

**Submission No. 1 Attachments**  
(Yamanto Hills)

SL 19/3/09

## Supplementary information

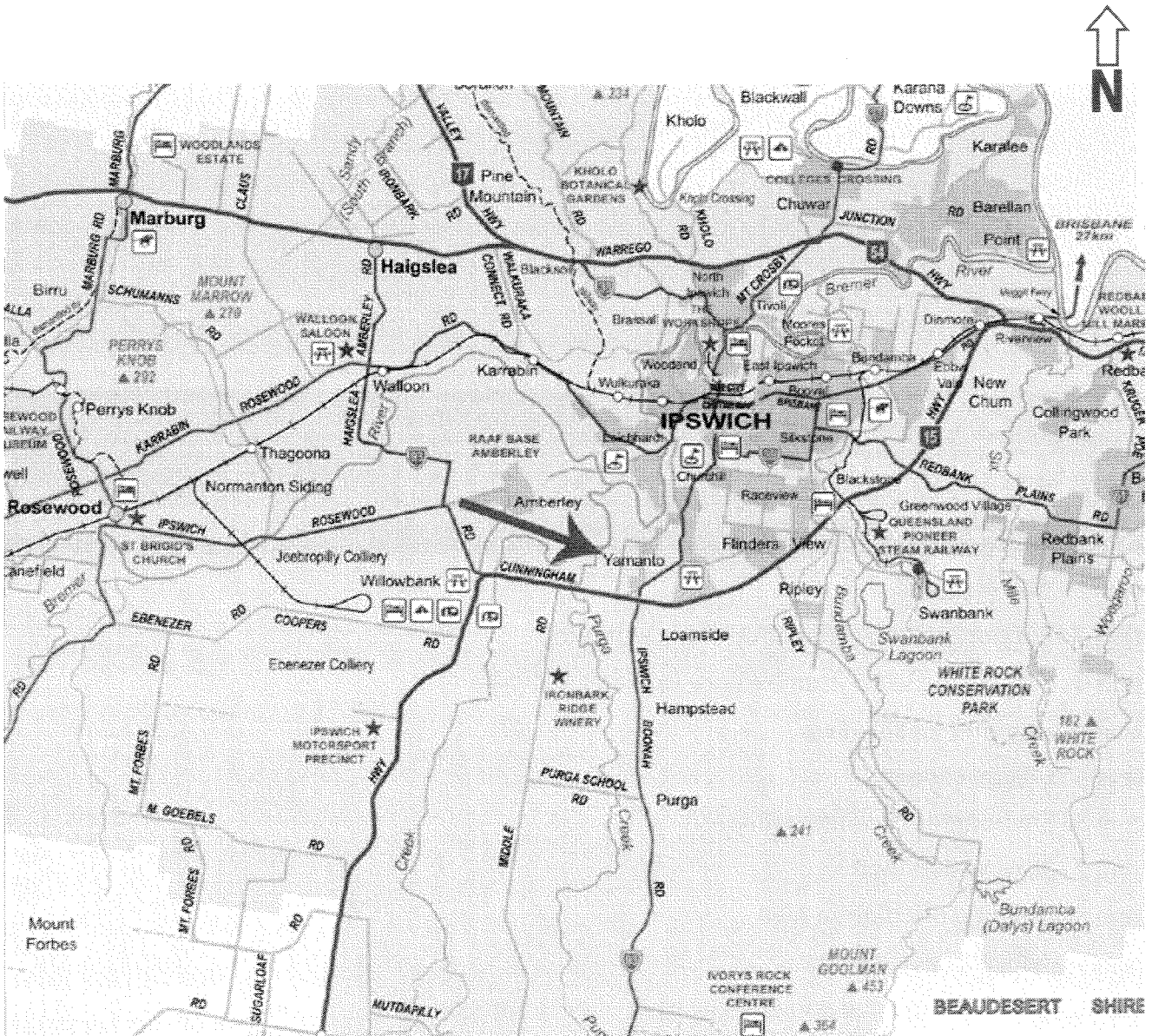
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**Defence Housing**  
AUSTRALIA

# Supplementary item 1

## Site location





## Supplementary item 2

# Supporting letter from RAAF Base Amberley



ROYAL AUSTRALIAN AIR FORCE  
HEADQUARTERS COMBAT SUPPORT GROUP

RAAF Base Amberley 4306

HQCSG 2006/1137040/1 (29)  
HQCSG/OUT/2008/1204

**Mr Neil Morris**  
General Manager Development and Construction  
Defence Housing Authority  
26 Brisbane Avenue  
BARTON ACT 2600

Dear Mr. Morris,

### **YAMANTO HILLS ESTATE**

In my capacity as Senior Australian Defence Force Officer, RAAF Base Amberley, I would like to offer my strong support for the proposal of Defence Housing Australia to proceed with the development of Stages 2 and 3 of the Yamanto Hills housing development. I understand that DHA plans to construct 75 houses on the estate, with the potential to deliver up to 134 if required.

Housing has been a critical issue for RAAF Base Amberley in recent years, reflecting the significant expansion of the base, occasioned by the relocation of No 9 Force Support Battalion and the transfer of Nos. 33 and 36 Squadrons from RAAF Base Richmond. Further expansion is likely in future years as Defence considers its options for the rationalisation of Defence bases.

The Yamanto Hills Estate is highly suited to the support of RAAF Base Amberley. The site is well located for easy travel to the base, including cycling, and to the Yamanto Shopping Centre. I have no doubt that the accommodation DHA intends to build will be very popular with the families of ADF members who work on Amberley, and that it will assist Defence to fulfil its obligations to provide high standard working and living environments for Defence families.

Yours sincerely,

**Paul Hislop**  
Group Captain  
Commander Combat Support Group

Tel: (07) 5461 4000

28 August 2008

# Supplementary item 3

## Supporting letter from Defence Families Australia



Nicole Quinn  
National Convenor  
Defence Families of Australia  
CP2-1-11  
Campbell Park Office  
CANBERRA ACT 2600

24 February 2009

Mr Michael Del Gigante  
Managing Director  
Defence Housing Australia  
26 Brisbane Avenue  
BARTON ACT 2600

  
Dear Mr Del Gigante

### Development of Housing for Defence – Yamanto Hills Estate

Defence Families of Australia (DFA) has received a comprehensive briefing on the proposed development of housing at Yamanto Hills Estate. This development will support RAAF Base Amberley. There are many exciting aspects to this development which DFA believes supports the unique working and lifestyle conditions of ADF members and their families.

#### Location:

Being able to live in a community close to RAAF Amberley is important when a member is 'absent from home' or deployed as it enables Defence families to access and use on base facilities and support.

Living close to work reduces work travel time and therefore increases time at home spent with the family. An important factor within the current framework of high operational tempo.

Housing close to RAAF Amberley also supports the 24 hour, seven days a week, and on call aspect of military life.

The ability to access established community facilities, including transport, schools, childcare services and shopping centers are also important to ADF families.

The location of Yamanto Hills Estate provides both great access to RAAF Base Amberley and established community facilities.

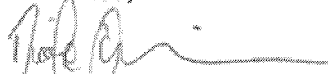
#### Housing:

DFA must be able to replace old housing stock with new as community standards and expectations change over time to what is considered a suitable housing solution.

The design features of the homes in Yamanto Hills Estate support modern living including open plan, outdoor alfresco living and environmentally friendly features. It also meets (or exceeds) the new Defence minimum housing standard.

DFA strongly supports housing which balances close proximity to RAAF Base Amberley and community facilities and offers ADF families' modern living experiences. It is our opinion that Yamanto Hills Estate brings all these factors together and will actively contribute to the overall quality of life of the ADF families posted to this region.

