



# VISIONARY

Se habla español

Design Development  
Pty Ltd

Architecture  
STRATEGIC PLANNING

SUSTAINABILITY

Latin America  
Community Development

Research

ACCESSIBILITY

healthy

ACCESSIBLE  
SUSTAINABLE  
INCLUSIVE

communities

INTERNATIONALLY

## The Affordable Australian



## **PURPOSE**

To assist governments, local authorities and other organisations to remove barriers to mobility of persons of all physical abilities in their built environments.

## **OBJECTIVE**

To research, plan, design and develop healthy, accessible, sustainable, inclusive communities.

## **MISSION**

To use our unique trans-disciplinary consultancy skills to ensure all projects and activities are underpinned by the entwined principles of Sustainability and Accessibility.

# The Affordable Australian

## FOR ALL

**Houses must be built accessible for all from the start. The Affordable Australian demonstrates that accessibility does not preclude affordability.**

### Fully accessible

Nowadays families are much more likely to care for disabled children in-house full-time and elderly people much more likely to remain in their own houses. The Affordable Australian achieves internal and external wheelchair circulation from day one; retro-fitting handheld shower and grabrails is easy.

### Affordable

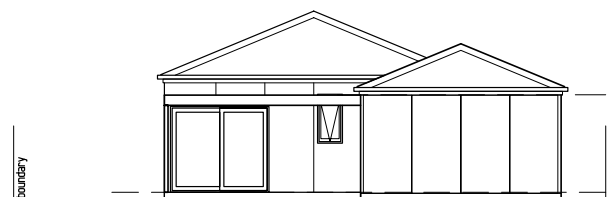
Modular construction and waste minimisation reduces construction costs. Energy efficiency measures and siting reduces running costs. The Column and Lintel system enables roofing commencement earlier, weather protection sooner and enables lock-up to be achieved quickly. This will reduce site theft and vandalism.

### Long-Life Loose-Fit

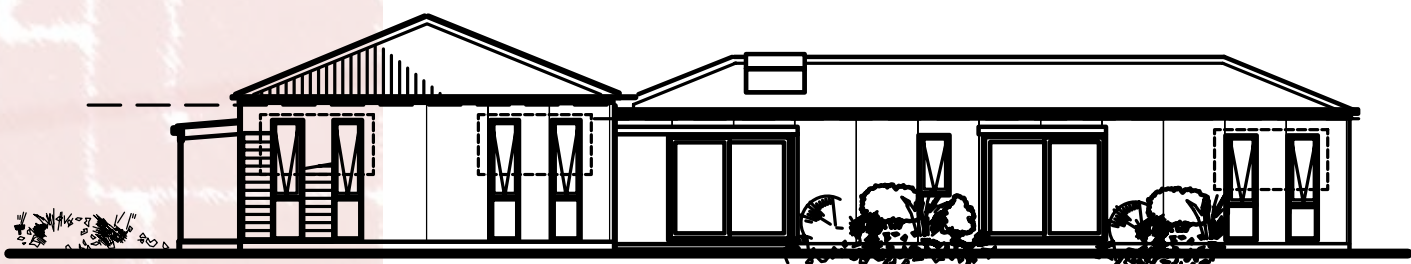
Bedroom 3 could permanently be the 'family room' as many families will be a couple with only one child. Bedroom 1 could become a home office. As residents age or become emptynester/lone person households, disused rooms can be shut off reducing utility bills. The ceiling system means that the internal walls can be moved around without needing to replaster.



EAST ELEVATION



WEST ELEVATION



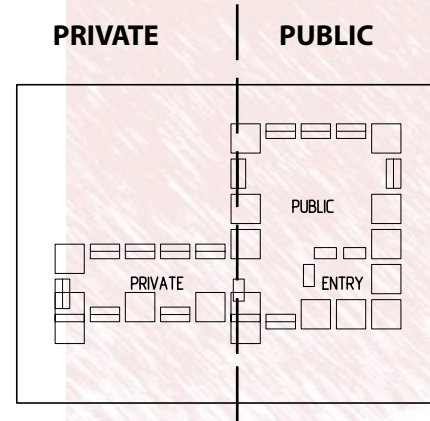
NORTH ELEVATION

## Social Sustainability

The house program has been divided into public and private zones, located such that all 'public' functions are at the front. The transition between community and public starts at the front fence, a dynamic border where people can converge. Considered window placement enables 'eyes on the street' and will accommodate a 'compliant' 1 in 20 walkway thereby providing a sense of intimacy while permitting access for all.

