

Policy P351.14 Cygnia Cove Residential Design Guidelines

Responsible Business Unit/s	Development Services
Responsible Officer	Manager Development Services
Affected Business Unit/s	Development Services

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Policy Objectives

- Promote safety, variety and a sense of place;
- Ensure development is compatible with adjoining heritage buildings;
- Permit a variety of housing forms so as to promote a wider choice in housing and satisfy the demand of a variety of household types and lifestyles;
- To preserve and enhance the local areas natural ecosystems and waterways, particularly the Swan River;
- Achieve development which maximises water and energy efficiency;
- Encourage a high standard of sustainable design, which takes due regard of the needs of occupants, neighbours and the availability of local amenities.

Policy Scope

This policy applies to all proposed residential development on land within the Cygnia Cove estate, as indicated on the subdivision plan in Appendix 2.

Policy Statement

1. Introduction

Cygnia Cove is a residential estate in a highly desirable location overlooking the Canning River within 10km of the city centre. This Document applies to all land within the Cygnia Cove estate, as indicated on the subdivision plan on page 2. Development within the estate will be based on sustainable design principles, featuring a contemporary Australian urbanism.

These guidelines have been prepared to assist buyers in designing and building their homes to a high standard which will satisfy sustainability requirements whilst maximising the value of their investment and enhancing the quality of the estate as a whole.

In assessing and approving home designs estate developer Richard Noble will require compliance with the Restrictive Covenants, these Guidelines and any other applicable contractual documents. The City of South Perth requires compliance with all other relevant planning documents as referred to in section 3.2 of this document.

2. Design Vision

The vision for Cygnia Cove is of a compact and vibrant residential village featuring a contemporary Australian urbanism in robust architectural form with street elevations articulated to feature clearly defined elements.

External walls of all homes are to feature a composite of finishes with a primary material such as painted render, face brickwork, stonework or rammed earth complemented by minor elements such as weatherboards, metal or fibre cement sheet cladding, accent colours etc.

In conjunction with variations in colour and texture, variations in material are an important design element

3. Restrictive Covenants and Other Applicable Documents

Restrictive Covenants

Restrictive Covenants will provide confidence to buyers by ensuring high standards of development are achieved. The covenants will include some but not necessarily all of the matters covered in the guidelines. Restrictive Covenants constitute a legal document, therefore compliance with Restrictive Covenant requirements is compulsory.

Other Applicable Documents

The Guidelines are to be read in conjunction with the Restrictive Covenants and any other The Guidelines are to be read in conjunction with the Restrictive Covenants and any other relevant and current statutory documents including the following:

- Building Code of Australian (BCA)
- Residential Design Codes of Western Australia (R Codes)
- Planning and Development (Local Planning Schemes) Regulations 2015
- City of South Perth Town Planning Scheme (current version)
- City of South Perth Planning Policies.
- Richard Noble Contract and Appendices.

4. Approval Process

Minimum Performance Requirements

Adherence to the Guidelines as well as the applicable Restrictive Covenants is required. As a part of the initial approval process proponents are encouraged to consult with representatives of Richard Noble to ensure the intent of the Guidelines is satisfactorily addressed.

Richard Noble

Development proposed within the estate will require the endorsement of Richard Noble prior to the lodging of plans with the City of South Perth for Development Approval.

A digital (A3 pdf) or paper copy of an Endorsement Application which is to include a site plan, floor plans and elevations illustrating the proposed built form, external materials and finishes and the location of any plant (e.g. air conditioners) is to be submitted to Richard Noble or its nominated representative for approval.

City Of South Perth

Following assessment and endorsement by representatives of Richard Noble, a stamped "Approved" copy will be returned to the applicant. Upon receipt of such stamped approval, a development application containing the Richard Noble stamped plans and completed Design Guidelines Checklist may then be made to the City of South Perth. Once this approval is received, detailed working drawings may then be submitted to the City for a Building License. It is the applicant's responsibility to ensure appropriate documentation and fees are submitted to the City for both stages of approval.

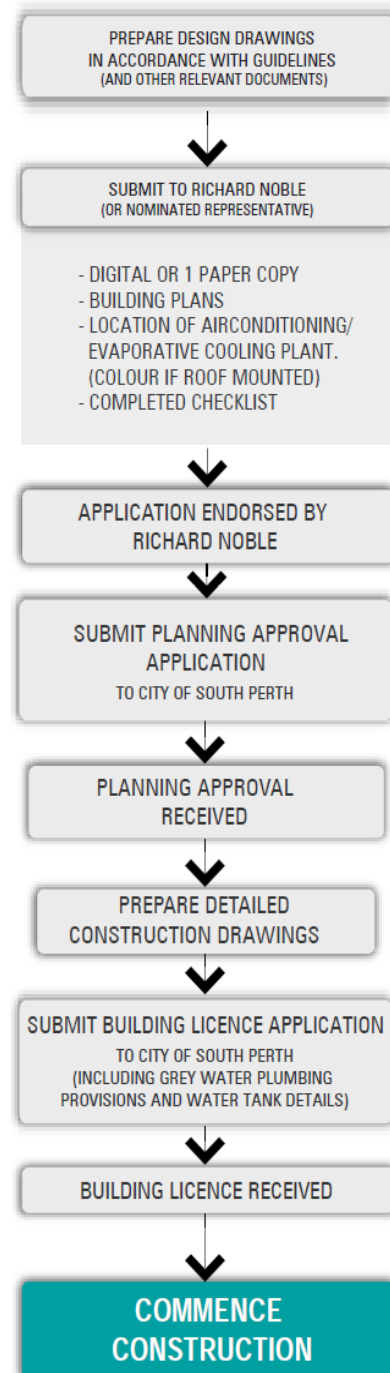
Applicants are advised that receipt of guidelines approval does not guarantee compliance with the City's development approval requirements. Where overlapping of guidelines and the City's current assessment criteria (as per section 3.2) occur, the latter shall take precedence.

5. Sustainable Living

Richard Noble and the City of South Perth are both committed to the promotion of environmentally sustainable development. Individual homes constructed within the estate must satisfy a range of socially responsible sustainability criteria. Cygnia Cove features a compact walkable neighborhood which makes effective use of infrastructure services and contributes to energy efficient design.

It is anticipated that the national provisions of the BCA will require energy efficiency standards for residential development to be upgraded to 6 stars from 11 May 2011, including mandatory assessment reporting. This statutory requirement will take energy efficiency measures in the development of new homes to a high standard. Where sustainability criteria described in these Guidelines are superseded by the requirements of the BCA current at the time of application, the latter shall take precedence.

APPROVAL PROCESS



5.1 ENVIRODEVELOPMENT

Cygnia Cove is a certified EnviroDevelopment project. EnviroDevelopment is an initiative of the Urban Development Institute of Australia which recognises developments that satisfy a range of sustainability criteria. Cygnia Cove has been carefully designed to mitigate the impact of new development on the environment and to use resources responsibly. Certification has been achieved in the categories of Community and Ecosystems. Homeowners are required to satisfy various sustainability criteria related to the EnviroDevelopment certification as set out in the following text and in the Restrictive Covenants. Further information relating to EnviroDevelopment can be found at www.envirodevelopment.com.au

5.2 ENVIRODEVELOPMENT REQUIREMENTS

Energy:

In line with EnviroDevelopment certification requirements buyers shall implement at least one of the following energy saving initiatives.

- Option 1: The installation of 1.0kw (or greater) Photovoltaic system or;
Option 2: The installation of a combination of gas boosted solar hot water system (2,600kwh) with ceiling and wall insulation (1,500kwh) to a minimum total of 4,100kwh.



Community:

A minimum of 12 points must be achieved under the EnviroDevelopment Safe and Accessible Checklist located in Appendix 1 'Design Guidelines Checklist'.

Water Use

In keeping with the principles of sustainable development, dwellings should be designed to minimise water consumption. Plumbing fittings shall be water efficient and shall comply with the requirements of the Water Efficiency Labeling Scheme (WELS) star rating system. For further information, see the following websites:

<http://www.environment.gov.au/water>

<http://www.watercorporation.com.au>

5.2.1 MINIMUM 4 STAR RATED DUAL FLUSH TOILET CISTERNS SHALL BE INSTALLED

5.2.2 MINIMUM 3 STAR RATED SHOWERHEADS SHALL BE INSTALLED

5.2.3 MINIMUM 4 STAR RATED TAPS SHALL BE INSTALLED

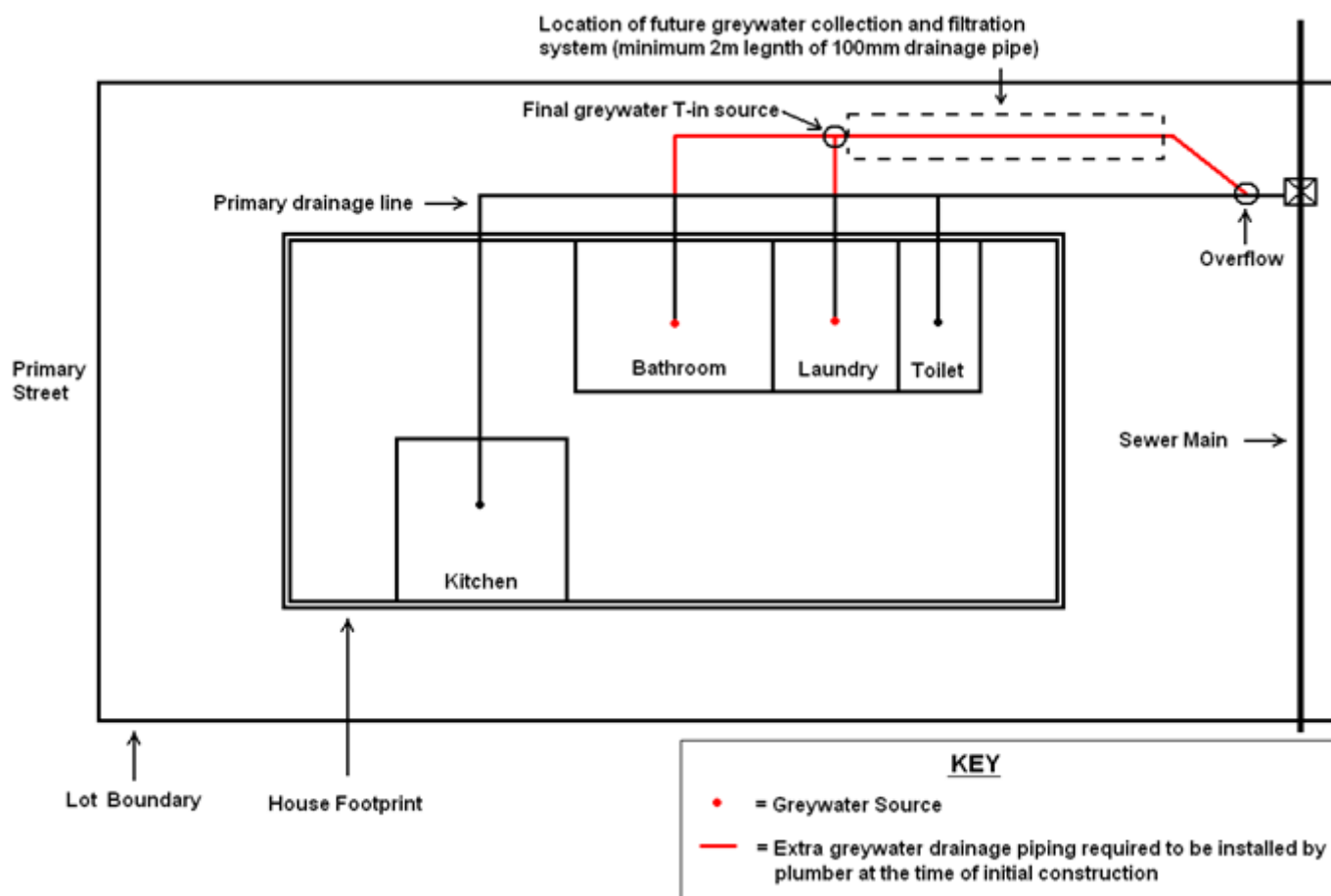
5.2.4 GREYWATER RECYCLING SYSTEM

All dwellings are required to be plumbed at the time of construction to be greywater recycling system capable, in accordance with the following minimum requirements:

- a) All shower, bath, bathroom hand basin and washing machine drains on ground and upper floors must be able to be connected at a later date to an appropriate greywater recycling system without the need to break, or cut into the fabric of the building to run new pipes.
- b) Additional drainage piping shall be installed by a qualified plumber during the initial construction phase at the time when all other plumbing works are undertaken, in order to comply with the above requirement. The following 'greywater plumbing plan' is a simplified example of a single storey house, illustrating the principal behind the extra drainage piping required (shown as red lines).
- c) The extra greywater drainage piping must have a minimum length of 2m between the final greywater T-in source and the overflow point (to allow sufficient space for a greywater collection and filtration system to be located sometime in the future).
- d) Additional plans are required to be submitted to the City of South Perth Building Department once a planning approval has been granted by the City. The additional plans shall detail the extra greywater plumbing works required by the above provisions and clearly demonstrate how they are integrated into the standard plumbing system. All planning approvals issued by the City for dwellings within Cygnia Cove will contain a standard condition requiring the abovementioned plumbing (drainage) plan to be submitted to the City prior to the issuing of a Building Licence.

If the landowner wishes to install a greywater recycling system, an application must be first submitted to the City of South Perth Environmental Health section for assessment.

Landowners should investigate the opportunities which currently exist for State and/ or Federal Government grants, loans and rebates available for the use of greywater recycling systems.



5.2.5 RAINWATER HARVESTING

All single houses are required to have a rainwater tank/s of minimum 3000 litre capacity. All tanks shall be connected to the developments gutter system so that rainwater can be harvested on a permanent basis from a minimum roof area of 100 square metres.

Water collected in the rainwater tank(s) may be used by the owner for any purpose onsite which complies with relevant health controls at both Local and State Government levels. Suggested uses include: gardens, toilet flushing and washing machine cold inlet. Plumbing requirements relating to the use of rainwater should be discussed with a plumber prior to the construction of the house (at the same time the aforementioned greywater recycling plumbing requirements are configured). The use of rainwater for drinking is not recommended without effective filtration and treatment systems installed by a qualified tradesperson. Landowners are responsible for ensuring rainwater tanks are sealed at all times, using appropriate screens and filter systems to prevent mosquito breeding. Please call the City of South Perth or see the WA Department of Health website for up to date information and advice (<http://www.health.wa.gov.au/home>).

Plans submitted to the City for Planning approval are required to show the proposed location and specifications of the required rainwater tank. Generally prefabricated water tanks do not require a Building Licence from the City unless they are held up by a stand.

Landowners should investigate the opportunities which currently exist for State and/or Federal Government grants, loans and rebates available for the use of rainwater tanks.

5.3 GARDEN DESIGN

5.3.1 A MINIMAL WATER USE GARDEN SHALL BE INSTALLED

- a) Gardens should be designed to minimise water use as well as contributing to the passive environmental aspects of the home.
- b) Waterwise is an initiative of the Water Corporation aimed at promoting reduced water usage in Western Australia. For residential development, water savings strategies are provided for both inside and outside the home.
- c) Information on Waterwise garden design including the selection of plant species for a variety of garden styles is available on the Water Corporation website.
www.watercorporation.com.au

5.4 COMMUNITY CONSIDERATIONS

5.4.1 PUBLIC SAFETY AND AMENITY

The design of homes shall assist in the creation of a safe and enjoyable residential environment by incorporating the following requirements:

- a) Maintain visibility over streets and public open spaces from surrounding buildings by providing ample windows from habitable rooms and/or balconies facing or overlooking the public domain.
- b) Design front and dividing fences forward of the building line to be low in height or visually permeable in order to promote visibility.
- c) Landscape design is to be such that visibility over the public domain is not unduly obstructed.

5.5 PASSIVE ENVIRONMENTAL HOME DESIGN

5.5.1 THE HOME SHALL BE ORIENTATED TO FACILITATE NORTHERN SOLAR ACCESS TO LIVING AREAS.

Good orientation facilitates energy efficiency by reducing the requirement to heat and cool the home.

- a) At least one daytime living area(s) shall be located such that major openings face north to allow greater winter solar penetration when the sun angle is lower. In summer when the sun travels overhead, openings shall be shaded by eaves overhangs or awnings.
- b) An outdoor living or courtyard area shall be located to maximise northern solar access. This should facilitate unobstructed solar penetration to indoor living areas where possible. It is recognised that a roofed alfresco area may block or limit the extent of solar access to an associated internal living area. In such an instance the outdoor living area should achieve northern solar access.
- c) When designing a home, consider a plan which enables the living areas to face north, in line with passive solar design principles.
- d) For lots where river views are predominantly to the south, internal and external living areas may be located to focus on the view. In such an instance some north facing glazing to a living area elsewhere and a secondary outdoor living area which will enable the enjoyment of winter solar access are highly recommended.
- e) The extent of glazing to the east and west sides of homes should be minimised. Where openings are provided to take advantage of westerly or easterly views, these should have protection such as solar shutters, blinds or other screening devices to control the extent of morning and afternoon solar penetration.

Outdoor Living Area

Useable open space is an important consideration in the design of any home. Perth's temperate climate enables outdoor living areas to be utilised for much of the year and accordingly a minimum extent of open space is required to be provided as part of the amenity of a dwelling.

An outdoor living area shall be provided as per the requirements of the R Codes. This is to be directly accessible from a living area and should be provided in a location to best facilitate winter solar penetration. For lots where the front boundary is located to the north, the outdoor living area may be located within the front setback in order to access unfettered winter solar penetration, in accordance with the relevant requirements within the R Codes and City of South Perth's Planning Policies.

5.5.2 THE DESIGN PERMITS GOOD CROSS VENTILATION

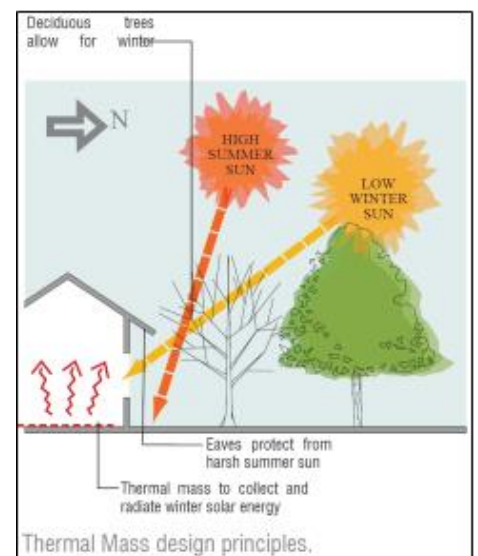
Good cross ventilation can reduce the need to use air conditioning in summer. Large un-zoned open plan homes will be more expensive to heat and cool, while air leakage through unsealed openings can also add considerably to heating and cooling costs.