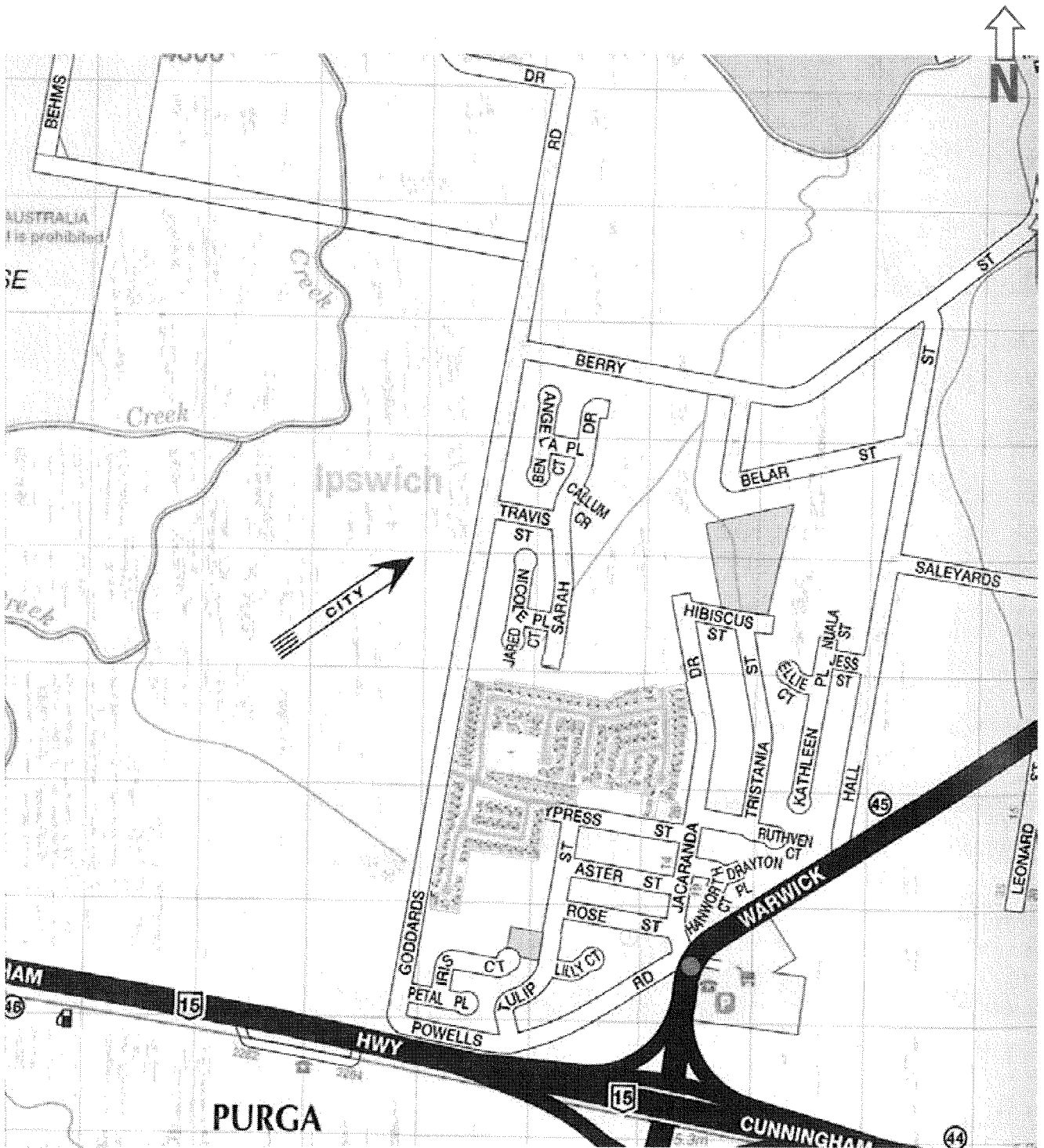
Yours Sincerely



Nicole Quinn  
National Convenor  
Defence Families of Australia

# Supplementary item 4

## Yamanto locality map



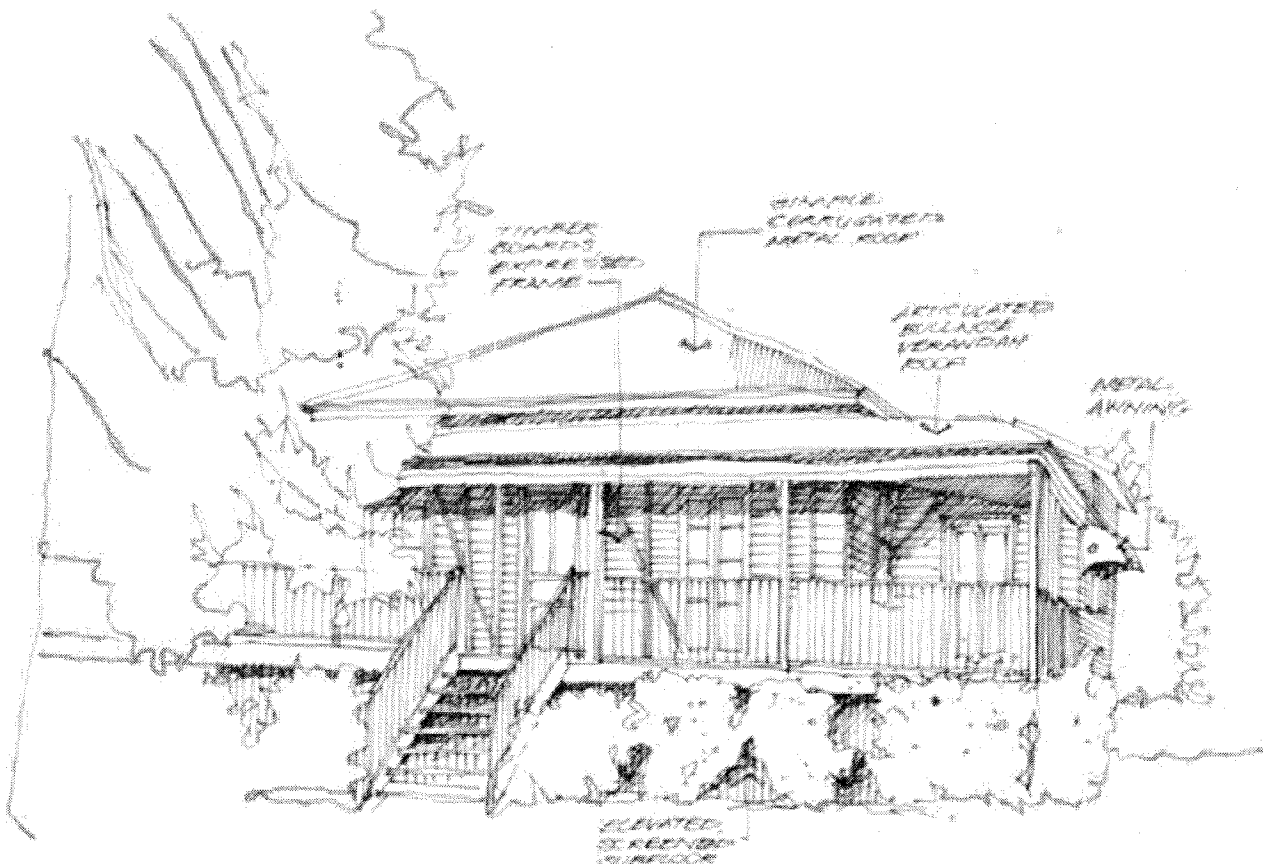
## Supplementary item 5

### Preliminary design concept

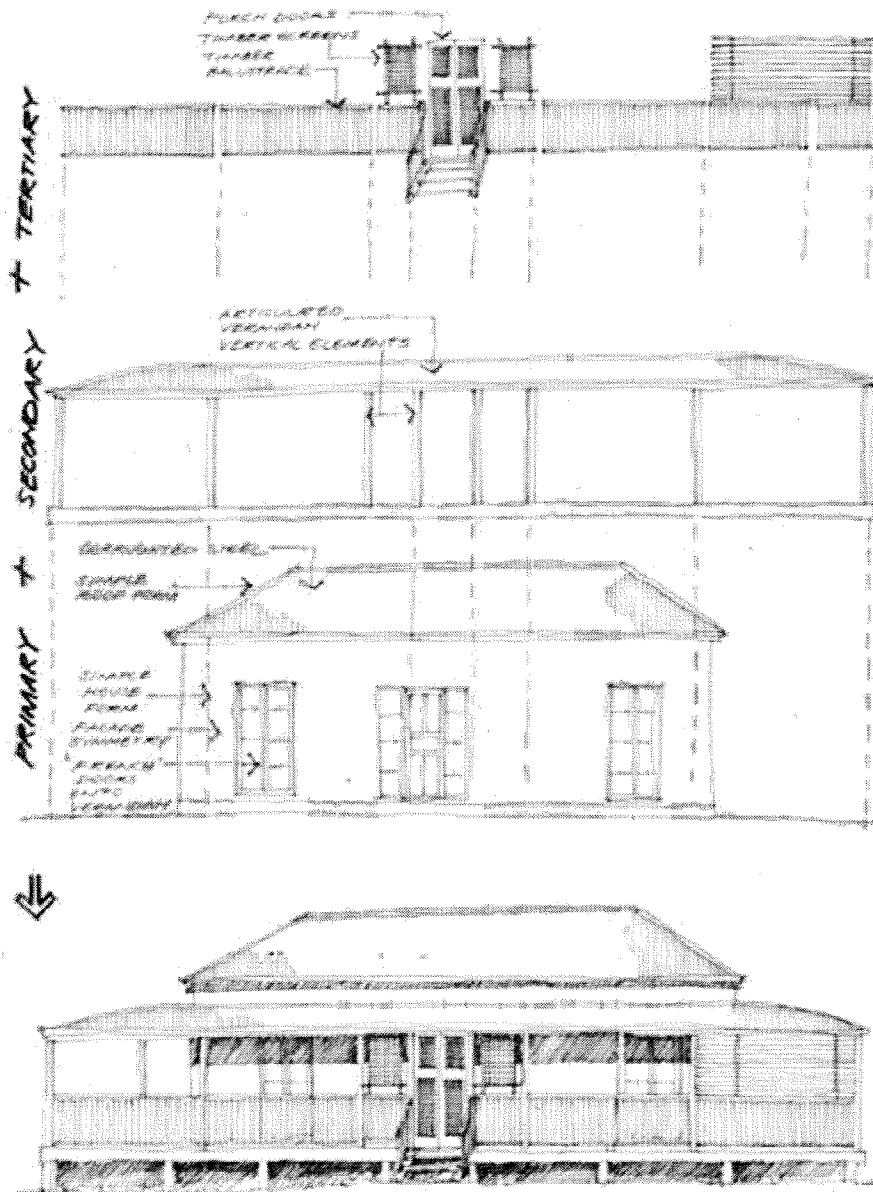
#### 7.2 REGIONAL CHARACTER

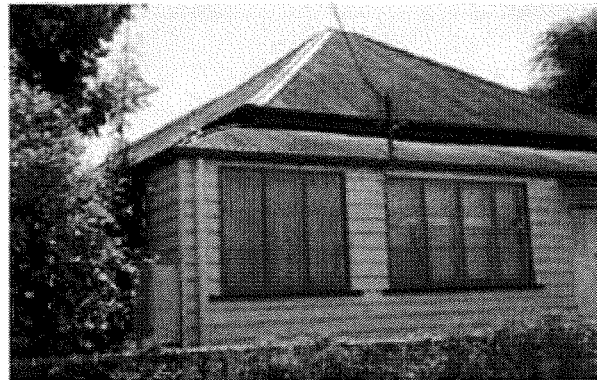
The Built Form Design Principles of Yamanto Hills Estate are inspired by the historic vernacular character of the Queenslander Cottage. It is then re-interpreted into a contemporary Australian architectural context, to become Yamanto Hills style.

The Yamanto Hills style adopts an architectural palette that respects the historical character of the region, whilst incorporating a combination of contemporary architectural elements.



### 7.3 THE QUEENSLANDER COTTAGE





PRIMARY ELEMENTS

**Primary Elements**

- Simple roofs
- Metal Roof
- Roof cladding
- Small sized windows
- Asymmetrical/Symmetrical built form
- Simple punctuation in front facade
- Sprawling single storey additions
- Brick, stone or timber walls
- Deep, wrap-around verandahs

SECONDARY ELEMENTS

**Secondary Elements**

- Vertical post elements
- Verandah decoration
- Small awnings over windows
- Small eaves overhangs
- Rolled corrugated awnings

TERTIARY ELEMENTS

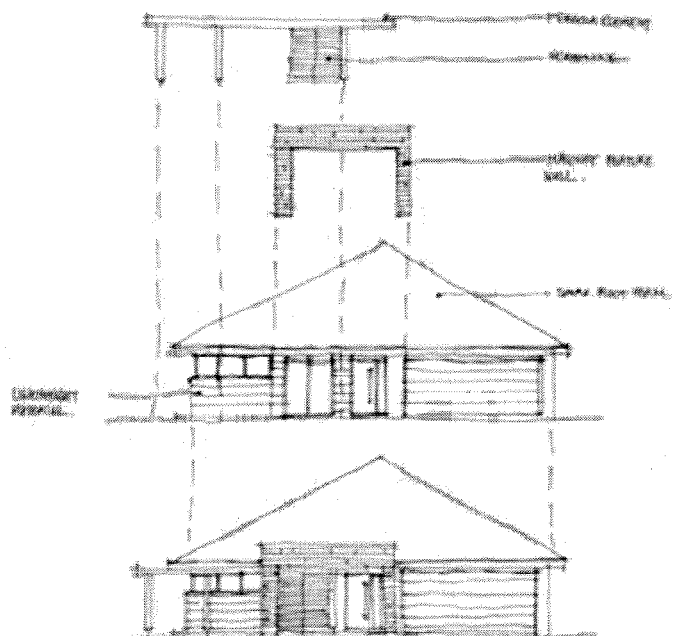
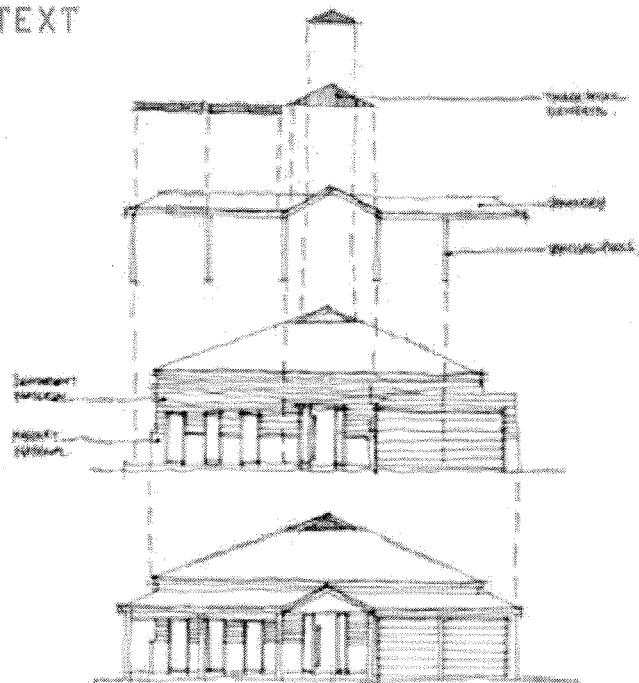
**Tertiary Elements**

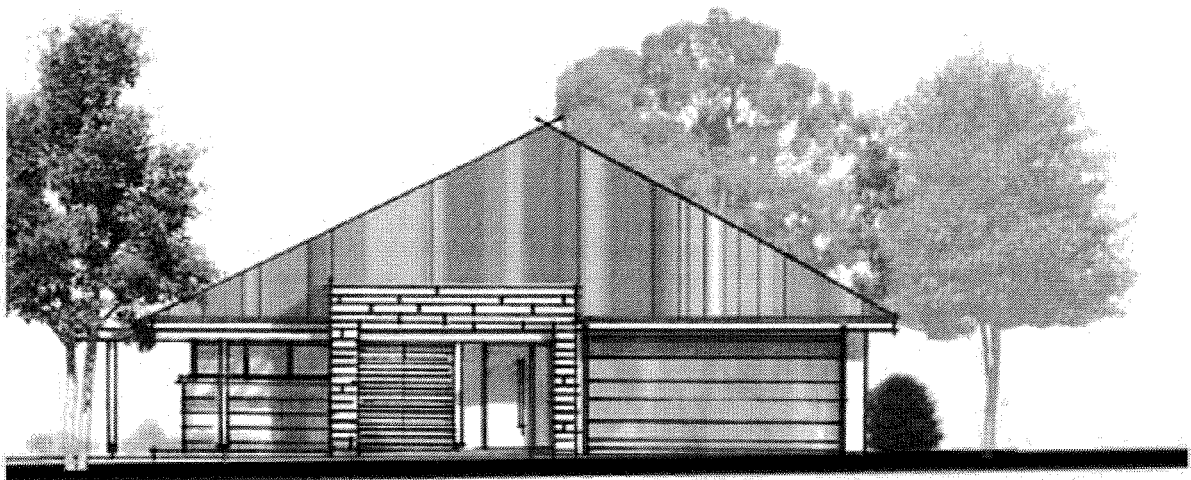
- Timber balustrade with vertical batters
- Decorative gable ends
- Timber weatherboards as cladding
- Timber picket fences
- Ornate timber detailing
- Screened entry doors



## 7.4 CONTEMPORARY CONTEXT

- Elevation forms
- Single story
- Siting in the landscape
- Indoor-outdoor living spaces
- Roof design
- Eaves and solar protection
- External materials
- Decoration and articulation
- Light weight construction
- Landscaping





**PRIMARY ELEMENTS**

- Simple pitch roof
- Basic symmetry/asymmetry of roof form
- Simple primary form
- Garage

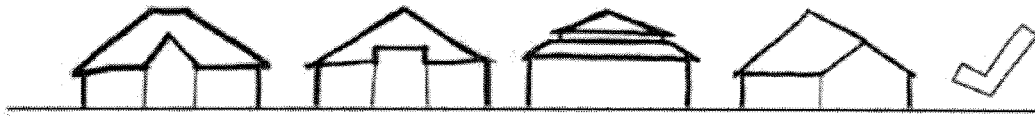
**SECONDARY ELEMENTS**

- Vertical post element
- Verandah
- Corner element
- Entry feature

**TERTIARY ELEMENTS**

- 10. Timber battens/shading
- 11. Pergola
- 12. Horizontal elements

## 7-B ROOF DESIGN

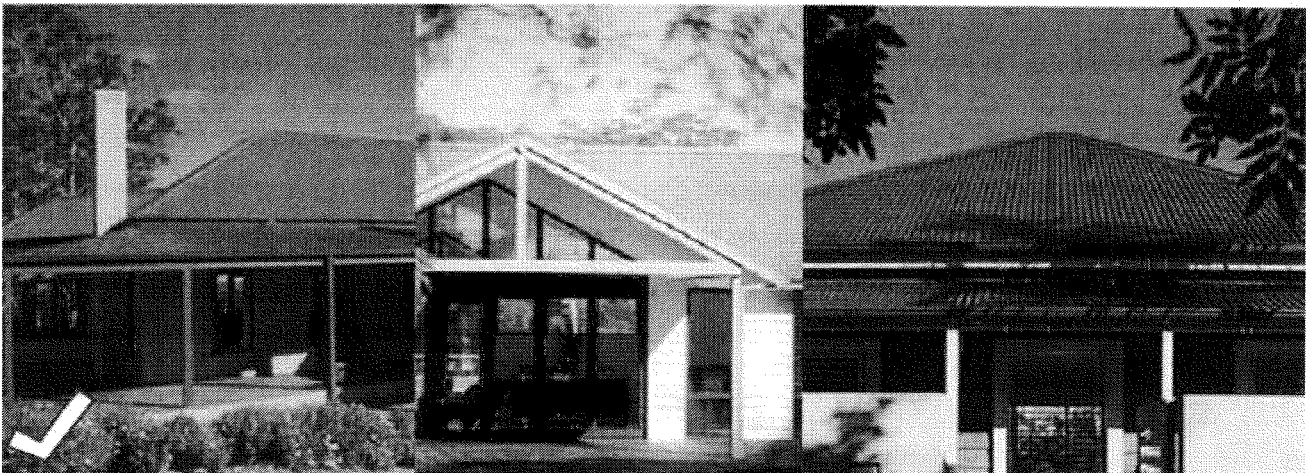


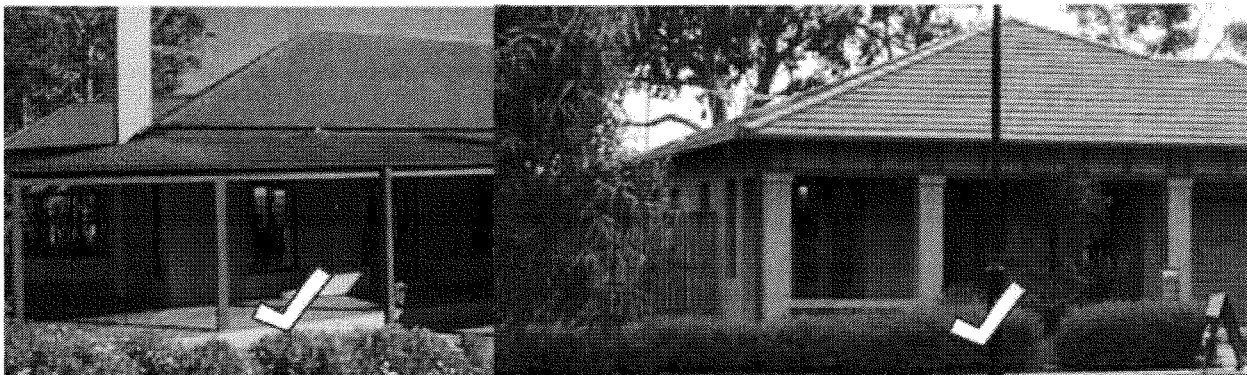
### PRINCIPLES

- The Queensland cottage is characterised by the simplicity of its roof form. The roof forms part of the veranda that encloses the home.