Projections of additional households and age structures indicate that 3 or less households will increase; the growth being experienced mainly in 1 and 2 person households.

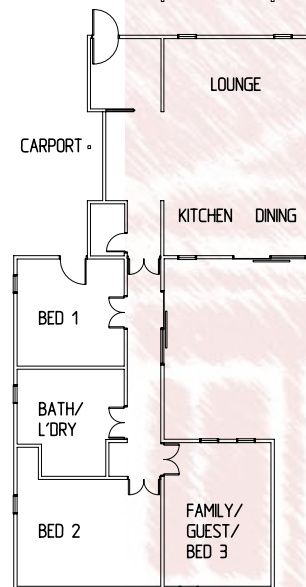
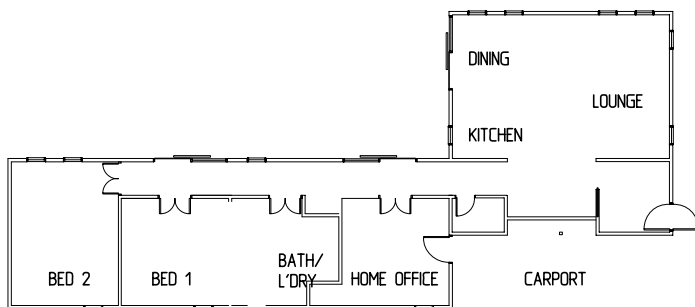
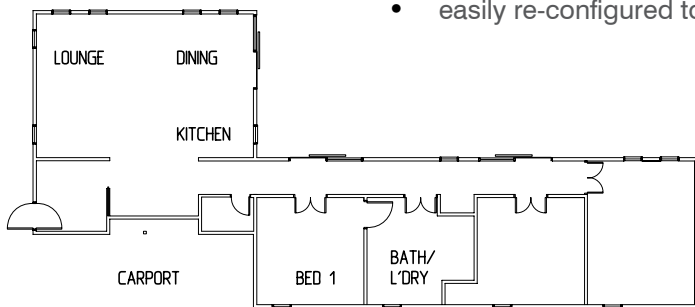
To be socially sustainable, housing layouts need to accommodate the changing demographics of society.



## Flexibility of Layout

### Basic Layout

- easily re-configured to suit alternative frontage orientations
- easily re-configured to suit alternative lot sizes
- easily re-configured to suit differing demographics





## AUSTRALIAN-NESS

Australian-ness is an ephemeral indoor-outdoor connectivity harnessing space and light, not 'australiana'. The Affordable Australian is designed to read as a homestead's collection of shed-like forms.

Shielding the front façade edge with a 'striped' roof covering instantly evokes the heritage of earlier Australian single- and double-fronted suburban (workers cottage). Double doors opening to an enclosed verandah/ gallery recollect the sleepouts or stables of times past in outback homesteads.

Standard 'aussie tin' conveys an ambience of Australian history.

Suggestions of wide open aussie spaces are created by the open plan 'public' pavilion housing kitchen/ living/ dining. Properly sized (bed)rooms and laundry facilities incorporated directly into the bathroom results in uncluttered space. Although the zonal distinction between community, public and private is clear in the overall layout, these functions are distorted at the edges by verandahs.

## ENVIRONMENTAL FRIENDLINESS

When located on its preferred site in its preferred orientation The Affordable Australian exploits passive design principles by being built on a concrete slab with its long axis East-West. North windows are maximised while south, east and west windows are minimised. An integrated system of landscaping and shading devices modulates sun and wind penetration.

### Use of resources

The palette of materials has been derived with a view to minimising; the number of site trades, site revisit frequency required and embodied energy. Overall layout and material choice has resulted in a reduced quantity of resources being necessary, a carport is less resource-hungry than a garage. Internal layout is intentionally basic without nooks and crannies. One main wet area accommodates combined bathroom and laundry facilities including combined washing machine/ dryer and trough/ basin thereby obviating the need for extra walls and plumbing fittings. The limited amount of built-in cupboards provided is intended to both minimise use of undesirable materials such as plastic-encased board products and accompanying glues and to encourage occupants to use family heirloom or other pre-existing solid timber furniture such as tallboys and wardrobes. Additionally, selected materials are as much as possible from renewable or recyclable energy sources, eg plantation timbers and steel cladding. It is also intended to deal with companies that demonstrate an environmental commitment, incorporating high levels of recycled content in their products. In keeping with Long-Life Loose-Fit principles, the structural system of columns and lintels means that walls are non-structural easily permitting future re-configuration. Also, as demonstrated by the drawings, the grid adopted allows the various rooms to be of sufficient size to enable flexible use – bedroom today, family room tomorrow, home office next year.