- The south westerly sea breeze and night time easterlies can help cool the home in summer if windows are appropriately placed to permit cross ventilation.
- Ceiling mounted sweep fans can be used to assist with airflow in the room.
- The home should be split into compartments to maximise the efficiency of heating and cooling. Ground and upper floors and different living areas should be capable of being closed off from one another to create easily heated or cooled zones.
- Doors and windows should be well sealed to prevent warmth escaping or draughts affecting heated rooms.

5.5.3 THERMAL MASS SHALL BE INCORPORATED INTO THE HOME

Thermal mass describes the home's ability to absorb, store and re-radiate heat. When effectively incorporated into the home this can help reduce fluctuations in the internal air temperature, making for a more comfortable environment which is less expensive to heat.

- Concrete floors and masonry walls create mass which can absorb and store heat from direct sunlight in winter and re-radiate it into the home.
- Thermal mass is best located in living areas which are north facing.
- Hard surfaces such as tiles allow the sun to heat the slab more readily than barrier materials like timber/carpet or cork.



5.5.4 THE HOME SHALL BE PROPERLY INSULATED

Roof and ceiling insulation can contribute to considerable lowering of heating and cooling costs with additional savings possible by the addition of wall insulation.

- Insulating the roof will greatly reduce the amount of heat entering the home.
- Insulating the ceiling will ensure heating and cooling effects are maximised within living areas by reducing the extent of energy lost into the ceiling space.
- The minimum extent of insulation shall be as required by the BCA at the time of application.

5.6 ENERGY USE

5.6.1 A GAS BOOSTED SOLAR, GAS INSTANTANEOUS OR HEAT PUMP HOT WATER SYSTEM WITH A MINIMUM ENERGY RATING OF 5 STARS SHALL BE INSTALLED.

Water heating can account for up to a third of the energy used in the home. A solar hot water system can significantly reduce water heating bills to an extent where a payback period can be achieved in 4-5 years.

5.6.2 ENERGY EFFICIENT LIGHTING SHALL BE INSTALLED THROUGHOUT THE HOME

Installing compact fluorescent light fittings in lieu of incandescent and halogen down lights can equate to annual savings in the hundreds of dollars.

5.6.3 ATTENUATION OF NOISE

Building design should safeguard occupants against loss of amenity caused by undue sound being transmitted between neighbouring dwellings. Noise generating features such as air conditioning or evaporative cooling plant are to be appropriately located or otherwise acoustically screened.

5.6.4 ROBUST DESIGN

Robust design principles embrace an approach to building design and construction which is safe, meets the needs of people across a range of abilities and ages, and is adaptable to the changing needs of users.

Adaptable Housing and Universal Accessibility refers to the concept that housing design should cater or be adaptable for all users irrespective of age or mobility, i.e. catering for an aging population. This is best done at the design stage with reference made to such documents as Australian Standards 4299-1995, 'Adaptable Housing' and 1428-2009 'Design for Access and Mobility' and the Master Builders Association publication 'Housing for Life'. See clause 5.1.1 criteria required to be satisfied.

6 BUILT FORM & MATERIALS

6.1 BUILDING APPEARANCE AND STREETScape

Housing in Cygnia Cove shall reflect a contemporary architecture as informed by the sustainability requirements of the Guidelines to create a uniquely Australian urbanism. Dwelling elevations shall feature a composite of external wall finishes and be articulated to provide visual interest. Blank facades are to be avoided through the provision of projections and indentations on the floor plans with resultant shadow effects and corresponding roof elements. The street or 'public face' of the building shall be detailed to provide visual richness and variety and enhance individual identity. This can be achieved through:

- a) The application of colour, texture and variations in materials.
- b) The use of elements such as awnings, balconies and extensive glazing. Dwellings shall enable "eyes on the street" for passive surveillance from habitable rooms and/or balconies.
- c) Front entries which are clearly identifiable from the street through expressed elements such as entry porticos or design features such as side and highlight glazing panels, the use of accent colours, feature lighting etc. Where an entry is located to the side of a house it should be clearly identifiable through the use of elements such as a defining roof or pergola, clearly defined pathway with associated landscape features etc.
- d) Elevations which reflect the desired character through the application of a mix of materials and colours as outlined in the introduction and section 6.4 Wall Materials.
- e) In line with the requirement for dwellings to provide outlook over the public domain, together with high levels of articulation, the first floor primary street elevation for each dwelling shall feature a minimum of 2 major openings to a habitable room or a balcony which is accessible from a habitable room.

6.2 SECONDARY STREET ELEVATIONS

To promote security and provide visual interest, development on corner lots is required to address both the primary and secondary streets. The secondary street elevation is to be articulated and feature a suitable level of detail including openings which is consistent with that of the primary street elevation.

6.3 ROOFSCAPE

6.3.1 ROOF FORMS

Roof forms are generally not restricted within the estate. Monopitch skillion, parapet and vaulted roof forms are considered appropriate for Cygnia Cove. Roof styles with limited or no eaves overhangs are not encouraged unless awnings are incorporated to provide solar protection to window openings.

6.3.2 ROOF OVERHANGS

In order to moderate the impact of direct solar load on external walls and openings, minimum roof overhangs should be as follows:

Eaves: Minimum 450mm except at nil side setbacks; or where limited by side setback requirements; or at areas of extended roof cover such as verandahs, entry porticos and awnings; or at non habitable areas such as garages, stores, robes and fireplaces.

6.3.3 ROOF MATERIALS

The type of materials used for roofing can potentially impact on neighbouring properties and affect the efficiency of passive solar design. Generally roofing materials shall be corrugated metal or tiles of neutral or low visual impact. Black, excessively dark or excessively bright colours shall not be permitted.

For houses located in the Clontarf heritage precinct (Lots 101-104 and 117) roofs shall be orange, red, brown, terracotta or a blend thereof tiles in Marseille pattern as described in section 10.3.

6.4 WALL MATERIALS

Walls visible from a street or other public space shall feature a composite of construction finishes with a material such as painted or coloured render/bagging, face brickwork, stone, rammed earth or blockwork complemented by elements of alternative materials such as:

- Face or rendered/painted brickwork/blockwork of contrasting colours.
- Stone cladding.
- Weatherboards in natural or painted finish.
- Corrugated sheet metal cladding.
- Fibre cement cladding.
- Where the use of tilt up or pre-cast concrete is proposed it shall exhibit levels of detail and composite finish as described above.

6.5 BUILDING HEIGHT

The height of all development in Cygnia Cove shall be in accordance with the relevant City of South Perth planning controls, as referred to in section 3.2 of this document.

6.6 SITE LEVELS AND RETAINING WALLS

To maintain views and avoid overlooking issues, additional retaining on existing retained boundaries is not permitted. Existing site levels shall not be raised by more than 200mm in accordance with City of South Perth planning controls, as referred to in section 3.2 of this document.

6.7 GEOTECHNICAL CONDITIONS

It is the responsibility of the property purchaser to ensure that the structural engineering design of buildings and associated structures including boundary and screen walls are suitable for the site conditions applicable to the lot.

6.8 COLOUR

The use of colour can be a valuable means of expressing design elements within the estate. The use of neutral base colours, accentuated through the application of tonal variations and accent colours to feature elements can result in a dramatic elevational treatment.

7 FENCES

7.1 SECONDARY STREET FENCES

Where secondary street fencing is not provided by the Developer, any fencing along the corner truncation and at least the first 6m of the secondary street boundary from the truncation is required to be a continuation of low or visually permeable front fencing. The intent is to create an open streetscape.

The balance of secondary street fencing may be solid to suit particular privacy requirements. Secondary street fences shall not be constructed of fibre cement, Colorbond or equivalent products.

7.2 FENCING PROVIDED BY THE DEVELOPER

Where fencing is provided by the Developer, the property owner shall not carry out any repairs, patching or repainting other than in the same finish and colours as existing.

7.3 FENCES ADJOINING PUBLIC OPEN SPACE

All fences adjoining public open space shall be visually permeable 1.2 metres above natural ground level.



Example of primary and secondary street fencing

8 VEHICLE ACCESS & GARAGES

All residential onsite car parking requirements and associated setbacks will be determined as per the R Codes and relevant City of South Perth planning controls. The only exception is lots with alternate requirements prescribed under section 10.6 Indicative Development Plans.

9 OTHER CONSIDERATIONS

9.1 SERVICES

All piped and wired services including waste and vent pipes, refrigerant lines and cable ducts are not to be visible from the streets, other public spaces or adjoining properties.

9.2 LETTERBOXES

A letterbox which is integrated into the finish of the dwelling and with a street number which is clearly visible and legible shall be provided. The letterbox shall be of a high quality and comply with Australia Post requirements.

9.3 STORES AND OUTBUILDINGS

Any outbuildings visible from any public area are required to be constructed of wall and roof materials which are compatible with the main dwelling.

9.4 RUBBISH BINS

Bins shall be located in a screened area.

9.5 AIR CONDITIONERS

As an air conditioning plant is noise generating and often unsightly, its impact on adjoining properties and public areas is to be mitigated.

For single and grouped dwellings it is preferred to be located at ground level to minimise the impact on neighbours and is to be visually concealed from public areas (e.g. located in garage). Any roof mounted air conditioning or evaporative cooling plant is required to be located so as to not be visible from a street or public open space and is to be finished in a colour to match that of the roof.



Air conditioning plant located within garage

Any balcony mounted plant is to be visually and acoustically screened from adjacent dwelling units and visually screened from streets and other public areas. Balcony mounted plant shall be located at floor level and shall not be fixed to a wall unless within a screened enclosure.

