

Outdoor play guide for Victorian **children's** services

Acknowledgments

The Playgrounds and Recreation Association of Victoria (PRAV), funded by the Department of Human Services, contributed substantially to the development of the *Outdoor play guide for Victorian children's services*. Additional information was supplied by the Faculty of Education at Monash University. The department thanks the Playgrounds and Recreation Association of Victoria and Monash University for undertaking these important tasks.

In addition, the assistance provided by many individuals and representatives from a range of early childhood organisations in providing input into the guide and feedback to draft versions is greatly appreciated.

Thanks also to the children's services that assisted with photographs.

- Bialik College Early Learning Centre, Hawthorn East
- Bond Street Kindergarten, Newtown (Geelong)
- Coburg Children's Centre, Coburg
- Deakin and Community Childcare Cooperative, Burwood
- Green Park Casuarina Kindergarten, Horsham
- Gumnut Gully Preschool, Doncaster East
- Lady Gowrie Child Care Centre, Carlton
- Monash Children's Centre, Clayton
- Penleigh and Essendon Grammar School, Essendon
- Robina Scott Kindergarten, Williamstown
- Rossmoyne Kindergarten, Berwick
- The University of Melbourne's Early Learning Centre – Research and Demonstration Preschool, Abbotsford
- Yarralea Children's Centre, Alphington

Published by Victorian Government Department of Human Services
Melbourne Victoria Australia

April 2007

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Also published on www.dhs.vic.gov.au/csguidelines

Authorised by the Victorian Government, 50 Lonsdale Street, Melbourne.

Foreword

All children love to play. It is how they learn, explore the world and express themselves. The Bracks Government recognises the importance of children's play. It believes that when a child is in attendance at a licensed children's service, they need to be happy, interested and learning in a safe outdoor play environment.

That is why I am pleased to introduce this new edition of the *Outdoor play guide for Victorian children's services*. This guide is all about ensuring we give as much scope for a child to explore their outdoor environment as possible, whilst making sure that that environment is a safe one. To that end it provides information to help you plan, design and maintain outdoor play areas.

I am confident that the guide will be extremely helpful in ensuring outdoor areas in Victorian children's services, whatever the setting, are safe environments. But just as importantly, that the outdoor space remains a wonderful, fun and enjoyable world for children as well.



Hon Lisa Neville MP
Minister for Children

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About the Outdoor play guide for Victorian children's services

Purpose

The *Outdoor play guide for Victorian children's services* provides information about the planning, design and maintenance of outdoor play spaces in early childhood settings in Victoria. It has been developed to inform decision making in the development of outdoor play spaces, and in the modification and upgrading of existing spaces.

The guide provides links to existing legislation and standards, and focuses on practical information and considerations for the creation of inviting physical environments that will enhance the play experiences of young children.

The *Outdoor play guide for Victorian children's services* has been developed as a resource for Victorian children's services that provide care and education for children and are licensed and regulated under the *Children's Services Act 1996* (see **Legislative requirements**).

While programming examples are provided, the guide is not a programming resource; alternative reference materials should be used to inform programming in early childhood settings.

Who should read the guide?

The *Outdoor play guide for Victorian children's services* is an important resource for anyone who plans, prepares and implements play and learning experiences for children in the outdoor environment. Objects in our environment suggest how they can be used, stimulate activities, or act as reminders of experiences. This guide provides ideas to assist in the design, modification and use of outdoor play areas for children.

The guide is aimed at licensed children's services, including:

- children's services licensees
- child care centre managers
- committee of management members
- staff working in a children's service.

The roles of *planner, designer, developer and maintenance manager* are often encompassed by the above positions. Professionals working in the area of outdoor play space design, and the many construction and design-related fields, together with the owners of children's services properties, may also benefit from the information presented.

Further design information is available in the *Design guide for Victorian children's services* (<http://www.dhs.vic.gov.au/csguidelines>). References and links to relevant sections of the design guide are made throughout this resource.

Legislative requirements – Children's Services

The *Outdoor play guide for Victorian children's services* has been developed as a resource for Victorian children's services that provide care and education for children from birth to 6 years and are licensed under the *Children's Services Act 1996* (Act).

The Act is the statutory framework for children's services in Victoria. Its purpose is to provide for the licensing and regulation of children's services.

The Act and Children's Services Regulations 1998 (Regulations) specify the minimum standards that must be met by a children's service in its day-to-day operation.

The Act and Regulations can be accessed at the website for Victorian legislation and parliamentary documents (www.legislation.vic.gov.au).

Further information is available in the **Children's services guide, a guide to managing and operating a licensed children's service in Victoria** (<http://www.dhs.vic.gov.au/csguidelines>) and associated practice notes.

A children's services licence is granted subject to the condition that the service is operated in a way that ensures the safety of the children being cared for or educated and that their developmental needs are met.

Licence types:

1. Standard licence—available to children's services that comply with all of the provisions of the Act and Regulations. Long day care and kindergarten are examples of standard licence children's services. These services must have outdoor space as specified by the Regulations.
2. Restricted licence—available to children's services with the condition that no child is cared for or educated by the service for more than five hours a day and 15 hours a week. Many occasional care services, such as child care in neighbourhood houses, recreation centres and in shopping centres, are restricted licence children's services. Services operating under a restricted licence do not have to meet all of the premises provisions that are required for standard children's services; this includes the provision for outdoor space. Where outdoor space is provided, however, it must be fenced in compliance with the Regulations.

Key standards of the legislation relevant in the planning, design and maintenance of outdoor play spaces in children's services are the size of outdoor space, supervision of children, protection of children from hazards, children's programming, premises to be kept in clean and good repair, and provision of equipment.

Outdoor space

Young children require adequate space and opportunity to develop fundamental skills. Space per child requirements can be culturally specific; nevertheless Victoria has regulations that determine the minimum amount of space required at children's services. Regulation 43 of the Children's Services Regulations 1998 identifies the minimum requirements for outdoor space for each child at the service and the calculation of outdoor play space.

43. Outdoor space

(1) *The licensee must ensure that -*

- (a) *outdoor space is provided at the children's service with a useable area of at least 7 square metres for each child who may be cared for or educated by the children's service; and*
- (b) *any outdoor space is enclosed by a fence or barrier;*
- (c) *the fence or barrier is at least 1.5 metres high measured from ground level; and*
- (d) *a child being cared for or educated by the children's service cannot go through, over or under the fence or barrier or any gate or fitting.*

(2) *In calculating the area of useable outdoor space, pathways or thoroughfares less than 3 metres wide, car parking areas, ancillary areas, storage sheds and other fixed items that prevent children from using the space must be excluded.*

This amount of outdoor space is the minimum requirement, although it is recommended that more space be allowed where possible. Refer also to the practice note Certification of area measures (<http://www.dhs.vic.gov.au/csguidelines>).

Supervision

Supervision of children is a key standard of the legislation. Section 27 of the *Children's Services Act 1996* states:

27. Inadequate supervision of children

- (1) *The proprietor of a children's service must ensure that all children being cared for or educated by the service are adequately supervised at all times that children are on the premises where the service operates or in the care of that service.*
- (2) *A staff member of a children's service must ensure that any child in the care of that staff member is adequately supervised.*

Supervision relates to individual children and groups of children. It is more than merely preventing or responding to potential hazards. Adequate supervision means that every child at the service is supervised constantly, actively and diligently. It is necessary for outdoor play space designers to understand this requirement to design appropriate play spaces. It is critical to be able to observe children in all play spaces. Refer also to the practice note **Supervision** (<http://www.dhs.vic.gov.au/csguidelines>).

Safety

The safety of children is a key standard of the legislation. Section 26 of the *Children's Services Act 1996* states:

26. Protection of children from hazards

- (1) *The proprietor of a children's service must ensure that every reasonable precaution is taken to protect children being cared for or educated by the service from any hazard likely to cause injury.*
- (2) *A staff member of a children's service must ensure that every reasonable precaution is taken to protect a child in the care of that staff member from any hazard likely to cause injury.*

A hazard in outdoor spaces could arise for any of a variety of reasons; for example, broken equipment, or a lack of rails, guards and other safety fittings. Several factors can work together in practice to contribute to the seriousness of a hazard, such as inadequate children's programs, inadequate supervision and worn or broken equipment. Proprietors and staff members should develop and implement procedures for identifying and preventing the exposure of children to hazards, or to eliminating hazards. The obligation is on the proprietor and each staff member to ensure that every reasonable precaution is taken to protect children in their care from any hazard likely to cause injury. Refer also to **Safety and Australian Standards** in this guide.

Legislation also provides that the proprietor must ensure that at least one staff member on duty has first aid training (Regulation 26).

Programming

Appropriate programming for children is important in both the indoor and outdoor environments. Regulation 28 of the Children's Services Regulations states:

28. Educational or recreational programs

The proprietor must ensure that there is made available to all children cared for or educated by the children's service an educational or recreational program that is –

- (a) *based on the developmental needs, interests and experiences of each of the children cared for or educated by the service; and*
- (b) *sensitive to individual differences of those children*

Refer also to the practice note **Educational or recreational program** (<http://www.dhs.vic.gov.au/csguidelines>).

Maintenance

Section 29 of the *Children's Services Act 1996* states:

29. Premises to be kept clean and in good repair

A proprietor of a children's service must take reasonable steps to ensure that the buildings, the grounds and all equipment and furnishings used in operating the service are maintained in a safe, clean and hygienic condition and in good repair.

Equipment

The selection and placement of appropriate equipment for children, suitable to the developmental needs of children is integral to achieving the aim of the children's program. Regulation 29 of the Children's Services Regulations states:

29. Equipment

The proprietor must ensure that each child cared for or educated by the children's service has access to furniture, materials and equipment suitable for the educational or recreational program provided for that child.

Legislative requirements – Other

Occupational health and safety

The *Occupational Health and Safety Act 2004* (www.legislation.vic.gov.au) and associated Regulations require employers to take practical steps to secure a safe and healthy work environment and to protect staff against risks. Manual handling is of particular relevance to the early childhood environment. Safe manual handling practices should be applied to individual workplaces.

Refer to the **Information and References** section for more information on WorkSafe Victoria.

Learning through play

Play means different things in different communities. For some communities, engagement in real everyday community activities is important; for example, participating in the weaving or traditional drawing activities of a community. In other communities, children have special spaces created for them in which play experiences are planned; for example, the creation of playgrounds or playrooms. The latter is common in most European heritage communities.

It is important to acknowledge that not all children play in the same way. In some communities, educators and families believe that children's play is important for its own sake, and is a critical factor in the process of child development and learning. For others, it is through play and active engagement with their environment and with others that children have opportunities to practise and refine skills and understanding, and to master their own behaviour.

Children's activities can take many forms. They can involve pretending and taking on roles, experimenting and interacting, or simply participating in the everyday tasks of home and community. Research has shown that children will bring their own expectations and experiences to play activities.

Outdoor play

Many families and caregivers in Australia consider outdoor play to be a vital part of childhood. The outdoor environment—and the programs planned in it—provide unique opportunities to develop and extend children's learning and skills. Outdoor play can encourage the holistic development of the child including providing children with opportunities for the development of physical skills, social development, improving self-esteem and confidence in their abilities.

Outdoor environments can provide areas of sand, dirt or mud to use creatively, or to experience the soothing aspects of playing with water or the challenge of building cubbies with natural or junk materials. They can provide opportunities to garden or experience the excitement of discovering and learning about insects and other creatures that share their environment. These organised play spaces may present rich experiences which may not be available to children in their own home environment.

A quality outdoor area can provide opportunities for children to explore and develop a relationship with the natural environment, gain a sense of freedom and self-exploration, space to imagine and think, and to learn the skills required to self-manage risk. Providing quality outdoor play experiences for children involves more than a safe and well-equipped outdoor play space and being allowed to experience fresh air and exercise.

Development through play

Development isn't something that just happens to children; they learn and develop by actively participating with others in numerous contexts: family, community and early childhood centres. Each of these contexts has its own meaning, significance, goals, traditions, values and practices, which vary across and within contexts.

Adults in each context choose the tasks, skills, knowledge and ways of behaving they consider important. They support and guide children in those activities. Some families consider it important for their toddlers to walk alone from as early an age as possible, for example, while other families think it quite appropriate for children to be carried by an adult or older sibling well into their second or even third year. Some parents may expect older children to play with their younger siblings, but also to teach them social and intellectual skills. Toddlers in some cultural groups are expected to quickly learn the social rules for sharing and are subjected to the same rules as older children; in other cultural contexts, toddlers' autonomy is respected and their wants are not refused because it is believed that voluntary cooperation will develop at an older age.

Children's play has long been guided by the assumption that play is a universal activity and that play promotes development. There is increasing acknowledgement that there are many different cultural variations in play.

Observing and assessing in the outdoors—an example

Tanveer (3 years)

In an outdoor area under a verandah, Carmel places a writing table, chairs, writing materials, boxes, cardboard, etcetera. She observed:

The children asked to make tickets for the concert. I modelled for the group how to write numbers 1 to 5. Tanveer moved off to the writing table and wrote 1 and 2 but asked for help to write 3. I told him how to write 3 as I wrote it on a spare piece of paper. Tanveer said he still couldn't do it. I made a dotted 3 pattern and he traced over it several times before attempting it independently. As he wrote 3, he whispered the words I used when showing him. He wrote it several times and seemed rather pleased with the results. The children then used their tickets for their outdoor theatre. Tanveer performed rolls, jumps and hops as he participated in the play the children have designed together.

This observation of Tanveer and his friends in the outdoor area demonstrates many things. On a personal level, we can see that Tanveer is learning about numerals and that he has well-developed whole body skills. Carmel, the teacher, includes in her observation the modelling that she is doing, and how Tanveer has responded. Carmel has not only made observations of physical (fine and gross) skills within the context of a real activity (theatre play), but has chosen to provide resources in the outdoor area that will provide a rich context for outdoor physical play. She has signalled the importance of the outdoor play area by observing children's learning in this space, and has created a meaningful context for outdoor play by providing more than just equipment for gross motor activity.

Do dress-ups have to stay inside?

