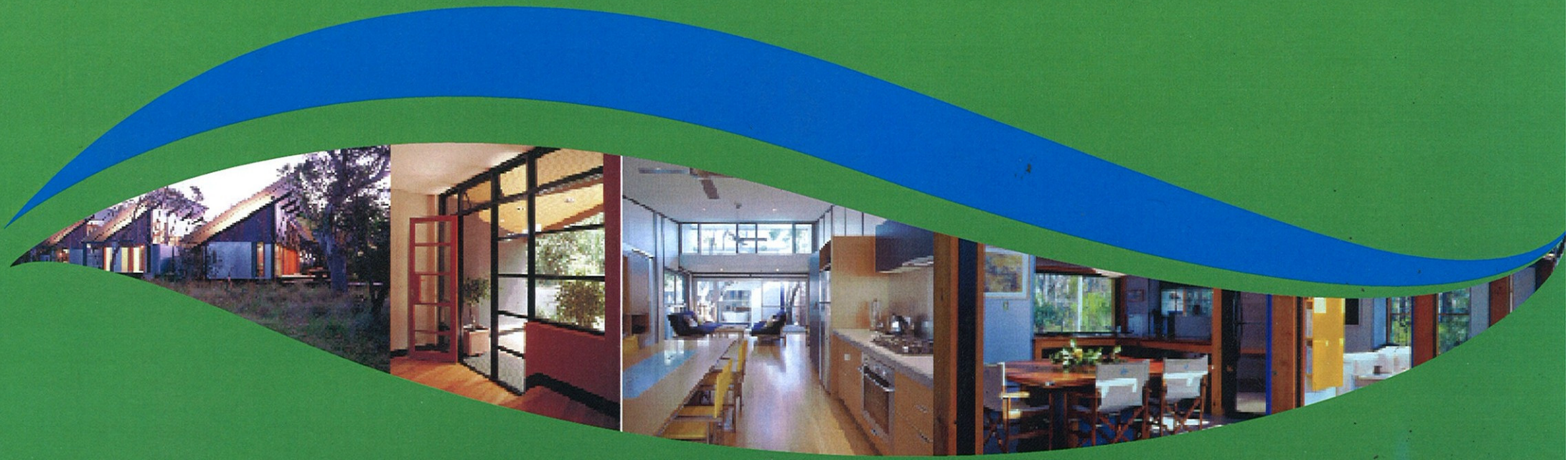


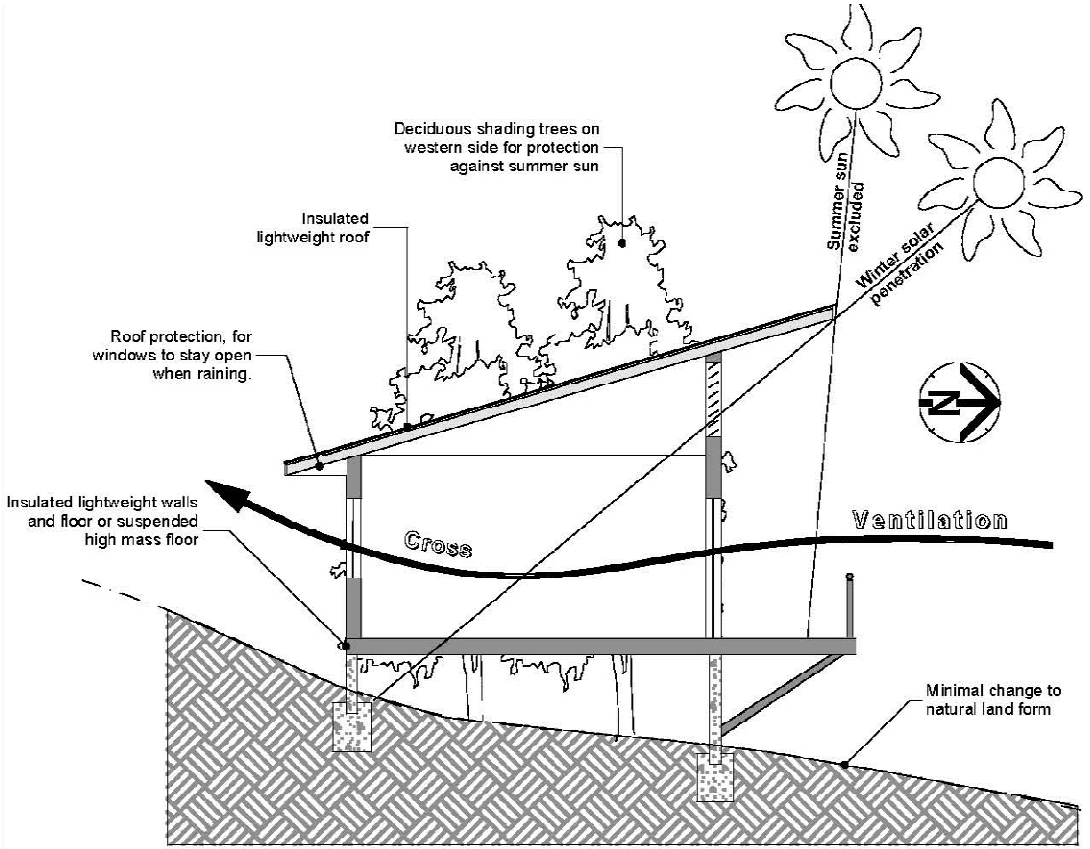
Building Your Home

the ecovillage AT CURRUMBIN

The guide to the architectural and landscaping code of The Ecovillage at Currumbin

Building Your Home

A Guide to the Architectural and Landscaping Codes for The Ecovillage at Currumbin



Good Climatic design Scale 1:100

ethos & vision

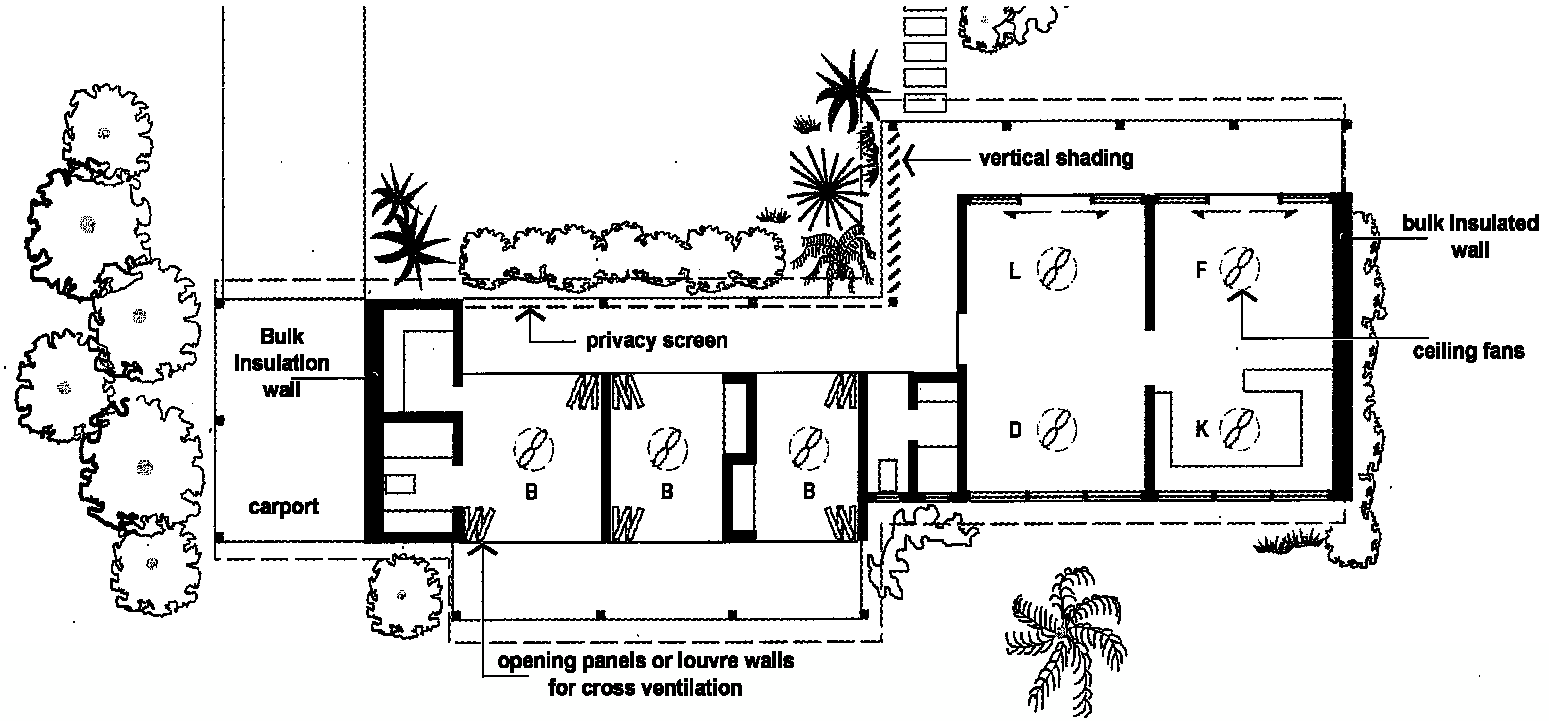
The Ecovillage at Currumbin was established to achieve a ***"World leading, ecologically sustainable and conscious community where people and nature flourish in beauty, harmony and integrity."*** The comprehensive Architectural and Landscaping Code, which regulates all building and home parcel improvements, will assist in achieving the highest standard of environmentally sensitive design and a home well suited to our climate and your needs. It will provide the "beauty" of your individual creativity, produce a home in "harmony" with the environment and ensure the "integrity" of sustainable living within the Ecovillage.

