



# Guide 6

## Enhance Outdoor Living

Outdoor living is a central part of the Townsville lifestyle. It is therefore no surprise that some of the most popular living spaces in tropical climates are either outdoor spaces or indoor rooms with a distinct 'outdoor' feel about them.

Cool, comfortable and usable outdoor living spaces allow you to enjoy the benefits of living outdoors every day.

### Introduction

With an average of 300 days of sun per year, warm daily temperatures and cool prevailing sea-breezes, it is understandable that an outdoor living area is fundamental to the Townsville lifestyle.

Designing your outdoor living areas so that they reach their full potential is as easy as 1, 2, 3:

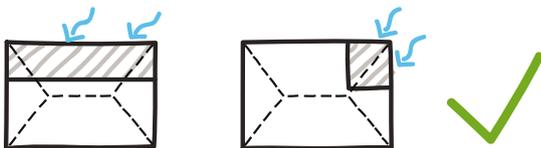
1. Essentials;
2. The 'Outdoor' House; and
3. Zoning

### 1. Essentials

For an outdoor living area to be used to its full potential it must be orientated to capture breezes, have adequate shading and be integrated with the surrounding landscape.

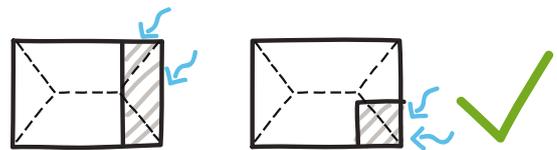
#### The Best Locations for Outdoor Areas

The best locations for outdoor living areas in Townsville are on the north and north-east sides of the house (Figure 1). This is because these areas face the prevailing breezes and are therefore the coolest spaces. They are also less affected by the low-angled sun in the hot afternoons.



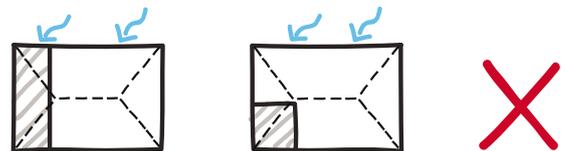
**Figure 1** North and north-east locations for outdoor living areas, shown shaded, are preferred in Townsville.

East and south-east locations are also good areas for outdoor living spaces (Figure 2) as they receive direct breezes. However, some thought needs to be given to shading these spaces from the low, early morning sun which will shine directly into the space and make it uncomfortably hot. However, they will be fully shaded in the afternoons.



**Figure 2** East to south-east orientated outdoor living spaces are also appropriate. However, shading from the morning sun must be provided.

Outdoor living areas on the western side of a property should be avoided (Figure 3). The western side of the house receives little or no breeze and is directly exposed to the low, hot afternoon sun.



**Figure 3** Outdoor living spaces to the west of your home are highly undesirable. They will be hot and breeze-less.

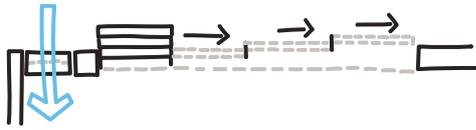
#### Openness and Access to Prevailing Breezes

Outdoor living spaces benefit from design elements that promote air-movement such as large openings, cross-ventilation and access to prevailing breezes (Figure 4).



**Figure 4** An outdoor area with large openings and access to prevailing breezes (Photo: ecoSAVVY).

A good example of a design element that integrates outdoor and indoor areas is a stacking slider door (Figure 5). The door panels retract onto each other leaving as much of the wall space open as possible. The less wall the better!



**Figure 5** A stacking panel sliding door. The adjacent louvre window allows breezes to enter the house when the door is closed.

Similarly, a high ceiling will create a cooler environment at human level by promoting a feeling of airiness, allowing hot air to rise and cool air to circulate. For this to occur, outdoor ceilings should be no less than 2.7 metres high, although generally speaking, the higher the better. The 2.7 metre height will also allow ceiling fans to move plenty of air from both underneath and above them.