Our teacher, Anna, talking with her staff said, 'Some of the toddlers today were taking some of the dress-up clothes from the home corner area outside. I called out to them, "Dress-ups stay inside"'. Marcus then firmly enquired, 'Why?' 'Because they do!' she responded. I thought, 'Well, why should they stay inside?' Is there a valid reason? They can be washed or mended or replaced at the op shop; there's nothing there that might hinder the children's movement outside—or is it just one of those things that we say, because that's the way we've always done it?

Situations such as this indicate the need to reflect on what is happening in outdoor spaces. Questions to be considered include:

- What might people see when looking at the outdoor play area?
- What might only early childhood trained adults notice?
- What is so much a part of the 'way we've always done things' that it is no longer noticed?

Supervision: what is being missed?

When children are busily experiencing the joy of throwing leaves in the air, hunting for insects, digging, making holes and finding butterflies, do we see it? What are staff doing while children are outdoors?

Jocelyn, Sarah and Faizah were in the outdoor area. The children had found a cocoon under a tree. They were very excited when they found it. They came running over to me yelling my name 'Angie, come quick, quick come and look!' They each pulled my arms and dragged me over to the tree. On the ground there was a small deep hole and next to it was some sort of a cocoon.

Me: What do you think it is?

Faizah: I'm not sure, something from the ground?

Jocelyn: It looks like a worm.

Sarah: Yeah, a worm.

Me: I think it may be some kind of cocoon, what do you think?

Jocelyn: Maybe a cocoon like the one butterflies have?

The children agreed. They wanted to pick it up but were scared. I took a bucket from the sand pit and placed the cocoon inside. Jocelyn took the handle of the bucket and walked off to show the other children. Sarah and Faizah put some leaves in the bucket and took it up to the room to put on the insect table. Jocelyn found a magnifying glass and placed it next to the bucket for the children to have a closer look.

Some observations of the children include:

- The children were keen to hunt for insects in the outdoor area. They were acting as outdoor explorers. They have developed a keen interest in insects and in cocoons due to recent discussions in the service about the stick insects they have living in their glass (fish) tank.
- The children invited the teacher over to the tree where the cocoon was found. The teacher was included in the findings and helped the children to collaborate on what they discovered. The children contributed significantly to the findings.
- The teacher and the children are engaged in learning about science and nature. They have their finds (in this case, cocoons) on show inside the service for all of the children and families to see. The teacher has actively linked the learning that occurs inside with what occurs outside.

Developmental progress of children

It is important for services to consider the needs of all children that will use the outdoor play space. Licensed children's services cater for a range of ages.

As children's use of space differs according to their development and cultural contexts, designers should know the ages and probable stages of development of children using the outdoor play space, and the scope of preferred outdoor areas and activities for those age groups. Children's developmental characteristics provide a starting point for the planning process, while acknowledging that each child is different and that all children develop at their own rate.

The following tables including suggestions for what to include in outdoor play spaces, and can be used as a guide in the design of outdoor play spaces. It is important to note, however, that children's individual needs are met by observing each child's skill level and by providing equipment, or modifying the environment, to meet individual needs.

Some licensed children's services cater for school-aged children. These children's services should ensure that appropriate outdoor spaces and equipment are provided.

The resource *Shared visions for outside school hours care* (<http://www.dhs.vic.gov.au/earlychildhood>) provides more information about children aged 5–12 years.

Beginning independent movement

Child characteristics – Babies (typically under 12 months of age)	Suggested inclusions for outdoor play spaces
<ul style="list-style-type: none"> • aware of sensory stimuli, sounds and movement • becomes upright and mobile • learns to clamber over low objects • begins to sit, crawl and stand up • mouths, shakes, bangs and drops objects • claps hands • transfers objects from hand to hand • enjoys one-to-one interactions with an adult 	<ul style="list-style-type: none"> • level areas (for example, grass) where mats can be spread for babies and children, where they can crawl in comfort and watch the movement of wind in the trees • babies and toddlers learn through sensory exploration, and mouth many materials
Children who move independently (typically 12 months to 2 years of age)	
<ul style="list-style-type: none"> • pulls to stand, walks forward and sideways holding a hand • sits and twists confidently • may stand alone or walk alone • uses thumb and forefinger to pick up small objects • builds a tower of two blocks and bangs two blocks together • shows a greater interest in surroundings • progresses to climbing and managing corners and obstacles well • begins to pretend and imitate in play 	<ul style="list-style-type: none"> • throwing balls and other items, but with little control • climbing in and through • filling, emptying and carrying • toppling, pulling and pushing • playing in sand pits • pushing trolleys and wheeling prams • collecting things • riding bikes and tricycles • toddlers require level spaces clear of trip hazards to run and move because they have little control when running and little sense of direction, so they are more likely to bump into obstacles • careful layout of equipment is essential because young children are less able to forecast consequences; for example, they could move into a swing's path because they do not understand that it will return

Running and exploring

Child characteristics (typically 2 years of age)	Suggested inclusions for outdoor play spaces
<ul style="list-style-type: none"> • walks up stairs and may walk backwards • squats and stands without using hands • kicks a ball and throws balls overarm • sits on a tricycle and propels with feet on the ground • builds a tower of six to seven blocks • turns pages of a book and removes wrapping from objects • asserts own will and tests behaviour limits • plays alongside other children but is unable to take turns unless supervised • establishes autonomy: wants to be independent but still wants an adult close by • uses aggression (hitting, pushing, biting) to try to solve problems • often moves as part of a group: all into the sand pit, then all on the climbing structure • enjoys physical play: climbing, chasing balls and balloons, rolling, and can manage a small slide • interest in birds, insects, flowers and animals 	<ul style="list-style-type: none"> • level, grassy areas where mats can be spread and children can crawl in comfort and scramble and pull themselves up, and which provide a soft landing for early walkers • smooth pathways with non-abrasive surfacing for wheeled toys • some gentle slopes to add interest and help develop physical skills • gardens to provide sensory experiences, listening to leaves, feeling different textures of foliage and opportunities for children to enter and explore; plants/trees to be primarily low-growing, so children can see care givers easily when seated, and be observed by caregivers • flat surfaces for setting up tables and chairs and dolls beds • overhead structures (pergolas or trees) for hanging mobiles or wind chimes • sand pit • small swings (recognising that children will still run in front of and behind moving swings) • climbing area with adequate impact-absorbing surface and movable equipment • alcove areas landscaped into gardens or fences where small groups can play • seating for adults to sit with children or with small groups for songs or conversations, or to be close enough to respond to children's needs without intruding on their play • animal enclosures

Control of movement

Child characteristics (typically 3–4 years of age)	Suggested inclusions for outdoor play spaces
<ul style="list-style-type: none"> • may balance on one foot, walk on tiptoes, walk upstairs using alternate feet and begin to walk downstairs using one foot per step • rides tricycle using pedals and dodges obstacles • builds a tower of nine to 10 blocks and builds bridges • increasing ball handling skills; throwing, catching, bouncing and kicking • begins to interact and engage in basic socio-dramatic play for short periods, increasing to fantasy play and abstract themes • enjoys climbing and often uses this as a measure of self ("look at me!") • can manage a small slide • can pour and fill • can share and negotiate and participate in group games and activities • includes violence in play • shows interest in natural science and how things work 	<ul style="list-style-type: none"> • play areas with a variety of levels and different ways of getting up and down • a large grassed area is valuable for free running, and ball and other organised games • flat surfaces suitable for large block constructions • a variety of surfacing materials • small areas for groups of children to play with sensory materials or imaginative play props • a variety of climbing, sliding and swinging equipment on impact-absorbing surfaces; this activity will take up a reasonably large space, so movable equipment is preferred • low-growing plants which create barriers, pathways and private spaces for small group play or for music, drama, science or language experiences to occur outdoors • a large sand pit and a separate digging patch, both with water available where groups of children can work together on play projects • views of the outside world and what is happening within the local area • spaces to ride bikes • natural environments to provide a cubby and camping play opportunities where children can play alone, as well as attracting birds and insects to provide a range of sensory experiences throughout the year • an amphitheatre for whole group gatherings, drama, gymnastics or circus performances • vegetable and herb gardens • animal enclosures

Refining skills

Child characteristics (typically 5–6 years of age)	Suggested inclusions for outdoor play spaces
<ul style="list-style-type: none"> • improves walking, running and climbing skills • can ride a bicycle with training wheels • enjoys discovering, learning and new experiences • understands meaning of numbers • likes to help and do real work • is physically poised and controlled • likes to test out skills and do stunts • values group acceptance • enjoys constructions and models that are realistic • the product of play is increasingly important • masters ball games • enjoys games with rules 	<ul style="list-style-type: none"> • climbing equipment • spaces for team games • spaces for dramatic play • space and equipment for 'real' work • vegetable, herb and flower gardens • gymnastic-type attachments: trapeze swings, horizontal ladders or roman rings • space for cubby building and using tools and loose play materials • secret spaces where children can be on their own or with a small group • seating arrangements that promote participation

Moving into sports

Child characteristics (typically 7–12 years of age)	Suggested inclusions for outdoor play spaces
<p>Older children</p> <ul style="list-style-type: none"> • significant improvement in agility, coordination and control over body movements • improved balance and large motor movements • increased stamina and strength • peer group is very important and usually of same gender • increase in self confidence • ability to concentrate over longer periods 	<ul style="list-style-type: none"> • open space to run off excess energy • access to sports and games that foster skills • interest in projects; for example, a group mural • appropriately sized equipment • outdoor seating that encourages group activities and discussion
<p>Mastery</p> <ul style="list-style-type: none"> • highly coordinated gross and fine motor skills • risk taking often a part of physical pursuits • hormonal changes occurring pre-puberty • peers become the reference point for self esteem and identity • growing need for independence 	

Developmental implications

The following is a brief overview of developmental implications for outdoor play.

Physical skills

The outdoor environment provides space to develop fundamental movement skills, such as walking and running, and refining coordination through climbing and games. Carrying blocks or watering cans and swinging on climbing equipment, for example, develops muscle strength. Manipulative skills are practised through bean bag games, filling and emptying sand and water containers and gardening. Children develop small muscles outdoors as they squash and squeeze sand and mud, feel the textures of mulch and gravel, pick up leaves and seed pods and generally explore their environment.

Self esteem

An important goal of early childhood programs is for children to develop healthy self esteem. Healthy self esteem promotes resilience.

In the outdoors, children are able to experience the increasing control they have over their bodies and the gains they make in their physical skills as they climb higher, run faster, and throw a ball better today than they could yesterday. They are often able to make their own choices about what to play, where to play, with whom, for how long and what to use in their play. This empowers children and gives them a sense of control and a positive sense of self.

Developing independence

As children move through their early years, they gradually separate from adults in the play environment. Toddlers are able to move away from adults just enough to test their precarious independence skills, still keeping them in sight for when they are needed. Older pre-schoolers frequently travel to the furthest end of the play space, preferably where strategically placed trees and shrubs give them the feeling of being out of sight of the adults, testing their ability to be totally independent for periods of time.

Outdoor play can provide opportunities for children to develop their own ideas, find their own play props and negotiate play roles. As children experience adults respecting their ideas and trusting their actions, they gain confidence in their ability to take risks, experiment, make mistakes and ultimately solve their own problems.

Thinking skills

Children enjoy creating their own environments using their imagination. The outdoors is an ideal environment to develop and challenge children's symbolic thought processes because it provides the space and freedom for dramatic role-play. As children develop more complex pretend scenarios that require symbolism—using an object (such as cardboard rolls) to represent a real item (such as a telescope)—they also develop their ability to represent their thoughts in symbols, such as words and numbers.

Language and communication

The outdoor environment encourages children to experiment and practise language in a relaxed environment. Children's mastery of the rules of language is assisted through chants, such as 'I'm the king of the castle and you're the dirty rascal', being able to shout without moderating the voice and experimenting with fun words.

Mathematical and scientific concepts

Much mathematical knowledge is acquired by pouring and filling, comparing the weight of sand buckets, working out the number of blocks required for a cubby, or measuring water in a rain gauge. As children work in a garden, observe changes in the weather patterns and care for animals, they are learning about science that takes place daily, outdoors.

Spatial awareness

Being outdoors involves locating oneself in a bigger space relative to varying heights and perspectives. Children develop their spatial awareness in outdoor play settings as they experience a range of perspectives from the bushy hideaway, to the top of a climbing frame. The speed of some of the play in the outdoors necessitates quick judgements about exactly where one's body is in relation to another moving body.

Natural environment appreciation

The outdoor environment provides children with an opportunity to appreciate the aesthetics of the natural world around them. This includes changing smells, colours, sounds, textures, patterns and feel of the unique Australian outdoors. Outdoor programs can increase children's appreciation of the environment, and can foster a responsibility to preserve it. Growing vegetables, maintaining a compost bin and monitoring a water tank, for example, can be part of an outdoor program. Some children's experience in the outdoor environment of their children's service may be the only natural environment they access. It is here that children can develop an environmental ethic, and form memories of play in natural settings that will last a lifetime.

Social skills

Different forms of outdoor play can encourage children to learn how to comfortably participate in a social group. The often open structure of an outdoor program can allow children the opportunity to observe for a time, to simply potter on the edges of play and then, when ready, to participate in their own way. Adults can set experiences to accommodate a range of group sizes and different styles of play, allowing children to play in situations where they are comfortable. Spaces can be set for just two children to work side by side, or for small groups to play in sheltered areas away from a more active group. Alternatively, there can be space to play alone for a time—to contemplate, refresh and feel safe—before moving on to play with others.

Child-focused design

Infant eyes

Eight month old Freya crawled through grass and sand and over loose soil. She smelled and tasted the grass, felt the wind through her hair and enjoyed the crackling sounds of the dry autumn leaves as she sat on them. Then she heard the chatter of the older children and crawled towards them. Freya was from a family with lots of brothers and sisters, who regularly picked her up and carried her about. She felt comfortable interacting with others, and sought out people. The early childhood teacher knew this and included in her design of the outdoor environment spaces places that allow babies, toddlers and pre-school aged children to interact with each other.