Knowledge that your investment is protected because all homeowners are required at Community Title Body Corporate level to meet this same high standard Code, will give you security and peace of mind.

design & approval process

In order for the Ecovillage to attain a consistently high standard of environmentally responsible design, all building proposals need to be approved by the Body Corporate through its assessment team, the Village Design Panel (VDP). The VDP is made up of appropriately qualified community members and others to ensure sound management of the built form in the estate.

In the selection of your Designer, it is essential to provide him or her with a copy of the Architectural and Landscaping (A&L) Codes. This is essentially the core of their design brief and it will enable them to become familiar with features that their design needs to comply with to be approved by the VDP.
Following the VDP Final Approval stage, owners will need to apply to the Gold Coast City Council (or a private Certifier) for standard Building Certification before construction can commence. Receiving VDP approval should automatically assist in the Building Certification process.
Land parcels in the Ecovillage have been designed in sympathy with the topography of the site, their relative situation to neighbours and proximity to existing site features. A building envelope Lot Evaluation (the plan that shows specific site requirements for your home parcel) is provided to show the rationale behind the design and the ethos of Ecovillage living is embodied in the following criteria.



Building design considerations include the following requirements:

* Be consistent with the Lot Evaluation
* Relate well to surrounds & use natural features of site
* Minimise overlooking & overshadowing of neighbours' lot
* Contribute to the visual amenity and visual experience of the Village
* Integrate interior space with exterior space offering dual usage areas
* Have buildings & landscaping that minimise adverse visual impact
* Be no higher than 9.5m above the ground
* Control form (vertical & massing) to lessen visual impact
* Integrate clothes lines & functional areas to minimise visual impact
* Ensure car accommodation is adequate and no larger than required
* Minimise highly reflective materials or surfaces causing glare
* Be appropriate to context and visual amenity objectives of the Village
* Ensure rooms are space efficient & can perform multiple functions
* Use overhangs, verandahs or pergolas to create engaging elevations
* Relate ancillary structures and main building as a family of elements
* Accord colour selections within The Ecovillage Exterior Colour Palette
* Comply with building size requirements for your home parcel

