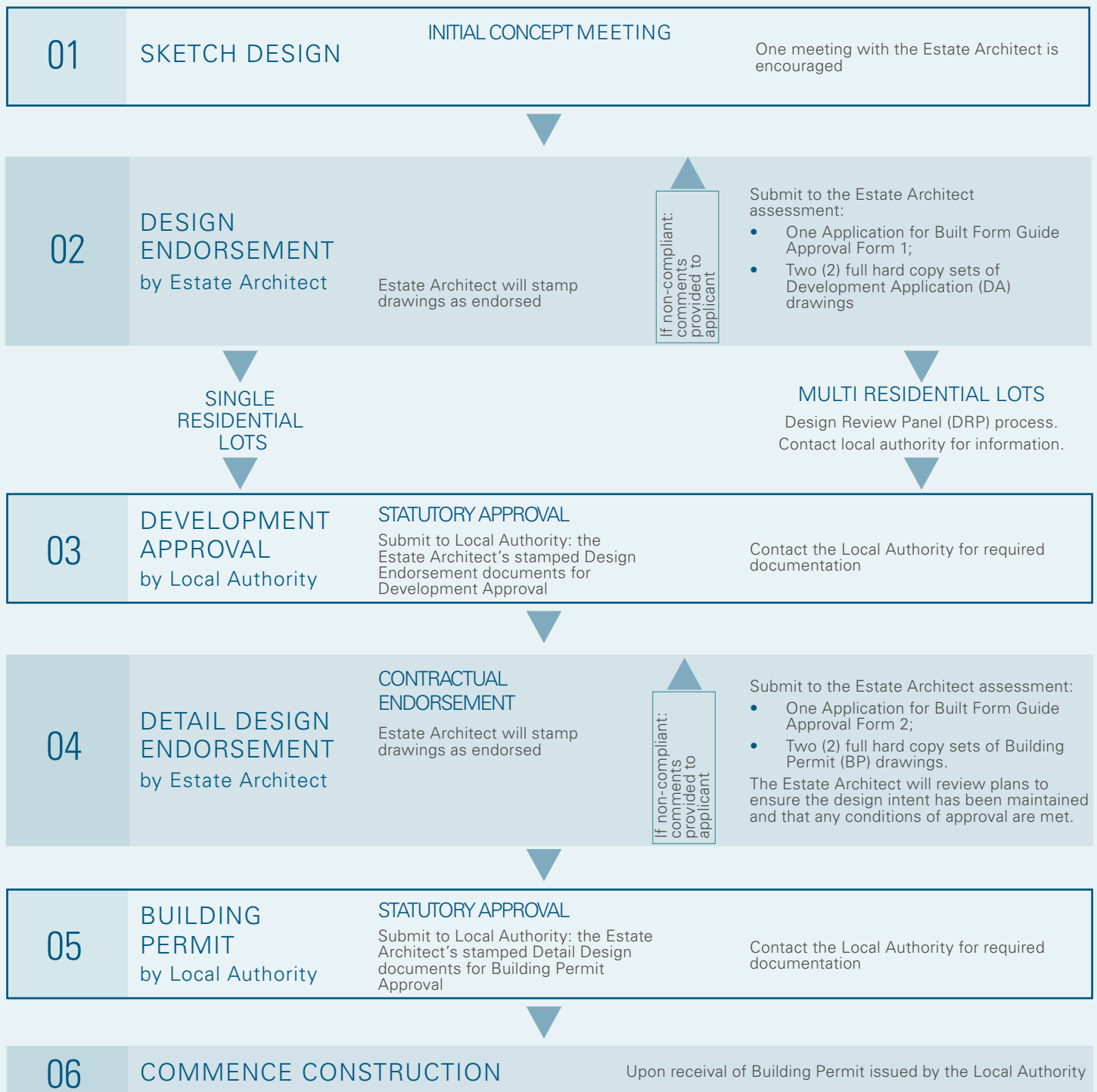
In order to encourage innovation we have provided the opportunity for applicants to meet the vision for Parkside Walk, Jolimont through alternative design solutions.

Alternative design solutions may be considered at the discretion of the Parkside Walk Estate Architect and the Local Authority where it is sufficiently demonstrated that:

- The proposal will comply with the overall intent and objectives of the Parkside Walk Built Form Guide, LPP and Local Authority requirements.
- There is sufficient justification and particular circumstances which necessitate a variation to the guidelines.

2.4 Approval Process

The following diagram outlines the approval process required prior to any development commencing. To ensure that buildings comply with the Built Form Guide, the contract of sale will include a clause regarding compliance with the Built Form Guide.



See attached Application Forms 1 and 2 for further information about assessment conditions and supplied documentation.

3. YOUR NEIGHBOURHOOD

The key design considerations to understand your neighbourhood are detailed in this part.

3.1 Neighbourhood Context

Located 5km west of the Perth CBD and 5km east of City Beach, the four hectare former nursery site presents an outstanding opportunity to transform a hidden pocket of Jolimont into a vibrant inner city community at a key infill location.

The site is located within close proximity to several commercial activity centres such as Jolimont Local Centre, Wembley Town Centre, Floreat Forum and Subiaco Town Centre. It is also in close proximity to some of Perth's most significant natural features including Kings Park, Lake Monger and Herdsman Lake.

The existing residential area to the south of the site is of significant federation and inter-war heritage character, with an urban pattern of narrow lots and intimate streetscapes, as well as minimal front setbacks and rear laneways. Recently, new houses have been built to replace older homes in the area and this has created mixed character. Development occurring north of Salvado Road is predominately comprised of 1980s and 1990s single storey strata with a sprinkling of 1960s, 4 - 10 storey apartment buildings along Cambridge Street.

3.2 Desired Character

A standard grid network has been adopted for the new development to reflect the existing urban street network.

This layout accommodates a combination of housing types, which will expand on the housing typologies that are currently available within the neighborhood.

To integrate new development within this existing character, narrow single house lots with minimal front setbacks and rear laneways are located along the southern edge of the development.

A diverse range of housing that includes single housing, maisonettes and apartments will contribute significantly to the creation of a distinctive, climate responsive and pedestrian friendly urban environment that celebrates diversity and community along with providing opportunities for sustainable living.