Children are the main users of outdoor play spaces in children's services; therefore, these spaces should be designed with the child's perspective in mind. The planning and design of outdoor spaces should focus on how children interact with materials, equipment, the environment, other children and adults: both staff and families as important members of the child's community.

In understanding children as the users of the space and considering children's differing needs, this section addresses:

- accessibility and participation
- diverse cultures
- duration and organisation
- relation to children's room

Accessibility and participation

'Let's rest for a minute'

Rowan's grandparents' regularly dropped him off and picked him up from his kindergarten. As a toddler, he was keen for his grandmother to come in with him and spend time visiting all of his favourite spaces and places. The families and staff had designed the outdoor area to include small walks, regular seating, strategically placed railings, and pathways that allowed free and easy movement of both infants and elderly or other visitors who need physical support in moving around.

Well-designed play spaces are accessible and invite all users to participate. A service should include access for children and adults with physical or sensory disabilities. Outdoor play spaces should enable access to those using mobility aids, such as walking frames or wheelchairs, as well as to prams and visiting grandparents requiring easy access to the site. It is important to recognise that most play spaces in the outdoor area can be designed to include everyone.

Strategically placed benches and platforms allow people of all ability levels the opportunity not only to access the space but to participate. The addition of adjacent surfaces for tools and materials next to garden benches or sand pits also invites participation.

Designing for accessibility and participation removes generic barriers, creating play spaces that are naturally welcoming to all users. Designing for *disability* continues to endorse *difference*, rather than viewing play spaces for *all*. As designers of outdoor play spaces, we need to ask ourselves whether the spaces are inclusive.

The sound of music!

A series of sound columns were placed in the outdoor areas so that children could hit them with sticks and listen to the wonderful sounds they created. The columns were located along a smooth path for easy access, and dangled to within a few centimetres of the ground, allowing babies access. The sound columns had been designed so that the vibrations could be easily felt against the face—important for learning about how sound travels and is heard, but also allowing for all children to experience sound.

Considerations when designing accessible and inviting outdoor play spaces include:

- Impact-absorbing surfaces of different textures allow for the access and participation of people with differing levels of mobility and other impairments.
- Those with a wheelchair or pram could experience difficulty navigating across some materials. Consider path surfaces that promote access.
- Too many changes in surface level are overly challenging for general participation. Gently sloping paths allow for safe access from one level to another. Handrails and clearly legible signs also improve access. Paths should be designed so that they do not run downhill into walls or barriers.
- There should be convenient access linking play spaces; for example, unobstructed access connecting equipment from one quiet play space such as a sand pit, to another quiet play space like a cubby.
- Access to equipment at varying height levels. Pieces of equipment or areas that have lower and higher platforms allow all users to participate. Access points can be constructed at the middle and upper levels of equipment, as well as at ground level.
- Vegetation should be integrated into the play space, rather than having a separate sensory area. Paths that meander through vegetation and raised garden beds provide for more active participation than garden beds only at the perimeter. Different smelling plants (but not so many that it is overpowering and confusing) benefit all play space users. Careful use of scented plants can provide an orientation guide for children and adults with vision impairment. Trees and shrubs should be pruned to remove overhanging and protruding branches and provide safe access to vegetated areas.

Designing for access and participation should not be considered to be an expensive extra only attainable for some, but something that will benefit all users. Whether the play space already exists, or is at the planning or design stage, it is useful to check the actual or proposed space to minimise barriers.

Smelly path!

Along the paths of Jill's outdoor play space was a series of fragrant and textured plants—mostly herbs (basil, mint, rosemary)—which allowed toddlers and visually impaired children to navigate their way around spaces by smell or feel. All the paths led to a vegetable patch and a compost bin. An olfactory feast on both counts!

Refer to the **Information and References** section for information about the resource agencies Noah's Ark Inc and Early Childhood Intervention Australia.

Diverse cultures

Permaculture gardening design

Angelina included in the re-design of the outdoor play area lots of spaces for growing food. The growing of vegetables, fruits and nuts were important values held by the community. Angelina included in her program planning for organically grown fruit and vegetables using permaculture, setting up composting facilities, and creating structures which allowed the community to garden with the children.

Children's services are encouraged to reflect the diverse cultures, needs and interests of their community. When designing play spaces, it is ideal for staff to be familiar with the variety of cultures in the local community and to be able to provide an environment that is influenced by the various cultural groups.

Different play spaces could reflect the areas that children may have at home and are more familiar with; for example, gardens can grow a variety of diverse vegetables, fruits and plants from different cultures. Local families could provide a variety of plants and other materials, allowing them to feel involved and giving them a sense of belonging.

Using natural materials in outdoor play areas is an excellent way to ensure many people in the local community are familiar and comfortable with their environment. Natural materials also provide an alternative to the overuse of brightly coloured plastics.

Spaces designed to accommodate small groups can provide opportunities for children who speak the same language to interact without the distraction of large group play. Quiet and safe environments also enable children to participate in the play area, according to their individual needs. Designers can also consider the values of some cultures regarding messy play and cleanliness, and also to the use of water, which is a scarce and valuable resource in many countries.

Refer to the **Information and References** section for more information on the resource agencies FKA Multicultural Resource Centre and the Victorian Cooperative on Children's Services for Ethnic Groups (VicSeg).

Duration and organisation

We have the time

Grandparents Kathleen and Peter talked about the time they spent with their grandchildren. 'The big difference with grandchildren is time. There isn't the same rush to get things done as there is when your own children are young. I think that the older you get the more you realise that you have to appreciate the time you have with them.' The time they spend in the garden together, mending, fixing, planting, talking, wondering, and observing, was mutually enjoyable and beneficial for learning and development.

Grandparents have the time. Children have the time. Is there time available in children's services for outdoor play?

Time is an important element when considering the design of outdoor areas. Some children attend a service for a few hours at a time; for example, in occasional care and sessional kindergarten. Other children attend full day care five days a week in long day care centres. The amount of time to be spent in the outdoor area will change the way the space should be planned.

Non-fixed equipment and materials will allow for a diversity of ways in which the outdoor play space can be set up. Using the outdoor space to feel and map seasonal changes is possible.

Children's services often group children according to age, organised as peer groupings, which cater for children of a similar age. Alternatively, mixed age groupings, or cross-age groupings are used. Some services are set up to provide separate outdoor play spaces for these groupings or, alternatively, outdoor play spaces are not separate, which means that all ages share the same outdoor play space. While the size of the outdoor space has a relationship to the total licence capacity of a service, time allocations and turn-taking are often employed to manage the use of the space for different groups and to tailor activities. This may not provide for flexible programming and requires environments to be reset frequently during the day to ensure the space caters for the different developmental stages of the children.

There are a range of alternatives, for example: services can provide separate outdoor play spaces that are mainly used by different age groups and that, at different times across the day or week, are shared and common to all ages. Or flexible outdoor spaces can be created that allow for the play spaces to be opened up and joined together, or closed off, dependent on the circumstances.

Spaces catering for large groups can require a more complex design to allow for diverse and multiple play opportunities to occur concurrently, including the provision of active and quiet spaces, and group and individual spaces.

Relation to children's rooms

The location and configuration of the outdoor play space and associated equipment requires child-centred design. It is important at the early design stage to question what relationship the outdoor space has to the interior children's rooms and how each outdoor space can be used by children.

Consider:

- Designs that allow for indoor-outdoor programming
- Providing more than one outdoor play space at a service to directly relate that space to a particular children's room, and particular age groups.
- Providing more than one outdoor play space at a service to take advantage of site aspects or differing play experiences
- Designs with outlook onto natural outdoor spaces
- Access to children's toilets from the outdoor play space.

Using outdoor play spaces

Chairs, chairs, and more chairs

Recently, the kindergarten had a barbecue, leaving the chairs they used stacked up in the playground. Several children from the after school program unpacked the chairs and lined them up in a row. They had created a bus. More children noticed and, over several days, the stack of chairs had transformed into a long line right throughout the playground.

This section explores the outdoor play environment through a discussion of desirable characteristics, details about specific play spaces, and the effective use of outdoor play spaces.

The size and configuration of outdoor play spaces, and how equipment available in them impact on children's play experiences is also considered.

Desirable characteristics

Rising to the occasion

Stephen, aged 4 years, lived in a high rise flat and had difficulty running around. Each day when he arrived at the kindergarten he balked at the door and ran to the far end of the playground, completing several laps along the fence line. Jesse, also aged 4 years, was timid and sensitive to loud noises. When outside, he tended to sit on the step or linger at the end of the sand pit. Both children had different needs for outdoor play spaces. Stephen needed clear, open space to run and jump and climb, and Jesse needed safe places and cubbies where he could explore or engage in dramatic play to work through his anxieties.

It is important for the outdoor play area to provide a variety of spaces or **outdoor rooms** that allow children opportunities to engage in different types of play and learning experiences. Outdoor play areas traditionally focus on developing physical skills with space for climbing frames, running and ball games. Children also need soft, quiet places for reflection and dramatic play where children can create their own worlds without the fear of being run down by a football match. These areas can be set up with small collections of dramatic play props including small bags containing puppets or dolls, small cars or animals.

This section explores the outdoor play space through a discussion of desirable characteristics, details about specific play spaces, and the effective use of outdoor play spaces.

A design that integrates a number of features or characteristics will enrich the play experiences available for children. Five desirable characteristics in outdoor play spaces are explored below.

Complexity and detail

A complex space is one comprised of many intricate parts. Complex environments invite exploration. Children have an acute sense of detail, whereas adults can easily miss the fine details appreciated by children.

Adult emphasis on neatness or ease of maintenance can often result in sterile settings, such as a yard simply grassed with no other feature, or a square sand pit. A two level sand pit structure with irregular rock edging and various timberwork surfaces provides a far more complex and attractive play environment for children.

Natural environments

The ants go marching one by one...

Jenny was talking to a small group of children, aged 2 years, who had come across a parade of ants marching across the path. The children were stomping on the ants when Jenny joined the group and she began singing a marching song, encouraging the children to march too. She then encouraged the children to crouch down and look at the ants, drawing attention to the way they greeted those ants on their return journey. She quickly gathered magnifying glasses for the children to look closely at the ants. Two of the children then began to move towards the garden beds with the magnifying glasses searching for other small creatures to watch and talk about.

Young children need exposure to, and experience in, settings that provide learning opportunities in and about the natural environment. Children are challenged in each interaction with the natural environment because the natural environment is constantly changing. The natural environment also provides complex variations of sensory details such as textures, sound and temperatures. Such interactions include experiencing wet and then dry surfaces, noticing the difference between wind-blown and still branches, or changes in seasons.

Aesthetics

Pecking birds

Melinda was standing near the garden bed holding a bucket in her hand. Some birds flew down onto the ground in front of her. She stood frozen, watching them closely as they pecked at the ground. A short time later, they flew off. Melinda watched the birds until she could no longer see them and continued playing.

The outdoors allows numerous experiences with natural beauty and colour. The physical environment should be an inviting and beautiful space for children to enjoy and engage their natural curiosity.

While many artificial objects are beautiful, too many novelty features and bright primary-coloured or fluorescent-coloured equipment, including cartoon style motifs, can be an intruding visual stimulus that can be restrictive and overwhelming to children.

Flexibility and change

Outdoor play spaces should be adaptable to many different activities across the hours of the day, the four seasons, the age of children, and in the interests of a varied program. Spaces and structures that can be used in a variety of ways are always preferred over single-use items. Trestles, wooden boards, tunnels, logs, tyres, stepping stones, light-weight cubby frames and fabric are examples of items that can be used in a variety of play settings.

An outdoor space should be flexible enough to enable staff to set out a variety of experiences to meet the individual needs of children to offer them variety and challenge in their play experiences. This is even more essential if mixed age groupings are planned.

Where an outdoor space has other uses at different times of the day or week, the following issues should be considered:

- the degree to which these uses are compatible
- security and safety provisions
- how the maximum benefit for all users can be achieved
- storage.

Potential for manipulation by children

The secret of a successful playground is in its continual development; it is never complete, never developed. It is the sort of terrain, vague but can be made into many things by children. (Greenman 1988)

An environment with loose play materials for children to arrange and use for their own creations, supported by adults who allow and encourage this type of play, is of enormous value to children. Such environments are never finished and most of the time will not be tidy. Cardboard boxes, plywood sheets, plastic pipes, lattice fencing, and old sheeting are just a few of the loose play materials that children use to create their own play spaces. A frequently changing supply and arrangement of loose and movable items in the play area is recommended.

Making best use of play spaces

This section looks at maximising small play spaces, dividing large play spaces and considers areas that link different play spaces.

Whether the outdoor play environment at a licensed children's services is made up of several smaller outdoor play areas or one large outdoor space the minimum requirement for outdoor space must be provided (see Legislative Requirements).

Maximising small play spaces

Some children's services comprise one or two small outdoor play areas together with a larger play area. While many smaller spaces cannot be used for the same activities as larger ones, careful planning and purposeful placement of equipment and play materials can result in flexible space use in these smaller areas, enabling children to have a variety of valuable play experiences.

Ideas for maximising space include:

- focusing on movable items in the play area that can be adapted for many purposes by staff and children; for example, timber rounds and sawn-off tree trunks can be tables, chairs, dividers, aeroplane seats, and so on
- minimising fixed items, instead using flexible items, such as trestles and planks, that can be moved aside for example for running games, dramatic play or block construction
- alternating or changing play opportunities; this can be achieved in an area with a fixed swing frame by removing the swing attachment and throwing a large piece of material over the swing frame, creating a circus tent
- developing indoor–outdoor programs so children are spread between the two areas; this may require existing access between both areas to be modified
- changing play materials regularly to provide for variety in play experiences
- maximising the play value of every corner of the yard and every piece of play equipment or materials
- leaving swings and bikes to the larger outdoor play space.

Smaller outdoor play spaces can be functional next to babies' rooms, where cautious first steps can be taken in safety, providing variety from the larger more active outdoor play spaces.