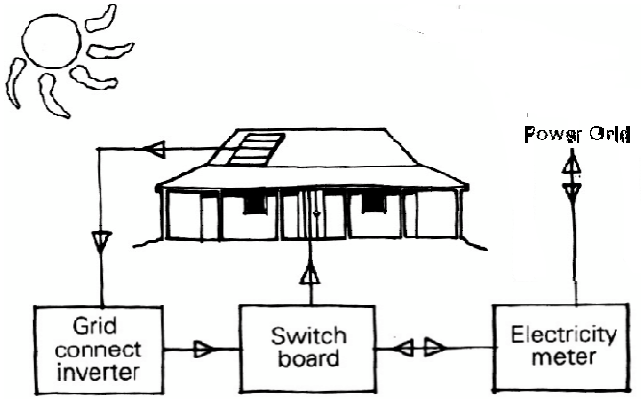
land & soil

The land and soil of your home parcel support all life existing there. Environmentally responsible design begins with consideration of the impact a building will have on this most important feature.
During and following construction, be aware of the ongoing imperative to restore and care for the land, minimise impact on biodiversity and create a great home. A Construction Management Plan (CMP), usually created in conjunction with your builder after review of a standard draft, assist greatly in this regard. Your design must:-

* Ensure building & landscaping benefits & not reduces biodiversity
* Limit on ground slab use & ensure they are appropriate for topography
* Not impact on significant flora & fauna habitat
* Have clearance under floor joists of 600mm above NSL* (Creek Hamlets)
* Have a CMP assuring the construction process is well managed
* Stockpile topsoil & leaf litter appropriately for reuse during construction
* Stack stockpiles & materials within Lot & not in overland flow paths
* Preserve natural site hydrology (water flow) to the greatest extent
* Store building waste in a manner minimising loss, pollution & impacts
* Use permeable surfaces for paths & driveways when practical
* Access Lot through only one area of Ecovillage road reserve
* Disperse run-off from impervious surfaces over landscaping
* Preserve the natural soil profile to the greatest extent
* Control soil erosion & stormwater borne pollution during construction
* Minimise cut & fill, no deeper than 1200mm at any point

** Natural Surface Level*

energy



As a resource on which human habitation has become somewhat dependent, energy is often used inefficiently and generated mostly by pollution creating means that threaten global climate stability and the health of all life.

A primary objective of the Ecovillage is for residents to minimise energy consumption, seek self-sufficiency by the generation of energy through renewable technologies and passive (or good climatic) thermal design of homes and buildings and immense cost savings.

Every home will have a solar hot water heater and enough photovoltaic (solar) cells sufficient to generate power from the sun to contribute significantly to the households needs. Energy efficient lighting, appliances and other equipment will ensure that energy consumption is minimised.

Passive thermal design provides comfortable living conditions with minimal use of artificial heating and cooling. It begins with an analysis of site and landscape features, then designing to maximise solar access in winter (minimise in summer) and make use of prevailing breezes in summer. Owners will be assisted in this process with the Lot Evaluation that assesses the unique features of their own home parcel. Good design takes advantage of our climatic influences – elongating buildings east-west as much as possible and exposing habitable rooms to the north. This all facilitates sun penetration in winter and shade in summer. Cross ventilation is of paramount importance and insulation in roofs, walls and floors is critical. Design components must include:-

* Orientation of building toward Solar North
* Habitable rooms in building to get northern exposure where possible
* Hot air removed from roof cavity by ventilation device or products Elongation of building east-west & building made simple in plan form
* Appropriate fenestration (windows etc) to optimise natural light
* Natural lighting integrated with passive thermal design
* Usage of materials that encourage passive thermal design – 5 star rating
* Roof Lights to control solar access or correct shading Usage of materials that consider reduction of embodied energy
* Photovoltaic or other renewable energy generation system
* Consideration of suspended high mass floor or alternative in elevated design
* Energy system capacity as specified in Code
* Allowance for sun to penetrate building in winter but not summer
* Sun shading applied to all windows & openings as required
* Shading devices that are appropriate for their particular orientation
* Gas cooktop & oven which is flued to exterior incorporated in design
* Solar hot water heater or other energy efficient HWS installed
* Insulation in ceiling/roof, walls and under-floor
* Landscaping to be used for optimum thermal performance
* Gas backup system for hot water
* Adequate & controllable ventilation
* Cross ventilation, facilitated without occlusion by internal walls
* Space cooling, if installed, of low energy type
* Light fittings / system selected for optimum energy efficiency
* Dishwasher (if specified), is optimum energy & water efficient
* Eaves of 900mm unless on a boundary, wall has no opening or is protected
* Ceiling fans to augment natural ventilation in habitable rooms if needed