3.3 Safety and Surveillance

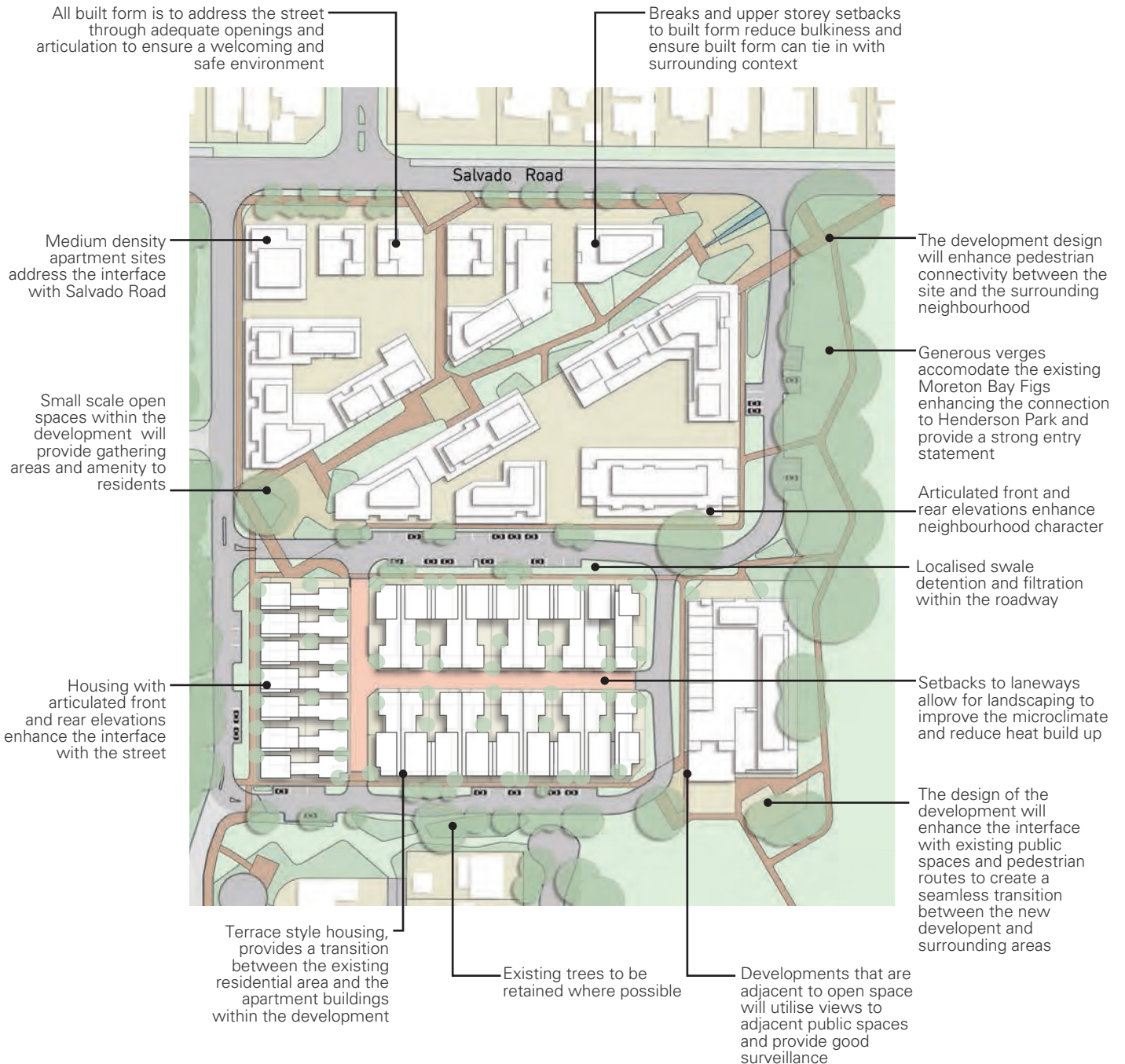
The Parkside Walk development aims to provide opportunities for casual surveillance from homes into the public realm, whilst also ensuring privacy and security. To promote strong community relationships throughout the development all new dwellings will have direct visual connection with the street and importantly to the surrounding public open space.

The subdivision design facilitates much improved public surveillance by providing key roads between the development and public open space with minimal fencing around the perimeter of the development. This is of benefit to new residents as well as the local community through increased pedestrian access, high quality landscaping, improved public surveillance of parkland and new forms of urban open space amenity.



Surveillance: Maximise opportunities for casual surveillance from homes into the public realm, whilst ensuring privacy and security.

DESIRED PRECINCT CHARACTER



4. BUILT FORM DESIGN

4.1 Built Form

Design Objectives:

- To provide variety, articulation and high quality built form outcomes that enhance the visual amenity of the development.
- Optimise casual surveillance opportunities from homes into the public realm.

General Development Controls:

- Building elevations must be articulated and provide visual interest through the use of materials, colours and textures.
- The front elevations must be articulated through the integration of elements such as awnings, screens and/or balconies.
- Developments on corner lots must address both the primary and secondary streets.
- All single dwellings must be two storeys at the primary frontage.
- Balcony balustrades must be visually permeable to 50% of the area.

Specific Multi-Dwelling Development Controls:

- Developments are to incorporate design principles of Crime Prevention Through Environmental Design (CPTED). Developments should be designed to engage with and activate the public realm, particularly at ground level.
- Facades facing the public realm (streets and POS) shall contain building breaks at a maximum of every 40m. Continuous horizontal and vertical elements should be broken into smaller components through architectural features or building breaks.
- Development must respond to key vistas and public open space. This can be achieved through the positioning, orientation and massing of buildings and landscape elements and may include height differentiation, facades treatments and materials, creative lighting and the integration of artwork.
- All multiple residential buildings should have a plan depth of no greater than 18m from glass line to glass line where possible.

4.2 Materials and Colours

Design Objectives:

- To minimise heat gain in summer and promote the use of authentic materials.
- To ensure walls built to zero lot line do not negatively affect the amenity of the adjoining lot.