Dividing the large play space

Large areas are by no means a disadvantage, but they should be dealt with just as carefully as smaller spaces. Very large, open spaces without definition can sometimes overwhelm a small child, especially when they first start at a children's service.

Spaces can be divided and smaller personal spaces created with:

- changes in surfaces or levels
- divisions, either permanent or temporary, to create small-scale spaces that separate a quiet space from a busier active area; these areas can:
 - prevent children running across the path of a swing
 - provide an area where children can be alone
 - separate babies from older children's activities where the two activities are not compatible.
- small seating areas
- planting—in the ground, in tubs, in raised beds, in tyres, from overhead hanging baskets, in the form of hedges and using shrubs, individual trees, climbers, vegetables and herbs
- landscape elements and other structures—built edges, mounds, retaining walls and paths, decks, sand pits, low fences or screens, pergolas, shade structures and other overhead fixtures

- opaque fencing, eliminating the appearance of endless space that disappears through open mesh fences
- movable objects—hanging items from overhead structures, boxes, cable reels, logs, planks, seats, hay bales, tents, tunnels, climbing frames and fabrics.

Areas that link play spaces

A well-designed facility will integrate outdoor and indoor play areas. Areas such as paved or decked verandahs, pergolas, porches and patios, provide a useful transition between the indoor children's rooms and toilets and the outdoor play space.

A range of activities will occur in such a linking area if it is well designed. This can include:

- outside play on a wet day
- experiences that require a firm surface
- experiences using materials brought outside from the playrooms
- secure play spaces for children who are reticent to join the more boisterous outdoor play
- messy activities that can be hosed down
- woodwork bench, water trough, table settings
- small group play.

Important design considerations:

- verandahs and similar areas large enough to allow use of more than one activity, while not blocking entries or taking up too much of the yard
- space as level as possible, grading gently away from the building for drainage, and approximately the same level as the outdoor play area for accessibility and convenience
- overhead protection and a paved surface will allow for all weather use; verandahs, pergolas, awnings or umbrellas can provide shade and shelter, but the type of shade and ground surfaces should minimise UV reflection and heat absorption, where possible
- verandah poles and shade poles can be a danger for children running or on bikes; their location should be considered carefully in the early stages of the building design
- ramps for wheelchair access should be included where possible (the Building Code of Australia contains requirements regarding gradient).

Large play equipment

Equipping an outdoor area so that it provides quality play experiences for children requires careful planning. Quality outdoor play experiences do not necessarily require high-cost equipment. Rather, equipment should be carefully selected and thoughtfully sited. Materials should be appropriately stored, accessible and well maintained. Proprietors should seek advice from experienced staff or other early childhood professionals before making any decisions for major expenditure on single large pieces of equipment.

Fixed playground equipment can impact substantially on the flexibility of the outdoor play space due to its size and permanence. Additionally, the **free height of fall** of the structure will determine the required **fall zone** around it. Such fixed playground equipment can limit the set up and use of the area for other activities. Large, moveable playground equipment must also be selected with location and intended use in mind. This section explores considerations about selecting fixed playground equipment and large, moveable playground equipment.

The Australian Standards address playground equipment, including the design, manufacture, installation and maintenance, within Australian Standard AS 4685 – 2004 Playground Equipment, and Australian Standard AS 4486 – 1997 Playgrounds and Playground Equipment. Details are provided in the section on **Safety and Australian Standards**.

Large moveable play equipment

Large, moveable play equipment is flexible because it can be used in a variety of ways in the outdoor play space, providing many different play experiences, or it can be removed entirely to create open play spaces. Moveable structures and coordination equipment include trestles and moveable climbing equipment such as:

- A-frames
- boards
- tunnels
- trampolines
- ladders
- scramble nets.

The benefit of having access to a variety of large, moveable play equipment is it can be used in different locations, in different combinations and with differing frequency, keeping the play space inviting, interesting and challenging for children that regularly use the outdoor play space.

The expense of large, movable play equipment is often not as high as that of fixed play equipment. Whichever component is preferred, the selection of pieces must be compatible with the specific outdoor play space available and the intended use. The large play equipment can then be complemented by a variety of play materials.

Because many large, moveable play equipment pieces are set up and packed away each day, it is important to consider the location and design of appropriate storage for these items. Where the lifting of heavy objects is involved, it is important to ensure staff understand and apply safe manual-handling practices.

Refer to the **Information and References** section for more information on WorkSafe Victoria, for details on safe manual handling practices.

Large fixed play equipment

Large fixed play equipment includes structures such as climbing frames, forts, **cubbies**, swing frames, slides, **sand pits**, platforms and stages, and dramatic play structures such as boats. These items can be purchased as pre-formed units, or can be custom-built to suit individual requirements.

Investment in fixed play equipment can be substantial; therefore, each piece of equipment should be selected carefully. The types of play opportunities that a fixed play structure affords should be considered. In play spaces that children use every day, the areas should continue to remain inviting and interesting, and be equipped with materials that encourage children's play to develop. Where this is not the case, fixed play equipment may be left unused as children tire of it once they have mastered its challenges.

Parents can often expect children's services to be equipped with large, shiny, complex climbing frames or platforms, similar to those in some public parks. Fundraising committees may also prefer the installation of large, fixed playground equipment as an ongoing recognition of community involvement. While these attitudes are well meaning, the value of play items and their flexibility for each particular play space should first be considered.

Selecting large play equipment

Questions prior to purchase

- Why has this item been proposed?
- How is it anticipated that children will use it?
- Will it assist the play experiences children require?
- How will it provide for children's continuing skill development as they mature during the years they attend the children's service?

- Can children with a range of abilities use it?
- Will it allow for attachment and linking with other items?
- Will it restrict the range of activities that can take place in a limited area?
- Will it encourage children's physical, cognitive, social, emotional or creative development?
- Will it encourage children to learn new skills?
- Will it encourage children to interact with their peers?
- Will it encourage a relationship with the environment?
- Will it encourage repetitive activity?
- How easily can the item be modified for different purposes by staff or children?
- Can it be used in more than one way?
- Will it complement other equipment already in the outdoor play area?
- Do local children already have access to similar items outside the service?
- Does the item have a fixed theme that cannot be changed, such as –a story character or a train, limiting the use of imagination?
- Will the equipment dominate the play space and impact on optimum use of the area?
- How much of the overall outdoor play space will it use?
- Is it made of materials that can be recycled or reused when it is no longer needed on site?
- What are the maintenance requirements?
- Are spare parts covered under a warranty or easily available?

Important safety requirements

- Does the equipment comply with relevant Australian Standards?
- Have appropriate fall zones and impact-absorbing surfaces been incorporated?
- Is it appropriate for all age groups using the play area? If not, will it place one group at risk?
- Is it a complex play item that will require a disproportionate amount of staff time to supervise?
- Will it place users of other programs (in multi-use facilities) at risk?
- Does it have a non-toxic, smooth surface, free from splinters or sharp edges?

Refer to the **Information and References** section for the *Information sheet on arsenic treated (CCA) wood* released by the Department in May 2005, and for the organisation WorkSafe Victoria, which provides information about safe manual handling practices.

Location of the equipment

- Where is it proposed that the equipment be located?
- Is there sufficient room for both the item and the traffic and fall zones around it?
- Will the equipment positively or negatively affect other activities in the outdoor play space?
- Will the proposed location allow enough space to connect movable planks and ladders as well as other movable equipment and still allow for adequate safety zones?
- Will the placement of the new equipment reduce the ability of staff to supervise the outdoor play space?

Safety and Australian Standards

Children learn through play. They need to be able to take risks to extend their abilities and skills and learn how to manage their own behaviour. A well-designed outdoor play space and program encourages children to take some risk while minimising hazards, including the risk of injury. Over-emphasis on risk can be counterproductive for children's development. Together, risk taking and minimised hazards ensure children can develop self-managed behaviour while staying safe.

A children's service must be operated in a way which ensures the safety of the children. Children's services should develop, implement and monitor procedures to identify and address hazards. The *Children's Services Act 1996* requires proprietors of children's services to take every reasonable precaution to protect children from hazards likely to cause injury, and to maintain the premises in good repair. (See **Legislative requirements**).

Adhering to Australian Standards for outdoor play helps a proprietor to demonstrate that they are taking reasonable precautions against hazards. However, other measures will be needed in order to show every reasonable precaution has been taken – this will require attention to other aspects of safety at the children's service, including safety in the indoor area, and adequate supervision and programming.

Good practice includes showing children how to safely use a playground and each piece of equipment. This should encourage creativity in play and ensure equipment is used safely. When new or modified play equipment is installed, staff and children should be informed about its correct use and any rules that will apply to their use.

Common outdoor play space hazards

Some common outdoor play space hazards that should be addressed for both children and staff are:

- play equipment configurations that reduce sight lines and supervision
- slip hazards; for example, sand on pathways or other hard surfaces
- trip hazards; for example, those caused by uneven paving in pathways or equipment left in traffic areas
- rocks and hard edges that create a hazard around active areas or along pathways that could be used for running activities
- lack of equipment maintenance; for example:
 - missing bike handle grips
 - faulty cleats in boards or ladders
 - brittle broken plastic or splintered play equipment
- heavy objects on climbing frames that destabilise the equipment
- inappropriate ground surface
- fall hazards created by moving equipment to inappropriate locations
- climbing equipment placed on, or adjacent to, hard surfaces
- drowning hazards; for example, excess water left in play spaces where very young children play
- damaged or weathered equipment awaiting removal or replacement accessible to children
- inappropriate use of equipment; for example, metal spades above shoulder level
- traffic areas that cause collisions and interrupt play
- active play that conflicts with neighbouring quiet play spaces
- play that is inappropriate for the developmental stages of the children using the spaces.

Australian Standards

Standards Australia has produced a number of Australian Standards that are relevant to outdoor play environments, including supervised early childhood settings.

This section of the *Outdoor play guide for Victorian children's services* refers to:

- Australian Standard **AS 4685** – 2004, Playground Equipment (Standards Australia 2004), and
- Australian Standard **AS/NZS 4422** – 1996, Playground Surfacing (Standards Australia 1996).

Other relevant Australian Standards are:

- Australian Standard AS/NZS 4486 – 1997, Playgrounds and Playground equipment (Standards Australia 1997).

Standards are subject to change.

Designers, manufacturers and playground equipment installers should directly refer to the applicable Australian Standard.

The Department of Human Services recommends licensed children's services use these standards as guidelines to assist with the provision of a safe outdoor environment. Applying these standards shows that steps are being taken to protect children from hazards likely in the outdoor space.

The playground equipment standards outline requirements and test methods for general safety, swings, slides, runways, carousels and rocking equipment. The standards for playground surfacing outline the Australian Standards for impact-absorbing surfaces. Key aspects of the playground equipment standard and the playground surfacing standard are summarised in the following areas of this guide:

- **Surfacing for outdoor play space**
- **Free height of fall**
- **Fall zone**
- **Entrapment**
- **Handrails, guardrails and barriers**
- **Swings**

Refer to the **Information and References** section for the Playgrounds and Recreation Association of Victoria (PRAV). PRAV can provide specific information about playground equipment including swings, slides, runways, carousels or rocking equipment.

The playground equipment standard distinguishes between standards expected of unsupervised and supervised early childhood settings. Standards for supervised early childhood settings are different from unsupervised settings. This is in recognition of the age of the children and the nature of their supervision. As licensed children's services are supervised early childhood settings, they should be guided by any specific provisions in the Standards directed to supervised early childhood settings. A duty to take reasonable care of a child in the children's service exists at all times the child is in the care of the service.

Surfacing for outdoor play space

Outdoor play space surfaces should provide children with a variety of surfaces on which to play. Typical outdoor play spaces have a range of areas in which children play. Some areas encourage active play (for example, climbing) and others are suitable for less active play (for example, sand pits).

Impact-absorbing surfaces

The playground surfacing standards specify recommended surfaces, described as *impact-absorbing surfaces* and test requirements to ensure that they are suitable in reducing the impact of head injury from a fall. Impact-absorbing surfacing should be used in the **fall zone**. A lack of impact-absorbing playground surfaces can be a significant hazard where the **free height of fall** presents a safety risk.

An impact-absorbing surface is not required if falls are prevented by engineering means, such as guardrails and barriers. See **handrails, guardrails and barriers** (handrails alone do not preclude the need for an impact-absorbing surface).

Less than 500mm (50cm) free height of fall

Where the free height of fall is less than 500mm (50cm) the ground surface is not required to be impact-absorbing.

There are many materials suitable for use in playgrounds where the free height of fall is less than 500mm (50cm). These include well-maintained grass.

If using soft, naturally occurring sand, good maintenance will ensure its ongoing suitability. Sand should be checked and turned daily. It is important to ensure that sand is granulated and does not absorb moisture. If inappropriate sand is used, it can compact with moisture and become hard, creating a risk of head injury.

Greater than 500mm (50cm) free height of fall

To meet the playground surfacing standards, impact-absorbing surfaces are required in any fall zone where the free height of fall is greater than 500mm (50cm). The type of surface required depends on the free height of fall and the type of material used to absorb the impact.

There are two types of surfacing usually used where there is a free height of fall of greater than 500mm (50cm): loose fill materials and solid surfacing. See the section **The landscape** for further information on the *ground surface* and impact-absorbing surfaces. For solid surfacing, the testing methods ensure that, where there could be a greater free height of fall, the surface is required to absorb a greater impact. This is designed to reduce head injury.

There are strengths and weaknesses to all surfacing types. Outlined below is broad advice about loose fill materials and solid surfacing to meet the Australian Standards.

Loose fill materials

The standards require that loose fill materials be installed at a minimum depth of 200mm. However standards also recommend that additional depth be provided to allow for compaction, dispersal and deterioration, requiring at least an additional 25mm.

The Playgrounds and Recreation Association of Victoria (PRAV) (see **Information and References** section) recommend that loose fill materials be installed at a depth of **300mm** (30cm) to ensure that loose fill is 250mm (25cm) deep after daily use, allowing for movement, settling and the above compaction, dispersal and deterioration.

Some of the loose fill materials products available are:

- pea gravel
- double-milled woodchips
- mulch
- pine bark
- pea hulls
- shredded rubber.