### GUIDELINES

- Roof designs are to be simple in form.
- Roof design to be pitched, gable or hipped roof. Roofs such as curved, butterfly or skillion are not permissible.
- Roof Materials are to be metal and flat concrete roof tiles.
- Roof pitch to be min. 24°.50
- Eaves to be min. 450 mm.
- Simple articulation such as timber feature to the gable ends is encouraged.

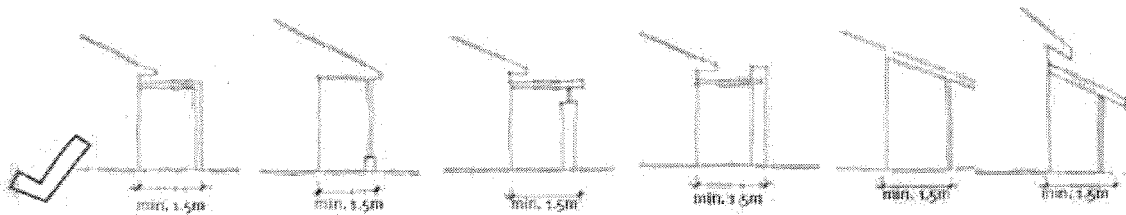




## 7.7 VERANDAH AND PERGOLA ELEMENTS

### PRINCIPLES

- Allow for a seamless link between internal and external living areas
- Improve energy efficiency by shading windows
- Appear as an extension of the house



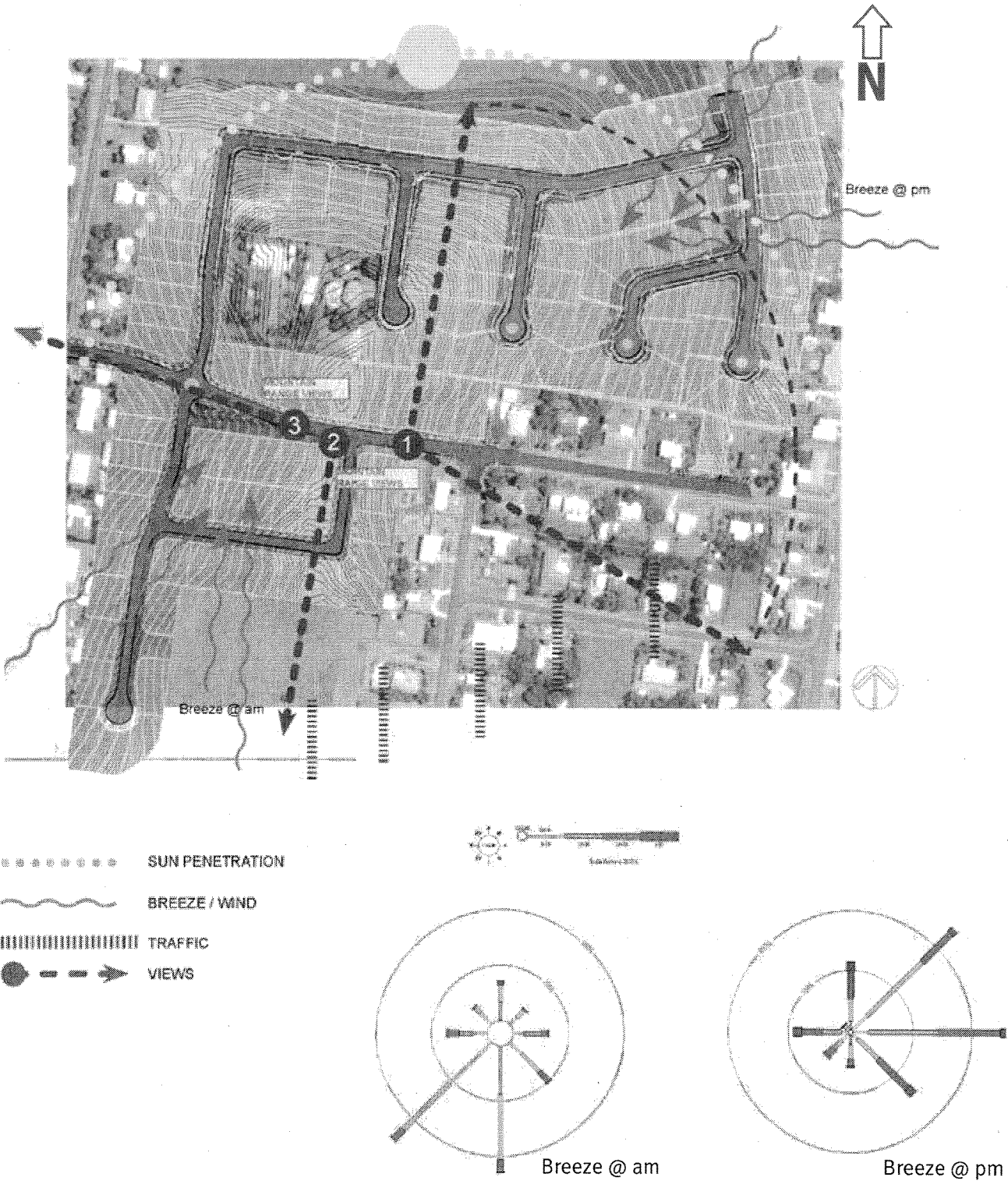
### GUIDELINES

- A minimum 1.5 metre deep verandah or pergola elements is required to the front facade of all houses
- The verandah or pergola is to be a minimum of 50% of the width of the front facade
- Connection between the internal and external living spaces to the front verandah is encouraged



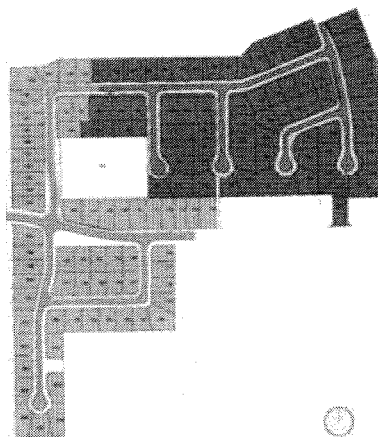
# Supplementary item 6

## Environmental considerations



# Supplementary item 7

## Subdivision plan

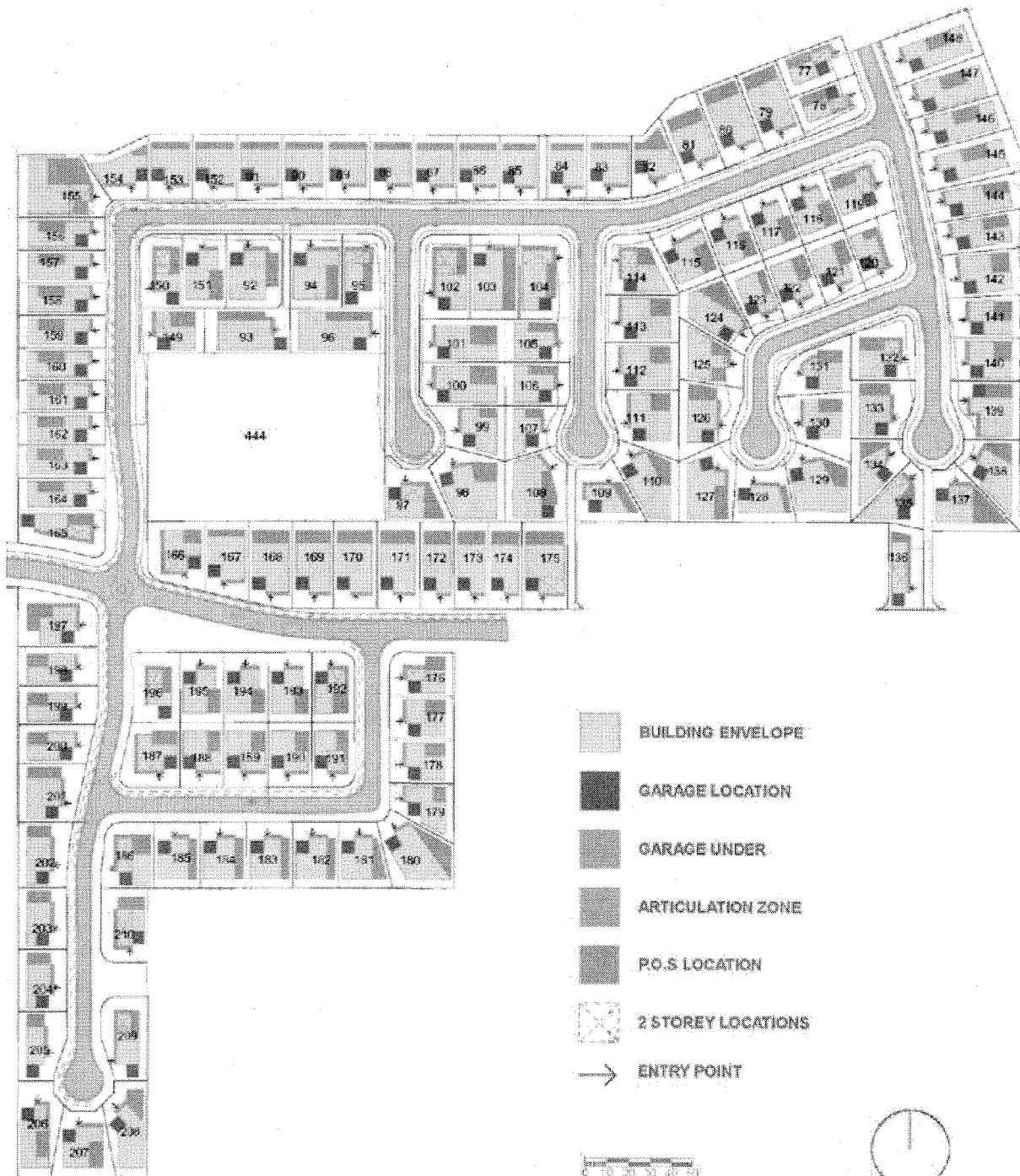


This subdivision plan shows both stages 2 and 3 of the development. This submission refers only to the 72 lots in stage 2.

-  Stage 2
-  Stage 3

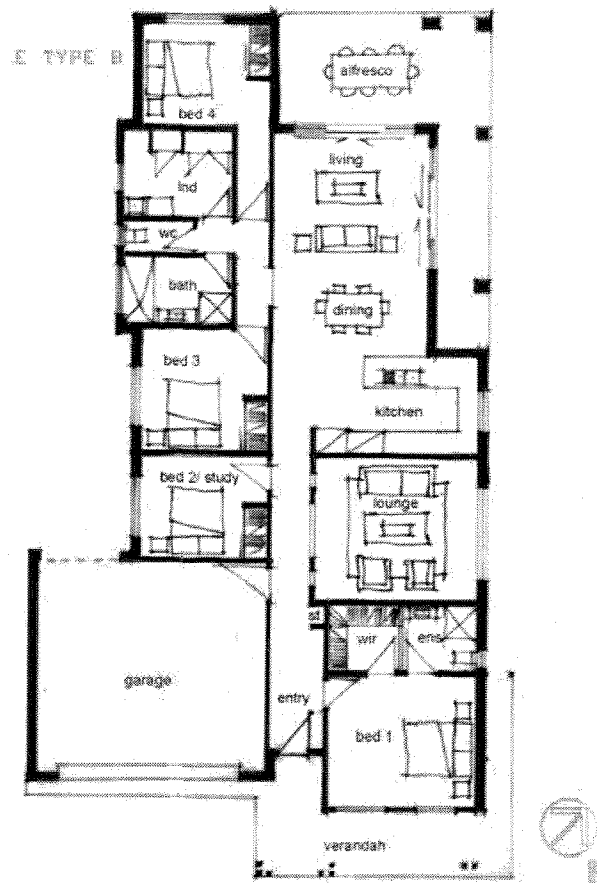
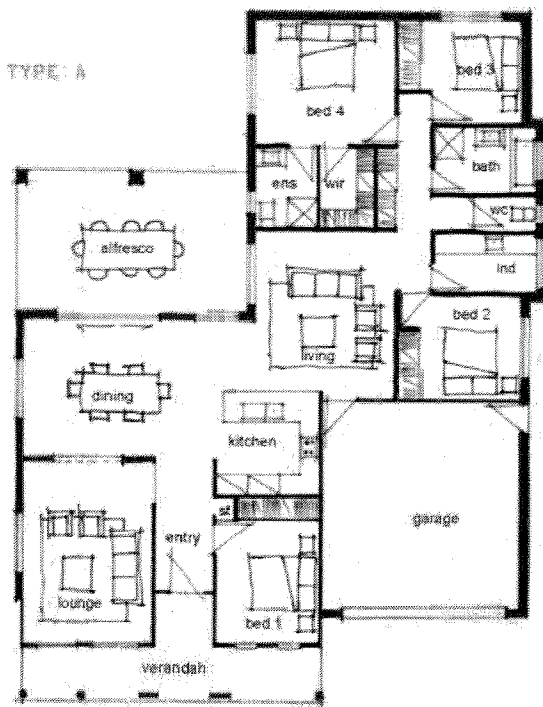
# Supplementary item 8