General Development Controls:

- Artificial veneer stone must not be used. Composite timber cladding, colorbond and masonry walls are permitted.
- Avoid highly reflective materials for your roof/facade that could cause glare and discomfort to neighbours.
- Any wall built to zero lot line must be finished to the same quality as the primary elevation where it faces a neighbouring lot.

4.3 Roof

Design Objective: To minimise internal heat gain through the roof in summer.

General Development Controls:

- Roof sheeting colours must have solar absorptance rating less than 0.5.
- For single and grouped dwellings one single roof material and colour must be used.
- Roof ventilation to all roof spaces (not applicable to skillion roofs) is required in the form of vented gables, 'E' vent or similar appropriate alternative roof ventilators.

4.4 Ancillary Buildings

Design Objective: To ensure ancillary buildings are well integrated and have minimal visual impact from the public realm, occupants and neighbours.

General Development Controls:

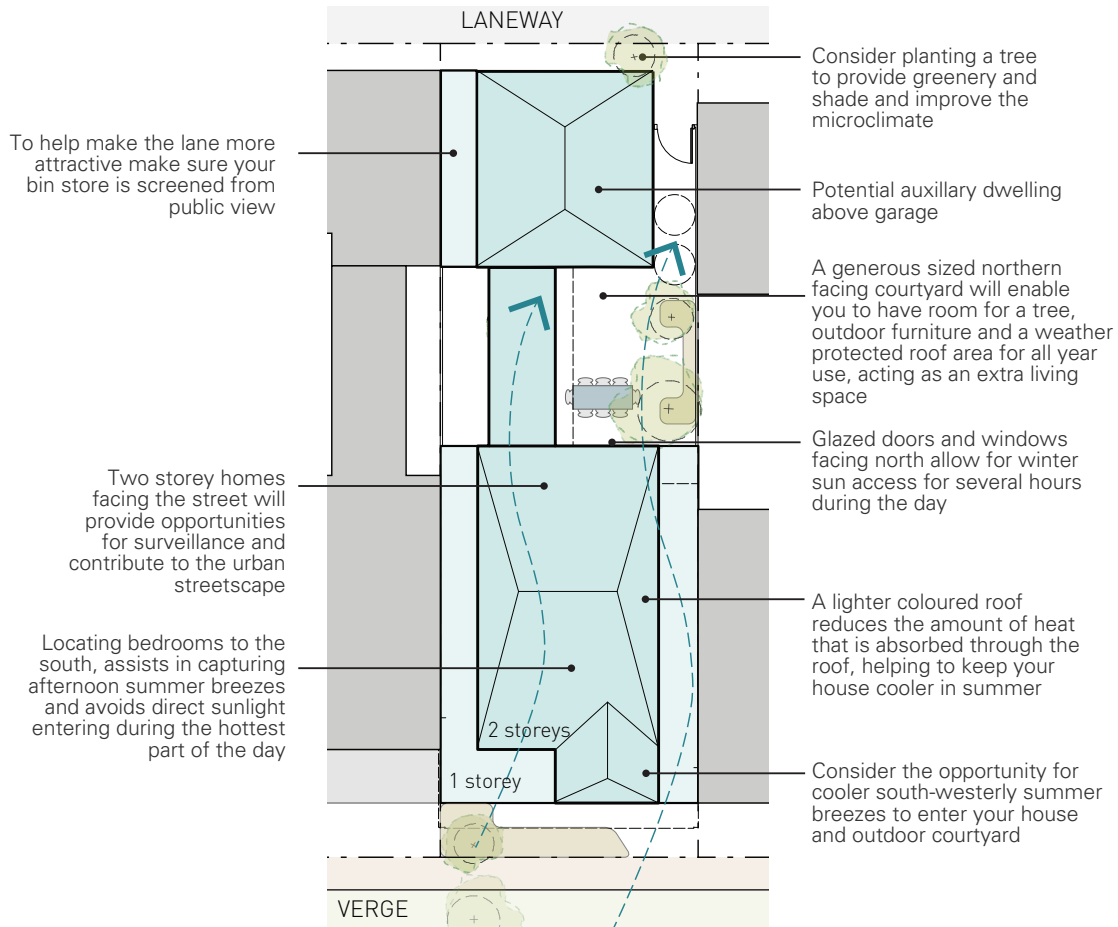
- Where visible from a street, outbuildings and sheds to be constructed of the same or complementary materials.