Solid surfacing

Solid surfacing products are usually rubber or synthetic materials formed into tiles, sheets or wet pour substances that set on site.

When considering purchasing solid surfacing for a children's service the proprietor may wish to ask the manufacturer, designer or retailer for:

- the name of the approved testing authority that has tested their material
- the impact attenuation related to the depth of material to be installed
- a copy of the test report.

If the manufacturer, designer or retailer has a product that meets the playground surfacing standards, they will be able to provide a copy of the test report. Children's service proprietors can ask suppliers to provide a copy of test results that explain the impact-absorbing surface material depth or structure. Surfacing suppliers are usually not able to provide details of the free-height of fall as this is the responsibility of the playground equipment suppliers.

Free height of fall

Free height of fall is a measurement of the height from which a child could fall. It is formally defined as the greatest vertical distance between a part of the equipment that is a point of intended body support, and the ground surface or part of equipment beneath.

Free height of fall is used to establish the safety of the height of play equipment. It also helps establish what playground surfaces (see **Surfacing for outdoor play space**) are suitable in the **fall zone** and the need for **handrails, guardrails and barriers**. Note, special requirements exist for **swings**.

The free height of fall is measured from the standing surface (usually a platform) to the surface underneath the equipment. If the design of the play equipment allows children to access higher parts (not necessarily intended for standing), this should be considered in determining the free height of fall.

The Playgrounds and Recreation Association of Victoria (PRAV) (see **Information and References** section) recommends that a maximum 1000mm (1m) free height of fall is used with equipment for children aged 0–3 years. The Australian Standards for playground equipment indicate that 1500mm (1.5m) is the maximum free height of fall for all supervised early childhood settings.

Maximum free height of fall

Age (years)	Maximum free height of fall
4–6	1500mm (1.5m)
0–3	1000mm (1.0m)

Equipment height

The Australian Standards for playground equipment do not specify a maximum height of play equipment. This allows for more challenging and interesting equipment on which children can learn; however, equipment must meet the maximum free height of fall of 1500mm (1.5m).

Fall zone

The fall zone is the surface that can be hit by a user falling from equipment. Falling space is the area around a piece of outdoor play equipment in which a child could fall. It is formally defined as space in, on or around the equipment that can be occupied by a user falling from an elevated part of the equipment. Obstacles such as tree branches, for example, should not encroach on the falling space, nor should they lie on the fall zone.

The fall zone measurement is the minimum distance from any part of the play equipment to any hard surface, such as borders, paths, tree trunks, footings, obstacles or adjacent equipment. It helps establish where playground surfaces (see **Surfacing for outdoor play space**) should be installed to reduce injury.

The size of a fall zone depends on the **free height of fall** of the play equipment. Special requirements exist for swings. Fall zones are required for equipment where the free height of fall is greater than 500mm (50cm).

Fall zone requirements where free height of fall is greater than 500mm (50cm) (non-moving equipment).

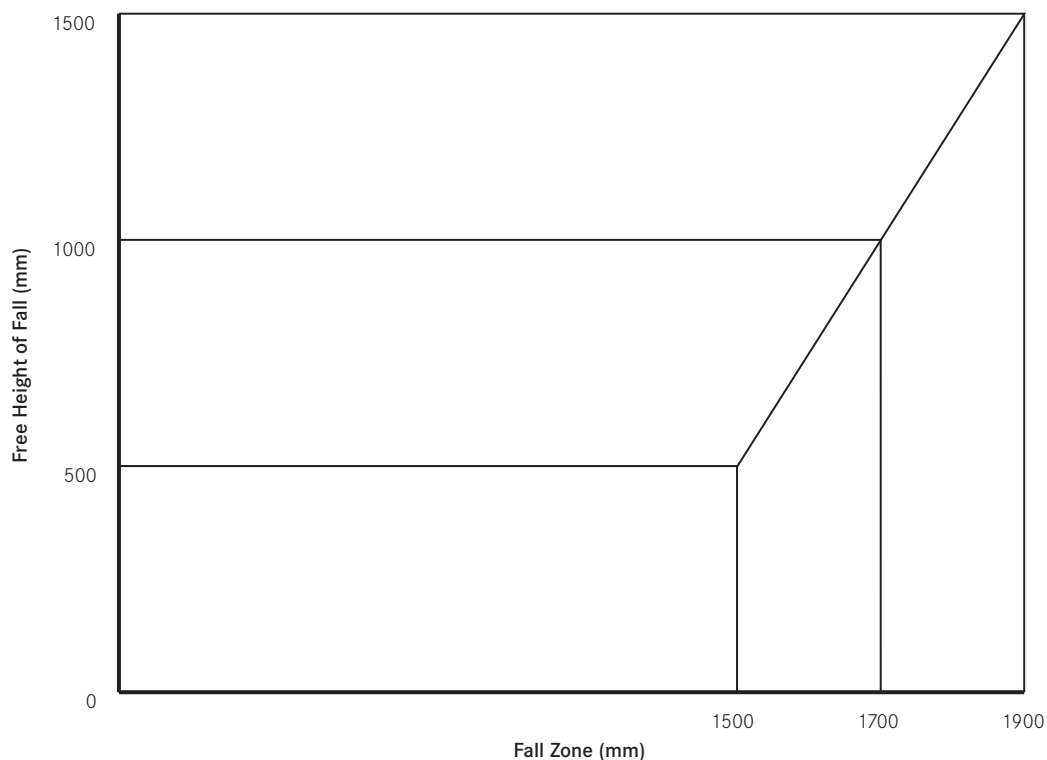
The Australian Standards set out the dimensions of fall zones. Smaller fall zones can be provided for smaller heights; larger fall zones for increased heights. As the recommended maximum free height of fall in supervised early childhood settings is 1500mm, the maximum requirement for a fall zone is 1900mm.

The dimensions for fall zones is provided in the table on the following page and illustrated in Figure 1. Both show the increasing size of fall zones as the free height of fall increases.

Fall zone distance

Free height of fall	Fall zone distance
501 mm (0.5m)	1500mm (1.5m)
1000mm (1.0m)	1700mm (1.7m)
1500mm (1.5m)	1900mm (1.9m)

Figure 1: Fall zone dimensions.



Moving equipment

The standard provides that, where equipment is moving, the fall zone is measured from the extremity of the movement. Children falling, jumping or being pushed off equipment should land within the fall zone, where there is an impact-absorbing surface. There are also particular requirements for fall zones around **swings**.

Clustered equipment

A cluster of equipment is a combination of equipment designed to be in close proximity, which provides children continuity of play with a variety of activities. The standard provides that the fall zone is measured from the outer perimeter of all of clustered equipment; for example, two climbing frames that are next to each other do not have individual fall zones; there is one fall zone for all of the equipment.

Equipment footings

The Australian Standards provide that, where footings (including concrete footings) are present, they should be buried underground to avoid tripping and impact hazards. Industry practice is that the top of the concrete should be 50–100mm below natural ground level and then covered with the required depth of impact-absorbing material.

Entrapment

An entrapment hazard is one that could lead to children or their clothing becoming trapped, particularly when moving. It is formally defined as a hazard presented by the situation in which a body, or part of a body, or clothing can become trapped, often due to forced movement. The user is not able to break free and injury is caused by the entrapment.

It is important that staff working in outdoor play areas understand the potential for entrapment involving playground equipment. Entrapment can occur through the trapping of the whole body, head, neck, finger, hand, arm, foot, leg, clothing, or hair.

Forced movement is movement that a child is not in control of; for example, coming down a slide or fire pole. Entrapment while in forced movement is especially of concern because it can cause unexpected or abrupt stopping leading to injury. A child's finger closed in a gate, for example, is less likely to cause serious injury than a child's finger stuck in a gap halfway down a slide that they are moving down.

The Australian Standards advise manufacturers that they should not construct playground equipment so that openings create head and neck entrapment hazards (either by head first or feet first passage), clothing entrapment hazards or finger entrapment hazards. It also provides guidance for designers and manufacturers of playground equipment about whole body, arm and hand, and leg and foot entrapment hazards, and specifies that openings and gaps of specific sizes must not exist within the equipment, particularly where children are in forced movement.

Testing equipment has been designed to assist in assessing the size of openings and gaps that could be head and neck, clothing or finger entrapments. Some local councils may have testing equipment that may be available for children's services to borrow should they choose to self test existing equipment in line with the Australia Standards for playground equipment.

Australian Standards outline the following:

Head and Neck

Hazardous situations in which head and neck entrapment may occur are described in the Australian Standards and include playground equipment which contain completely bound openings through which a user can slide head first or feet first and become entrapped. Where the opening is rigid and circular in nature, the Standards advise that it must not have an internal diameter of between 100mm and 230mm. It uses two testing apparatus, a small probe (torso) and large probe (large head) to assess suitability. Particular attention is drawn to playground equipment that is more than 600mm above the ground surface.

Caution is also made in regard to playground equipment that has partially bound or V-shaped openings, where the entrance to the opening is more than 600mm above the ground surface. Further test apparatus is used for partially bound or V-shaped openings.

Clothing

The Australian Standards require that playground equipment be constructed so that it avoids hazardous situations in which clothing entrapment may occur and result in strangulation. For example gaps, V-shaped openings or protrusions in which a part of clothing can become trapped while or immediately before the user is undergoing a forced movement. Slides, fireman's poles and roofs on playground equipment are identified as areas of particular risk. A toggle and chain test device is described in the Standards.

Whole body

The Australian Standards provides requirements for tunnels to ensure they do not become a hazardous situation of whole body entrapment.

Foot or leg

Hazardous situations in which entrapment of the foot or leg can be encountered while using playground equipment are described:

- level surfaces intended for running or walking shall not contain any gaps likely to cause foot or leg entrapment
- where a surface is inclined at up to 45° it shall not contain any gaps greater than 30mm (excepting suspension bridges).

Fingers

Not all openings in which a finger can be placed are hazardous.

Examples of hazardous situations in playground equipment include the following:

- Gaps in which fingers can be trapped whilst the remainder of the body is moving or continues in motion involuntarily, for example sliding, swinging, falling.
- Open-ended tubes or pipes
- Variable gaps (excluding chains)

In testing for finger entrapment the Australian Standards identifies two testing tools, firstly an 8mm finger rod and secondly a 25mm finger rod. When a child is using playground equipment that subjects them to forced movement and there are holes/openings that are more than 1200mm above the ground surface, the openings should be tested so that if the 8mm finger rod passes through an opening, the 25mm finger rod should also be able to pass through the opening.

The spaces between decking boards on rigid bridges, ramps and platforms are exempt from finger entrapment provisions, unless they are within the movement space requirements of adjacent or attached equipment.

The ends of tubes and pipes shall be closed off to prevent the risk of finger entrapment. The closures should not be removable without the use of a tool.

Handrails, guardrails and barriers

As a protection against falling, handrails, guardrails and barriers may be applicable on playground equipment. A handrail is a rail used to help children balance themselves. A guardrail is a rail used to prevent children from falling. A barrier is a solid guardrail to prevent children from falling under the rail. They are formally defined as follows: a handrail is a rail intended to assist a user to balance; a guardrail is intended to prevent a user from falling; and a barrier is a guardrail intended to prevent a user passing beneath. A lack of handrails, guardrails and barriers can be a significant hazard where the **free height of fall** presents a safety risk.

Handrails

The standards require that for the playground equipment in supervised early childhood settings, all access ramps, stairways, steps and bridges be provided with a continuous handrail on each side (this does not apply to rung ladders).

Height of handrails

Equipment part	Height of handrail from surface
Above steps	450–700mm (45–70cm)
Above platforms, landings, other equipment	No greater than 850mm (85cm)

Guardrails/barriers

The standards require guardrails or barriers on equipment with a platform of a certain height. These heights are detailed below.

Guardrails/barriers

Height of platform	Protection required (measured from the surface of the platform)
500–1200mm (0.5–1.2m)	Guardrail: 650–750mm (65–75cm) or Barrier: not less than 700mm (70cm)
1200–1500mm (1.2–1.5m)	Barrier: not less than 700mm (70cm)

Swings

Swings are traditional playground equipment, and many children enjoy swinging. Swings should be placed to enable safe enjoyment of, and traffic flow around, swings. If not appropriately installed, used and supervised, swings can create hazards for children. This includes those children crossing the path of the swing and children swinging. Swings are formally defined as moving equipment where the weight of the user is supported below a pivot or universal joint. When installing, maintaining and using swings, proprietors and staff should be aware of the unique standards for swings.

Types of swings

The Australian Standards require swings intended for permanent installation meet certain requirements:

Swings with one rotational axis

Standards for swings with one rotational axis in supervised early childhood settings cover requirements for swings that have two points of contact to a top bar and that only swing a seat back and forth.

Swings with several rotational axes

Additional requirements exist for swings that have a single point connecting them to a top bar or where the child/children on the swing go in multiple directions; that is, backwards, forwards, sideways, diagonally and/or in circular directions. Proprietors considering swings that swing in multiple directions should contact Playgrounds and Recreation Association of Victoria (PRAV) (see **Information and References** section) for advice.

Standards for swings with one rotational axis

The standard requires that swings with one rotational axis in supervised early childhood settings do the following:

- have seats designed for use by one child only
- have light-weight seats
- have seats constructed of impact-attenuating materials or are provided with impact-attenuating surfaces on all possible contact areas (materials that lessen impact)
- have no more than two seats per bay; swings should be constructed in separate bays to encourage children to safely enter and exit the swing area without crossing the path of a swing
- have seats that are at least 300mm (30cm) wide
- when the swing is still, have at least 300mm (30cm) between the lowest part of the seat and the playing surface
- have suspension members that are not fully rigid; suspension members are usually in the form of rope or chain that attaches the seat to the frame of a swing
- have a minimum space between any two seats of one fifth of the length of the suspension member, plus 300mm (30cm); see also the section on *measuring seat separation, fall zone and free height of fall for swings* below.
- when the swing is still, have minimum space between any seat of a swing and its supporting structure of one fifth of the length of the suspension member, plus 200mm (20cm)
- have a distance between suspension members for each seat greater than or equal to the width of the seat, plus a measurement of one twentieth of the length of the suspension member itself; this is designed to increase the seat's stability
- if relevant, meet the cradle seats and toddler seats specifications
- use the specified measurements for circulation space, fall zone and free height of fall.