## Building orientation plan



# Supplementary item 9

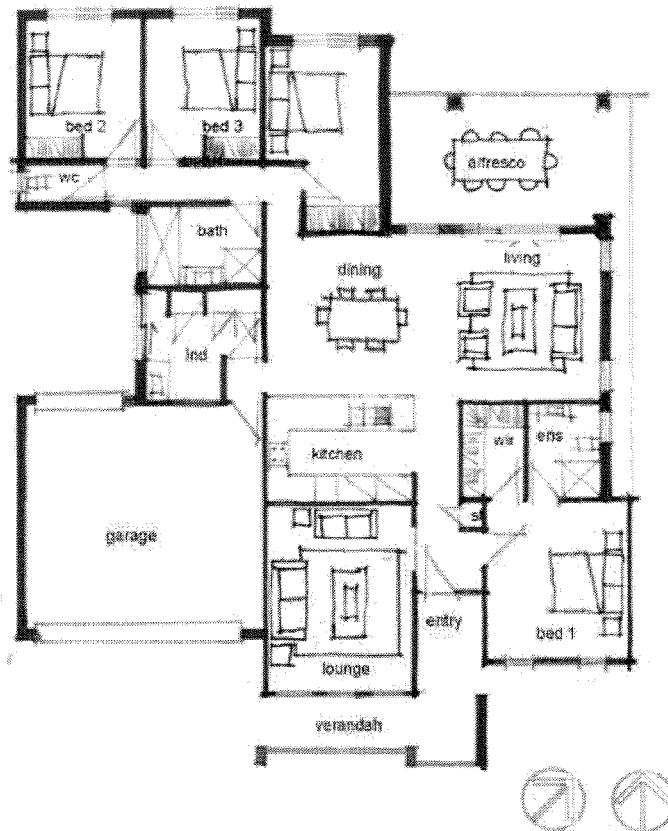
## Typical home layouts (house type A & B)





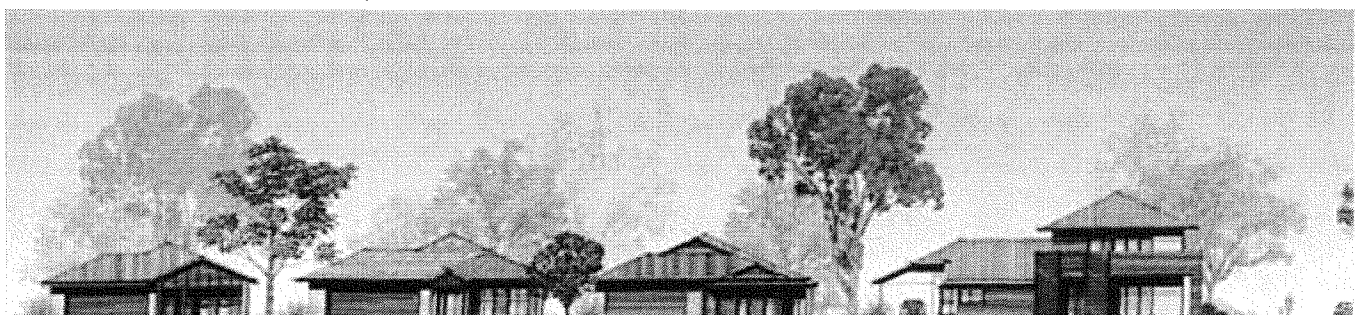
## Supplementary item 9

### Typical home layouts (house type C)



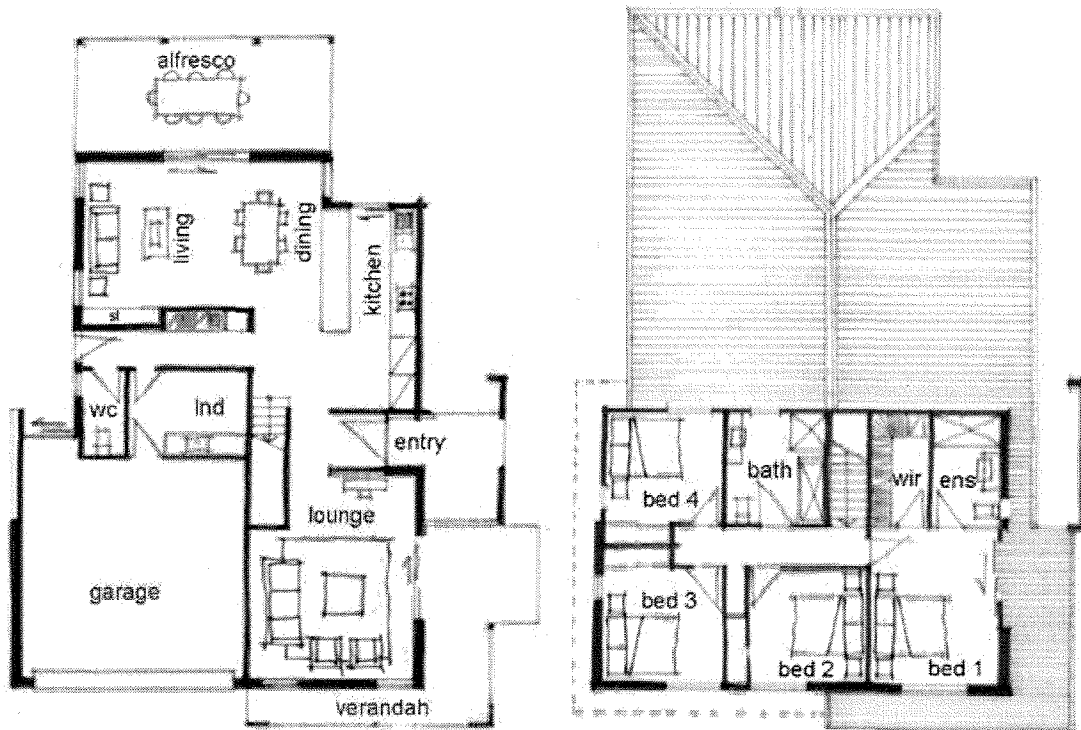
## Supplementary item 9

### Typical home layouts (house type D & D2 narrow)



## Supplementary item 9

### Typical home layouts (house type E)



## Supplementary item 10

### DHA Performance and design requirements version 2

# PERFORMANCE AND DESIGN REQUIREMENTS

## FOR CONSTRUCTION OF DHA SERVICE RESIDENCES

Version 2: January 2009

VERSION	RELEASE DATE	NOTES
Version 1.1	October 2007	Original
Version 2	January 2009	Corrections and revisions

## DOCUMENT EXPLAINED

This document is a nationally applicable Defence Housing Australia (DHA) Guideline for construction of service residences (SRs) in standard (low) and medium density developments.

An SR includes all works as necessary to provide a completed house and is inclusive of its interior, exterior and landscape works on the land (block/lot/site).

The purpose of this document is to present the DHA performance expectations and specific requirements. This document does not specify how to do the work or describe the base building requirements that are already expected as part of the industry standards.

*This Guideline does not address project specific requirements, which are addressed in Tender documentation.*

Throughout the document the reference to 'builders' means the business entity, including any sub-contracted business entities, that may be either tendering for, or contracted to, DHA.

### **Part 1 – Introduction**

This section provides general information to builders.

### **Part 2 – Design Guidance and Expectations**

This section provides guidance on the expectations of DHA builders in the provision of the desired quality, consistency, sustainability, amenity and appeal of the SR.

The SR is to be designed and constructed to provide:

- contemporary, sustainable living with a high level of amenity for the family; as well as
- enhancement of the quality of the social and physical environment of the street and the neighbourhood; and be
- robust and well constructed.

It is expected that all design and construction will be to the current industry standard or above, and the use of design professionals is encouraged.

Illustrations show examples of design features or qualities desired by DHA.

### **Part 3 – Requirements Schedules**

This section provides the specific DHA mandatory requirements and inclusions, in a format that reflects those in the Tender documents for builder nominations.

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## DHA PERFORMANCE AND DESIGN REQUIREMENTS

## PART 1 INTRODUCTION

### 1.1 Standards

It is the responsibility of builders to apply the applicable requirements and standards from authorities, national, state or local, and industry best practices as and where necessary, to the design and construction of all the components of the SR.

Therefore it is expected that all designs and construction activities will comply with, but are not limited to, the requirements of:

- Building Code of Australia (BCA) and the Deemed to Satisfy provisions;
- Australian Standards (AS and ASNZ) relevant to the work;
- State or Territory, Local Authority and Statutory Requirements;
- Dwelling Building Certifications Fund, owners and builders contributions;
- Utility companies – power, water, gas, telecommunications; and
- Specific estate design guidelines and covenants.

### 1.2 Commencement

All preliminary tasks, such as site works and provision of temporary power or water, are to be undertaken without additional costs to DHA, as the builder is expected to be familiar with the site conditions at time of tendering.

The depth and extent of all site works is to be sufficient to prepare the house and driveway 'platform' to suit the site's geotechnical conditions and consequent design. Excess earthworks are to be avoided.

The builder is expected to strip and stockpile, for later re-use, the existing site topsoil as part of the site works and remove vegetation prior to both earthworks and prior to re-use.

Following execution of site works it is expected, and required unless otherwise agreed by DHA and local authorities, that all access to the site for all construction works will be restricted to the location of the driveway.

Prior to construction commencement, the property (work site) is to be temporary fenced for local Authority and occupational health & safety requirements. The expected minimum fence is 1.8m height portable chain mesh panels with weighted base supports. The work site is to be securely locked at all times when workers are not present. All activity and all materials storage are to be within the fenced area.

Temporary fences are to include the adjacent public land (verges) except where they have been developed (paths and landscape works) or they are required for public access.



## DHA PERFORMANCE AND DESIGN REQUIREMENTS

## PART 1 INTRODUCTION

### 1.3 Restoration of Existing Conditions

It is the responsibility of the builder to record the existing condition of the land surrounding the site (dilapidation report). DHA requires that an electronic copy of this record be provided to the DHA Project Manager at or before the project 'start-up' meeting.

The builder is expected to not disturb or damage any land outside the block boundaries. In the event of damage, DHA expects and requires full restoration of public land or private adjacent to the site, prior to Practical Completion.

For example grass or street trees that are damaged are to be replaced with the same species at the same sizes/maturity and maintained for the full 4 week establishment period. Where pavements are damaged, the relevant sections are to be removed and replaced to match surrounds.

All such works are to be in accord with local Authority requirements. There is no payment or reimbursement by DHA for temporary protective fencing or for any restoration works, other than as included in the Tender.

### 1.4 Completion

The builder is required to confirm with DHA two weeks in advance, of the date for Practical Completion. Prior to this date, the builder and a representative of DHA will undertake a preliminary defects inspection and any defects found are to be rectified prior to the date for Practical Completion.

At the agreed date for Practical Completion, DHA will undertake another Inspection and if the SR is fully complete and compliant, this will be the date of Practical Completion Certification. At the Inspection the builder is required to provide to DHA:

- a folder with all requisite warranties filled in, certificates, keys and manuals as well as the Certificate of Occupancy (or equal) and the telephone number;
- cleaned the house and site (inside and out) to a standard sufficient for tenants to move in (hotel clean);
- all temporary fencing is removed, and
- any verge restoration (if required) completed.

From the date of Practical Completion the Landscape Establishment period of four (4) weeks commences. The works covered by this period are described in the Landscape section.

The date for Final Completion of the contract follows the <sup>1</sup>Defects Liability Period. This Period applies to all non Landscape works and commences from the date of Practical Completion. Prior to this date, a Final Inspection will be arranged by DHA with the builder to identify and arrange rectification of any defects.

Within the Defects Liability Period, DHA will advise the builder of defects identified by the tenant as they arise. Defects affecting health, safety or security are to be addressed within 24 hours (1 day) and all others within 14 days.

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<sup>1</sup> Defects Liability Period is 26 weeks except in the Northern Territory where it is 52 weeks.

## DHA PERFORMANCE AND DESIGN REQUIREMENTS

## PART 2 GUIDANCE AND EXPECTATIONS

Sustainable design is a holistic approach that aims to improve the quality of life both now and into the future and which encompasses environmental, social and economic issues. DHA expects that all aspects of the house and landscape on the block will contribute to creating SRs that can be considered examples of sustainable design.

### 2.1 Energy

DHA expects that all elements of the design and construction (siting, structure, interiors and landscape) will be integrated and suited to the site's specific microclimate to ensure thermal comfort and minimise the need for active heating and cooling.

All SRs are to achieve a minimum 5 star Energy Efficiency Rating (EER) as certified by an independent accredited assessor, using NatHERS or other equivalent method (e.g. state systems such as BERS), or BCA Deemed to Satisfy Provisions.

A range of measures are expected to be included in the design and construction to meet this rating, these are outlined below.

#### 2.1.1 Insulation

Insulation as 'batts' and or 'blankets' is expected to be correctly placed to be effective in achieving intended R ratings in walls, under roofs and in ceiling cavities as well as floor slab and or sub-floor spaces.

South of the Tropic of Capricorn, DHA expect the elimination of draughts to be achieved throughout, with good building practise and with applied measures as necessary to all external openings throughout the house and to the garage door with direct access to the house.