4. BUILT FORM DESIGN

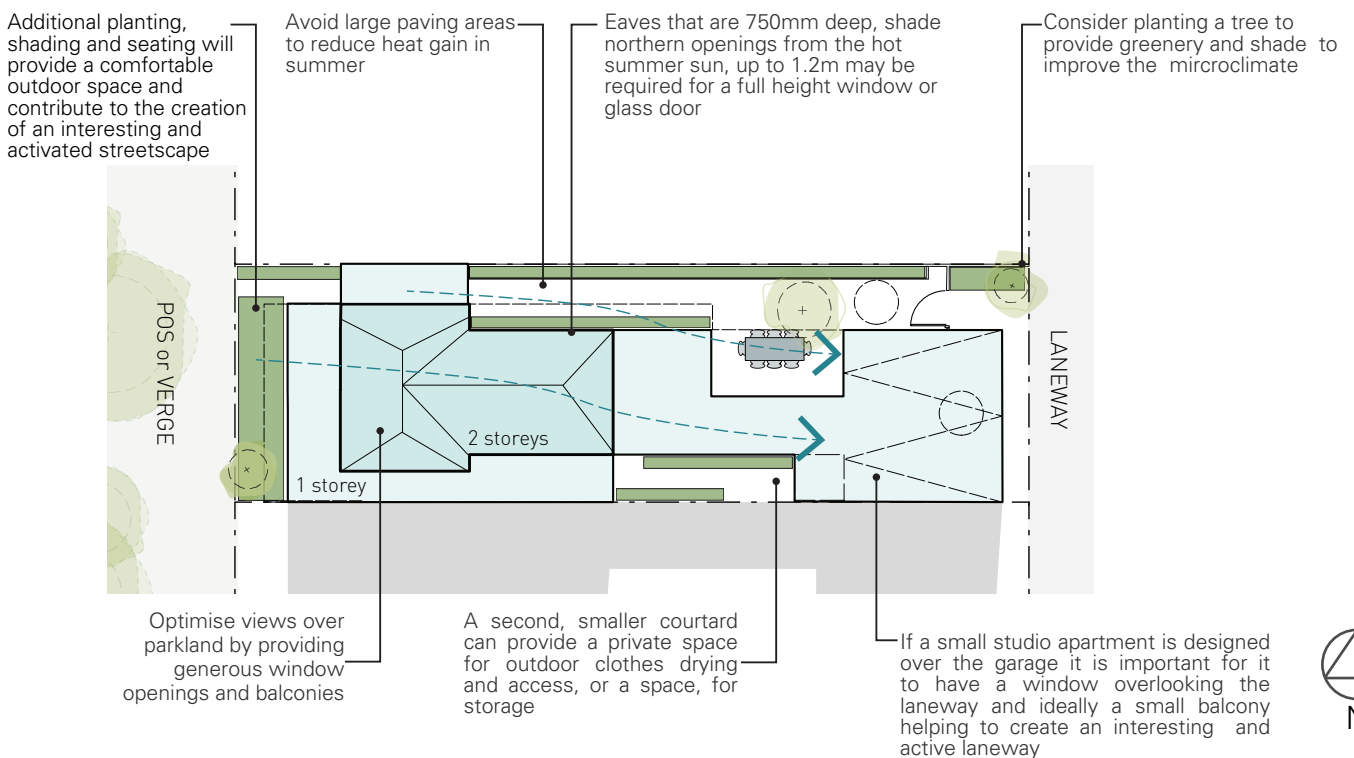
PLANNING YOUR HOME AND VISUAL AMENITY

The design suggestions below will assist in you achieving a livable and attractive home that benefits both you and your neighbours.

NORTH-SOUTH ORIENTATED LOT



EAST-WEST ORIENTATED LOT



4. BUILT FORM DESIGN

4.5 Services

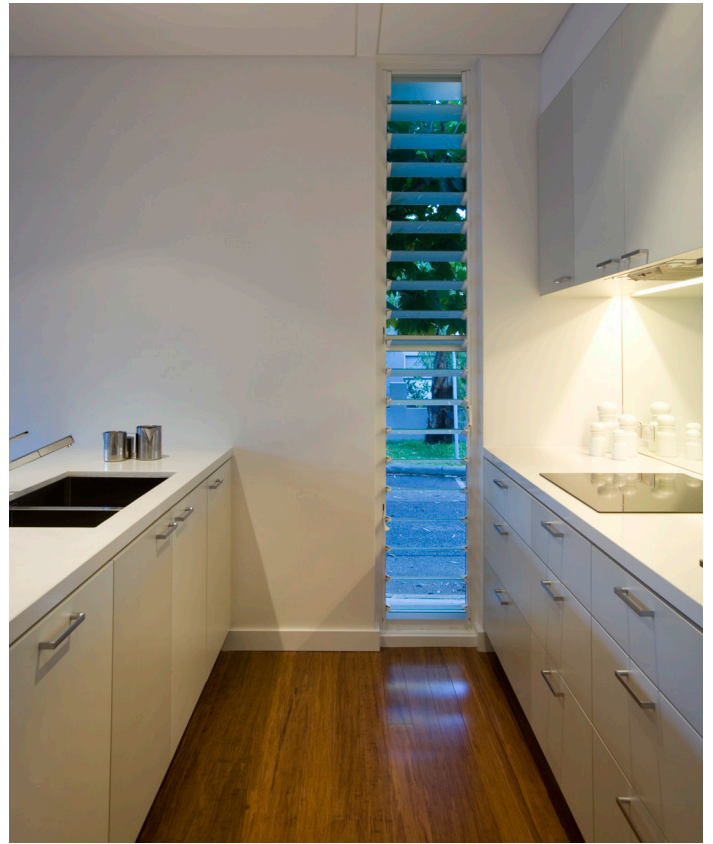
Design Objective: To ensure services are well integrated and have minimal visual impact from the public realm and the street.

General Development Controls:

- Building services, including air conditioning units and condensers, must not be located on balconies.
- Building services, including air conditioning units, satellite dishes and other plant equipment must not be visible from the public realm.
- Piped and wired services including conduit must be concealed from view or integrated into the building design.
- Bin storage areas must be provided and screened from public view.

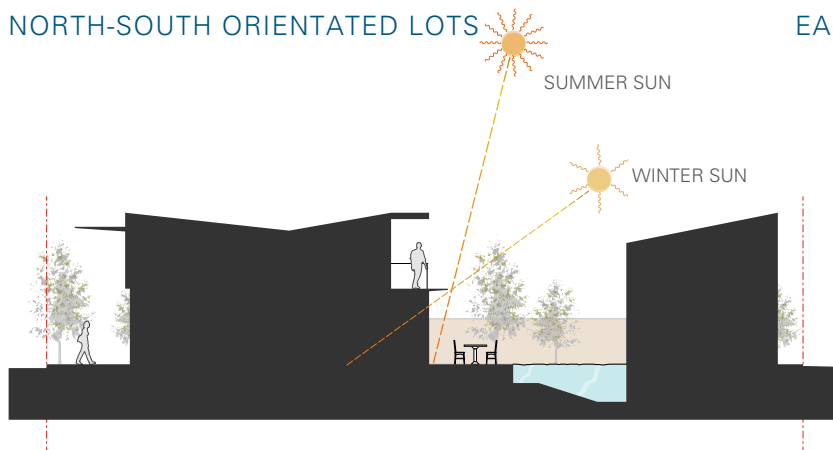
Specific Multi-Dwelling Development Controls:

- A naturally drying cupboard/ area must be provided to each dwelling. This may be within a secondary balcony and screened.

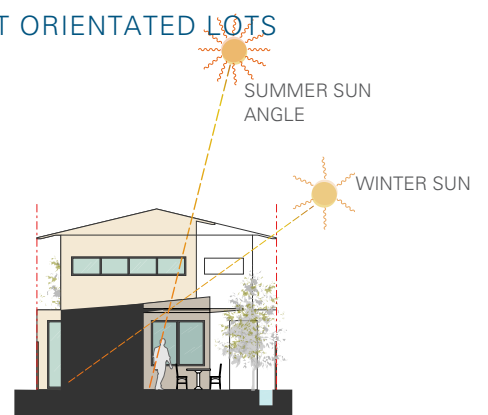


Ventilation: A window that provides effective ventilation with opaque glazing panels to prevent direct solar access and privacy when required

NORTH-SOUTH ORIENTATED LOTS



EAST-WEST ORIENTATED LOTS



A sun angle diagram showing how you can have sun access during winter but sun protection during summer through the use of awnings and eaves.