See also clause 5.6.3 for noise attenuation of air conditioning plant.



Screened balcony mounted air conditioning plant located at floor level.

9.6 TV ANTENNAE AND SATELLITE DISHES

The location of TV Antennae and satellite dishes shall be in accordance with city policy and should wherever possible be located to minimise impact on the streetscape.

9.7 CLOTHES LINES AND DRYING AREAS

These should be located to access winter sunshine and prevailing breezes and shall not be visible from public areas.

9.8 VERGE TREATMENTS

It is encouraged that verge treatments should be environmentally friendly and include native species which use minimal amounts of water. All verge treatments are required to comply with City of South Perth policies and guidelines.

10 SITE SPECIFIC CONSIDERATIONS

10.1 MINIMUM SETBACKS

Single dwellings minimum setbacks for front loaded rectangular lots generally shall be as follows:

Primary Street	Garage: As per the R Codes and City Policy Dwelling: 4m average (2m min)
Side	As per the R Codes and City Policy

Rear As per the R Codes and City Policy

Secondary Street As per the R Codes and City Policy

For grouped dwelling and irregularly shaped lots the minimum setbacks shall be as per the applicable indicative development plans.

10.2 OPEN SPACE

For single dwellings a minimum of 45% of the lot area shall be provided as open space.

10.3 CLONTARF COLLEGE HERITAGE PRECINCT

In recognition of the heritage significance of the Clontarf College Campus, memorials guiding development are placed on the titles of lots 101-104 and 117. These require the design of dwellings on the lots to be sympathetic and complementary to the built form heritage values of the campus.

10.3.1 OPENINGS

For elevations facing streets or other public spaces openings may be single or grouped doors and windows in masonry walls. Openings shall not be grouped into window walls, where glazing predominates (i.e. no greater than 50% glass).

10.3.2 MATERIALS AND COLOURS

These shall reflect the characteristic materials and colours of the gold boom and interwar buildings of the Clontarf campus with selections from the following:

- a) Limestone walling with red brickwork trim.
- b) Rendered brickwork, in off white, cream, pastel and pale stone colours, with red brickwork base coursing, that may extend to sill height of ground floor openings.
- c) Windows are to have timber, steel or coloured aluminium frames.
- d) Roofs of orange, red, brown or terracotta tiles in Marseille pattern or slate. A minimum roof pitch shall be $27\frac{1}{2}^{\circ}$, wherever visible from Clontarf campus, a street or public open space.
- e) Verandahs shall incorporate regular rendered brick, timber or steel posts. The roofs of these elements shall be integrated with the design of the residence in style, character, materials and colour.

Materials not referred to above will not be permitted to be used.

10.3.3 HOUSING STYLE

- a) Residential design should not replicate historical styles. Rather development should be a contemporary interpretation and should incorporate design characteristics from the Clontarf campus.
- b) Eaves to front façades are to be a minimum width of 400mm, excluding gutters, with exposed under eaves with rafters, bird boards and adequate ventilation.
- c) The use of verandahs, colonnades and terraces is encouraged, particularly to emphasise separation between ground and first floors in two storey residences

10.4 QUIET HOUSE DESIGN

Dwellings located on lots 101,109,110, 116, 126, 138-146, fronting Manning Road and Lots 146-148, 168, 169, 201, 202, 203, 222-227, fronting Centenary Avenue are required to mitigate against the potential for traffic noise intrusion by incorporating quiet house design measures as follows:



Clontarf College built form examples

The following internal LAeq criteria for night periods between 10:00pm and 6:00am shall be:

- Work Areas(including Kitchens, Laundries and Bathrooms): 45dB (A)
- Living Areas: 40dB (A)
- Sleeping Areas: 35dB (A)

Design Criteria:

Dwellings should be designed such that:

- a) Bedrooms on the first floor are preferably not located on facades facing either Manning Road or Centenary Avenue
- b) Bedrooms at ground floor should preferably be located on the opposite side of the dwelling away from Manning Road or Centenary Avenue.
- c) Laundry and bathrooms are preferably to the same side as either Manning or Centenary Avenue.
- d) If facing Manning Road and/or Centenary Avenue the main entrance is to be protected from road noise. In such an instance the entry doors should be 40mm solid hardwood doors in 80mm hardwood timber frames with rebates and acoustic door seals. Glazing inserts of 6.38mm laminated glass are acceptable.
- e) Walls are to be double brick or tilt-up concrete construction.
- f) Awnings or casement windows (with winders) in timber or commercial steel frames and compressible seals are installed (windows visible from either Manning Road or Centenary Avenue).

Note: Although timber or commercial steel frames are preferred, alternative framing systems are acceptable provided they do not de-rate the acoustical performance of the window system.

- g) Glazing to be:
 - i. 10.38mm thick laminated glass to all upper level windows facing either Manning Road or Centenary Avenue;
 - ii. 10.38mm thick laminated glass to all bedrooms when located at ground floor level facing either Manning Road or Centenary Avenue;
 - iii. 6.38mm thick laminated glass to all other rooms.
- h) Sliding doors are acceptable on the face opposite to either Manning Road or Centenary Avenue provided they have interlocking meeting stiles (i.e. Capral 889 or equivalent).
- i) Eaves are to be enclosed using 6mm thick compressed cement sheeting or equivalent.
- j) Roofs are to be Colorbond steel (or equivalent) with a minimum 50mm anticon insulation and with ceilings under all roof areas to be a minimum one layer 13mm thick plasterboard with R3 insulation laid over the top.
- k) Recessed light fittings in bedroom ceilings to the top storey or single storey components of the dwelling are to be acoustically rated.

At the development approval application stage all dwellings required to comply with the Quiet House Design Guide must submit as part of the application to the City of South Perth, an Acoustic Report by a qualified Acoustic Engineer stating that the design and construction of the dwellings adequately attenuates noise emissions from either Manning Road or Centenary Avenue.

Alternatives are acceptable providing that they comply with the Quiet House Guidelines and are supported by an Acoustic Report by a qualified Acoustic Engineer stating that the design and construction of the dwellings adequately attenuates noise emissions from either Manning Road or Centenary Avenue to achieve an internal LAeq of 35db (A) within bedrooms, an LAeq of 40 dB (A) within living spaces, an LAeq of 45 dB (A) within work areas (including kitchens, laundries and bathrooms). Notification of road noise levels and the Quiet House Design Guide will be placed on the Certificate of Title for the specified lots.

10.5 SETBACK REQUIREMENTS FROM PUBLIC OPEN SPACE

Setbacks to Public Open Space shall conform to the requirements of Swan River Trust Policy, City Policy and the R Codes.

10.6 INDICATIVE DEVELOPMENT PLANS

10.6.1 R20 FRONT LOADED DWELLINGS GENERALLY

a) Minimum Setbacks

- Primary Street - Garage: As per R Codes and City Policy
- Dwelling: 4m average (2m min)
- Side: As per R Codes and City Policy
- Rear: As per R Codes and City Policy
- Secondary Street: As per R Codes and City Policy
- Corner Truncation: As per City Policy and the Town Planning General By-Laws 1975 (Height of obstructions at corners)

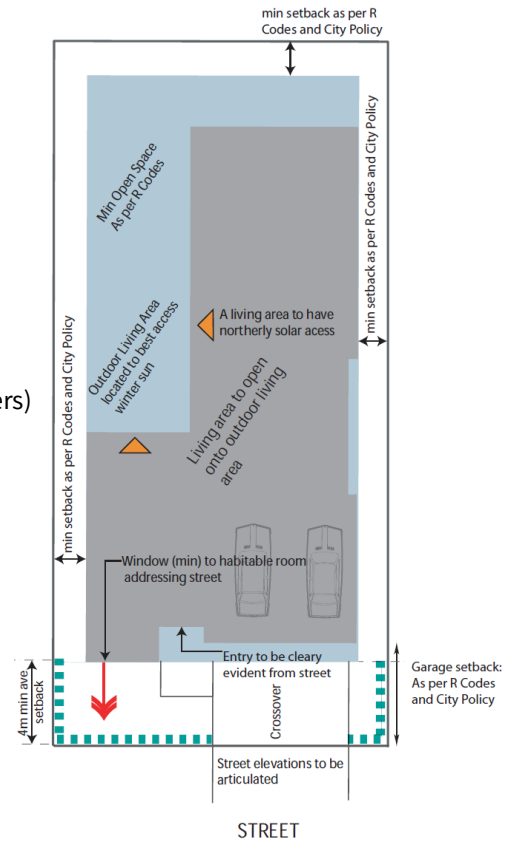
Note: Where the garage is configured so that vehicles are parked parallel to the street alignment, the applicable front setback may be reduced to 2m provided the garage front elevation is articulated through the use of a minimum of one window, at least 1 sq. metre in area.

b) Minimum Open Space

45% min of the lot area.

c) Minimum Outdoor Living Area

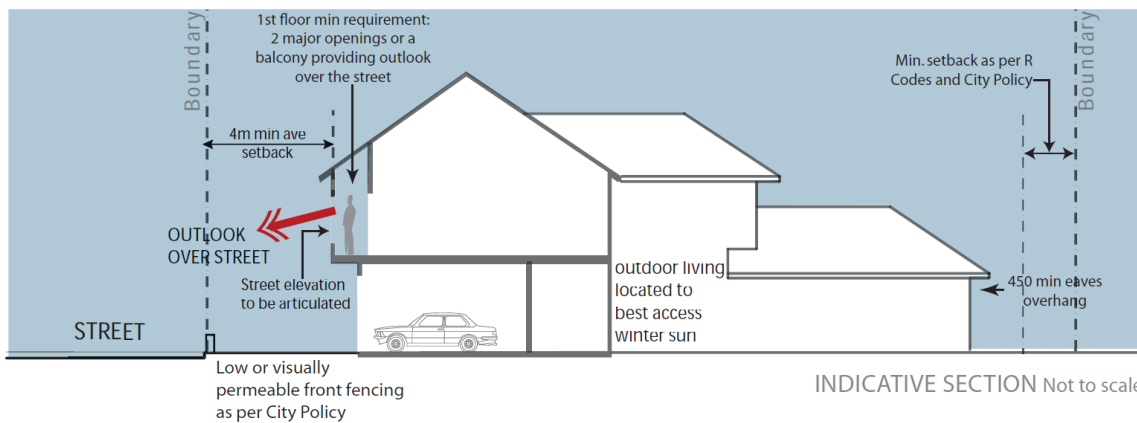
As per R Codes and City Policy.