Cradle seats and toddler seats

The Australian Standards outline specific requirements for cradle seats and toddler seats. These seats are also known as infant or baby seats. Toddler seats are manufactured with flexible material and cradle seats are manufactured with a

rigid frame. These types of seats provide greater body support for younger or less able users. The Australian Standards require that:

- toddler and cradle seats be constructed in a way that stops the child from slipping through the cradle
- openings on toddler and cradle seats meet the entrapment requirements, irrespective of the height
- toddler seats have something across the opening, such as a strap or chain, to hold children in; these should be attached to the openings for children's arms and legs.

Circulation space and fall zone

Circulation space and fall zone as well as free height of fall are all measurements used to determine the areas that require special attention to ensure the safety of children using swings; for example, where playground surfacing and traffic should be considered. When measuring free height of fall and fall zone for swings, special consideration must be taken for the movement of the equipment, this is described below. For other play equipment see **free height of fall** and **fall zone**.

Circulation space

The circulation space is the space immediately surrounding the swings, which helps to define the fall zone and falling space. The circulation space is formally defined as the area around the equipment that allows movement from, between and around equipment, and is free of all obstacles that children could run into, trip on or fall on top of, and thus be injured. The circulation space includes the fall zones of equipment and extends to at least the width of the equipment.

The circulation space at the side of swings extends to the supporting frame or the outer edge of the fall zone; whichever is further from the swing seat. In addition, in the direction of travel (back and forth), the circulation space extends to the end of the fall zone.

The Australian Standards require that there is no hard edging or similar hazards within the circulation space of swings.

Fall zone for swings

The fall zone is the surface that can be hit by a user falling from the equipment. It defines where **surfacing for outdoor play space** should be installed. The fall zone is calculated differently for swings because of their unique movement. Further, types of swings vary; for example, swings have differing equipment heights and differing lengths of suspension members.

The fall zones for swings are calculated in two directions: the direction that the swing moves (length) and every other direction (width). Where the two directions cross over, the larger of the two distances defines the fall zone.

The length is calculated as 1750mm (1.75m) from the point of extension of the swing seat from the front and from the back of the swing. If the swing seat is not greater than 500mm (50cm) wide, the width of the fall zone is 1750mm (1.75m) from the central point of the swing seat. If the swing seat is greater than 500mm (50cm) wide, the total fall zone increases. The amount of that increase directly reflects the increased size of the seat; therefore, the width of the fall zone increases by the difference between 500mm (50cm) and the actual width of the seat.

The standards also require that swings' fall zones do not overlap. Where there are two seats next to each other, however, the fall zone can overlap if the minimum space between the swings is met. See the 'swing dimensions table' below.

Free height of fall for swings

Free height of fall is the height from which a child could fall. The free height of fall for swings is different from other equipment because when children use a swing they are moving. It helps to define what **surfacing for outdoor play space** is suitable in the fall zone.

The Australian Standards define the maximum free height of fall for supervised early childhood settings is 1500mm (1.5m). This determines the maximum swing height (the distance between the pivot point and the playing surface) as 2600mm (2.6m). The standards require the swings fully extended swing seats be less than 1500mm (1.5m) from the play surface.

Measuring seat separation, fall zone and free height of fall for swings

There are several variables that determine appropriate distances between seats (seat separation), the extent of the fall zone and the free height of fall. These include the height of the swing frame (or the pivot), the height of the seat and the length of suspension members (usually a form of rope or chain that attaches the seat to the frame).

The table below will assist in measuring the height of the seat, the areas where swings should not interfere with traffic, where surfacing should be installed and the areas where no hard edging or similar hazards should be present.

Seat separation, fall zone and free height of fall for swings

Swing dimensions table

Swing height (pivot height)	Seat height	Length of suspension member	Free height of fall	Minimum side clearance	Minimum seat separation	Min distance between suspension members				Horizontal swing displacement at 60°	Fall zone for front and back
a	b	c	d	e	f	seat width				g	h
		a-b	$(a-b)/2+b$	$(c/5)+200$	$(c/5)+300$	300	350	400	450	$0.866xc$	$g+1750$
1800	350	1450	1075	490	590	375	425	475	525	1260	3010
1900	400	1500	1150	500	600	375	425	475	525	1300	3050
2000	400	1600	1200	520	620	380	430	480	530	1390	3140
2100	400	1700	1250	540	640	385	435	485	535	1470	3220
2200	400	1800	1300	560	660	390	440	490	540	1560	3310
2300	400	1900	1350	580	680	395	445	495	545	1650	3400
2400	400	2000	1400	600	700	400	450	500	550	1730	3480
2500	400	2100	1450	620	720	405	455	505	555	1820	3570
2600	400	2200	1500	640	740	410	460	510	560	1910	3660

Examples using the swing dimensions table:

What size should a swing be?

There is no set size for swings. A child on a swing should be protected from hazards by safety measures; for example, under-surfacing and suitable heights. The highest swing that meets the Australian Standards in a supervised early childhood setting, however, would not have a frame with the swing attaching and pivoting at a height greater than 2600mm (2.6m). Because the maximum free height of fall is 1500mm (1.5m), the bottom row of the table above would normally be the highest swing that meets the standards.

How far apart should the seats of a swing set be?

As an example of dimensions in the above table, if the length of the suspension member is 1500mm, the minimum seat separation would be 600mm which is $\frac{1}{5}$ the length of the suspension member, plus 300mm.

How far apart should the ropes be attached at the top of a swing frame?

As an example of dimensions in the above table, a swing with a swing pivot height of 2400mm (2.4m), seats at 400mm (40cm) off the play surface, and a seat width of 300mm (30cm) should have the minimum distance between suspension members at the top of the swing frame of 400mm (40cm).

What is the area under and around a swing that playground surfacing should be used?

Appropriate surfacing for **outdoor play space** is required in the swing fall zone. (See also discussion on circulation space and fall zone above). As an example of dimensions in the above table, swings with a pivot height of 2000mm (2m)

and a suspension length of 1600mm have a 60 degree swing measure of 1390mm (1.39m). That swing would have a length of fall zone to be applied both front and back in the direction of travel of 3140mm (3.14m). If the swing seat is not greater than 500mm (50cm) wide, the width of the fall zone is 1750mm (1.75m) from the central point of the swing seat. The free height of fall will help determine what surfacing is appropriate.

What is the free height of fall of a swing?

As an example of dimensions in the above table, where the swing has a pivot height of 2000mm (2m) and a seat height of 400mm (40cm), the free height of fall is 1200mm (1.2m). The maximum free height of fall within the Australian Standards is 1500mm (1.5m).

Frequently asked questions

Which standard does this information relate to?

The information under the heading Australian standards relates to Australian Standard Playground Equipment–AS 4685 (Standards Australia 2004) and Australian/New Zealand Standard Playground Surfacing–AS/NZS 4422 (Standards Australia 1996). See **Information and References** section.

Have the standards changed and are they likely to change?

The Australian standards change periodically. Amendments to Playground Equipment – AS 4685 2004, were released in October 2006. There is no schedule for updating standards.

Does a children's service need to meet these standards relevant to outdoor play spaces?

While it is not mandatory to meet the standards, the Department of Human Services recommends licensed children's services use these standards as guidelines to assist with the provision of a safe outdoor environment. Applying these standards shows that steps are being taken to protect children from hazards likely in the outdoor space. See also **legislative requirements**.

Does a children's service need to purchase a copy of the relevant standards?

No, children's services do not need to purchase these standards. They contain complex detail, used mostly by manufacturers and designers of play spaces and play equipment. This guide and Playgrounds and Recreation Association of Victoria (PRAV) (see **Information and References** section) should be able to provide a children's service with enough information. If desired, the standards are available for purchase from Standards Australia. They may also be available from municipal libraries.

How do proprietors and staff of a children's service know if their equipment complies with the Australian Standards?

This publication provides guidance to allow proprietors and staff of children's services to make a judgment about existing equipment. This document concentrates on specific hazards and concentrates on the areas of concern for all equipment. If there is specific equipment that requires checking, it will be helpful to read the whole of this safety section and to contact Playgrounds and Recreation Association of Victoria (PRAV) (see **Information and References** section) if further information is required.

What should a children's service seek when purchasing new playground equipment?

When purchasing new equipment, children's services can ask the provider (supplier and/or installer) for confirmation that the equipment complies with the relevant Australian Standards. Further questions should be addressed to Playgrounds and Recreation Association of Victoria (PRAV) (see **Information and References** section).

How often is a children's service required to replace play equipment?

The proprietor and staff of a children's service should make a judgement as to whether equipment is a hazard likely to cause injury or can be maintained in good repair.

Does play equipment require impact-absorbing surfacing on platforms?

Yes, if the **free height of fall** is greater than 500mm (50cm), the surface used for lower platforms of equipment onto which children may fall should have appropriate surfacing. See also **fall zone**.

Is the vertical distance from one platform to a lower platform also included in free height of fall?

Yes, the **free height of fall** is a measurement of the height from which a child could fall. This means that the distance between the ground surface and first platform, and between platforms, should all be within the maximum free height of fall.

Are there requirements for the type of material for the ground surface or part of equipment under climbing equipment?

Yes, see **fall zone, surfacing for outdoor play space**.

Will injuries be avoided if the free height of fall is less than 1500mm (1.5m) high?

Not necessarily, the maximum **free height of fall** is set at 1500mm (1.5m) to minimise the incidence and severity of head injury and reduce some bone injuries. In addition to the free height of fall, the surface will affect the incidence and severity of injuries. In licensed children's services, appropriate supervision and appropriate programming in addition to guidance from the Australian Standards lessens the likelihood of injuries.

Can a playground structure be built higher than 1500mm (1.5m)?

Yes, 1500mm (1.5m) refers to the **free height of fall**, a measurement of the height from which a child could fall.

We have equipment of free height of fall of both 1000mm (1m) and 1500mm (1.5m). Can we provide different sized fall zones?

Yes, the equipment with a 1000mm (1 m) free height of fall requires a fall zone of 1.7 metres, and the equipment with a 1500mm (1.5m) free height of fall requires a fall zone of 1.9 metres.

Our practice is to set up flexible equipment in differing configurations each day or for each session. This is usually clustered together to create one play structure. How do we treat the fall zone in this instance?

The **fall zone** is measured from the outer edge of the entire play structure in accordance with the free height of fall of the total equipment height.

What information should be requested from playground equipment designers or suppliers to assist with fall zone measurement?

The designer or supplier can stipulate the **free height of fall** for each play item, which will determine the **fall zone**. This can then be provided to a supplier of playground surfacing.

How does entrapment differ from trapping?

The difference between **entrapment** and trapping relates to the impact on the child. A small hole in a playground structure can risk trapping, for example, but it is not considered entrapment if the child is likely to be set free from the trapping without injury. A slide that has a gap in which a child's hat toggle can get caught while they are moving down the slide, however, risks causing significant injury by strangulation. Structures on which children will participate in forced movement are the focus for protecting children from entrapment.

Are tools available to help a service test entrapment?

Some local councils may have a set of specific playground test equipment they can loan to services to test for **entrapment**. Further questions can be addressed to Playgrounds and Recreation Association of Victoria (PRAV) (see **Information and References** section).

Does a children's service need to purchase testing tools to test entrapment?

No, a children's service should not be required to purchase testing tools.

Play space details

Bamboo sticks

Farah was collecting bamboo sticks with her friends.

Angie: Where did you find the sticks?

Farah: They aren't sticks, they are bamboo sticks and they are over there.

Angie: What are you doing with the bamboo sticks?

Farah: We are going to take them home to the monkey.

Angie: Why are they bamboo sticks?

Farah: Because they look like colours. They are brown and light brown.

Angie: Can you find bamboo sticks anywhere?

Farah: No, you can only find these at kinder but there are no more, they dried out.

Farah distinguished her play space at kindergarten from that of other places.

Outdoor play spaces in children's services differ from those in homes, schools or public parks because they specifically aim to meet the development needs of young children in a supervised learning environment. They do this by ensuring a balance of experiences is provided within a variety of spaces and with a range of elements. The layout of these areas can maximise the potential of the entire outdoor play space. Active areas, sand pits, natural areas, water play, cubbies and quiet areas are recommended. Dramatic and creative play can occur in all play areas and will be optimised by the availability of suitable materials and equipment.

Active play

The shark game

One girl was the shark and had to catch the other children. The shark wasn't allowed on the fort. This experience brought 10–15 children together to play. These large group interactions are physical and consume most of the outdoor space.

Opportunities to engage in active and agile gross motor activities are essential for children to develop coordination, strength, balance and confidence in their own physical abilities, and awareness of their bodies in space. Active play can take place individually, in small groups or in larger groups.

Active areas in an outdoor play space could include:

- open areas for running, jumping, chasing, ball games and sporting activities
- areas for climbing and balancing
- areas for wheeled toys.

Climbing areas

A climbing area can be created by some movable equipment providing flexible options, or with the installation of permanent fixed equipment. Movable equipment provides the flexibility for equipment to be removed to allow for running and ball games that may not be possible if fixed equipment is installed.

For children to take up challenges and engage in managed risk taking experiences, the climbing area requires a soft impact-absorbing surface to minimise injury from falls from equipment. For more information about impact-absorbing surfaces, see the Safety and Australian Standards section of this guide.

Trees

Five year old Sein Ping was asked about trees and said, 'We have a really old tree in our backyard. It doesn't belong to us, it belongs to the world.'

Trees are important for children in a host of ways, including the opportunities they provide for physical development. Trees provide climbing challenges for children, but there should be adequate supervision, some firm rules about the height to be climbed and an appropriate impact-absorbing surface installed. Not all tree species are appropriate, and those known to snap and drop limbs should not be used. Proprietors and staff should seek out species local to their area. Potential hazards in the vicinity of trees, such as concrete paths or fences, must be taken into account. It is important that the positioning of trees does not assist children to scale fences.