5. ENVIRONMENTAL PERFORMANCE

Sustainable Design and Construction.

Consistent with LandCorp's commitment to sustainable urban development, these sustainable design criteria provide a framework for design decisions for property developers in order to achieve improved environmental design outcomes.

The design standards included are written to be consistent with achieving the '*UDIA EnviroDevelopment Standards for Multi-Units Residential Developments*' which are being applied across the entire Parkside Walk Development.

Building performance standards and market trends with regard to design, thermal performance, energy and water efficiency and accessibility have improved much over time and will continue in the coming years. While the Building Codes of Australia address core design features, there are also significant consumer and market trends that are ensuring a higher level of building performance.

Building a high performance property now will ensure it is future proofed for further regulatory changes and to keep up with emerging market trends, and will therefore better hold its value into the future.

5.1 Climate Responsive Design

Design Objectives:

- To ensure indoor and outdoor living areas have adequate access to sun during winter and effective shading in summer.
- To achieve passive ventilation through the dwelling.



Outdoor Areas: An example of an outdoor living area accessible from an internal living space.

General Development Controls:

- Single and grouped dwellings must demonstrate that a minimum 25% of the outdoor living area has direct access to sunlight at midday, 21 June.
- All single and grouped dwellings, a minimum of one habitable living room to receive direct access to sunlight at midday, 21 June.
- Single and grouped dwellings eaves must be a minimum 600mm for north facing walls setback 1.5m or more from the boundary. Eaves overhangs to walls adjacent to side boundaries must be 450mm minimum.
- Openings not shaded by appropriate eave overhangs, such as ground floor windows on a two storey building, must be shaded with an appropriate shading device eg. awning, louvre that enable winter sun penetration while keeping out summer sun.
- Glazing to habitable rooms facing east and west must have vertical protection, such as louvered solar-shutters, blinds or screening devices or performance rated (WERS) glazing (including double glazing). Roller shutters are prohibited.
- All single and grouped dwellings breeze paths (with a max 35 degree bend) must be provided through living areas and bedrooms. Refer to Application form 1.
- Ceiling fans to be installed in all bedrooms and living areas.

Specific Multi-Dwelling Development Controls:

- The majority of apartment living rooms within a building shall receive a minimum of 1 hour direct sunlight between 9am and 3pm at mid winter.

Note: this may not be achievable on all sites, such as where significant views to the parkland are orientated away from the desired aspect for direct sunlight. In these cases the developer/designer needs to demonstrate best efforts to address the design intent. Acceptable design responses to optimise natural daylighting include for example: light shelves, sky-lights, dual aspect design, light colours etc.

5. ENVIRONMENTAL PERFORMANCE

5.2 Energy Efficiency

Design Objective: To provide high performance homes that minimise energy use and reduce greenhouse gas emissions.

General Development Controls

- Thermal performance rating to achieve a minimum NatHERS 7 star rating. Grouped developments to achieve an average NatHERS 7 Star rating.
- Insulation must be installed under all roofed outdoor living areas.
- A 1.5Kw Solar PV (minimum) shall be installed for all single residential developments; and 1kW (minimum) per dwelling in grouped developments.
- Install efficient water heating: solar (gas or electric boosted), or heat pump for single residential and grouped dwellings.
- Air-conditioning systems must be minimum 3 star energy rating and sized appropriately for the space.
- Install LED lighting throughout all single residential and grouped dwelling developments including in common areas.

Specific Multi-Dwelling Development Controls:

- Thermal performance rating to achieve an average NatHERS 7 Star rating for multi-residential developments.
- All apartments shall be sub-metered for electricity.
- Install carbon monoxide monitoring/controls to carpark exhaust systems.
- Efficient lighting LED shall be provided throughout all common areas in multiple dwellings.



Lighting: Most new homes have multiple lights within one area and energy efficient light fixtures can dramatically reduce energy use

- 25% of the total enclosed/semi-enclosed carpark by area shall be naturally ventilated, or 50% of the total enclosed/semi-enclosed carpark has either passive supply or passive exhaust.
- Where lifts are installed in the project, demonstrate consideration of lift power systems that are energy efficient and environmentally friendly. This includes but is not limited to: use of regenerative drives; machine room-less elevators; dispatch control systems; intelligent automation; and/or stand-by modes.
- Developments shall achieve two or more of the following OR demonstrate how the development will reduce greenhouse gas emissions by at least 20% more than required by regulation:
 1. Renewable energy: Install solar power (or other non-polluting, renewable power source) to service at least 70% of the common area energy requirements;
 2. Energy efficient appliances (where installed), including as a minimum: Dishwashers with an energy consumption of <245kWh per annum (approx. 3.5 star Energy Rating equivalent); Air conditioning systems with COP of >3.20 and EER of >3.00;
 3. Lighting: LED throughout; and
 4. Demand/Behavioural Management: This may be achieved through one or all of the following: technology including sensors, timers etc; education using community-based social marketing and use of normative messaging, end user manual, community workshop; and/or use of load monitoring devices to provide feedback (e.g. energy monitors).

5.3 Water Efficiency

General Development Controls:

- All kitchen, laundry, bath and basin tap fittings shall achieve $\leq 14\text{L}/\text{min}$ consumption (minimum 5 star WELS rated equivalent).
- All shower fittings shall achieve $\leq 7.5\text{L}/\text{min}$ consumption (minimum 3 star WELS rated equivalent).
- Dishwashers shall achieve $\leq 14\text{L}/\text{min}$ consumption (minimum 3.5 star WELS rated equivalent) per use.

Specific Multi-Dwelling Development Controls:

- All apartments shall be sub-metered for water supply.

6.1 Landscaping

Design Objective: To encourage all developments to plant climate appropriate trees that benefit both their outdoor areas and the public realm, whilst optimising the sustainable use of irrigation water in the landscape and infiltration of rainwater.