INDICATIVE PLAN Not to scale

Legend

- Building Envelope as defined by setbacks
- Indicative Building Footprint
- Low or visually permeable front fencing



INDICATIVE SECTION Not to scale

10.6.2 LOTS 101, 109, 110

a) **Minimum Setbacks**

- Primary Street - Garage: As Per R Codes and City Policy
- Dwelling: 4m average (2m min)
- Side: As Per R Codes and City Policy
- Rear: As Per R Codes and City Policy
- Secondary Street: As Per R Codes and City Policy
- Corner Truncation: As Per City Policy and the Town Planning General By-Laws 1975

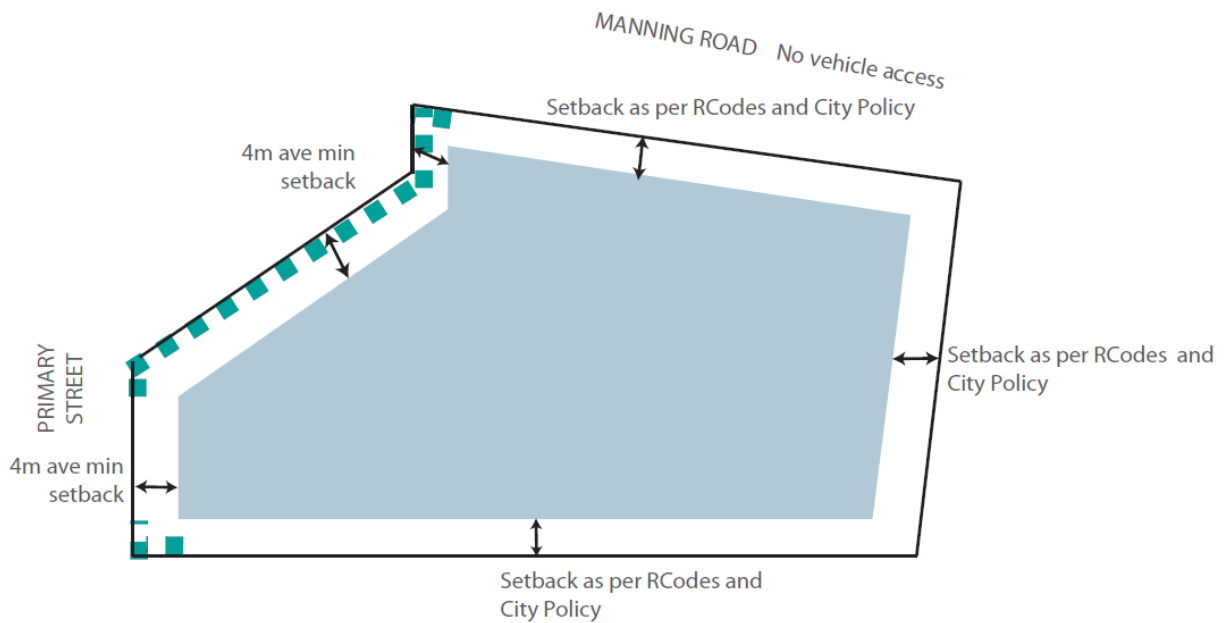
(Height of obstructions at corners)

b) **Minimum Open Space**

45% min of the lot area.

c) **Minimum Outdoor Living Area**

As per R Codes and City Policy.



INDICATIVE PLAN Not to scale

Legend

- Building Envelope as defined by setbacks
- Low or visually permeable front fencing

10.6.3 LOT 138

a) **Minimum Setbacks**

- Primary Street - Garage: As per the designated garage envelope on the indicative plan below
- Dwelling: 4m average (2m min)
- Side: As Per R Codes and City Policy
- Rear: As Per R Codes and City Policy

b) **Minimum Open Space**

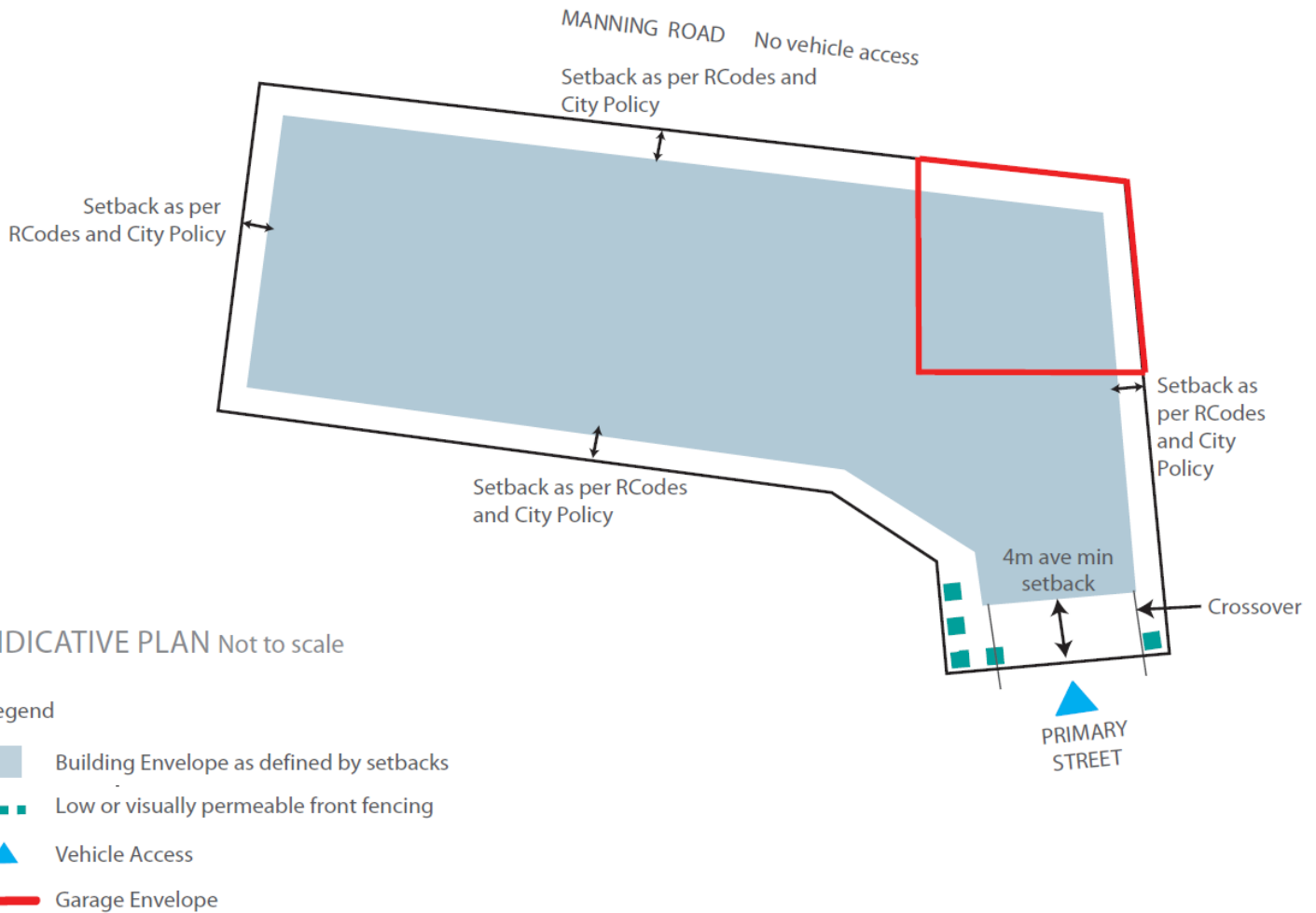
45% min of the lot area.

c) **Minimum Outdoor Living Area**

As per R Codes and City Policy.

d) **Garage Location**

The garage shall be located within the garage envelope indicated on the indicative plan below and shall make it possible for vehicles to exit the lot in forward gear. The location of the garage up against the northern boundary as a parapet is encouraged.

