Shade for playgrounds

Information sheet

This information has been written to assist agencies managing playground areas to improve the quality of shade provided to users. It has been designed to accompany *The Shade Handbook* (Cancer Council NSW), which contains general information essential to developing effective shade.

The importance of shade in playgrounds

Australia has the highest rate of skin cancers in the world, with most caused by overexposure to ultraviolet (UV) radiation from the sun. Reducing people's exposure to the sun's rays can reduce the number of people affected by skin cancer.

Providing sun protection at playgrounds can make a significant contribution to the prevention of skin cancer because:

Children and parents use playgrounds throughout the year, particularly during the middle of the day when UV radiation levels are most intense.

The sun exposure children receive while they are young increases their risk of developing skin cancer as adults. Protecting children from UV radiation will reduce their risk of skin cancer in the future.

However, as shade alone cannot provide total protection, other protection measures should be encouraged, such as erecting sun safety signs to remind people to take care.

It is essential to assess existing shade before starting to plan and design additional shade. Part 2 of *The Shade Handbook* contains a step-by-step approach to conducting a shade audit and how to plan and implement a shade project.

Planning and design issues

The following planning and design issues should be considered when planning shade development at playgrounds. These issues are examined in greater detail in *The Shade Handbook.*

Existing shade

Try to optimise the use of existing shade before considering additional shade. For example, move fixed seating to a shaded area or prune low branches from trees to allow access to shady areas.

Use of outdoor area

It is important to take into account the usage patterns of the outdoor area, including the type of activities that occur, where they occur, and when they occur. Sufficient shade should be available at the times of heaviest use, particularly when UV radiation levels are most intense.

Active and passive use

Consider the type of activity occurring in the area. Provide scattered shade in playground areas where children are more active and mobile. Provide more shade where children or users are sitting in one spot or where play is confined to a small area.

Climatic conditions

Consider the characteristics of the climate zone as well as any local weather conditions, such as strong winds or salt (which leads to corrosion). These factors will affect the design of a shade structure as well as the selection of species.

Seasonal considerations

It is important that shade structures minimise UV radiation all year round in the Northern Territory as the UV index is high to extreme almost everyday of the year. Shade should minimise UV radiation, as well as reducing heat and light.

Reflected UV radiation

Shade structures should be designed to minimise reflected UV radiation. Shade structures should be of a sufficient size to ensure people can move away from the edges. The shade canopy should extend at least one metre past the areas of use, with vertical barriers built into the sides.

Modify or select surfaces to reduce reflected UV radiation. For example, replace smooth concrete with brick or grass. Vertical surfaces such as walls should also be made of materials that reduce reflected UV radiation.

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Aesthetics

Shade structures should be both practical and attractive to encourage use. Generally, an approach that combines both natural and built shade is preferable. Using a variety of tree and shrub species will also help to create a more interesting environment.

Natural shade

Natural shade should be a major element of shade at a playground. Trees with dense foliage and wide-spreading canopies provide the best protection. Choose species that suit local soil and climatic conditions as well as the character of the environment.

Root barriers and subsoil drainage will help to ensure that tree roots do not damage pavements. Dense shrubs can also provide shade.

Avoid shrubs and trees that:

- Are toxic
- Have seed pods or stone fruit
- Attract bees
- Have spikes or thorns
- Are known to cause adverse health effects such as asthma or skin irritation
- Drop their branches.

Temporary built structures can provide shade until trees mature.

Built shade structures

In many situations, combining built and natural shade will be the best option. There are many types of built structures that can provide effective shade, including:

- Permanent structures—pergolas and verandahs
- Demountable shade—marquees and tents
- Adjustable systems—awnings
- Shade sails
- Portable shade

Materials used can range from glass, fibre-glass, canvas and PVC to steel sheeting. For built structures, regardless of the size, it is a good idea to get professional advice from a shade installer, builder, landscaper or architect to ensure it is safe and will provide the desired amount of shade. Permanent shade structures usually require council approval before installation.

Selecting shade cloth

Shade cloth is often the most common and simplest way to provide sun protection. When choosing the type of cloth, keep in mind that different fabrics have different abilities to block or absorb UV radiation. Fabric that is dark, close weave and heavy will block or absorb more UV radiation. It is best to source shade cloth that states the level of UV protection, either as an Ultraviolet Protection Factor (UPF) or percentage figure. A UPF of 40-50+ is rated as excellent and blocks more than 97.5% of UV radiation. As a general guide, shade cloth should provide at least 94% UV protection (UPF 15) or greater.

Safety

It is important to ensure that shade structures do not create safety hazards. Support systems such as upright posts should be clearly visible and ideally have rounded edges and padding. They should be placed to minimise intrusion into play and circulation areas. Where possible, avoid guy ropes, which can be a tripping hazard. Vertical barriers at the sides of shade structures should be designed to prevent children using them for climbing.

Vandalism

As playgrounds are often accessible after hours, the risk of vandalism needs to be considered.

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Supervision

Carers need to be able to see children at all times. Avoid designs that hinder supervision, such as solid or opaque sides, inappropriate tree and shrub placements, or sails that are too low.

Existing services

The location of shade structures and planting should take account of existing services such as drainage, power lines, gas and water.

Recommendations

Playgrounds	• Provide partial shade for open areas of playgrounds, especially over grass that needs sun for growth. Natural shade is recommended. • Provide shade over children's play equipment throughout the year. • Provide shade over sandpits throughout the year—built shade is the most appropriate option. • Provide shade over seating. Ensure placement of shade does not obstruct carers view of play areas.
Fixed play equipment	• Safety is a major consideration for shade over fixed play equipment. • Shade structures, particularly poles, should not have footholds, grips or surfaces that allow for climbing. • Extend rooflines 500mm beyond the edge of the deck of the play equipment to prevent access to the roof.
Picnic and BBQ areas	• Shade over picnic tables and barbeque areas is recommended. • Surfaces should reflect minimal UV radiation, heat and light. • Fire safety is an important consideration for barbeque areas, particularly when selecting material for shade canopies and when planting trees.
Fixed play equipment areas	• Safety is a major consideration for shade over fixed play equipment. • Shade structures, particularly poles, should not have footholds, grips or surfaces that allow for climbing. • Extend rooflines 500mm beyond the edge of the deck of the play equipment to prevent access to the roof. • Provide clearance from the highest accessible point that a child might reasonably be expected to reach by climbing. • The roof of the shade structure should allow for a minimum head clearance height of 2.5m above the deck of play equipment. • Ensure a freefall zone exists within the play area. Tree trunks and upright posts should be located a minimum distance of 2.5m away from the most fully extended part of the play equipment, such as the end of an extended swing arc or the side of a climbing platform.

Further information

The Shade Handbook
http://www.cancercouncil.com.au/html/prevention/sunsmart/downloads/theshade_handbook.pdf

Information in this resource has been sourced from SunSmart Information Sheet—*Shade for playgrounds* (Cancer Council NSW)

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