General Development Controls:

- All developments shall maximise and incorporate local/native waterwise plant species. Refer to the website: <http://www.watercorporation.com.au/save-water/waterwise-plants-search?pid=res-sw-itg-np-wp>
- Trees planted in north facing gardens must be deciduous to maintain solar access in winter.
- Artificial turf is not permitted on verges.
- All single dwellings shall plant a minimum of one shade tree within the lot.
- Drip irrigation only shall be used for all garden beds. Coarse drop spray irrigation may be used on turf areas only.
- Irrigation shall be automated with electronic controllers and with moisture sensors

Specific Multi-Dwelling Development Controls:

- Developments shall, so far as practicable, incorporate principles of WSUD in the design of landscape zones, and the selection and management of planting in both private areas and the public realm.

7.0 Construction Waste Recycling

Design Objective: to reduce construction waste to landfill and optimise reuse or recycling of excess 'waste' materials during construction.

General Development Controls:

Engage a suitably qualified and capable waste management recycling company to recycle all allowable waste material during construction. At least 80% of all built-form construction waste (by volume) is to be either recycled or reused.

7.1 Waste Management

Design Objective: to support greater recycling and reduce waste to landfill.

Specific Multi-Dwelling Development Controls:

Developer is to provide a Waste Management Plan which details the location of bin stores for general waste and recycling, as per town of cambridge requirements: www.cambridge.wa.gov.au/Services/Waste_Collection



A combination of eaves and trees can provide shading to external paving and reduce the reflected heat load

APPLICATION FORM 1

DESIGN ENDORSEMENT

SITE AND OWNERS DETAILS

Lot Number:	
Street Name:	
Owners Name/s:	
Contact Address	
Owners Phone:	
Owners Email:	

APPLICANTS DETAILS (if not owner)

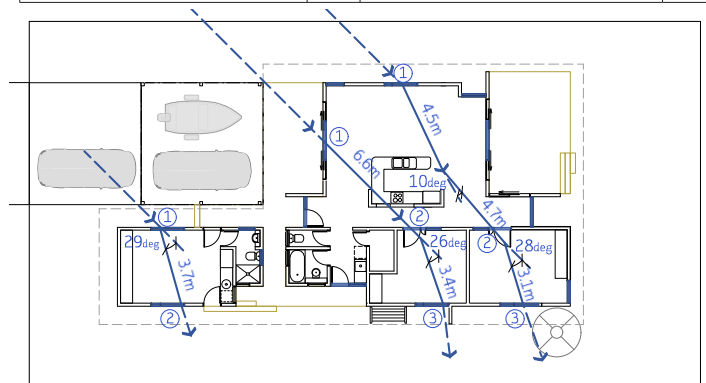
Business Name:	
Applicant's Name:	
Applicant's Address:	
Applicant's Phone	
Applicant's Email	

SUBMISSION REQUIREMENTS (please tick)

1. Two sets of A3 drawings. (See page 29 for further requirements)	
2. A completed checklist is attached.	

SUBMITTED DRAWINGS (please tick)

Site Plan		Colour scheme and material selection	
Floor Plan of each level		Design Guidelines Checklist	
Roof Plan		Landscape Plan	
Coloured Elevations		Natural ventilation Diagrams	
Sections through the building		Multi-Dwelling development: Waste Management Plan	
Annotated Overshadowing Diagram and Solar Access Diagram		Others: (Please specify)	



Note: Example of a natural ventilation

ESTATE ARCHITECT STAMP

CERTIFIER'S AUTHORISATION

As an official assessor certified by Landcorp, I declare that this proposal, as outlined on the documentation listed above, satisfactory complies with the Parkside Walk Design Guidelines.

Signature of assessor:	
Name of assessor:	
Date of assessment:	

BUILT FORM GUIDE

APPLICATION FORM 2

DETAILED DESIGN ENDORSEMENT

SITE AND OWNERS DETAILS

Lot Number:	
Street Name:	
Owners Name/s:	
Contact Address	
Owners Phone:	
Owners Email:	

APPLICANTS DETAILS (if not owner)

Business Name:	
Applicant's Name:	
Applicant's Address:	
Applicant's Phone	
Applicant's Email	

SUBMISSION REQUIREMENTS (please tick)

1. Two sets of A3 drawings. (Drawings to be numbered and dated)	
2. A completed checklist is attached.	

SUBMITTED DRAWINGS (please tick)

Building License Drawings		Colour scheme and material selection	
Site Plan		Design Guidelines Checklist	
Coloured Elevations		Landscape Plan	
Accurate Rating Certificate (min. 7 stars NATHERS)		Plumbing and irrigation layout	
Annotated Overshadowing Diagram and Solar Access Diagram		Full equipments and fixtures schedule indicating compliance with energy efficiency requirements	
Fencing plans		Others: (Please specify)	

ESTATE ARCHITECT STAMP

--

CERTIFIER'S AUTHORISATION

As an official assessor certified by Landcorp, I declare that this proposal, as outlined on the documentation listed above, satisfactory complies with with the Parkside Walk Design Guidelines.

Signature of assessor:	
Name of assessor:	
Date of assessment:	

SINGLE AND GROUPED DWELLING DEVELOPMENT CONTROLS: CHECKLIST A

LOT NO.

MARK Y (YES) N (NO) OR N/A (NOT APPLICABLE) IN THE DTC (DEEMED TO COMPLY) COLUMN ACCORDING TO WHETHER YOUR PROPOSAL COMPLIES WITH THE ASSOCIATED CHECKLIST ITEMS. IF PROPONENT BELIEVES THE RELEVANT DEVELOPMENT CONTROLS CAN BE MET IN AN ALTERNATIVE WAY, MARK THE P (PERFORMANCE) COLUMN.