### Waste minimisation

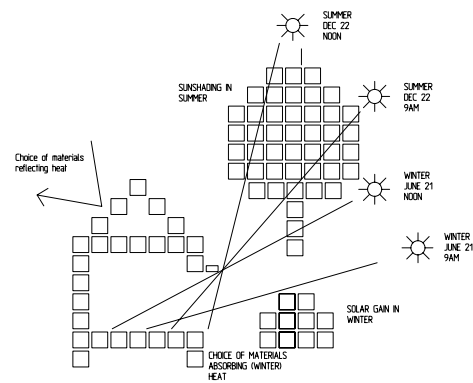
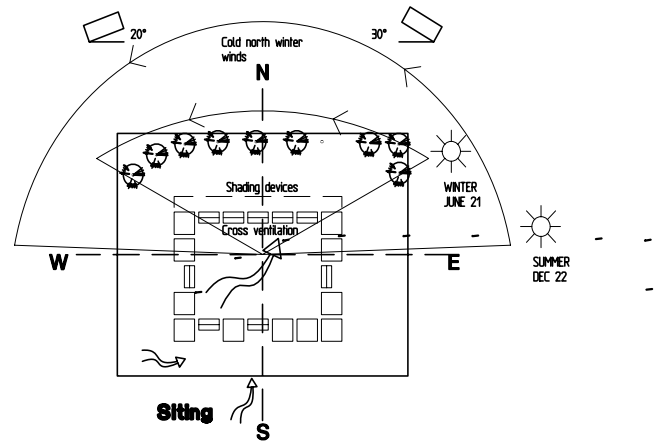
Carefully considered industry standard material sizes have been used, eg column and lintel lengths, external cladding panel sizes, plasterboard sheet sizes, aerated concrete panel sizes, verandah roof sheeting, floor covering modules etc.

### Energy efficiency

As The Affordable Australian achieves a 6 star rating on-going lessened utility costs will be experienced. To further reduce heating and cooling costs room functions (public/ private) have been grouped and separated by doorways; the private zone can be further separated off in the elderly/ empty nester/ lone household by easy installation of additional doors. The 'tin' roof and east-facing 'tin' cladding will further reduce summer heat gain, while the expanse of north-facing roof is ideal for solar hot water and future solar panels. Energy efficient appliance use is enabled by the provision of a front-loading washing machine/ dryer combination unit and the positioning of the refrigerator completely out of any sunlight/ heatload area.

## LANDSCAPE

- ‘Small scale’ fruit trees and Australian natives. Plant selection based on low water tolerant species
- Northern garden bed becomes a haven from neighbours, sun and wind
- No ‘bare’ soil. Mulch
- Lots of biodiversity. Ecosystem becomes more stable with less maintenance required in the future - creepers, groundcovers, shrubs and a couple of trees.
- Diverse height of plants to decrease wind strength
- Reminiscent of Australian countryside where one can see into the distance through the landscape
- Underground porous pipe (or similar) watering system
- Native grasses/lawn should require no watering and very occasional mowing



## 6 STARS FIRST RATE

(main parameters)



Concrete slab floor (with insulated edges) and ceramic tiles or floating timber floor where shown

R2.5 insulation to timber framed walls, wall cladding timber panelling or metal as shown

Timber framed windows/glazed doors, sealed with standard clear glazing. Continuation of fixed overhands, adjustable external blinds, internal curtains or more thermally efficient glass to be provided, dependent on cost.

Ceilings at 2.4m to the stables (bedroom wing), main pavillion 2.7m, R2.5 batt insulation to ceilings with R1.0 foil blanket at roof level

No skylights. Good cross ventilation. (Some) lightweight concrete internal walls. Entry door separated from living area. Gaps and cracks sealed. Area adjustment.

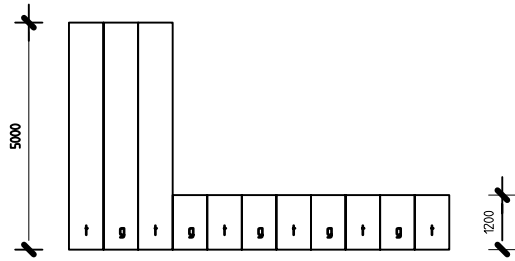


## EASE OF CONSTRUCTION

- No firerating required to external wall
- Standard trusses @ 1200 centres
- 30 x 30 timber cornice bead
- Standard plasterboard widths 1200 & 1350
- Standard plantation timber window and door modules
- Standard skirting (to plasterboard walls only)
- 0.42 BMT ZnAL corrugated roofing
- R1.0 foil blanket roof insulation
- 70 x 35 pine roofing battens
- Standard metal gutter fascia system located to allow external panelling to fit behind
- R2.5 ceiling insulation
- 10mm plasterboard ceiling and walls
- R2.5 insulation in all external walls
- 10mm gap at bottom of plasterboard sheathing to allow for timber floor to slot in