### Shade from Overhead Sun

The Townsville sun is harsh all year round, so outdoor living areas should be shaded. A covered roof for sun and rain protection is ideal for maximising usability. In these cases it is recommended that insulation is installed to minimise heat transfer from above (Figure 6). However, insulation is not as necessary with a high outdoor roof, for example, three metres or higher.



**Figure 6** An example of where insulation would greatly improve the usability of an outdoor area. This low, uninsulated sail roof will radiate heat onto the deck area below. (Photo: ecoSAVVY).

Shade sails, trees, a climber-covered slatted pergola or other shading alternatives will also provide shade from overhead sun (Figure 7).



**Figure 7** Trees shade the deck of this Queenslander (Photo: ecoSAVVY).

### Shade from Low-Angled Sun

Outdoor spaces facing the east or west will be impacted by the low-angled morning sun (from the east) or afternoon sun (from the west). Shading is necessary to prevent these areas from becoming uncomfortably hot when the sun is low (Figure 8). For more on appropriate shading techniques see Guide 3 – Shading Out the Heat.



**Figure 8** Adjustable blinds on the eastern side of this deck provide shade from the low-angled morning sun (Photo: ecoSAVVY).

### Integrate with Landscaping

Landscaping should be an integral part of the home and property as it can substantially improve the liveability and enjoyment of indoor and outdoor living areas. Use natural local products and landscaping features wherever possible. At night, using lighting to create distant focal points in your garden will enlarge the sense of space and bring the outdoors into your home.



#### FACT 1

An integrated design approach will give optimum results. Consider designing the landscape of your garden at the same time as the building design. For more information on landscaping for a cooler home refer to Guide 4 - Landscaping: An Integral Part of Sustainability.

Benefits provided by landscaping include providing shade, reducing glare, cooling incoming breezes and enhancing views. These also add to a sense of openness by expanding the home beyond its walls (Figure 9).



**Figure 9** Landscaping can expand a room beyond its walls (Photo: Kelly Goodbun).

Water features such as fish ponds, decorative ponds and swimming pools, located in the path of prevailing, north-east breezes can help cool your home. This is because the movement of air over a body of water increases the rate of evaporation; this typically results in a cooler air temperature (Figure 10).



**Figure 10** Water features can cool breezes (Photo: Architects North).

Shallow water features will evaporate too quickly, whereas deep bodies of water are slow to change their temperature. During the mid-afternoon when the air temperature is quite hot, the water temperature in a deep water feature will still be reasonably cool.



## FACT 2

Water features are a great landscaping feature however, they must be adequately maintained. Water bodies should never be stagnant or they will become a breeding ground for mosquitoes.

## 2. The 'Outdoor' Home

To create an 'outdoor' home, outdoor areas should be an integral part of the main building and be treated as an extension of the activities taking place inside the home.

This can be done by two methods:

- Create specific external areas for activities usually, or in colder climates, restricted to indoors.
- Convert transitional spaces to breezeways.

### Specific-Use Outdoor Spaces

When designing the outdoor home it is important to dedicate external areas to specific activities. For example, you may wish to design a shady, breezy area for reading, surrounded by jasmine with a hammock and a ready supply of good books by your side. You may also have a preference for other activities such as: dining, entertaining, afternoon naps, exercise and play (Figure 11).



**Figure 11** This verandah has furniture, pot plants, a rug and even a painting on the wall, yet it is an outdoor space (Photo: Kelly Goodbun).

A four metre by three metre dining space is typically sufficient to accommodate a six-chair table setting for an average family (Figure 12).



**Figure 12** This outdoor cooking and dining area accommodates a variety of other activities such as swimming and relaxing (Photo: Kelly Goodbun).

However, with lot sizes getting smaller and space becoming more limited, it is often not possible to accommodate specific areas for separate activities. In these cases it is important to design an area that can be used for several purposes. For example, you can convert a traditional enclosed garage to a breezy workshop or gym area by designing the garage with a roller door at both the front and rear.