Swings

Swing into action!

Karen spent long days at the child care centre and refused to rest in the afternoon. By 3:30, however, she often became impatient with other children and would hit out at anyone who came too close or tried to play with her. After a very angry exchange with one of the other children in the group, Jenny suggested to Karen that she might like to come outside and sit on the swing. Jenny pushed Karen for a few minutes and Karen began to relax, letting her shoulders drop, and starting to hum to herself. This calm time rocking on the swing became a daily ritual for Karen and she would often ask to go to the swings rather than lash out at the other children.

Swings are a component of active play, and an enjoyable experience for children. They can create a serious hazard to children crossing their path and to swinging children, however, and can also be hazardous if the swing is located too close to hard surfaces or fences.

Swings are best positioned in a separate area of the outdoor play space, with landscaping to define traffic flows around the swing and to prevent children accidentally moving in front of, or behind, the swing. Elements such as garden beds, seats, grouped tree trunks and tyres placed around the area discourage children from running in front of swings. Locating swings in a corner of the play space, providing adequate traffic flows can make effective use of the fence line to provide two fixed sides.

Swings must have appropriately placed impact-absorbing surfaces beneath them. It is not advisable to attach swings to climbing structures due to the danger of collisions within the path of the swing. For more information about swings and the Australian Standards for playground equipment, see the **Safety and Australian Standards** section of this guide.

Bikes and wheeled toys

Hard surfaces and paths provide opportunities for the use of wheeled toys, such as bikes and tricycles. Specific bike tracks can also be incorporated if sufficient space is available. Where bikes are to be part of the play equipment, considerations include:

- direct pathway access to the storage shed
- sufficient pathway width for two bikes to pass each other
- safe use by prams and strollers
- use of wheelbarrows for sand pits
- shade.

Older children can be provided with more challenges in their path designs for bike use, such as curves and inclines. Paths can also meander to destinations and play spaces with parking areas to encourage more complexity in the bike play. Where large play spaces are available, a looped ending to a bike path enables a continuous one-way flow and can avoid the creation of hazard points.

To be avoided are:

- circular paths around the outdoor play space that can interfere with or disturb other activities and limit access to other activities
- bike paths that cut a play area into two smaller and less useful spaces

- bike paths that create busy junctions where accidents can be more frequent
- bike paths that are too close to fixed or movable play equipment, because this could constitute a safety hazard.

Further information can be obtained in the discussion on paths in the section **The landscape**

Equipment for active play

Equipment choice may include:

- wheeled toys, including tricycles, pull along and push along toys and hobby horses (noting that many plastic-wheeled bikes and toys can be excessively noisy on some surfaces)
- sporting equipment such as balls, hoops and bats
- perceptual motor equipment; for example, trampolines, balance beams, rocker boards and ropes.

Quiet play

Quiet play areas could include:

- secret areas where children can be on their own or with a small group
- quiet seating areas or semi-enclosed flat areas for small group activities
- bushy areas where children can observe nature, such as gardens or under trees
- animal enclosures, either movable or fixed
- areas where staff can sit alongside the children, such as on benches or other seating.

Small spaces and secret places

My secret place

Eighteen month old Ly loved to play peek-a-boo. He enjoyed hiding in a *secret place* behind one of the bushes in the playground, then jumping out and saying, 'Boo!' He could do this for as long as there was someone to *surprise*. Nellie and Mollie loved to take their dolls to another secret place next to the big tree. They played side by side here together much longer than they could settle when inside.

Small and secret places play an important role in play for young children. Children often enjoy the opportunity to create their own space. These small and secret places can be flat areas suitable for block constructions, tables and chairs, woodwork benches and painting easels. They are particularly important for providing:

- privacy in services where children spend long days with a large group of children, and where there are often few opportunities for solitude
- somewhere for two or three children to play quietly together
- a quiet space for a small group activity, such as reading.

Treasures

In an after school program, a range of interesting play spaces had been created. Lucy loved to collect leaves and all sorts of seeds and gum nuts. A small hedge cut through the outdoor play areas where Lucy found most of her treasures. She lay down on her stomach, rustling through the dirt under the hedge, looking up at times to make sure no one could see her.

Many ideas suggested for dividing up a play area can be applied to creating such small spaces, taking the lead from garden designers in regard to garden rooms. The spaces can be tiny, perhaps aided by a low hedge, and can give very small children a sense of being completely hidden, even though an adult can easily supervise them. It is important that children with disabilities also have access to such spaces, to activities set up in these spaces, and to privacy.

Large cardboard or wooden boxes, built cubbies, small planted areas and groupings of logs or sleepers create small spaces. Sometimes a small focal point such as a low table or seat made from a low, smooth rock placed in a small space will enhance the play possibilities.

A lot of imagination can go into designing outdoor play spaces with small private areas. Care must be taken, however, to ensuring such areas are designed in a manner to allow adequate supervision (See also **Legislative requirements**).

Natural areas

Natural play spaces can be rich opportunities for children to explore new ideas and to develop their interests and understanding.

Natural areas in the outdoor play space include:

- gardens where children can grow their own plants
- digging patches
- a range of planting to encourage play, such as tree climbing, as well as play with gum nuts, branches and bark
- small *pits* of pebbles, gravel, coarse sand and smooth river rocks
- natural environments that encourage birds, butterflies and other insects
- worm farms and compost areas (recognising that these areas should be well maintained to ensure they do not attract flies, wasps and mice).

Gardens

Mulberries, worms and living

Jack's grandmother told how Jack and Grandpa drove to Grandma's house to plant carrots and lettuces. Jack dug over soil and pulled out a number of worms. Grandma explained why worms were good for the garden, and thus why we needed to put the worms back into the soil. Jack also asked why there were no mulberries on the tree. Grandma explained it wasn't the right time of the year and pointed out the tender shoots on the tree which indicated the berries were coming and could be picked later in the year.

Do children have the opportunity to experience these activities in their early childhood centres? Would grandparents be willing to garden with the children?

Children enjoy planting, tending, watching things grow and harvesting flowers, fruits and vegetables from garden beds set aside for seasonal gardening. A bed for active gardening can be the focus of much outdoor learning and enjoyment.

Where gardens are used by children as part of their outdoor program, areas taken up by garden beds can be included in the calculation of outdoor space under the *Children's Services Regulations 1998*. (See also **Legislative requirements**)

Choosing a suitable site for the garden will depend on the types of plants to be grown. A well-drained, sunny position will offer the most choice and is preferred for most flowers, vegetables and herbs. Raised garden beds of a height suitable for children in a wheelchair could also be considered. It is recommended that plants be chosen that are easily grown, have a quick growth cycle and will grow fruit or blooms that can be shared or enjoyed by the whole group during the term.

Activities associated with gardening, such as collecting compost and studying worms, are also valuable learning experiences. Gardens of all types are also interesting places for making natural discoveries, such as seeds and insects.

Further information can be obtained in the section on **the landscape**.

Gardening on verandahs, patios and rooftops

Flower pots in the sand pit!

I have a lot of flowers in my garden, they are all for picking...even the curly ones. I would like to have flowerpots in the sand pit.

Garden designs

Annabelle drew a picture with a garden. She was keen to create a garden on the balcony (of the after school care building) for the children to grow plants and look after them. Her mother brought in long planter boxes and soil for the children to plant the seeds. Annabelle's mum worked with the children to create their garden.

Gardening and growing things need not be restricted to children's services with large outdoor spaces or natural surfaces. Sprouting beans and peas, growing bulbs, and other gardening experiments on a verandah or patio can be exciting for children. Pots and raised beds can be placed in hard-surfaced areas, such as rooftop play spaces, to accommodate trees, shrubs and other plants. The added height allows for drainage, as well as easy access for the active involvement of children with disabilities.

Digging patches

Are they really fossils?

Jackson had found a range of animal bones in the service's neighbouring paddocks and buried them into the digging patch before kindergarten began. Mary and Helen took their spades and began digging in the digging patch. They called out to Jackson, 'We have found some bones!' Jackson joined them, providing them with a series of notebooks, paintbrushes and bags for the specimens. 'Let's be archaeologists and write down what we find, and where we have found it.'

Digging in soil provides play experiences that are different from sand play. When provided, it should be located in a separate area, away from the sand pit to prevent any spilt soil from mixing with the sand area, and away from the children's growing garden to avoid confusion. Shrub planting, smooth boulders, logs, planks or bricks can be used to define the boundaries of the digging patch. Digging patches should use loose soil, to which sandy loam can be added to make digging easier. Digging patches should be turned over regularly to prevent the soil compacting.

It is recommended that digging patches be located where they can be easily seen and supervised by staff, and out of main traffic areas to minimise accidents. The nature of the play means the area is often messy, so locating it away from entry areas or immediately outside buildings is advisable for both aesthetic reasons and to avoid mud being trampled indoors.

Making farms

Silghe and the toddlers she educates created a series of dams and rivers by following the contour of the digging patch, and by running a hose along the top to gravity-feed the waterways. They had also generated a complex road system, with bridges to cross over the rivers and creeks. Some of the toddlers gathered materials together to create road signs from ice cream sticks. Nuts, seeds, leaves and dry grass were used to make trees, farm fences, and buildings.

Digging patches work best:

- when there is a convenient water supply
- when they are large enough for large muscle activity, because metal spades are often used
- at a depth of 500–600 mm
- so that soil that can be manipulated by small children (add old sand and lawn clippings and dig over periodically to keep this workable)
- when sited away from underground services.

Having a table or cable reel adjacent to the area allows the soil from digging areas to also be used for mud play. Including small adult spades, plumbing or sprinkler system pipes and joiners, wood off-cuts, posts and palings can enhance digging patches. The addition of cooking utensils and tea sets will provide for alternative play experiences in the digging patch.

Sand pits

Refurbishing the sand pit

On her first day working at a child care centre, Marni took great care setting up the sand pit, she raked it over and watered it so that the sand could be easily moulded and not fly away, then she set out the buckets and spades ready for use, returning the storage baskets to the shed so they did not impede the children's play. Finally, she set a clam shell pool into the sand and added a few floating ducks and gathered some small cane baskets of tree branches and seed pods to place near the sand pit. The children spent much time in the sand pit and other staff commented on how different the children were and how few arguments there had been during the outdoor play time.

By presenting the materials for play carefully and respectfully to the children, they were able to develop new dimensions to their play, and also respond with care and respect in an aesthetically pleasing environment. If a service elects to have only one major piece of fixed play equipment, the sand pit should be considered because it will be well used by children. Sand is an excellent medium for creative play. It provides a prop for many social and dramatic activities, for small and large groups. Sand play can be provided in many ways, ranging from small portable trays and containers, through to large and natural free-flowing settings, up to multi-level or landscaped sand pits.

Many services prefer large sand pits. It may also be preferable to have more than one sand pit in an outdoor play space. This is because of the variety of uses sand has as a play medium. Young children often enjoy carting sand. By linking two sand pits with a pathway, sand can be transported from one area to the other.

Having some connection to water increases the complexity of the play, changes the consistency of the sand, allows periodic flushing and enables the cleaning of feet and equipment at the end of play.

Location of sand pit

Setting a sand pit in a location that allows children to play and learn while being safe is important; for example, locating it away from building entrances allows sand clinging to children to drop off before they reach the building. This can help to prevent sand dropping onto hard floor surfaces making them slippery.

Sand depth

Sand pits should be approximately 600mm deep to accommodate boisterous digging. Some smaller sand pits may require less sand if they are to be used for driving trucks or simple moulding or play cooking experiences. It is beneficial to have a slip resistant flat area outside the sand pit onto which sand can be deposited temporarily as part of the play.

Choice of sand

Sand that can mould together when damp is recommended. Fine white double or triple washed river sand (less than 1.5mm) is ideal. Avoid coarse, gritty sands such as granitic sands, and strongly coloured sands that can stain clothes. These can be used in smaller, more easily monitored sand experiences such as sand trays or *dinosaur pits*.

Working surfaces in and around sand pits

Provide wide, flat surfaces in or around the sand pit to set out play equipment to encourage and stimulate play, to provide a space for children to mould and stir, as well as to provide a sitting space for both adults and children. Where edges are narrow, include additional surfaces, such as decking, timber rounds or smooth boulders. Note, however, that sand can be slippery on smooth decking surfaces.

Protection from sun and wind

Young children spend much of their time in the sand pit, and it is a favoured play space. Protection from sun, wind and rain is essential. A solid roof or pergola enables sand play to continue in both hot and wet weather, and also provides the opportunity to suspend pulleys or scales to extend play. Depending on the site orientation, however, a solid roof may not be preferable because the sand can become too dry or the area could be cold and uninviting in winter. Also consider placing the sand pit under a large shady tree.

More information about sun protection is outlined in **The landscape section** of this guide.

Drainage

When sand pits are installed, they should incorporate drainage and sufficient excavation for the recommended depth of sand. Drainage in sand pits can be improved by:

- use of naturally well-drained soils underneath the sand pit
- sub-soil drains at the base of the pit, connected to the storm water system
- using screenings in a graded base, separated from sand with fabric
- inserting agricultural pipe into screenings
- building a sump below the level of the sand
- building a brick base with gaps for drainage, graded to drain.

Sand pit covers

Sand pit covers are necessary where fouling by animals or littering is a problem, and is particularly important in areas where syringes have been found. Covers should be:

- light and easy to remove, to ensure they are removed daily to aerate the sand and be readily available for play no matter what the weather forecast
- durable
- able to be stored safely during sand pit use
- penetrable to sun and rain (open web covers), thereby preventing the sand from becoming stagnant or catching rainfall, making them heavy to remove.

Sand pit covers can be custom made to any shape, and can be fixed with hooks. For safety purposes, hooks should be placed carefully to avoid a trip or any other hazard. Ideally, sand pit covers fit completely over the sand pit with no gaps. Thought should be given to where covers will be stored while the sand pit is in use.