#### 2.1.2 Thermal mass

South of the Tropic of Capricorn DHA expect some areas of floors and or walls to have materials to act as thermal 'banks' to provide thermal stability and re-radiate solar energy in the cooler months.

#### 2.1.3 Shade

Shading of the house is expected to be sufficient to inhibit heat gain from solar penetration in hot seasons and the tropics. The extent of shade required varies with latitude. Measures expected are to include variable eaves widths, individual window shades, pergolas, trees and other landscape treatments.



## DHA PERFORMANCE AND DESIGN REQUIREMENTS

### PART 2 GUIDANCE AND EXPECTATIONS

#### 2.1.4 Light

The SR is expected to have high levels of daylight in the house, with no rooms requiring artificial light during the day. If necessary, glazing should be supplemented with 'skytubes' or 'skylights' (with warranties).

The layout, type and number of light fittings are expected to be fit for purpose to suit:

- the sizes and functions of the rooms, with
- minimal energy use through installation of only low <sup>2</sup>Watt light fittings and
- separate switches for task lighting.

#### 2.1.5 Ventilation

Natural cross ventilation is expected to be achieved through the design of internal spaces and the placement of screened external doors and windows to capture prevailing breezes. This is critical in locations north of the Tropic of Capricorn, where louvers with integrated security and insect screen are expected (at least partially).

#### 2.2 Water

The design features of the SR are expected to reduce the need for consumption of potable water and facilitate rain to soak into the ground wherever possible.

All internal water fittings and fixtures are expected to be WELS (AAA) rated to comply with the relevant state and local Authority requirements and the BCA.

Irrigation is not to be included in SRs unless required by local covenants or Regional Requirements, refer clause on Irrigation.

Hosecocks to be provided to each yard area connected to water tanks, or potable mains supply.

Where required by local Authorities, water tanks are to be installed to capture roof rainwater runoff, located in the back yard and screened from view. Fixtures and fittings associated with tanks are to meet all Authority approvals and include a tap at the base of the tank (upturned to facilitate hose fitting) and at least a first flush system to tank inlets; a submersible pump (Davey or equivalent quality) and a backflow prevention device to stop mains water flowing into tank.



<sup>2</sup> This applies across Australia, in accord with the national phasing out of incandescent light globes by 2010.

DHA PERFORMANCE AND DESIGN REQUIREMENTS  
PART 2 GUIDANCE AND EXPECTATIONS

## 2.3 House

### 2.3.1 General

Design considerations are important to DHA.

DHA expect houses to be designed to suit to the local climate, be contemporary in style and in keeping with the architectural expression in the locality. Timeless design and quality construction is important for the house to be saleable and have appeal for capital gain on future resale. SRs are to reflect contemporary good design that is suitable for the climate, responsive to the specific site, without use of faux, 'add-on' or 'period' features, and enhance the streetscape.

### 2.3.2 Orientation

DHA expects that the house will be oriented on the site to achieve:

- the most efficient and functional use of the site for provision of required internal and external spaces;
- external spaces are located to ensure amenity of spaces in both size and microclimatic conditions;
- minimal earthworks (cut and fill) and avoiding cut to exported spoil.

DHA expects that the house will be a passive solar design and minimise need for use of active heating and cooling systems through room layout and site specific measures that respond to latitude (climate) and microclimate. In particular, the SR will achieve the following:

#### ***South of Tropic of Capricorn***

- main daytime living areas oriented towards the north to allow maximum sunshine penetration in winter and summer shade (and the Covered Outdoor Area (COA) does not compromise this);
- western walls are shaded and west facing windows are avoided or shaded;
- private open space (POS) receives sun and/or shade as necessary for optimum use throughout the year.

#### ***North of Tropic of Capricorn***

- minimise sun into interiors and onto house walls with eaves, awnings and plants;
- maximise natural cross ventilation with design and placement of windows;
- ensure landscape treatments promote breezes into the house;
- private open space (POS) receives shade as necessary for optimum use throughout the year.



DHA PERFORMANCE AND DESIGN REQUIREMENTS  
 PART 2 GUIDANCE AND EXPECTATIONS

### 2.3.3 Streetscape

Residential amenity and property values increase with the quality of the streetscape. The qualities and characteristics of an existing neighbourhood and specific streetscape need to be understood and respected. The key streetscape elements to consider in creating the SR design are:

- building scale and mass suitable to the street and neighbourhood context;
- facades visually cohesive with diversity within itself and the street context;
- landscape setting dominant, not the pavements or the garage;
- trees to give shade and character, refer Landscape section.

### 2.3.4 Setbacks

Setbacks from property boundaries are to be in accordance with local Authority requirements as well as any estate guidelines. Placement of the house on the site should ensure:

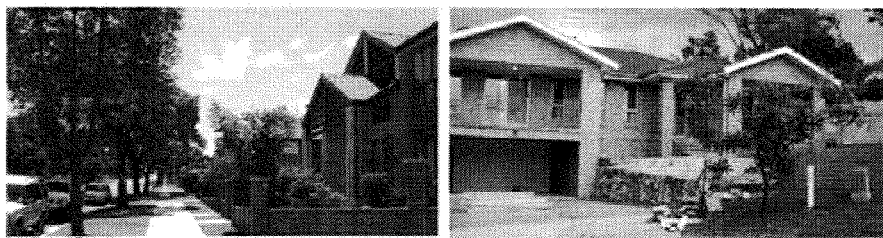
- harmony with existing street and locality setbacks;
- front entry forward of the garage (garage setback min. 5.5m from street property boundary);
- privacy and adequate size of outdoor living areas;
- solar access within the house and to outdoor living areas, with overshadowing of or by neighbouring development avoided where possible;
- root zones with sufficient space for trees in private open space and front yard.

### 2.3.5 Corner Blocks

Houses on corner blocks should address both street frontages with careful consideration to the treatment and use of fences and access to back yards. The side fences of a corner block are to be designed and located to ensure that there is maximum opportunity for passive surveillance of the public realm with the fence being no more than 40% of boundary length (or as per estate guidelines).

### 2.3.6 Views

It is expected that the internal spaces will take advantage of any views and vistas. The landscape is to enhance any existing views and create outlooks from each daytime living room.



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### 2.3.7 Existing Vegetation

Healthy existing trees on the block that have been retained as part of the estate development are to be retained wherever possible. Authority approvals and requirements for vegetation management are expected.

### 2.3.8 Colours and Materials

DHA expect houses to have variation in built form and diversity of exterior façade treatments with colours, textures and/or materials used to accentuate features and create visual interest. Articulation of the front (street) facade can be achieved through expressed structures, feature windows, shading elements, front verandahs and entry porches.

DHA require that:

- all external materials and finishes are durable, robust and well constructed and not requiring regular maintenance such as painting;
- roofs are pale colours; and
- no exact repetition of façade treatments on adjacent houses.

## 2.4 Interiors

### 2.4.1 General

The spatial arrangement of rooms and their fit-out, is to ensure ease of furniture removal, particularly for large items (beds) in double storey houses.

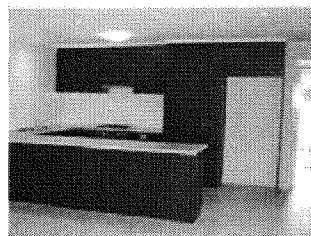
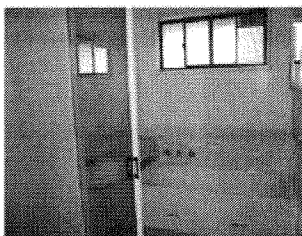
Interior design schemes are to be with materials and finishes that are robust to ensure reduced costs over the whole lifecycle of the house.

The pallet of interior colours, materials and finishes are to be contemporary and timeless in style with an emphasis on neutral tones to accommodate the furnishings of tenants. Excessive use of grey tones is to be avoided and at least two colours are expected for walls in each house.

DHA require use of low volatile organic compound (VOC) finishes and fittings, that is paints, carpets, adhesives and other construction materials that off-gas over time.

### 2.4.2 Wall and Floor Coverings

DHA expect walls to be painted and or tiled and floor finishes to be tile or carpet, though alternatives may be considered. Refer to Schedule of Inclusions and Regional Requirements.





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All paint systems to be domestic high quality, low VOC, selected to be fit for purpose (room type). Painted finishes are to be durable under normal wear and tear, be easy to clean with readily available low toxicity, household cleaning products and to last at least 8-10 years. All substrates are to be prepared in accordance to AS and manufacturer's specification prior to painting.

DHA require all floor coverings to be durable and selected as fit for purpose under normal wear and tear, be easy to clean with readily available low toxicity, household cleaning products and to last at least 10-15 years.

All carpets to be domestic heavy duty low VOC with recommended suitable underlay. Selected wall and floor tiles to be generally ceramic and non-porous, with low VOC adhesives and grouts and not requiring application of sealants.

#### 2.4.3 Fixtures and Fittings

DHA require that the fit-out includes the fixtures and fittings ready for immediate occupation, this means provision and full installation of all:

- Powered items - heating and cooling systems; lights including bulbs, shades and covers; ceiling and exhaust fans; front door chime; appliances.
- Joinery and plumbing - wardrobes and drawers; kitchen, laundry and bathroom cupboards and vanities; HWS and plumbing with all tapware.
- Fit-out - window coverings; rails, handles and knobs; locks; mirrors.

All materials to be selected as fit for purpose under normal wear and tear to last at least 10-15 years. Refer to Schedule of Inclusions and Regional Requirements.

#### 2.4.4 Window Coverings

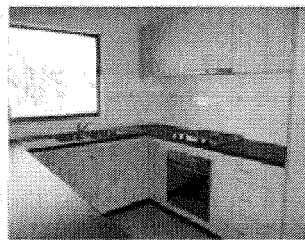
DHA require all opening and fixed glazing (windows and glazed external doors) to have coverings for privacy and light control, with maximum light block preferred for bedrooms.

If obscure glass is used then coverings are not required except in ensuite and bathroom. DHA expects all coverings to be neutral shades and generally installed within the window reveals.

#### 2.4.5 Heating and Cooling

DHA's requirements for active (powered) heating and cooling systems vary around Australia, refer to Regional Requirements. All systems to be a minimum 5 star energy rated and all ducted systems to have isolation of rooms with dampers (closing of vents). In two storey houses DHA expects the use of doors to close off downstairs areas from stairwells and upper floors.

All products and systems are to be selected to be robust, with minimum 5 year warranties, and have maintenance service (call out) available in that location. The expected types of systems are outlined below.



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### **Electrically Powered**

- o reverse cycle heating and cooling as a ducted system to whole house or as a split system with mounting on internal walls;
- o ducted evaporative cooling to whole house or nominated rooms;
- o ducted air conditioning (cooling) to whole house or nominated rooms;

### **Gas Powered**

- o ducted gas heating, to whole house or nominated rooms; only applies where gas is reticulated;
- o gas heating with bayonet connections in nominated rooms and 1 portable appliance provided, only applies where gas is reticulated.

If mechanical units are located within the roof space, DHA expects provision of light(s) (suitably switched) and a suitable platform/ walkway for ease of maintenance.

If units are located externally they are to be collocated and placed to minimise auditory and visual disruption to the household and neighbours. Where placement is in constructed housing or within wing walls, the location of units and any enclosure is to be part of house documentation.

## **2.5 Exteriors**

### **2.5.1 Covered Outdoor Area**

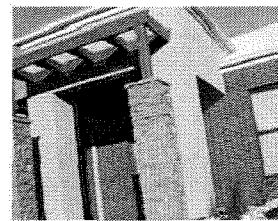
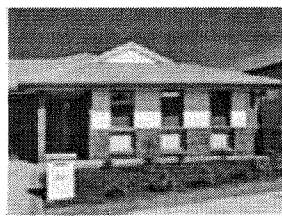
Covered Outdoor Area (COA) is a mandatory external living space that is hard surfaced and 'roofed' to provide cover from direct precipitation and sunshine, that is easily accessible from, and in close proximity to, the main daytime indoor living areas.

It is expected to be integrated with the house design, and approved as part of the dwelling with the energy rating assessment. COA design and materials are to ensure:

- o sunlight (light and heat) is not obscured from interiors;
- o design / ventilation prevents heat build up under roofing;
- o roof plumbing is addressed if required;
- o lighting is adequate for cooking and dining;
- o finished surface pavement is impermeable with 1% slope away from the house (minimum standard is in-situ concrete with light broom finish).

### **2.5.2 Letter Box**

DHA expects the letterbox to suit the character of house, enhance the streetscape and where possible conceal services. DHA requires the letterbox to meet the following:





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- designed and sited to meet requirements of Australia Post, (located on the street address side of the house and just inside property boundary);
- sturdy with integrated lock (not additional padlock) and have large metal number(s) fixed to street face; and
- directly accessible on pavements from the front door and or driveway.

#### 2.5.3 Clothes Line

DHA requires that the route from the laundry door to the clothesline be paved, as well as an area under the line, refer clause on Pedestrian Pavements. All clothes lines to have a minimum of 33 lineal metres of hanging space, rotary hoist type preferred.

Ensure the clothes line receives sunlight for most of the day, is not visible from the street and is near to the laundry door. Clothes line to have minimum 1 metre clearance to any obstruction.

#### 2.5.4 Fences and Gates

##### *Location and Dimensions*

DHA expects securing of a back yard with fences, with access via gates to meet the following requirements, unless otherwise nominated in estate guidelines:

- minimum one pedestrian gate, others sized for vehicles where practicable;
- all gates constructed to swing open to 180 degrees or where site factors prohibit this, a minimum of 90 degrees;
- no side fence forward of the wing fences, or the front building line (refer clause on Corner Blocks);
- wing fences and gates located behind meter boxes;
- completed height 1.8m maximum (1.5m minimum) when measured from the adjacent finished ground levels;
- fence provides visual privacy and does not adversely impact solar access to adjacent houses;
- base of the fence clear of ground surfaces, including mulch materials, for its entire extent, with a bottom gap 25mm  $\pm$  10mm.