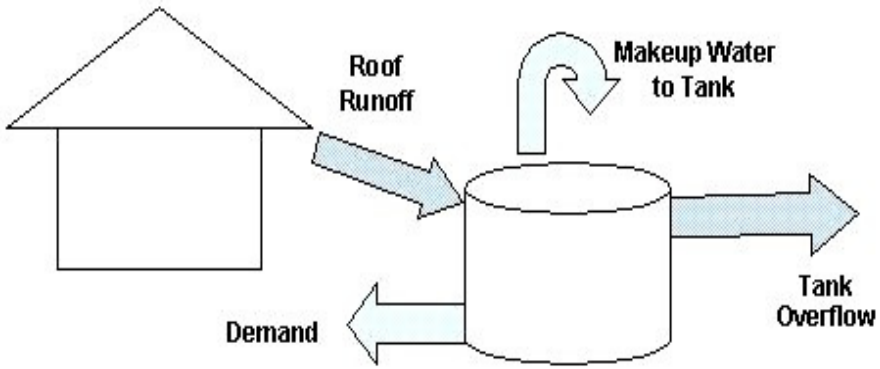
water

Wouldn't it be great if natural hydrological cycles could meet current and anticipated human consumption? Humans to date have predominantly utilised poor distribution techniques and management, inadequate conservation and created pollution so that many areas are water deprived. Australia is the driest continent on earth and the Gold Coast as a human habitation area must conserve water.

Each home in the Ecovillage harvests its own rainwater with each building targeting self-sufficiency in potable (drinking) water with appropriate water collection and storage systems provided and maintenance programmes in place to ensure appropriate water quality. It is important to match water storage capacity with demand for a household – a factor of the number of occupants, their water usage and habits and appliances used. All water supply systems and installations in the Ecovillage will need to be as water efficient as possible. Water supply for most homes in the Ecovillage will be augmented by recycled water for toilet flushing and yard usage. Water efficient design must include:-

Elements that minimise water consumption

* A system that limits water pressure to 3bar (300kPa)
* HDPE** piping in preference to PVC
* Provision of sufficient storage for potable use
* Connection to WWTS*** and use low, micro, no flush or dual flush 6/3 litre toilet pan
* Water supply system designed by suitably qualified person
* Low water use or composting toilets where no sewerage lines or if desired
* Minimum capacity storage as designated in Code
* Taps & mixers having AAA Conservation Rating & ceramic washers
* Integration of tank(s) & roof design, tank type & location appropriate
* Design of guttering and plumbing to assure water quality
* Water reticulation system pump which is energy efficient & not noisy



resource recycling

Despite our technological advances, we live in an age of unprecedented waste. Research shows that humans will reduce needless wastage practices and be more inclined to reduce, reuse and recycle when surrounded by others who do and when efficient, convenient facilities and systems are available. As a resident of the Ecovillage, you will enjoy waste reduction strategies starting with the design and construction of your very own home. There will be significant opportunities during construction and builders and homeowners as a team are urged to be a part of this process.

Once you are living in the Ecovillage, waste minimisation will become part of life, involving reuse and recycling of solid material, recovery of organic waste and reticulation, treatment and reuse of grey water (waste from sinks, basins, showers, baths etc) and black water (sewerage).
To provide for suitable waste initiatives, your design and building process must
ensure:-

* "Standard" Construction & Waste Management Plan by builder
* Identification of materials for construction waste
* On-site manager nominated to implement waste initiatives / plan
* Waste water output connected to WWTS* (where sewerage avail)
* WWDS** design, appliances, fittings & equipment is satisfactory
* RWS***, appliances, fittings & equipment is satisfactory
* Identification of materials for potential re-use or recycling
* Removal of materials to appropriate area for sorting/placement/storage
* WWDS designed by qualified person
* Appropriate on-lot sewerage system installed (where no sewerage)
* RWS designed by qualified person
* RWS signage & location is satisfactory
* Efficient compost, chook or worm farm area included in landscaping
* Temporary storage of food waste is supplied in kitchen area
* Storage for recyclables is supplied in house or landscape design

* Waste Water Treatment System
** Waste Water Disposal System
*** Recycled Water System

materials

Materials used in building construction and landscaping can have substantial effect on the environment, our lifestyle and our family's health. Careful research and selection of materials utilised and their combination can yield significant improvements as well as increase our comfort, cost effectiveness and the energy efficiency of a home. Indoor air quality, which is largely determined by the chemical emissions of building materials, is crucial to the health and well-being of building occupants and users.