### Convert 'Transitional Spaces' to Breezeways

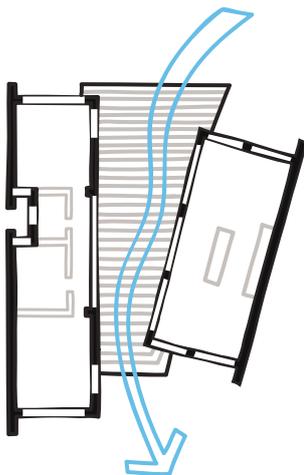
Lobbies, entry areas, corridors, hallways and verandahs are 'transitional spaces', meaning spaces where movement takes place between two areas. These spaces are ideal to convert into open, naturally ventilated spaces.

'Open' transitional spaces are often called breezeways because of their excellent natural ventilation (Figure 13).



**Figure 13** This home has a breezeway between the sleeping and living areas which allows for plenty of air circulation (Photo: ecoSAVVY).

Breezeways are best located in places that are easily shaded. This is generally on the north and south sides of the building or in the middle of the building where the sun's penetration is minimal. Access to prevailing breezes is very important. The best breezeway designs bring the outdoors in and facilitate airflow into the home (Figure 14).



**Figure 14** This house is designed around the central breezeway that extends from entry door to outdoor patio area in the direction of the prevailing north-easterly breeze.



**FACT 3**

An excellent example of an outdoor house is the popular Bali-style house which is a series of buildings connected via outdoor transitional spaces.

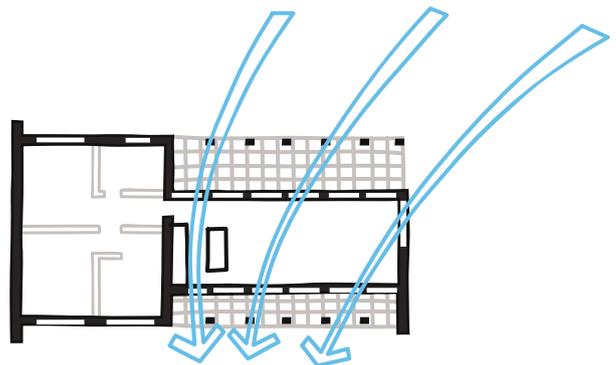
**3. Zoning**

Given the popularity, marketability and, historically cheap cost of energy, many modern Townsville homes are air-conditioned throughout. As a result, natural ventilation principles are not thought of as being important.

Some homes in Townsville have both air-conditioned spaces and naturally ventilated spaces. This separation is called zoning.

Zoning is a more efficient and sensible use of air-conditioning as it gives maximum benefit for least energy consumption. Air-conditioning is only used where it is most needed, for example, in the bedrooms on a hot night.

Design features of the air-conditioned zone that makes it more efficient include a squarer rather than elongated footprint, the addition of insulation in the walls and on the ceiling and the ability for air-conditioned spaces to be sealed off from non-air-conditioned spaces (Figure 15).



**Figure 15** A combination of naturally ventilated and air-conditioned spaces within the same dwelling.

Zoning also enables the use of naturally ventilated areas in the home where they would be of greatest benefit, such as in the living areas.

Design features of the naturally ventilated areas that make them more efficient include a more elongated footprint to enable cross ventilation through the entire space, many large openings on opposite walls to maximise air flow, adequate shading for the whole area and the addition of fans to enhance air movement when needed (Figure 15).

These design features will improve the home's overall performance by minimising the number of occasions when air-conditioning is required, therefore, reducing energy costs and improving comfort.

The ideas in this guide have discussed the essential aspects required to create an outdoor space, the creation of the outdoor house and how to zone your house to allow outdoor living to occur. Utilising these ideas will enable you to enhance your outdoor living experiences so that you can make the most of Townsville's tropical climate.



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