DHA expect that the visual impact of fences will be ameliorated with plants in beds beside fences.

##### *Materials*

DHA expects fences and gates to be designed and constructed to last at least 15 -20 years with materials as per local conditions and practises. Timber and transparent metal materials preferred. Sheet metal fences not preferred unless nominated in estate guidelines.



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DHA expects paling timbers will be seasoned hardwood, sourced from sustainable forests from regional suppliers (to minimise transport distances). Treated softwood may be acceptable, but not if treated with copper chrome arsenate (CCA).

Generally metal components are to be galvanised and or powder coated e.g. steel posts, bracket fittings and nails.

Posts and stays to have concrete footings designed to suit site specific conditions and functional requirements.

**2.5.5 Driveways**

DHA expect driveways to be impermeable pavements constructed from unit pavers or reinforced, uncoloured concrete, unless otherwise required in specific estate guidelines or local Authority regulations.

DHA requires the wearing surface to be over a base course and sub base materials, designed, constructed and certified by a structural engineer, to suit site specific soil conditions, with gradients and vertical curves to AS 1890.

Size of driveway to be the minimum area to enable safe access to the garage door(s) and to accommodate 1 car parked on the driveway within the block.

Where relevant, the driveway is to stop at the property boundary so that the public footpath is continuous and not cut by the driveway. Vehicular access over the verge to the kerb crossing, if installed as part of the building contract, is to match the driveway and /or any local Authority requirements.

Where the driveway slopes towards the garage, a grated strip drain connected to the stormwater system is required across the full garage opening.

**2.5.6 Slopes and Levels**

DHA expects that levels of the house and adjacent landscape surfaces are designed to ensure that the house is not inundated in normal rain or storm events and that:

- o garage FFL slopes from back to front (street) with a fall of 1:100 (1%); and
- o external pavements and edge strips to have a tolerance of ±6mm, and all other external surfaces to have a tolerance of ±12mm.

DHA expects sloping blocks to be terraced with split level or two storey houses and with associated retaining walls and steps.

DHA expects all external spaces / surfaces will meet the following different gradients:

- o Private Open Space - 1:8 maximum to 1:50 minimum;
- o grass (other than in POS) - 1:6 maximum;
- o plant (garden) beds - 1:4 maximum to 1:100 minimum;
- o pavements (pedestrian) - 1:6 maximum (short runs only) 1:100 minimum with crossfall 1:33 maximum.





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### 2.5.7 Retaining Walls

DHA expects retaining walls will be included if required to ensure functional outdoor spaces that meet the above maximum slopes. DHA expects retaining walls to be up to 1 metre high with robust materials to last at least 20 years. Walls over 1.0m height are to be certified by structural engineers and are to have integrated safety barriers.

Retaining wall materials are to suit the house in colours and finishes, masonry is preferred. However, use of natural stone (rocks) to form retaining walls is permitted where it is locally sourced and not harvested from bushland. Use in plant beds of "mossy" or "bush" rocks, where they are not a retaining wall, are not permitted.

Steps are to have riser heights between 90-180mm, treads between 250 and 450mm with a maximum 6 risers per flight, preferred 150mm rise x 300 tread.

DHA requires all retaining walls to have a drainage system connected to the piped SW system including agricultural drains and granular backfill material. Use of geotextile is expected, depending upon wall design and soil types.

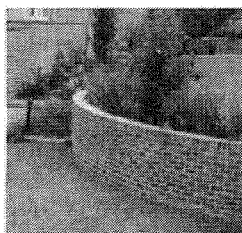
### 2.5.8 Stormwater and Drainage

DHA expects that the treatment of stormwater within the block will be consciously designed to suit the climate, soils and local Authority requirements. Excess stormwater runoff must not be directed onto adjoining properties.

DHA requires that prior to connection to the public stormwater system, roof rainwater will be used to both water the garden beds and lawns, and permit recharge of the site's ground water. This is to be achieved through grading and shaping of the block and use of water tanks.

DHA requires that surface flows are diverted away from the house and off paved areas onto garden beds and lawn areas. On site temporary ponding is acceptable where it is a deliberate temporary detention area with suitable disposal of overflow stormwater. Refer to clause Ground Preparation.

Stormwater systems, soakage drains, grated pits and pipes are expected to be adequately sized for purpose and local conditions.



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### 2.5.9 Pedestrian Pavements

DHA expects that the external surface treatments will minimise impermeable pavements that generate stormwater runoff and maximise permeable surfaces to facilitate water retention and absorption on the site.

DHA requires an all weather pedestrian access route around the house with a minimum 800mm width clear of obstructions. This does not need to be a concrete path and may be a combination of impermeable with permeable and or semi-permeable pavements. This is to facilitate access to utilities and for routine house maintenance.

Impermeable pavements are required for:

- pedestrian access linking front entry to driveway and letterbox;
- under and surrounding HWS, water tanks, and other utilities;
- access from the laundry to the clothesline (a path to the clothes line as a continuous pavement with no steps).

Other pavement is required under the clothes line. This is to be level, continuous and suitable for use of a wheeled clothes trolley. The extent of the area to be paved varies with the type of line and is to be sufficient to access the lines. DHA expects that a path to a rotary hoist would extend 300mm beyond the post and extended and wall attached lines would have pavements extending a minimum 600mm beyond the lines.

Where in-situ concrete is used as an pedestrian pavement, the expected minimum standard, unless otherwise specified by the certifying structural engineer, is: uncoloured, 100mm thick, 25 MPa reinforced with SL72 mesh laid over appropriate base course and compacted sub-base, with a light broom finish.

### 2.5.10 Irrigation

DHA expects irrigation systems will be installed only in locations where required in schedule of Regional Requirements or to meet estate requirements.

DHA expects all irrigation systems to be designed by a suitably qualified practitioner to satisfy all local Authority water saving requirements and approvals processes.

Irrigation materials and component parts are to be low maintenance and robust for a life of at least 8-10 years. Systems are to be designed to be simple to operate, minimise water use, suit the plant species and type / sources of water.

Irrigation is to be pop-up for lawn areas and flexible dripper systems under mulch to plant beds. A single controller box is to be located in a secured area, with a minimum of 4 programmable stations with a manual override.



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 PART 2 GUIDANCE AND EXPECTATIONS

## 2.6 Landscape

### 2.6.1 General

DHA requires the landscape design documents be prepared by a qualified landscape designer with current membership of the relevant state and or national Association.

The construction of the landscape works is to be undertaken to meet industry standards by a landscape contractor with current membership of the relevant state and or national Association.

### 2.6.2 Spaces

DHA expects that each property will have front (unsecured) and back (secured) yards to accommodate a range of functions.

#### *Private Open Space*

DHA requires a private open space (POS) to be provided, usually in the back yard. This visually and physically secured area is to contain the children's play area and may have lawn, plant beds, pavements and retaining walls, but is exclusive of utility items and the COA.

#### *Utility Items*

DHA requires that the design of the external spaces will provide for storage of utility items such as sheds, bins, clothes lines, hot water service (HWS) and water tanks. Utilities are to be visually screened, using vegetation and or built screens, from the COA, POS and adjacent public land. The use of pavements is expected under utilities.

### 2.6.3 Qualities

#### *Place Appropriate*

Landscape design style, plant species selection and planting density are to reflect the particular place and its microclimate, as well as compliment the architectural style of the house.

#### *Amenity*

DHA expects that plants will be used as a visual screen to enhance privacy, and reduce over-looking into adjoining properties, and for shelter in and around the house. In addition, trees for shade (deciduous in southern areas) are expected where there are large expanses of pavements e.g. driveway, western house walls and particularly to the POS and children's play areas.

In addition, the landscape is to provide streetscape appeal and attractive vistas from daytime living rooms, this means screening to service areas and fences.



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DHA expects the design will ensure clear lines of sight from the house entry to the street to promote passive surveillance of the neighbourhood.

#### ***Water Sensitive (Xeriscape) Design***

DHA expects the design will assist in reduction of demand for potable water use, that is a xeriscape design (needs little to no water in addition to rainfall).

In areas that traditionally may have been lawn, but do not take frequent foot traffic, the mass planting of low height, spreading ground covers are appropriate to achieve this.

DHA expect all SRs to have grass lawns (20-60 sqm) in the POS as this is the most effective and suitable surface for children's play and recreation.

However, all lawn grass species are to be low water use cultivars suited to the climate. Where the climate of the locality requires watering of grass throughout any season of the year, then the area of lawn is to be minimised. In areas receiving sufficient reliable rainfall the extent of lawn is not constrained.

#### ***Low Maintenance***

DHA requires all areas, except for lawns and pavements, to be mulched plant beds.

Spacing of plants is to achieve a 'semi-mature look' after five years and 'established look' after 15 years. Plants that form hedges are to be spaced to suit the natural growth habits of the plant and not rely on frequent clipping or shaping to form the hedge.

Plants that have a short life, less than 10 years, are to be avoided or minimised. DHA expects that generally plant beds will not be placed against house walls and that there will be deep root zones (areas of unimpeded natural ground) for trees to grow.

Where irrigation is not provided, watering basins to all plants are expected to be constructed as part of planting operation. All watering basins are to hold 9-10 litres of water and have mulch placed in and over them to give a uniform finished surface treatment.

#### **2.6.4 Ground Preparation**

DHA requires that prior to undertaking any landscape works the block is to be appropriately prepared for the intended surface treatments. This means (at least) that prior to placement of soil additives or topsoil, all weeds are sprayed or removed and the ground is ripped to achieve de-compaction.

DHA expects that if necessary, soil analysis will be done to identify the measures for improvement of existing site soils. DHA expects that where there is insufficient quality or quantity of stockpiled site topsoil, planted and grassed areas will have imported topsoil placed to achieve required depths and that all site soils will be modified to ensure an optimum growing medium, by incorporation of additives and or imported topsoil in the planting beds/holes and lawn areas.





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### 2.6.5 Surface Treatments

#### **Grass**

DHA expects that turf will be used so that grass areas will be fully established on completion of the 4 weeks establishment period.

#### **Mulch**

Mulch is required to be placed as the finished surface treatment to all garden beds. Mulch serves to keep the soil temperature even, reduce moisture loss (evaporation) and inhibit weed growth.

Organic mulches are placed at 75mm depth and are to be certified as to type and being weed free from supplier. Inorganic mulches (washed gravel or pebbles) are placed at 50mm depth.

"Weed mat" or other geotextiles are not to be used under mulch materials in any planted areas. However where washed gravel is used as a permeable pavement the use of geotextile is permissible.

#### **Edge Strips**

Edge strips are required between lawn and plant beds, and lawn and gravel pavements.

DHA require all edge strips to be constructed to finish flush with surrounding surfaces and where adjacent to grass, are to serve as a mowing edge and inhibitor of grass crossing into adjacent areas.

DHA expect edge strips to be either masonry (in-situ concrete or unit pavers on a mortar bed) 75mm width x 100mm depth; or treated timber (not CCA treated) 50mm width x 75mm depth.

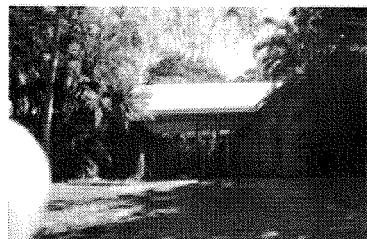
### 2.6.6 Plants

DHA requires a diversity of plants with different textures, scents, foliage and flowers to suit the local climate and the full range of plant types from 'ground to crown' (ground covers, shrubs and trees) used in each SR.

DHA require that in both front and back yards, in each plant type, a minimum of 50% of all species and all plant numbers, are to be native species. And, wherever possible, plants with edible parts (for humans) that are low maintenance are to be included.

DHA expect that plant species nominated on lists provided in estate or Council guidelines will be used and that plants that are highly toxic will be avoided.

DHA expects that the size of plants supplied and planted will reflect the plant type and local availability e.g. ground covers and small shrubs will be tube stock to 100mm diameter containers, large shrubs 100-200mm diameter containers and trees (and palms) 1-2m height out of the ground.



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PART 2 GUIDANCE AND EXPECTATIONS

**2.6.7 Establishment**

Following achievement of Practical Completion of the Landscape Works, the 4 weeks Establishment Period begins.

The Establishment Period is to allow for all living (plants and lawn) components to be established and all necessary operations to be undertaken to ensure the healthy and continued growth. In addition, DHA require the yard areas to be kept neat and tidy.

DHA expect that these works will include replacement of dead/dying plants or lawn as required, topdressing, weeding, staking, pruning and tying, mowing, fertilising and watering, all as relevant to the season.

Staking and tying of trees is expected but are generally to be removed at completion of Establishment Period.

Where 20% or more of all plants or lawn are replaced after two (2) weeks of the Establishment Period, the Period is to be extended by a further two (2) weeks. Extension of the Period is to continue until at least 80% of all plants and lawn areas have achieved a consecutive four (4) weeks of successful establishment and all have had at least two (2) weeks.

No additional payment is due for any extension of Establishment Period.

DHA require the Builder to supply and apply adequate water to plants and lawns, irrespective of availability from potable mains supply to the site, at their cost.





DHA PERFORMANCE AND DESIGN REQUIREMENTS

## PART 3 REQUIREMENTS

### 3.1 Spatial Definitions

The definitions of rooms, spaces or areas (names and what they mean in a DHA SR) are listed below.