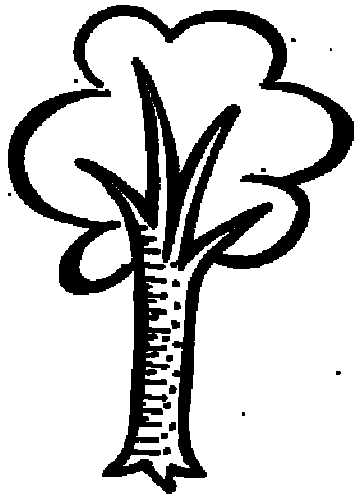
Consider not only the environment and your loved ones and self when choosing building materials and finishes, think also of the suppliers of products that produce healthy alternatives and send a message that these products offer far better outcomes than that of standard toxic products. You can make a difference in your home by:-

* Making efficient use of & minimising waste of building materials
* Ensuring design utilises standard sizes & repeated spans & cantilevers
* Incorporating recycled building materials & components appropriately
* Using renewable materials in preference to non-renewables
* Using linoleum floor in preference to vinyl equivalents
* Specifying only materials with low embodied energy
* Considering climate, durability & availability in your design process
* Specifying HDPE** in preference to PVC for plumbing / electrical use
* Specifying water or natural oil-based interior paints & finishes
* Specifying high quality construction methods, detailing & materials
* Minimising the use of toxic or potentially toxic materials
* Using quality, low off-gassing composite boards, (low toxins) if any
* Specifying low toxicity wood treatments (not CCA)
* Ensuring carpets (if desired) are of natural materials & use inert glues
* Excluding paints / finishes that significantly off-gas VOC's* & other toxins
* Deliberately excluding materials with high-embodied energy
* Considering durability & low maintenance in specification of materials

* *Volatile Organic Compounds*
** High Density Polyethylene

landscaping

Sustainable landscaping offers an approach to the garden environment that surrounds our buildings – an interlaced system of built and natural elements. Such landscapes can largely maintain themselves and survive by being part of the natural cycles of the environment.



The integration of building and landscape is essential to best practice sustainable residential development.
For instance, it is possible that homes can nestle into the emerging landscape, harmonising and blending with it. Buildings, outdoor structures even driveways - in fact all built elements - need to have minimal visual and aural (sound) impacts on other residents and adjacent properties.

Sustainable landscaping features native species and considers productive species for the important purposes of growing food and materials or providing seasonal shade features. The potential for food productivity in the form of
'edible' landscaping needs to be optimised within each hamlet (greenways) and on each home parcel to address
'sustainability' issues fully. Therefore, please consider:-

* Align your landscaping with Ecovillage sustainability principles
* Predominantly feature permaculture & sustainable landscaping
* Design gardens beds to encourage plant communities
* Ensure the landscaping design does not adversely impact soil profile
* Use swales to capture water & use for gardens & / or detention basins
* Ensure most non-productive species planted are endemic local plants
* Ensure exterior lighting design incorporates Ecovillage 'Dark Sky'* policy
* Minimise concrete or other impervious paving materials
* Give food production first priority in the garden
* Minimise lawn areas & use drought tolerant species
* Select plants according to the Preferred Species List
* Control grass invasion of gardens by edge planting or materials
* Integrate outbuildings & landscaping features unobtrusively

community

A community of environmentally concerned people, such as in an Ecovillage, generally has the commitment, resources, economies of scale and knowledge base to enable residents en masse to adopt excellent pro-environmental practices. In such communities, people readily interact and an education process. Those with 'green' attitudes, values and practices encourage, share and support each other. They take control of and get involved in decision-making that practically affects their lives.

The Ecovillage at Currumbin, with its extensive shared facilities and common property, is premised on the link between community and sustainability. The layout has been designed to encourage social interaction with the greenways (linked central areas within community pathways) being the prime focus of casual interaction, the public realm where residents meet and greet – a place to conduct shared activities, both social and productive.