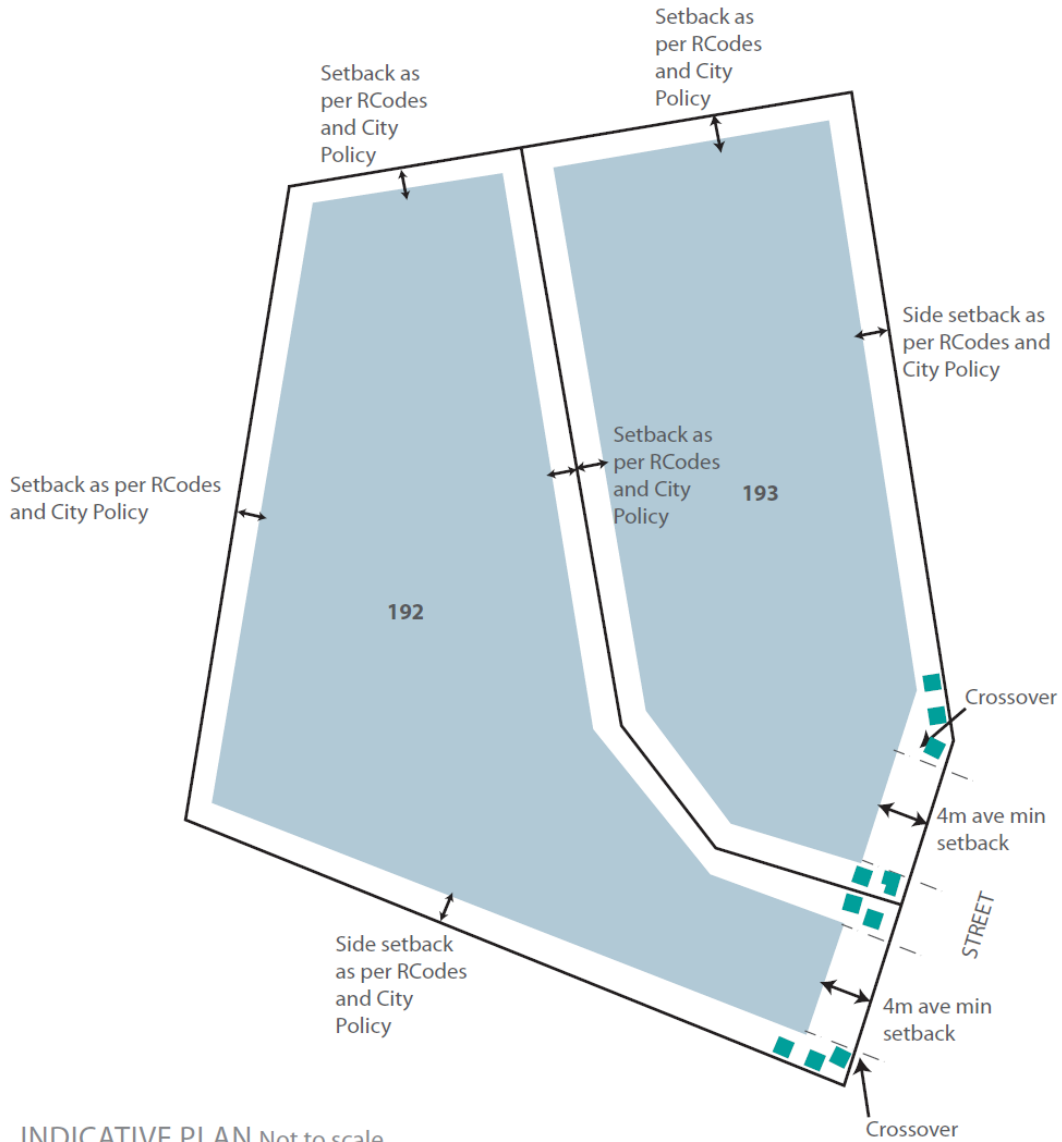


INDICATIVE PLAN Not to scale

- Legend
- Building Envelope as defined by setbacks
 - Low or visually permeable front fencing
 - Vehicle Access
 - Garage Envelope

10.6.4 LOTS 192 & 193

- a) **Minimum Setbacks**
 - Primary Street - Garage: As Per R Codes and City Policy
 - Dwelling: 4m average (2m min)
 - Side: As Per R Codes and City Policy
 - Rear: As Per R Codes and City Policy
- b) **Minimum Open Space**
45% min of the lot area.
- c) **Minimum Outdoor Living Area**
As per R Codes and City Policy.
- d) **Garage Location**
Shall allow vehicular access into the street in forward gear.



Legend

- Building Envelope as defined by setbacks
- Low or visually permeable front fencing

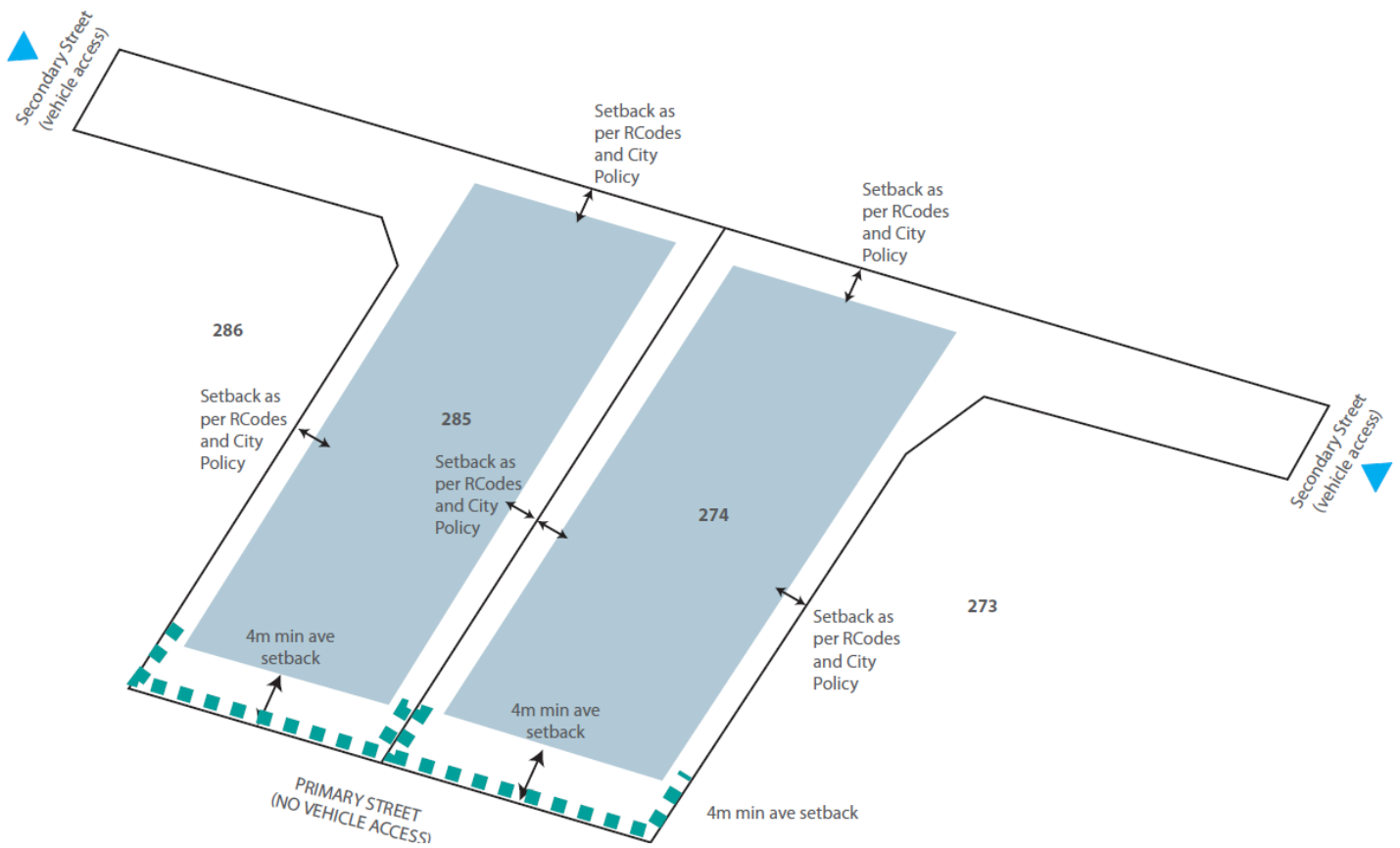
10.6.5 LOTS 261, 271, 274, 285

- a) **Minimum Setbacks**
 - Primary Street - Dwelling: 4m average (2m min)
 - Side: As Per R Codes and City Policy
 - Rear: As Per R Codes and City Policy
 - Garage: Within the building envelope in a location with sufficient manoeuvring space to enable the vehicle to enter the secondary street in forward gear.

- b) **Minimum Open Space**
45% min of the lot area.

- c) **Minimum Outdoor Living Area**
As per R Codes and City Policy.