BEDROOMS	
Bedroom 1 (man or master)	largest bedroom, with ensuite adjacent, with walk in robe (WIR) or built in robe (BIR)
Other Bedrooms	bedrooms numbered 2, 3, etc, with built in wardrobes (BIR) for clothing storage
LIVING	
Kitchen	separate room, can be open plan with Dining or with Meals
Meals	open plan area adjacent to Kitchen, can be a breakfast bar for minimum 3 people
Family (Living)	for informal family activities, usually open plan with meals area, separate from Dining and Lounge rooms
Dining	separate room, can be open plan with Kitchen and Lounge, to fit a table and seating, for at least 6 people, plus a sideboard
Lounge	separate room, can be open plan with Dining, to fit seating for at least 5 people, plus entertainment unit and coffee table
Entry	entry space from front door, usually with coat cupboard, may be separate room
Hallway	internal access and circulation space, usually where linen cupboard located
Study	separate room OR alcove, to fit a (computer) desk, chair and bookshelf
Rumpus (Games)	separate room, in addition to other living areas
WET AREAS	
Bathroom	separate room with bath and separate shower recess, hand wash basin in vanity unit, close to other bedrooms
Ensuite	separate room directly accessible from Bedroom 1, with toilet and shower recess, hand wash basin in vanity unit
Powder	separate room provided in 2 storey houses, on the other floor without the toilet and bathroom, with a toilet and wash basin
Toilet	separate room for toilet only adjacent to bathroom
Laundry	space for washing machine, tub, dryer and broom cupboard
STORAGE	
Garage	fully enclosed secure area for car parking, with natural light and ventilation
Carport	under cover area for car parking, may be secured, may be partially enclosed
Shed	waterproof storage required where carport is provided, located in back yard

Areas or rooms shaded grey are not to be heated or cooled with whole house systems (e.g. split system units, ducts).

DHA PERFORMANCE AND DESIGN REQUIREMENTS  
PART 3 REQUIREMENTS

OUTDOORS	
Front yard	unsecured area facing the address or side street(s), with main pedestrian and vehicular entries and driveway, with letterbox and plant beds
Back yard	areas secured behind fences and gates, with POS and COA, location for utilities, with plant beds
Private Open Space (POS)	contiguous area, secured behind fences, includes children's play area but excludes COA and utilities
Covered Outdoor Area (COA)	paved area accessible from daytime living areas, behind fences, adjacent to POS, to fit table and chairs for 4-6 people plus BBQ

### 3.2 Spatial Requirements

The rooms, areas and spaces or their components that have mandatory minimum sizes are listed below. The mandatory minimum measurements in any one dimension are in millimetres and areas are in square metres.

#### 3.2.1 Mandatory Spatial Requirements

NAMES	FUNCTIONS	DIMENSION	AREA
<b>BEDROOMS</b>			
Bedroom 1	to accommodate a queen size bed & side tables (size is exclusive of BIR or WIR)	3600	16
Other Bedrooms	to accommodate single bed & side table (size is exclusive of BIR)	2900	9
<b>LIVING</b>			
Kitchen	to accommodate appliances, benches with sink plus cupboards (under and over, separate pantry)	galley (floor) W 900	-
	refrigerator space clear of all obstructions e.g. skirtings	W 1100 x H 2100	-
<b>WET AREAS</b>			
ensuite	directly accessible from bedroom 1 only	1200	-
bathroom	close to other bedrooms	1800	-
<b>STORAGE</b>			
Linen *	adjustable shelving at 450 centres	W 1500 x H 2100 x D 500	-
Coal *	located in living areas preferably near front door with hanging rail plus shelf over at 1800 height	W 800 x H 2100 x D 600	-
Broom *	located in laundry	W 700 x H 2100 x D 600	-

\* The requirement for all three cupboards is supplanted by a Utility cupboard in medium density.

DHA PERFORMANCE AND DESIGN REQUIREMENTS  
PART 3 REQUIREMENTS

NAMES	FUNCTIONS	DIMENSION	AREA
Garage	1 car space (single)	3500	21
Garage	2 car space (double)	6000	36
Storage Unit	min. 4 shelves, heavy duty metal, fixed to wall	3000 W 900 x D 300	
Carport plus shed (Darwin only)	1 car space (single) 2 car space (double) lockable waterproof shed located in back yard	3500 6000	9m2
<b>OUTDOORS</b>			
Private open space (POS) ‡	measured from house wall to boundary line smaller in Sydney metro area.	2000	35
		2000	25
Covered Outdoor Area (COA) ‡	in locations south of Tropic Capricorn in locations north of Tropic of Capricorn	3000	15 20
Driveway	located between garage and street (or lane) min. length from garage door to property boundary	5500	-

‡ This requirement is different in medium density.

**3.2.2 Mandatory Spatial Requirements in Medium Density**

NAMES	FUNCTIONS	DIMENSION	AREA
<b>OUTDOORS medium density</b>			
Private open space (POS)	measured from house wall to boundary line	2000	25
Covered Outdoor Area (COA)	to fit table and chairs for 4 people plus BBQ	2500	10
<b>STORAGE medium density</b>			
Utility Cupboard	multiple uses (coats, brooms, poisonous goods)	W 800 x D 600	-

DHA PERFORMANCE AND DESIGN REQUIREMENTS

PART 3 REQUIREMENTS

**3.3 Schedule of Inclusions**

This Schedule lists the items and description of inclusions as required for the house, interior, exterior and landscape. Schedule items listed are the same as those in the Tender documents where builders nominate their inclusions.

Requirements that vary with regional locations are noted with **R**, refer section 3.4 for mandatory Regional Requirements. Brand names, listed in italics, are provided as a benchmark for standards in quality, warranty and or service provision. Products that are equivalent may be accepted.

**3.3.1 House**

ITEM	HOUSE REQUIREMENT
Termite treatment	A physical barrier system in addition to BCA requirements, compliant with relevant AS Liquid chemical treatments prohibited unless mandated by local Authority
Footings	Footing systems
Floors	Floor systems
Walls	Structure / frame system External Cladding Internal cladding Internal ceiling height (expected minimum 2400 or 2700 above Tropic of Capricorn)
Insulation	Insulating sheet materials and or batts (as required to achieve energy rating/ other local
Roof	Sheet metal <i>Colorbond</i> or equal OR Tile, only in light colours.
Fascias & gutters	Sheet metal <i>Colorbond</i> or equal, colour to coordinate with, or match, roof and or walls.
Downpipes	Sheet metal <i>Colorbond</i> or equal OR PVC, colour to coordinate with, or match, roof and or walls.
Eaves (Soffit) <b>R</b>	Eaves widths, to meet DHA shade expectations plus local Authority and estate requirements, materials, finishes and colour to coordinate with walls.
External Painting	External high quality domestic systems fit for purpose, low VOC, with primer/undercoat plus 2 coats walls - matt/ low sheen, doors/trim - gloss
Windows	Windows fixed and opening to have powder coated aluminium framed glazing. All opening windows to have insect screens to match Glazing - above Tropic of Capricorn to meet WERS 2 cooling stars Obscure glazing - to all washing areas, front door side panels, garage.
Window Security <b>R</b>	All opening windows to have EITHER security screens with powder coated aluminium frames and expanded aluminium mesh, OR locks (all keyed alike)
Louvre Windows	Above Tropic of Capricorn, windows can be louvre style with built in insect screen and security bars, louvre shutters can be considered in lieu of glazing.
External Doors	Solid core - fully painted on sides top and bottom + weather seals to underside + draft excluders to top and sides, (including door between garage / house) OR to rear yard(s) glazed sliding doors - powder coated aluminium frame, obscure glass to laundry
Security Doors	Combined security / insect screens to all external doors, including sliding doors and door into garage, with powder coated aluminium frames and expanded aluminium mesh

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ITEM	HOUSE REQUIREMENT
External Door Hardware	All hardware equal to Gainsborough with 10 year warranty Solid doors fitted with double cylinder deadlocks, all keyed alike Screen doors fitted with door closers, all locks keyed alike Sliding doors, latch and double cylinder deadlock OR patio bolt All doors with stops or hold open devices.
Garage	Fully enclosed and secured + natural ventilation and light + materials same as house + shelving fixed to a wall. Wall lining, if necessary, to be waterproof sheathing. Roller or panel lift doors – powder coated sheet metal, fully automated with 2 handsets, colour coordinated with and visually recessive to house walls and roof. Access doors from garage to back yard EITHER external door OR single roller door (not automated) Access door from garage to house external door and screen door.
Carport (Darwin only)	Attached to house and open and unsecured OR fully secured from street with roller doors All materials same as house OR house with roller doors as per garage
Shed (Darwin only)	Attached and integrated with carport, materials same as house OR Powder coated sheet metal, waterproof shed fixed to concrete slab floor, with access door + natural light through clear roof sheet panels, located in secured back yard.
External Lighting	Lights suitable for external use, with all components and switches, eaves or soffit mounted to provide adequate light levels to following minimum areas: 1x clothes line, 1x front door, 1x front entry pavement with sensor, 1x COA, 1x laundry door.
COA	Design and materials integrated with house + SW drainage + impermeable pavement.
Water tank(s)	Water tank(s) on concrete slab, as per Authority requirements for capacity and area of roof captured and house (dual) plumbing + backflow prevention, first flush diversion, submersible pump, GPO, taps to house exterior and 1 upturned stopcock at base of tank, sized to fit hose.
Other	Other inclusions for house

3.3.2 Interiors

ITEM	INTERIOR REQUIREMENT
Walls	Painted finish to plasterboard or water resistant fibre cement (FC) sheeting FC sheeting 6mm in all internal wet areas and lining to garage/carport walls On solid brick construction, rendered and set wall linings with paint systems
Paint System	Internal high quality domestic systems fit for purpose, low VOC, with primer/undercoat plus 2 coats: Ceilings – white, flat Walls – wash and wear low sheen Trims & architraves – gloss or semi gloss Doors – gloss or semi gloss (to sides, top & base) Wet areas (incl. ceilings) – wash and wear semi gloss
Doors	Swing doors hollow core. Sliding doors internal cavity sliders with jump proof roller track.
Door Hardware	All hardware equal to Gainsborough with 10 year warranty Passage sets to all internal doors (no ceramic or sharp pointed handles) Privacy sets to bathroom, toilet and ensuite and main bedroom All doors with stoppers or hold open devices.

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ITEM	INTERIOR REQUIREMENT
Wall Tiles	Kitchen splashback (from bench to underside of over head cupboards) – ceramic or glass tiles or stainless steel Ceramic wall tiles to all other wet areas Bathroom & ensuite - skirting 150mm and or wall 1200mm over bath, shower recess 2000mm Toilet - skirting 150mm Laundry - skirting 150mm over tub 450mm
Floor coverings S of Tropic Capricorn	Ceramic floor tiles to whole house EXCEPT carpet to bedrooms + separated Dining, Lounge Ceramic Tiles - non porous, non slip+ coloured sealant as necessary to joints with kickboards and skirtings + metal join strips to adjoining surfaces if levels are not flush Carpets to be low VOC heavy duty domestic with 5 year warranty Cavater Bremworth 'greenhuff Pique II' range or equal.
N of Tropic Capricorn	Ceramic floor tiles - non porous, non slip+ coloured sealant as necessary to joints with kickboards and skirtings + metal join strips to adjoining surfaces if levels are not flush.
Water proofing	Waterproofing - all wet areas, in accordance with BCA / AS, 10 year warranty on products and workmanship Nominate accredited waterproofing contractor for installation
Window Coverings	All external glazing (except side lights to front door) to have blinds in light, neutral colours for privacy and light control, mounted internal to window reveals where possible. EITHER vertical blinds – polyester, 100% block out, child safe chords and chainless bottom, with weights sewn into each blade OR concertina air cell blinds Luxaflex or equal. Wet areas - slim line (mini) venetians
Kitchen Joinery	Maximise storage and bench space, include cupboards overhead and under bench, 1 x pots drawer, 3 x cutlery, bulkhead to overhead cupboards. Separate pantry (cupboard) in or immediately adjacent to kitchen cavities - with power points and vents for dishwasher, microwave (over bench), refrigerator. Benchtops – minimum standard laminate with edges pencil round or post formed Cupboard doors and drawers – minimum standard laminate with rigid thermoplastic (ABS) 1-2mm edge.
Kitchen Appliances	Appliances Westinghouse or equal with 5 year warranty. Cooktop - 4x positions, mandatory gas where recirculated, overhead, rangehood with exhaust fan and light that is directly externally vented. Electric oven with integrated grill - 60 L capacity, fan forced with timer OR separate grill.
Kitchen Plumbing	Tapware – 3 star WELS rating and Dorf or equal with 3 year warranty Sink - stainless steel 1200 nominal length, one and half bowls, single side drainer, plug, single flick mixer tap. Cold water connection to dishwasher, include capped perforations to carcass panel to facilitate
Laundry Joinery and Plumbing	Tapware – 3 star WELS rating and Dorf or equal with 3 year warranty, swivel spout, separate hot and cold water outlets to wash tub and separate connections for washing machine. Wash tub in a cabinet – 70 L (or 45L medium density) capacity, washing machine by-pass drain, plug Dryer support board, W 800mm x H 800mm x D 19mm, high moisture resistant board sheeting screw fixed to wall, painted to match wall. Broom cupboard - built in. Floor graded to floor waste with grate to meet local Authority requirements