4. BUILT FORM DESIGN		DTC	P
4.1 Built Form			
4.1.1	Building elevations must be articulated and provide visual interest through the use of materials, colours and textures.		
4.1.2	The front elevations must be articulated through the integration of elements such as awnings, screens and/or balconies.		
4.1.3	Developments on corner lots must address both the primary and secondary streets.		
4.1.4	All single dwellings must be two storeys at the primary frontage.		
4.1.5	Balcony balustrades must be visually permeable to 50% of the area.		
4.2 Materials and Colours			
4.2.1	Artificial veneer stone must not be used. Composite timber cladding, colorbond and masonry walls are permitted.		
4.2.2	Avoid highly reflective materials for your roof/facade that could cause glare and discomfort to neighbours.		
4.2.3	Any wall built to zero lot line must be finished to the same quality as the primary elevation where it faces a neighbouring lot.		
4.3 Roof			
4.3.1	Roof sheeting colours must have solar absorptance rating less than 0.5.		
4.3.2	For single and grouped dwellings one single roof material and colour must be used.		
4.3.3	Roof ventilation to all roof spaces (not applicable to skillion roofs) is required in the form of vented gables, 'E' vent or similar appropriate alternative roof ventilators.		
4.4 Ancillary Buildings			
4.4.1	Where visible from a street, outbuildings and sheds to be constructed of the same or complimentary materials.		
4.5 Services			
4.5.1	Building services, including air conditioning units and condensors, must not be located on balconies.		
4.5.2	Building services, including air conditioning units, satellite dishes and other plant equipment must not be visible from the public realm.		
4.5.3	Piped and wired services including conduit must be concealed from view or integrated into the building design.		
4.5.4	Bin storage areas must be provided and screened from public view.		
5. ENVIRONMENTAL PERFORMANCE			
5.1 Climate Responsive Design			
5.1.1	Single and grouped dwellings must demonstrate that a minimum 25% of the outdoor living area has direct access to sunlight at midday, 21 June.		
5.1.2	All single and grouped dwellings, a minimum of one habitable living room is to receive direct access to sunlight at midday, 21 June.		
5.1.3	Single and grouped dwellings eaves must be a minimum 600mm for north facing walls setback 1.5m or more from the boundary. Eaves overhangs to walls adjacent to side boundaries must be 450mm minimum.		
5.1.4	Openings not shaded by appropriate eave overhangs, such as ground floor windows on a two storey building, must be shaded with an appropriate shading device eg. awning, louvre that enable winter sun penetration while keeping out summer sun.		
5.1.5	Glazing to habitable rooms facing east and west must have vertical protection, such as louvered solar-shutters, blinds or screening devices or performance rated (WERS) glazing (including double glazing). Roller shutters are prohibited.		
5.1.6	All single and grouped dwellings breeze paths (with a max 35 degree bend) must be provided through living areas and bedrooms.		
5.1.7	Ceiling fans must be installed in all bedrooms and living areas.		

SINGLE AND GROUPED DWELLING DEVELOPMENT CONTROLS: CHECKLIST A

LOT NO.

5.2 Energy Efficiency		DTC	P
5.2.1	Thermal performance rating to achieve a minimum NatHERS 7 star rating. Grouped developments to achieve an average NatHERS 7 Star rating.		
5.2.2	Insulation must be installed under all roofed outdoor living areas.		
5.2.3	A 1.5Kw Solar PV (minimum) shall be installed for all single residential developments; and 1kW (minimum) per dwelling in grouped developments.		
5.2.4	Install efficient water heating: solar (gas or electric boosted), or heat pump for single residential and grouped dwellings.		
5.2.5	Air-conditioning systems must be minimum 3 star energy rating and sized appropriately for the space.		
5.2.6	Install LED lighting throughout all single residential and grouped dwelling developments including in common areas.		
5.3 Water Efficiency			
Note: This section can be completed at Detailed Design Endorsement stage when selection of fixtures, fittings and products is finalised. Please specify brand, model and rating.			
5.3.1	All kitchen, laundry, bath and basin tap fittings shall achieve $\leq 14\text{L}/\text{min}$ consumption (minimum 5 star WELS rated equivalent).		
5.3.2	All shower fittings shall achieve $\leq 7.5\text{L}/\text{min}$ consumption (minimum 3 star WELS rated equivalent).		
5.3.3	Dishwashers shall achieve $\leq 14\text{L}/\text{min}$ consumption (minimum 3.5 star WELS rated equivalent) per use.		
6. LANDSCAPING			
6.1 Landscaping			
6.1.1	All developments shall maximise and incorporate local/native waterwise plant species. Refer to the website: www.watercorporation.com.au/save-water/waterwise-plants-search/plants-directory?searchStr=6014		
6.1.2	Trees planted in north facing gardens must be deciduous to maintain solar access in winter.		
6.1.3	Artificial turf is not permitted on verges.		
6.1.4	All single dwellings shall plant a minimum of one shade tree within the lot.		
6.1.5	Drip irrigation only shall be used for all garden beds. Coarse drop spray irrigation may be used on turf areas only.		
6.1.6	Irrigation shall be automated with electronic controllers and with moisture sensors.		
7. CONSTRUCTION WASTE RECYCLING:			
7.1.1	Engage a suitably qualified and capable waste management recycling company to recycle all allowable waste material during construction. At least 80% of all built-form construction waste (by volume) is to be either recycled or reused.		

MULTIPLE DWELLING DEVELOPMENT CONTROLS: CHECKLIST B

LOT NO.