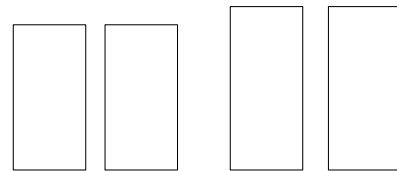
## MINIMAL PALETTE OF MATERIALS

- Plantation timber (or plantation timber products)
- Standard corrugated zincalume steel
- Standard zincalume steel products
- Standard clear glass
- Ceramic floor tiles



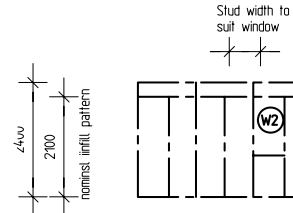
### VERANDAH ROOF SHEETING

- 1 x 5.0m (Laserlite or similar) sheet
- 2 x 2.4m (Laserlite or similar) sheets, each sheet cut in half lengthways
- 2 x 5.0m zincalume corrugated sheeting
- 4 x 1.2m zincalume corrugated sheeting

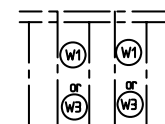


### EXTERNAL WALL PANELLING (plywood)

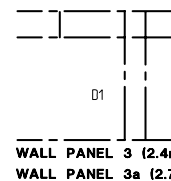
- Standard sizes - fewer offcuts
- Less work on site



WALL PANEL 1



WALL PANEL 2 (2.4m)  
WALL PANEL 2a (2.7m)



WALL PANEL 3 (2.4m)  
WALL PANEL 3a (2.7m)

### MAIN PANEL TYPES

All supplied to site complete with plywood panelling and pre-fitted glazed windows/doors, wall wrap, window and door flashings, 12 x 12 external finishing bead around window frames etc. All plywood panelling, windows and doors fully pre-painted prior to installation. 'Wall wrap' to have 150mm 'end flap'



## **FLEXIBILITY OF DETAILS, MATERIALS AND FINISHES**

Differing details, materials and finishes can be used:

- Timber framed floor in lieu of concrete slab (will require specific insulation techniques and longer access bridge/ramp)
- Eaves can be provided
- Verandah/hallway could be fully glazed (will require appropriate summer shading)
- Living area ceiling could be 'cathedral' and incorporate glazed pyramid skylight at apex
- Different quality levels of bathroom and kitchen fitouts can be provided
- Ceiling height of bedroom wing could be raised to 2550 or 2700
- Different external wall claddings could be selected
- External timber finishes could be (brightly) painted, oiled or stained
- External metal finishes could be natural zincalume or from standard Colorbond range
- External metal claddings (roof and/or walls) could be in standard corrugated profile or other (standard) industrial profiles

Note: Any such changes are likely to have a cost impact.



Visionary Design Development Pty Ltd, a unique trans-disciplinary consultancy, operates at the intersection of human needs and the built environment. Our distinctive holistic approach incorporating universal design, sustainability and social research, delivers consultancy services to government, NGOs and businesses to provide ideal environments in which to nurture enterprise and healthy local communities.

### **Architecture**

Public, corporate and residential design.

### **Accessibility**

Accessible universal design inclusive of the needs of people with disabilities. Special expertise in designing for people with vision loss.

Accessibility courses for building industry professionals, government and NGOs internationally.

### **Sustainability**

Sustainable design incorporating energy conservation, natural lighting/temperature control, recyclable materials.

### **Strategic Planning**

Community mobility and inclusive urban access. Project Management.

### **Community Development**

Management of projects for the inclusion of people with disabilities.

Application of the Universal Mobility Index, a unique tool developed by VDD which permits quantitative assessment of access within the local built environment by people with disabilities.

Co-ordination and curation of exhibitions.

### **Research**

Comprehensive academic and consultancy reports on the built environment including literature reviews, case studies, stakeholder analysis through surveys, focus groups etc.

### **Latin America**

Facilitation of bilateral co-operation and development of cultural and commercial exchange between Australia and Latin America within the Built Environment and Community Development spheres.

We offer specialist advice in researching, planning, designing and developing healthy communities, locally, regionally and internationally.



## Company Information

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