Good visual connectivity and accessibility between homes and greenways is therefore essential. Some decks, balconies and patios face these greenways and, to cater for the important need for privacy, private open space will need to be provided elsewhere on the lot – perhaps at the opposite (laneway) side of the home parcel or to the sides. Your Lot Evaluation will assist greatly with this.

A socially cohesive community is inclusive, considerate of the needs of all of its members and those that visit as well as provide privacy as needed for its inhabitants. All community facilities will cater for residents, wheelchair accessibility and universal housing principles. These issues become increasingly important as Ecovillage residents reach mature ages. Older people will be able to stay in their home if it can be readily adapted to respond to their changing needs of life. To incorporate community principles in your design, please consider :-

* Orientate your home to the adjoining Greenway *Use landscaping to soften gates & entries & provide visual interest
* Define Greenway boundary with low planting only if needed * Use vegetation to provide visual buffers
* Minimise fencing to meet private, community & wildlife needs. They really do share their space with the local wildlife with kangaroos, wallabies, turtles, the abundant birdlife and even platypus in the creek.

There is now a wonderfully diverse and thriving community within The Ecovillage, from singles and young families, to empty nesters and retirees. Many enjoy regular and special events and sharing ideas. Residents can choose to be as social or private as preferred at any time. Group events are held quite often and there are also regular events open to the greater community.

colour in the village

The exterior colours of buildings and structures are regulated within the Architectural and Landscaping Code. The Code's sustainability objectives necessitate that the built environment should visually integrate with the landscape from medium and long range viewpoints. Individual architectural identity including form and colour of buildings and structures is however important when viewed from closer range.

A comprehensive environmental survey was carried out to ascertain the tonal expressions already appearing in our landscape and The Ecovillage Exterior Colour Palette has been produced in conformity with these environmental influences and the code's requirements. These colour guidelines intend to provide an overall cohesion or unity within the village whilst allowing for creativity and individuality and the palette will assist you greatly in ascertaining colour choices for the exterior of your home. The Colour Palette will allow the possibilities of your home to blend, harmonise and/or give complementary contrast to the site's existing environmental colours.
Colour choices should take into account the seasonal changes within Currumbin Valley and tonal extremes experienced in the ever transforming hues of nature. Also, exterior colours should consider climatic influences to optimise building comfort.
Colour choices taken from the Palette immediately qualify for approval but any divergence from this Palette will be considered by the VDP in relation to the Code's objectives.

accessibility

A socially cohesive community is considerate of the needs of all its members and visitors. There is a strong link between community cohesion and *accessibility*. 'Universal' housing design responds to a range of needs for those with disabilities. This becomes increasingly important also as residents age with older people able to stay in their home if it can be readily adapted to respond to their changing physical needs.

For the design of your home to incorporate accessibility, the following should be incorporated:-
* Wheelchair accessible path to residences entrance, deck or verandah (or potential to have at a later date)
* Where practical, a bathroom and hallway provide for wheelchair access* Adaptable Housing strategies included in design

privacy, safety & security

Preservation of personal and household privacy, security and safety is a fundamental sustainability feature and an informal sense of neighbourhood watch already exists within The Ecovillage. Privacy is the control of untimely or unwelcome physical, visual and acoustic interference. Safety also is paramount and, with most accidents occurring in the home, avoidance of accidents can be assisted at the early stage of building design and construction.

The threat from bushfire is ever-present in Australia, in both urban and rural contexts. It is all the more important to consider bushfire safety when buildings and landscape are thoroughly integrated.

With correct building design and construction techniques residences and their associated landscaping allows for visual and acoustic privacy and promotes personal safety and security within and between buildings. Also, your Lot Evaluation takes these needs into consideration and appraises your design accordingly. It is important that:-

* Residence and landscaping minimises overlooking between neighbours
* Building(s) are setback from boundaries according to Lot Evaluation
* Privacy & fencing issues have been discussed with neighbours
* If relaxation of setbacks is sought, liaison with neighbours has occurred and is documented
* Fencing of private open space is appropriate and of no greater extent than necessary
* Residence and landscaping design minimises opportunity for crime
* If residence is in bushfire area it is designed using fire prevention strategies and planted landscape is fire retardant