- d) **Vehicle Access**
Shall be from the secondary street frontage, depicted on the indicative plan below as 'secondary street'



INDICATIVE PLAN Not to scale

Legend

- Building Envelope as defined by setbacks
- Low or visually permeable front fencing
- Vehicle Access

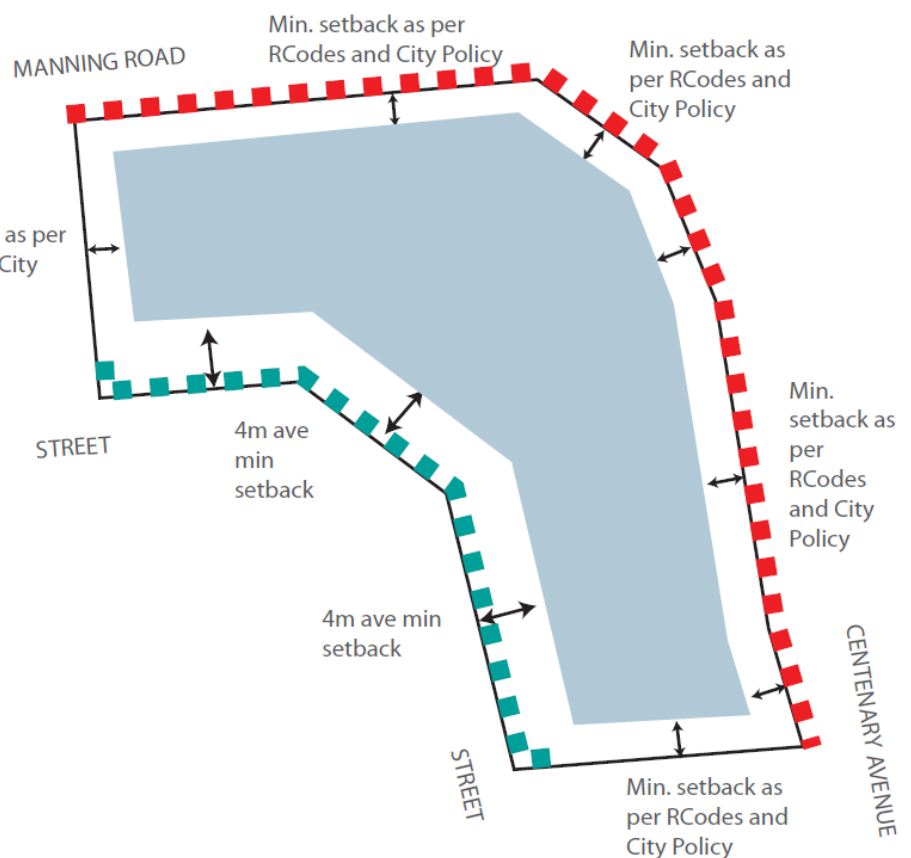
10.6.6 GROUPED DWELLING LOT 146

- a) **General Design Parameters:**
 - Dwellings fronting the primary street shall be articulated with openings to habitable rooms providing street outlook and with front door pedestrian access preferred to be from the street.
 - The 2nd storey of development abutting Manning Rd or Centenary Ave shall be articulated with openings to habitable rooms providing outlook over the street.
 - First floor bedrooms should preferably not face Manning Road or Centenary Avenue, however where this occurs Quiet House Design treatments shall be incorporated in accordance with the requirements of Clause 10.4.
 - Wherever possible, outdoor living areas shall be located to facilitate winter solar access.
- b) **Minimum Setbacks**
 - Primary Street: 4m average (2m min)
 - Side: As Per R Codes and City Policy
 - Rear: As Per R Codes and City Policy (Manning Rd/Centenary Ave)
- c) **Minimum Open Space:**
As per R Codes and City Policy except that the minimum requirement shall be reduced by 5% of the lot area.
- d) **Minimum Outdoor Living Area:**
As per R Codes and City Policy
- e) **Vehicle Access:**
Shall be from the primary street (not permitted from Manning Rd or Centenary Ave). Up to two crossovers shall be permitted for common entries, exits and access through the site. Up to two additional crossovers shall be permitted for direct access to dwellings fronting the primary street.

INDICATIVE PLAN Not to scale

Legend

- Building Envelope as defined by setbacks
- Low or visually permeable front fencing
- No Vehicle Access



10.6.7 GROUPED DWELLING LOT 236

a) General Design Parameters:

- The lot has 2 street frontages. In keeping with the desire to create consistency of the streetscape both can be considered primary street frontages in terms of minimum setbacks and vehicle access.
- Dwellings fronting a street shall be articulated with openings to habitable rooms providing street outlook and with front door pedestrian access preferred to be from the street.
- Wherever possible outdoor living areas shall be located to facilitate winter solar access.

b) Minimum Setbacks:

- Primary Street: 4m average (2m min)
- Side: As Per R Codes and City Policy

c) Minimum Open Space:

As per R Codes and City Policy except that the minimum requirement shall be reduced by 5% of the lot area.

d) Minimum Outdoor Living Area:

As per R Codes and City Policy.

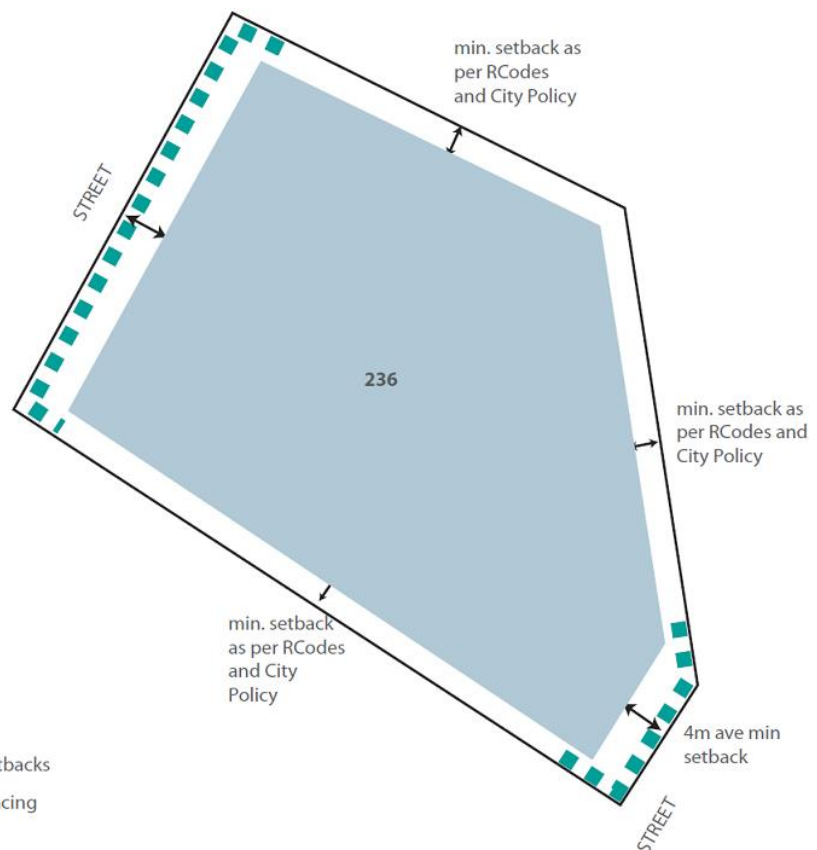
e) Vehicle Access:

Vehicle access may be from either or both streets.

INDICATIVE PLAN Not to scale

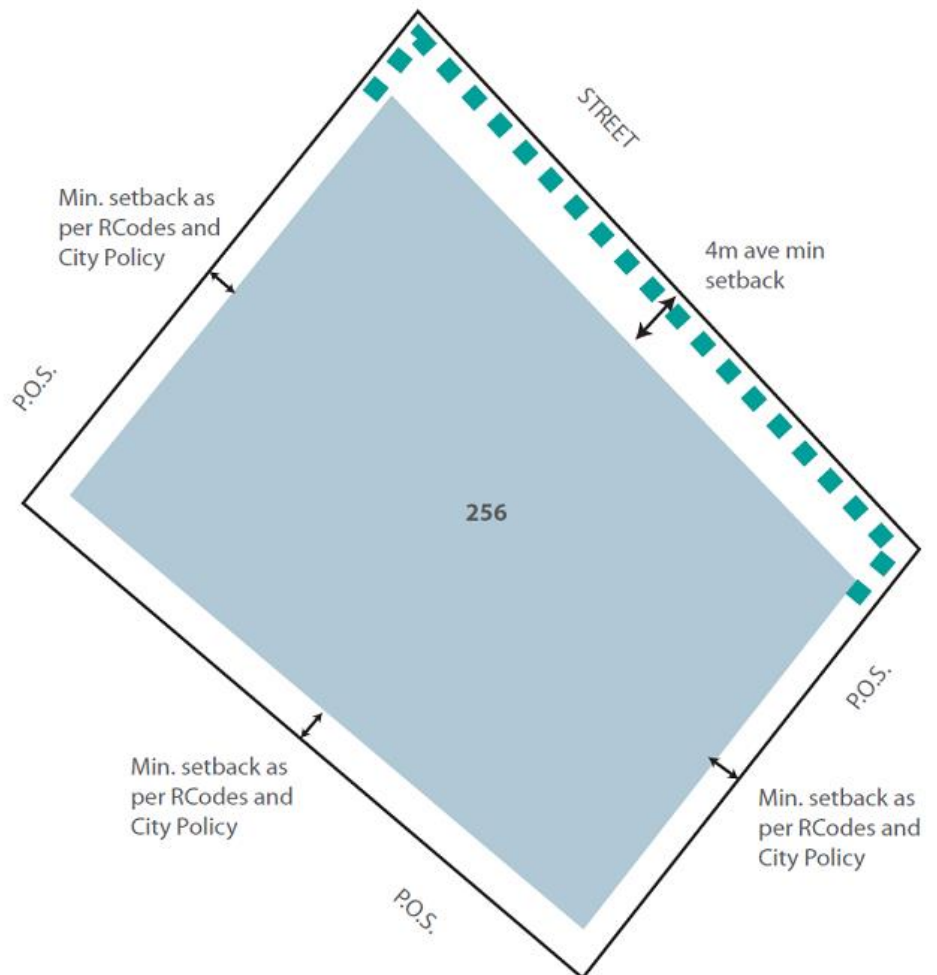
Legend

- Building Envelope as defined by setbacks
- ■ ■ Low or visually permeable front fencing



10.6.8 GROUPED DWELLING LOT 256

- a. **General Design Parameters:**
 - Development shall address the primary street and Public Open Space.
 - Primary Street and Public Open Space elevations shall be articulated with openings to habitable rooms providing outlook over the public realm.
 - For dwellings fronting the river the location of outdoor living areas and balconies to provide passive surveillance of the foreshore reserve is encouraged.
 - Wherever possible outdoor living areas shall be located to facilitate winter solar access and public open space outlook.
- b. **Minimum Setbacks:**
 - Primary Street: 4m average (2m min)
 - Side: As Per R Codes and City Policy
 - Rear (River): As Per R Codes, City Policy and Swan River Trust Policy
- c. **Minimum Open Space:**
As per R Codes and City Policy except that the minimum requirement shall be reduced by 5% of the lot area.
- d. **Minimum Outdoor Living Area:**
As per R Codes and City Policy.