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ITEM	INTERIOR REQUIREMENT
Bathroom Joinery and Plumbing	<p>Tapware – all 3 star WELS rating and Dorf or equal with 3 year warranty</p> <p>Ventilation - natural plus 1x exhaust fan to meet state standards (DXL Tastic heating not permitted).</p> <p>Light - natural plus artificial light(s) sufficient for functions.</p> <p>Bath – min. 1500mm long with soap holder/recess</p> <p>Shower - separate recess min. 900 x 900mm, with soap holder/recess, screen frame chrome / powder coated metal, pivot door</p> <p>Vanity unit - nominal 1200 length, with hand basin with plug, drawers and storage cupboards under (vanity unit with integrated basin is acceptable), high moisture resistant sheeting/materials</p> <p>Mirror – placed above vanity, sized to be full width vanity and height aligned with top of shower screen</p> <p>Towel rail(s) – double chrome / powder coated metal min. 900mm length (to fit 2 large towels)</p>
Ensuite	All inclusions as for bathroom EXCEPT no bath, toilet in room, vanity nominal 900mm length.
Separate Toilet (WC)	<p>Single storey houses toilet separate from bathroom, 2 storey houses have toilet with powder room (located on floor without toilet and bathroom)</p> <p>Ventilation – natural plus 1x exhaust fan to meet state standards (DXL Tastic heating not permitted).</p> <p>Light – natural plus artificial light(s) sufficient for functions</p> <p>Toilet – dual flush 6/3L cistern Dorf or equal with 3 year warranty</p> <p>Toilet roll holder – chrome / powder coated metal to match bathroom fittings.</p>
Powder Room	<p>Tapware – all 3 star WELS rating and Dorf or equal with 3 year warranty</p> <p>Hand basin with plug, mirror over (vanity unit with integrated basin is acceptable)</p> <p>Ventilation – natural plus 1x exhaust fan to meet state standards (DXL Tastic heating not permitted).</p> <p>Light – natural plus artificial light(s) sufficient for functions.</p> <p>Toilet – dual flush 6/3L cistern Dorf or equal with 3 year warranty</p> <p>Towel ring and toilet roll holder – chrome / powder coated metal</p>
Bedroom 1 Fit-out	Wardrobe built-in (BIR) OR walk-in (WIR) either with swing or sliding doors with the following inclusions: hanging W 600 x L 3000 min. full height and clear of all obstructions, with shelf over head, plus 2 x 4 drawer units located in wardrobe 1 x mirror min. W400 x H1200 located in room.
Other Bedroom Fit-out	Wardrobe built-in (BIR) with sliding doors, hanging W 600 x L 1500 min. full height and dimensions clear of all obstructions, with shelf over head, plus 1 x 4 drawer units.
HWS	<p>Hot water system (HWS) unit Rheem or Dux or equal.</p> <p>Instantaneous gas – 26L / minute with integrated cover (locations with reticulated gas) OR</p> <p>Gas – solar hybrid storage 180L (locations with reticulated gas) OR</p> <p>Solar – gas booster storage 300L (locations with reticulated gas) OR</p> <p>Solar – electric booster storage 300L (in areas without reticulated gas) OR</p> <p>Solar – heat pump, storage 250L.</p>
Electrical – lighting and fans	<p>All fixtures, fittings, levels of illumination and colour rendering to be fit for purpose for the size and function(s) of the room with low Watt fast response time globes.</p> <p>Provide two-way switching where appropriate (hallways and living areas).</p> <p>Use only down lights (2 x) where ceiling fans to be installed (to avoid strobe effect).</p> <p>All ceiling fans to have switch for up or down draft and variable speed control.</p>

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ITEM	INTERIOR REQUIREMENT
Electrical – power outlets	General purpose outlets (GPO) to be installed a min. of 1 per room or as listed below. Living – kitchen x3 plus kitchen island bench x1, dining x1, lounge x3, entry x1, hall x1, study x2, meals x1, rumpus x2, family x2. Bedrooms – main bedroom x3, other bedrooms x2. Wet Areas – Bathroom x1, Ensuite x1, Laundry x2, Powder room x1 External – weather proof, COA x1, water tank x1. All GPOs to be double, except appliances hardwired or requiring a dedicated GPO, including
Electrical Comm's	Provide all electrical works necessary for installation by certified installer. Telephone – builder to connect telephone and pay all fees associated with connection, and minimum 3 phone outlets, provided adjacent to GPOs, to Kitchen, Bedroom 1, Study or Bedroom 4 Television – minimum 3 outlets provided adjacent to GPOs in Lounge, Bedroom 1, Family, located to suit indicative furniture layout. TV aerial (antennae) – installed and located to achieve good quality reception for all free air TV stations to suit both analogue and digital reception (gutter mounted aerials not permitted). Front Door bell – hard wired at entry with internal unit (also hard wired) located in kitchen/ meals room. Smoke Detectors – installed to meet AS.
Active Ventilation	All fans separately switched from lights. (if <i>DL</i> Tastic units are used no heating component permitted).
Heating <i>IR</i>	All systems and or appliances minimum 5 star energy efficiency rated, preferred use of natural gas where reticulated.
Cooling <i>IR</i>	All systems and or appliances minimum 5 star energy efficiency rated. Above the Tropic of Capricorn all ceilings 2700mm height (including COA).
Other	Other nominated inclusions.

**3.3.3 Exteriors**

ITEM	EXTERIOR REQUIREMENT
Preparation	All contaminants, debris and rubble to be removed prior to site shaping and other works.
Grading and Shaping	Grade to levels to ensure water drains away from house sufficient to avoid flooding in storm events. Shaping to be undertaken prior to other exterior and landscape works, with placement of SW systems and retaining walls/steps.
Drainage <i>IR</i>	SW system with grated pits, soakage drains or other piped SW system to ensure no flooding of house, quantity and sizes to suit local conditions.
Pavements	Pavement wearing surfaces with subsurface preparation and base course as required for: Driveway, front entry and COA (impermeable) Path to clothesline and utility storage areas (impermeable) All weather access around house paving under clothes line (permeable and/or impermeable) Other pedestrian paving (permeable and/or impermeable)
Letter box	Australia Post approved type and position of letter box, with integrated lock.
Clothes line	Minimum 33 lineal metres of unobstructed hanging length, type of line, rotary hoist preferred
Fences	Fences with panels to secure the back yard. Minimum 1 pedestrian gate, vehicle gate(s) if practicable.
Hosecocks	Wall mounted taps (hosecocks) minimum 2, with 1x per yard area or additional as required to reach all garden beds and lawn with a 15m hose. Potable mains as water source not mandatory.





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ITEM	EXTERIOR REQUIREMENT
Water Tanks	Water tank - located in service area with submersible Davey (or equal) pump with all fixtures and fittings to connect water to house, and including 1lap near base of tank.
Retaining Walls	Retaining to ensure required grades and levels around the house, masonry systems preferred. Nominate location, construction details and top and bottom levels of walls and slopes. Walls over 1m ht to be certified by structural engineer. All walls to have pumped SW drainage.
Irrigation IR	Nominate details of irrigation system if required.
Other	Other nominated inclusions.

**3.3.4 Landscape**

ITEM	LANDSCAPE REQUIREMENT
Preparation for grass	Remove or kill weeds and grasses on site prior to cultivation. Areas to be grassed to be ripped to minimum 300mm depth and rock picked. Topsoil for grass - minimum 100mm depth, comprised of stockpiled site topsoil spread to 50mm depth if available, plus imported topsoil. Final shaping and cultivating to minimum 100mm depth with addition of soil additives prior to turfing, seeding or stolon sprigging.
Preparation for plants	Areas to be planted to be ripped to minimum 300mm depth and rock picked. Stockpiled site topsoil or imported topsoil to be respread to minimum 300mm depth.
Site Topsoil	Remove or kill weeds and grasses prior to respreading of stockpiled site topsoil to areas to be grassed and/or planted.
Imported topsoil and additives	Topsoil - Certification of imported topsoils is required for supply source, composition and being weed free. Fertilisers - type and quantity of soil additives to suit site specific conditions and plants proposed, nominate specific fertilisers plus additives such as water absorbing crystals, soil wetters and minerals, Terracottem or equal.
Edge Strips	Edge strips – timber and/or masonry
Grass	Turf/lawn - area of watered grass to be minimised, generally 20-60m <sup>2</sup> , nominate species and cultivar and provide certification for supply source, composition and being weed free. Grass – species and cultivar plus method (turf, seed, stolons) to be nominated, provide certification for supply source, composition and being weed free.
Mulch	certification is required as to type, supply source, composition and being weed free.
Plants and Planting	Plants – nominate size and species (Landscape Plan), substitutions may be considered. Planting - includes, excavation of plant holes, placement of soil additives, staking and tying as required and construction of watering basins as part of backfilling. Watering basins to hold approximately 9L (1 bucket). Each plant is to receive at least 9L of water at time of planting prior to mulching and as required thereafter.
Establishment	4 weeks following Practical Completion, including all water supply and application.
Other	Other nominated inclusions.

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**3.4 Regional Requirements**

The heating and cooling requirements may be achieved with a reverse cycle split system air conditioning / heating unit where it is an equivalent alternative to the nominated heating or cooling system. Wherever available and reticulated in the street, gas is the preferred energy source for space heating.

Active heating or cooling systems are nominated for specific rooms. Where rooms are not nominated it means the whole house. The whole house means all rooms except toilet, powder, laundry, garage.

**3.4.1 South Australia**

ITEM	REQUIREMENT
<b>Adelaide</b>	
Heating	Ducted heating
Cooling	Ducted evaporative cooling
Security	Locks to all opening windows.
Irrigation	Supply and install water wise irrigation system to meet local regulations where mandatory for estate and or recycled water is provided.
<b>Adelaide Hills</b>	
Heating and Cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to bedrooms and living rooms.
Security	Locks to all opening windows.

**3.4.2 Victoria and Tasmania**

ITEM	REQUIREMENT
<b>Melbourne, Sale, Frankston, Queenscliff</b>	
Heating	Ducted heating
Cooling	Ceiling fans to bedrooms and living rooms.
Security	Locks to all opening windows.
<b>Puckapunyal</b>	
Heating	Ducted heating
Cooling	Ducted evaporative cooling
Security	Locks to all opening windows.
<b>Tasmania</b>	
Heating and Cooling	<sup>3</sup> Reverse cycle split system.
Security	Locks to all opening windows.

<sup>3</sup> Alternative equivalent heating and cooling systems preferred.

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3.4.3 Australian Capital Territory

ITEM	REQUIREMENT
<b>Canberra &amp; Queanbeyan</b>	
Heating	Ducted heating.
Cooling	Ducted evaporative cooling.
Security	Security screens to all opening windows.

3.4.4 New South Wales

ITEM	REQUIREMENT
<b>Armidale &amp; Tamworth</b>	
Heating	Ducted heating.
Cooling	Ducted evaporative cooling.
Security	Security screens to all opening windows.
<b>Hunter &amp; Northern NSW</b>	
Heating/Cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to bedrooms and living rooms.
Security	Security screens to all opening windows.
<b>Nowra</b>	
Heating	1x relocatable 25mj gas heater with bayonet connections to living rooms (incl. associated GPO).
Cooling	Ceiling fans to bedrooms and living rooms.
Security	Locks to all opening windows.
<b>Riverina</b>	
Heating	Ducted heating.
Cooling	Ducted evaporative cooling.
Security	Locks to all opening windows.
<b>Sydney &amp; Blue Mountains</b>	
Heating/Cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to bedrooms and living rooms.
Security	Security screens to all opening windows.

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**3.4.5 Southeast Queensland**

ITEM	REQUIREMENT
<b>Brisbane &amp; Ipswich</b>	
Heating/Cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to bedrooms and living rooms.
Security	Security screens to all opening windows.
<b>Toowoomba</b>	
Heating/Cooling	Reverse cycle split system bedroom 1 and living rooms plus ceiling fans to bedrooms and living rooms.
Security	Locks to all opening windows.

**3.4.6 North Queensland**

ITEM	REQUIREMENT
<b>Townsville &amp; Cairns</b>	
Drainage	All down pipes to be fitted with 2 x 45 degree elbows at the bottom to ensure SW is discharged over top of grated pits with minimum 75mm clearance between elbow and top of grates.
Cooling	Refrigerated air conditioning plus ceiling fans to bedrooms and living rooms. All mechanical plant to be collocated and housed with wing walls integrated with house design.
Security	Security screens to all opening windows.
Irrigation	Supply and install water wise irrigation system in accordance with local regulations with manual tap timers.
Eaves (Soffit) R	Eaves width minimum 900mm, plus to meet DHA shade expectations plus local Authority and estate requirements, with materials, finishes and colour to coordinate with walls.

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3.4.7 Western Australia

ITEM	REQUIREMENT
<b>Perth &amp; Geraldton</b>	
Heating	1x relocatable 25mj gas heater with bayonet connections to living rooms (incl. associated GPO).
Cooling	Ducted evaporative cooling.
Security	Supply and fix security screens to all opening windows.
Irrigation	Supply and install water wise irrigation system in accordance with the state government policy document Water Wise Ways for WA (include manual tap timers and soil moisture sensors).
Eaves (Soffit) R	Eaves width minimum 900mm, plus to meet DHA shade expectations plus local Authority and estate requirements, with materials, finishes and colour to coordinate with walls.
<b>Karratha &amp; NW Region</b>	
Cooling	Refrigerated air conditioning plus ceiling fans to all bedrooms and living rooms.
Security	Security screens to all opening windows.
Irrigation	Supply and install water wise irrigation system in accordance with the state government policy document Water Wise Ways for WA (include manual tap timers and soil moisture sensors).
Eaves (Soffit) R	Eaves width minimum 900mm, plus to meet DHA shade expectations plus local Authority and estate requirements, with materials, finishes and colour to coordinate with walls.

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**3.4.8 Northern Territory**

ITEM	REQUIREMENT
<b>Darwin</b>	
Drainage	Roof guttering over entry ways, with associated downpipes. All down pipes to be fitted with 2 x 45 degree elbows at the bottom to ensure SW is discharged with minimum 75mm clearance between elbow and surface of gravel filled soakage pits.
Cooling	Refrigerated air conditioning plus ceiling fans to bedrooms and living rooms.
Irrigation	Supply and install water wise irrigation system to lawns in accordance with local regulations. Include manual tap timers.
Security	Security screens to all opening windows.
Carport	Car accommodation to be single or double carport with high level of natural ventilation and light, roller doors (like a garage) optional.
Eaves (Soffit) R	Eaves width minimum 900mm, plus to meet DHA shade expectations plus local Authority and estate requirements, with materials, finishes and colour to coordinate with walls.
<b>Katherine &amp; Tindal</b>	
Drainage	Roof guttering over entry ways, with associated downpipes. All down pipes to be fitted with 2 x 45 degree elbows at the bottom to ensure SW is discharged with minimum 75mm clearance between elbow and surface of gravel filled soakage pits.
Cooling	Refrigerated air conditioning plus ceiling fans to all bedrooms and living rooms.
Irrigation	Supply and install water wise irrigation system to lawns in accordance with local regulations. Include manual tap timers.
Security	Locks to all opening windows.
Eaves (Soffit) R	Eaves width minimum 900mm, plus to meet DHA shade expectations plus local Authority and estate requirements, with materials, finishes and colour to coordinate with walls.