THE BELOW ADDITIONAL DESIGN CRITERIA IS APPLICABLE TO MULTIPLE DWELLING (APARTMENT) SITES

4. BUILT FORM DESIGN		DTC	P
4.1 Built Form			
4.1.1	Building elevations must be articulated and provide visual interest through the use of materials, colours and textures.		
4.1.2	The front elevations must be articulated through the integration of elements such as awnings, screens and/or balconies.		
4.1.3	Developments on corner lots must address both the primary and secondary streets.		
4.1.5	Balcony balustrades must be visually permeable to 50% of the area.		
4.1.6	Developments are to incorporate design principles of Crime Prevention Through Environmental Design (CPTED). Developments should be designed to engage with and activate the public realm, particularly at ground level.		
4.1.7	Facades facing the public realm (streets and POS) shall contain building breaks at a maximum of every 40m. Continuous horizontal and vertical elements should be broken into smaller components through architectural features or building breaks.		
4.1.8	Development must respond to key vistas and public open space. This can be achieved through the positioning, orientation and massing of buildings and landscape elements and may include height differentiation, facades treatments and materials, creative lighting and the integration of artwork.		
4.1.9	All multiple residential buildings should have a plan depth of no greater than 18m from glass line to glass line where possible.		
4.2 Materials and Colours			
4.2.1	Artificial veneer stone must not be used. Composite timber cladding, colorbond and masonry walls are permitted.		
4.2.2	Avoid highly reflective materials for your roof/facade that could cause glare and discomfort to neighbours.		
4.2.3	Any wall built to zero lot line must be finished to the same quality as the primary elevation where it faces a neighbouring lot.		
4.3 Roof			
4.3.1	Roof sheeting colours must have solar absorptance rating less than 0.5.		
4.3.3	Roof ventilation to all roof spaces (not applicable to skillion roofs) is required in the form of vented gables, 'E' vent or similar appropriate alternative roof ventilators.		
4.4 Ancillary Buildings			
4.4.1	Where visible from a street, outbuildings and sheds to be constructed of the same or complimentary materials.		
4.5 Services			
4.5.1	Building services, including air conditioning units and condensers, must not be located on balconies.		
4.5.2	Building services, including air conditioning units, satellite dishes and other plant equipment must not be visible from the public realm.		
4.5.3	Piped and wired services including conduit must be concealed from view or integrated into the building design.		
4.5.4	Bin storage areas must be provided and screened from public view.		
4.5.5	A naturally drying cupboard/area must be provided to each dwelling. This may be within a secondary balcony and screened.		
5. ENVIRONMENTAL PERFORMANCE			
5.1 Climate Responsive Design			
5.1.4	Openings not shaded by appropriate eave overhangs, such as ground floor windows on a two storey building, must be shaded with an appropriate shading device eg. awning, louvre that enable winter sun penetration while keeping out summer sun.		
5.1.5	Glazing to habitable rooms facing east and west must have vertical protection, such as louvered solar-shutters, blinds or screening devices or performance rated (WERS) glazing (including double glazing). Roller shutters are prohibited.		
5.1.7	Ceiling fans must be installed in all bedrooms and living areas.		

MULTIPLE DWELLING DEVELOPMENT CONTROLS: CHECKLIST B

5.1 Climate Responsive Design (continued)		DTC	P
5.1.8	The majority of apartment living rooms within a building shall receive a minimum of 1 hour direct sunlight between 9am and 3pm at mid winter. Note: this may not be achievable on all sites, such as where significant views to the parkland are orientated away from the desired aspect for direct sunlight. In these cases the developer/designer needs to demonstrate best efforts to address the design intent.		
5.2 Energy Efficiency			
5.2.4	Install efficient water heating: solar (gas or electric boosted), or heat pumps.		
5.2.5	Air-conditioning systems must be minimum 3 star energy rating and sized appropriately for the space.		
5.2.7	Thermal performance rating to achieve an average NatHERS 7 Star rating for multi-residential developments.		
5.2.8	All apartments shall be sub-metered for electricity.		
5.2.9	Install carbon monoxide monitoring/controls to carpark exhaust systems.		
5.2.10	Efficient lighting LED shall be provided throughout all common areas in multiple dwellings.		
5.2.11	25% of the total enclosed/semi-enclosed carpark by area shall be naturally ventilated, or 50% of the total enclosed/semi-enclosed carpark has either passive supply or passive exhaust.		
5.2.12	Where lifts are installed in the project, demonstrate consideration of lift power systems that are energy efficient and environmentally friendly. This includes but is not limited to: use of regenerative drives; machine room-less elevators; dispatch control systems; intelligent automation; and/or stand-by modes.		
5.2.13	Developments shall achieve two or more of the best practice energy efficiency requirements (see Specific Multi-Dwelling Development Controls under Section 5.2 Energy Efficiency) OR demonstrate how the development will reduce greenhouse gas emissions by at least 20% more than required by regulation.		
5.3 Water Efficiency			
Note: This section can be completed at Detailed Design Endorsement stage when selection of fixtures, fittings and products is finalised. Please provide a full fixture schedule indicating compliance with water efficiency requirements.			
5.3.1	All kitchen, laundry, bath and basin tap fittings shall achieve ≤14L/min consumption (minimum 5 star WELS rated equivalent).		
5.3.2	All shower fittings shall achieve ≤7.5L/min consumption (minimum 3 star WELS rated equivalent).		
5.3.3	Dishwashers shall achieve ≤14L/min consumption (minimum 3.5 star WELS rated equivalent) per use.		
5.3.4	All apartments shall be sub-metered for water supply.		
6.1 Landscaping			
6.1.1	All developments shall maximise and incorporate local/native waterwise plant species. Refer to the website: www.watercorporation.com.au/save-water/waterwise-plants-search/plants-directory?searchStr=6014		
6.1.2	Trees planted in north facing gardens must be deciduous to maintain solar access in winter.		
6.1.3	Artificial turf is not permitted on verges.		
6.1.5	Drip irrigation only shall be used for all garden beds. Coarse drop spray irrigation may be used on turf areas only.		
6.1.6	Irrigation shall be automated with electronic controllers and with moisture sensors.		
6.1.7	Developments shall, so far as practicable, incorporate principles of WSUD in the design of landscape zones, and the selection and management of planting in both private areas and the public realm.		
7. WASTE MANAGEMENT			
7.1.1	Engage a suitably qualified and capable waste management recycling company to recycle all allowable waste material during construction. At least 80% of all built-form construction waste (by volume) is to be either recycled or reused.		
7.1.2	Developer is to provide a Waste Management Plan which details the location of bin stores for general waste and recycling, as per Town of Cambridge requirements: www.cambridge.wa.gov.au/Services/Waste_Management		



Cox Howlett & Bailey Woodland
360 Murray Street
Perth, WA, 600, Australia

www.coxarchitecture.com.au

"I am incredibly interested in place.

For me, every story, every novel, every poem, really every dinner conversation starts with place: where we are, where we came from, what makes things happen in a particular region. There's geography, there's climate, there's the weather, there's the rock underfoot. The things that happen, everything that happens there Once you understand a little bit about a particular place, the stories are there Once you have a feel for what makes that place the way it is at a particular time."

Annie Proulx

Winner of the Pulitzer Prize for Fiction, Author of *The Shipping News* and *Brokeback Mountain*.