INDICATIVE PLAN Not to scale

Legend

- Building Envelope as defined by setbacks
- Low or visually permeable front fencing

10.6.9 GROUPED DWELLING LOTS 287 & 288

a. General Design Parameters:

- Development shall address the primary street and Public Open Space.
- Primary Street and Public Open Space elevations shall be articulated with openings to habitable rooms providing outlook over the public realm.
- For dwellings fronting the Public Open Spaces, the location of outdoor living areas, openings and balconies to provide passive surveillance opportunities is encouraged.
- Wherever possible, outdoor living areas shall be located to facilitate winter solar access and/or Public Open Space outlook.

b. Minimum Setbacks:

- Primary Street: 4m average (2m min)
- Side: As Per R Codes and City Policy
- Rear (Public Open Space): As Per R Codes, City Policy and Swan River Trust Policy

c. Vehicle Access:

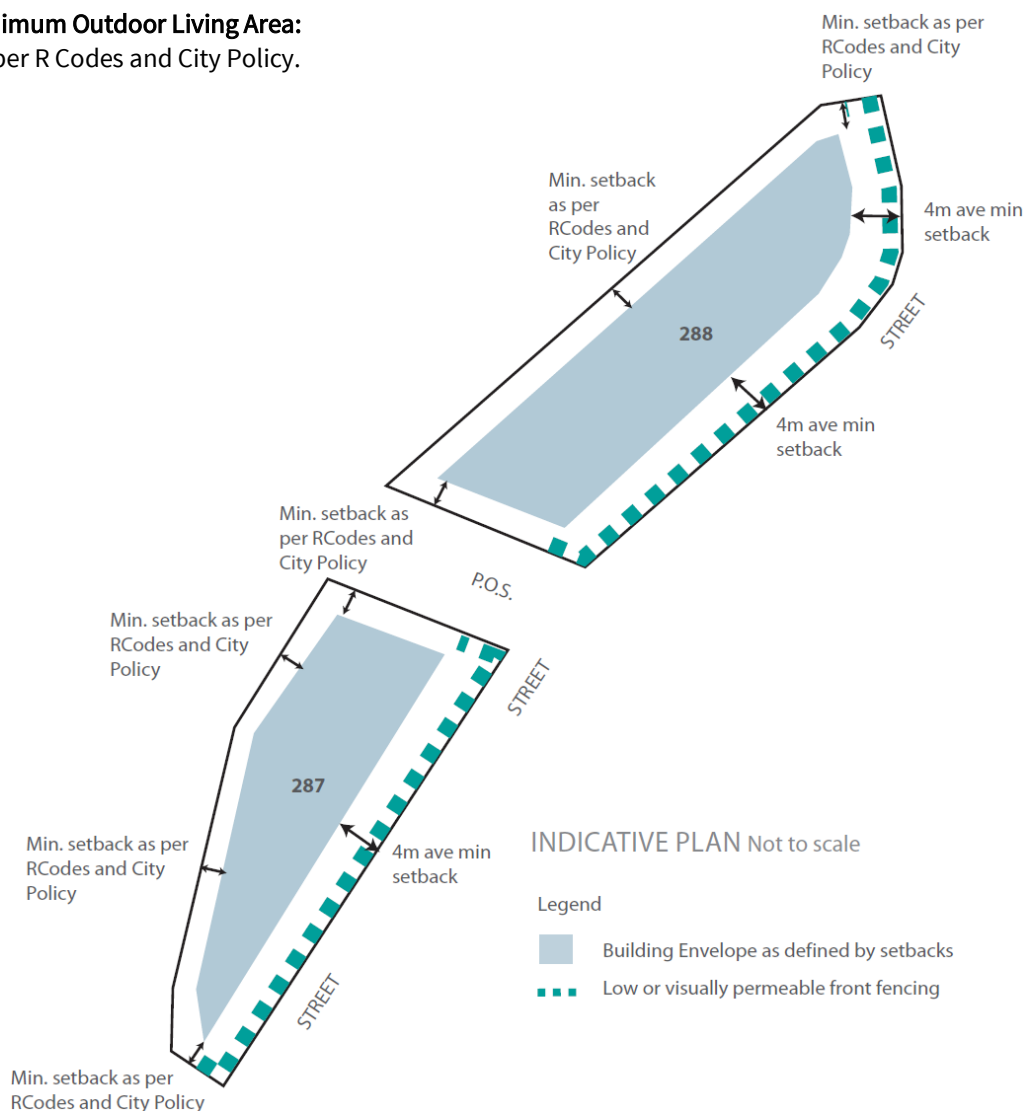
Common vehicle access from the primary street may be supplemented by up to two additional crossovers serving individual dwellings.

d. Minimum Open Space:

As per R Codes and City Policy except that the minimum requirement shall be reduced by 5% of the lot area.

e. Minimum Outdoor Living Area:

As per R Codes and City Policy.



5.1.1 (Continued)	KITCHEN		Building Plans of specifications		
	The units / houses / offices have the following features:	Number of points (circle)			
	Built-in space for separate bins for general waste, organic scraps and recyclables	2			
	The main kitchen has a minimum clear space of 1550 mm distance in front of all benches, storage and fixed appliances and has minimum features and dimensions as shown in Figure 7.	1			
	The main kitchen does not double as a passageway or through-way to access other rooms in the unit / house, to avoid the likelihood of dangerous collisions	1			
	The unit / house is eligible for one point if it has: 1. a stove top located away from cupboard ends, drawers, doors and windows, with adequate space to turn pot handles away from the front, and 2. the oven is located off the floor for ease of access and is adjacent to bench space so hot items do not need to be carried long distances.	1			
	The units / houses / offices have the following features:	Number of points (circle)			
	Gas oven that is flued to outside the building (not roof space)	1			
	Gas cook top with a range hood flued to the outside of the building (not roof space)	1			
5.2	Minimum WELS rated fixtures and tap fittings have been used.	BCA Energy and Water Efficiency Verification Declaration	City of South Perth to assess.		
5.2.4	Greywater related plumbing has been installed.	Plans to City's Building Dep. Following City's Planning Approval being granted			
5.2.5	Rainwater tank has been installed.	Building plans and tank specifications when applying for City Planning Approval			
5.5.1	A daytime living area that faces north and/or;	Building plans			
	An outdoor living area is located to achieve northern solar access.				
5.6.1	HOT WATER SYSTEM: A hot water system with a minimum energy rating of 5 stars has been installed.	BCA Energy and Water Efficiency Verification Declaration			
6.1	BUILDING APPEARANCE AND STREETScape: The street elevation features a minimum of two major openings or a balcony providing street outlook from the first floor.	Building plans			
6.3.2	ROOF OVERHANGS:	Building plans			

	The minimum eaves overhang shall generally be 450mm to the outside face of the gutter.			
6.3.3	ROOF MATERIALS: Black excessively dark or bright colours shall not be used.	Building plans or specification		
	Clontarf Heritage Precinct (lots 101-104 and 117) tiled roofs are of orange, red, brown, terracotta or a blend thereof Marseille pattern tiles.			
6.4	WALL MATERIALS: Walls visible from a street or other public space shall feature a composite of materials or finishes.	Building plans		
6.6	SITE LEVELS AND RETAINING WALLS: Existing site levels shall not be raised by more than 200mm in accordance with City planning controls.	Building plans		
7.1	SECONDARY STREET FENCES: Any fencing along the corner truncation and the first 6m of the secondary street boundary shall be low or visually permeable as per City policy for front fences.	Building plans		
7.3	FENCES ADJOINING PUBLIC OPEN SPACE: Any fencing adjoining portions of Public Open Space shall be visually permeable 1.2 metres above natural ground level.	Building plans		
9.3	STORES AND OUTBUILDINGS: Any outbuildings visible from any public area are required to be constructed of wall and roof materials which are compatible with the main dwelling.	Building plans		
10.1	MINIMUM SETBACKS: The minimum primary street setback shall be 4m average.	Building plans		
10.2	OPEN SPACE: For single dwellings a minimum of 45% of the lot area is provided as open space.	Building plans		City of South Perth to assess
10.3	CLONTARF COLLEGE HERITAGE PRECINCT: Lots 101-104 and 117 comply with heritage requirements.	Building plans		
10.4	QUIET HOUSE DESIGN: Lots 101, 109, 110, 116, 126, 138-148, 168, 169, 201, 202, 203, 222-227 comply with quiet house design criteria.	Building plans, specification and acoustic report by a qualified Acoustic Engineer		
10.5	SETBACK REQUIREMENTS FROM PUBLIC OPEN SPACE: Conform to the requirements of Swan River Trust Policy, City Policy and the R Codes.	Building plans		
10.6	INDICATIVE DEVELOPMENT PLANS: Development Criteria shall be complied with.	Building plans		

APPENDIX 2: SUBDIVISION PLAN



SUBDIVISION PLAN

Legend

- R20 Single dwelling lots
- Grouped dwelling lots
- Clontarf College Heritage Precinct
- Quiet house design criteria to be implemented

Legislation / Local Law Requirements

City of South Perth Town Planning Scheme No. 6
Residential Design Codes of Western Australia
Building Code of Australia

Other Relevant Policies / Key Documents

City of South Perth Planning Policies