Sand pit surrounds

Common types of sand pit edging are those that are flush with the ground and those that have raised edges. Both types of edging have advantages and disadvantages. It is desirable to have at least one part of the sand pit raised to allow a child in a wheel chair to play with the sand on the same level as other children.

In edges that are flush with surrounds it is:

- easier to sweep sand back into the sand pit from a paved surround
- easier for young children and children with disabilities to access the sand pit
- more likely that sand will spill out, causing paving to become slippery.

In edges that are raised, the design can:

- help prevent sand from the sand pit being spilled
- be useful for sitting or perching, or for attaching a table or shelf for children to work on

- be difficult for young children to climb into
- be a safety risk if not appropriately placed or sized
- require an impact-absorbing surface (see **Safety and Australian Standards**).

A variety of edging materials can be used:

- timber—should be durable or appropriately treated for in-ground use; splinters should be smoothed away and edges slightly rounded; bolts, hooks, nails and other fixing devices should be recessed so that they do not protrude
- brick and concrete—initial cost of concrete is relatively low; durable and flexible in terms of shape and design; very hard surfaces for children to fall onto; expensive to remove if a change is required
- rocks—provide natural, organic shape; can inspire creative play; should be carefully chosen to provide rounded and flat surfaces for sitting and moulding; can cause grazes, and smooth rocks can be slippery when wet
- synthetic materials: rubber or polyurethane can be made into **anti-stumble** kerbs and edging, and are useful where falls onto edges are likely, such as in services where children may have mobility and balance problems, and in very small spaces.

Equipment for use in the sand pit

Keeping the sand in the sand pit!

Two year old Parminda loved to take a bucketful of sand from the sand pit and carry it around with her. She was proud that she could carry such a heavy load! The teacher always told her that she must put it back *NOW!* 'Sand stays in the sand pit', she said.

Had this become one of those rules that are never questioned by the teachers in this service? Whose interests did this 'rule' serve: the teacher's or Parminda's? Why must the sand always stay in the sand pit? If it is spilt, couldn't the children help sweep it up, demonstrating another of their growing skills?

A variety of equipment can be used in sand pits. Many services prefer common household items rather than purchased play items. Items include saucepan sets, tea sets, buckets and spades, sand moulds, scoops, sieves, funnels, small rakes, small blocks, pine cones, shells, tiles, branches, brushes, brooms for children to assist with maintenance, boats, trucks, sets of animals and dinosaurs, scales, planks, logs, wood off-cuts, and vinyl to create ponds.

Water play

Water can be a valuable medium for creative play, and useful for soothing or as a stimulating learning tool for children. Water can also be used as a vital ingredient in sand play and digging patches. When planning to use water, any cultural norms concerning water use should be taken into account.

Safety is a serious concern that should be considered when water is used in children's environments. Policies and procedures should be implemented in each children's service regarding the use of water, including the emptying of containers to safeguard against drowning. Ponds are not suitable to be used by babies and toddlers. Proprietors and staff must remember that it only takes a few centimetres of water for a child to drown.

Water can be supplied to an outdoor play space in many different ways: hoses, either from the mains supply, a rainwater tank or bores; containers with taps; dipped from a large bucket; sprinklers; trays; dishes; baths; and small containers. The early planning of a suitable number of water outlets will ensure convenient access. Children will want access to water for activities such as filling birdbaths, watering gardens, undertaking water painting and playing in nearby sand pits.

Permanent water features for children's play include reticulated trickle streams and waterfalls, shallow pools, frog ponds and other wildlife habitat ponds. Many of the permanent features for water play are expensive to build, have less use in cool climates, and require more serious attention to details, such as drainage, stagnant water, connection into waste water systems, and filters. The importance of these issues will vary from service to service, depending on the space and other resources available.

Areas can also be planned for multiple uses for example, a space at one time being a trickle stream and at another a dry creek bed for exploration. Such considerations for incorporating the natural environment would need to be included in the decision-making and space allocation stages. Other planning considerations are that water access points have sufficient drainage, eg under taps and that taps are located so that attached hoses will not be a trip hazard, a nuisance for other activities or present in traffic areas.

Where ponds are used for paddling purposes and the like, staff members must supervise children diligently at all times. It can be useful for seating to be provided for this purpose. A permanent pond to develop a wildlife habitat in the outdoor play space is generally deeper than paddling depth and, therefore, can present a risk to children's safety.

Because children can drown in as little as 5 centimetres of water, ponds that can be accessed by young children should be enclosed to prevent their access.

Options include:

- a strong and rigid material over the pond; for example, a grate that allows children to see the pond but prevents access
- a fence that meets the Australian Standards (AS 1926.1–1993).

Equipment for water play

Plastic pipes, a flexible hose, plastic bottles, sieves, jugs, funnels, buckets, water wheels, boats, watering cans, small buckets, brushes for water painting, and a clothesline and pegs provide valuable experiences in water play.

Water conservation

Proprietors and staff are recommended to consider drought conditions, water restrictions and general water-wise behaviours. Services are encouraged to tailor water conservation practices to suit their service and to establish routine water-wise practices, thereby developing children's awareness of water conservation. Careful water use, recycling water onto gardens and lawns as well as the installation of rainwater collection tanks might be considered. This could also be supported by a water conservation policy. See also the discussion on watering, in the section **Use of Plants**.

For further information about efficient water use go to the Victorian Government website **Our Water Our Future** (<http://www.dse.vic.gov.au/dse/index.htm>).

Cubbies

Our special time

'Jess loves to build cubbies!' said her mother. Last night she and her big brother Benjamin made a cubby with some blankets and chairs. 'They seemed so happy, and played so well together, and were busy for hours!' she related. She then reminisced about her own childhood, and how she too had loved making cubbies. 'It was just such a special time. We used to think that no one knew where we were, and that we could do what we wanted without adults telling us what they wanted us to do; they were really secret places.'

Cubbies are small enclosures—natural, flexibly made or fixed—either provided by adults or created by children themselves. The feeling of being enclosed and hidden is an important aspect of cubby play.

Cubbies are generally used for role-play, dramatic play or fantasy play and, depending on the age group, they can provide associated social, cognitive and language development opportunities.

The play value of cubbies is maximised when:

- a wide choice of props and loose play materials is available
- the children can change the cubbies at will by themselves
- the immediate surrounds of the cubby can also be used for play.

Safety elements related to cubby play include:

- ensuring cubbies are positioned so they do not make fences scaleable
- ensuring cubbies are positioned so that supervision is still possible behind the cubby
- where doors are placed on cubbies, enabling the door to be pinned back for vision, including hinge protectors, and having lockable doors for after-hours security.

There are several different ways to provide for cubby-type play, including:

- cubbies among plants
- lean-to cubbies
- permanent cubbies
- cubbies using a built framework.

Cubbies among plants

Hedges, thickets and weeping shrubs provide wonderful enclosures for children's cubbies. Some plants that drop needles, such as pines and casuarinas, are useful as a supply of cubby-making materials.

Lean-to cubbies

These are constructions built by the children out of various loose play materials in the outdoor play space, perhaps with the assistance of staff. The processes of construction and change are important.

A fence, wall, tree trunk or other backdrop is useful to provide both physical support and enclosure and privacy. A supply of pegs, ties and small sandbags to secure materials is helpful.

Permanent cubbies

Permanent cubbies are often miniature houses or forts with a platform, ladder and space underneath. Alternatively, permanent cubbies can be free-standing, three-sided structures with roofs. These structures can become anything the child can imagine including shops, schools or tea party venues.

The raised fort-type cubby has the potential to mix two types of play, which can be incompatible when there are numbers of children present. If children want to use their toys on the platform, for example, they have to struggle up a ladder or net with them. The items can then become hazards if they are dropped onto other children. The climbing and other physical activities taking place on the structure can interfere with the role-play activity in the cubby. Such elements should be taken into consideration for equipment selection, use and site selection.

Cubbies using a built framework

Some cubbies are created by draping cloth, tarpaulins or parachutes over an existing steel, plastic or timber framework, such as a climbing trestle. They can also be created by making a tepee of lashed poles.

Other equipment and tools

The following groups of materials may apply to quiet areas, natural play areas and cubbies.

Real tools

Real tools ideal for children to use include woodworking tools, brooms and rakes (cut-down handles make handling easier for children), dustpans and brushes, scrubbing brushes, child-sized wheelbarrows, trolleys and paintbrushes.

Science, maths, technology and literacy tools

Science and maths tools, such as binoculars, pond nets, pulley and rope, magnifiers, tape measures and torches can be fun learning tools. Children also enjoy using containers to collect items, such as leaves and pebbles, and then using mats to sort these collections. Other items of interest include wind chimes, and water with containers for pouring and measuring.

Children enjoy using outdoor blocks, wood, hammer and nails for construction.

Literacy and language tools include writing implements, old books, clipboard, notebooks and chalk. Paper and pencils for drawing and writing allow children to make shopping lists, tickets for the bus or train, and write labels for block buildings. They can also draw road signs for outdoor play.

Dramatic play materials

Equipment and props to facilitate dramatic play could be stored individually in prop boxes or be made available for random selection.

Equipment and props to assist dramatic play include:	
Pegs	Flags
Ropes	Pulleys
Tyres (with drainage holes)	Tents
Steering wheels	Stop and go signs
Keys	Maps
Torches	Toy tool kits
Mobile telephones	Cameras
Hats	Dolls
Teddies	Blankets
Baby bathing equipment	Dress-up materials
Small animals	Small people/families
Pots and pans	Tea sets
Pebbles	Small logs
Tree rounds	Assorted cones and tree pods
Interesting artefacts	Lattice
Plywood	Canvas
Fabric and netting	Wood
Stakes for tepees	Carpet squares
Cushions	Pruned foliage
Wind chimes	
Equipment for role play, eg police/hospital/ fire-fighter/restaurant	

The landscape

In the context of the outdoor play space in children's services, this section considers the ground surface, plants, shade and sun protection, paths and seating, the use of landscaping structures and animal enclosures.

The ground surface

Archaeological dig

Oscar was digging in the disused vegetable patch when he discovered a small piece of terracotta pot. He called to the teacher that he had found treasure and announced that he was going to look for more. The teacher gathered some small spades, sieves and paintbrushes for Oscar to commence his archaeological dig and a basket in which to keep his discoveries. Over several days, Oscar's digging produced a number of valuable finds and he asked the teacher to help him make a book to tell the story of how these things came to be buried. Oscar added his own illustrations and encouraged other children to join him.

A variety of surface textures appropriate and safe for the various outdoor play activities is desirable. Limiting children's experience to one or two surfaces can be unexciting and lacklustre, while selecting too many surface types can confuse and distract from the activities being undertaken. The most important factors to consider when choosing a ground surface are variety, safety, aesthetics and access, as well as the stage(s) of development of children using the outdoor space.

Considerations for surface choice include:

- safety
- performance under wet and dry conditions
- performance when covered with sand or soil
- water use
- whether the surface is non-slip
- use as an impact-absorbing surface
- suitability for wheelchairs, prams and wheeled play objects
- surface edging
- required surface depth
- portability of surface
- suitability as a path
- maintenance and cleaning of surface
- cost of purchase and installation
- glare
- UV radiation reflection
- heat absorption
- whether the surface is low allergen.

There is a range of possible materials commonly used as ground surfaces. They include:

- grass
- natural ground covers
- imitation grass and outdoor synthetic carpet
- loose fill materials (commonly natural): tan bark, pine bark and mulches
- *solid surfacing*, typically rubber or synthetic compounds, including wet-pour surfaces that set on site or compounds formed into tiles, sheets or mats that are installed in a permanent position

- paving, concrete, ceramic tiles, asphalt and decking
- gravel and compacted granitic sand, sand, stepping stones and pebbles.

Impervious ground surfaces should drain away from buildings towards a natural surface, such as grass or soil. Permeable pavements away from buildings increase water absorption into the soil and decrease run-off into the storm water system.

Impact-absorbing surfaces

A significant body of research indicates that the frequency and severity of playground injuries resulting from falls from playground equipment are substantially reduced where an adequate impact-absorbing surface is provided. A range of materials can be used to achieve an impact-absorbing surface. Also known as soft fall, soft surfacing and under surfacing, the impact-absorbing capabilities of materials will depend on the material type and depth. The depth of materials required will vary depending on the surface chosen.

The requirement for impact-absorbing surfaces will depend on the intended use of each play space, and any **free height of fall** related to play equipment.

Two common forms of impact-absorbing surfaces are:

1. loose fill materials; for example, tan or pine bark, mulch, wood chips, pea hulls or shredded rubber.
2. solid surfacing; typically rubber or synthetic compounds formed into tiles, sheets, or wet pour substances that set on site.

While many surfacing types have some impact-absorbing qualities, where there is a **free height of fall** of more than 500mm, **Safety and Australian Standards**, a section of this guide, provides guidance on what materials should be used.

Loose fill materials

Readily available examples of loose fill materials are tan bark, pine bark and mulch. A variety of these and other such materials are available in a range of grades that may change from region to region. There is no specific name given to materials suitable for children's services, although some suppliers give their own product catchy 'child-related' names for marketing purposes. The materials should not be too coarse or too large; they should suit their purpose as a soft surface to fall on and be appropriate in children's play areas.

Loose fill materials also require maintenance. The life of the materials can be extended with regular aerating, forestalling compacting. It must be expected, however, that over time these surfaces will require topping up and, in some cases, replacement. For further information on the safe installation of loose fill material as an impact-absorbing surface, see the Safety and Australian Standards section of this guide.

The Playgrounds and Recreation Association of Victoria (PRAV) (see **Information and References** section) recommend that loose fill materials be installed at a depth of **300mm** (30cm) to ensure that loose fill is 250mm (25cm) deep after daily use, allowing for movement, settling and the above compaction, dispersal and deterioration.

Synthetic and rubber tiles or poured surfaces (solid surfacing)

There is a range of synthetic and rubber ground surfaces on the market. They include rubber tiles, moulded pavers and spray or wet poured synthetic materials. They are available in a range of colours and styles and can be customised to suit specific play areas. Many brands sell recycled rubber products.

These synthetic and rubber surfaces provide a safe, flat surface for active play and climbing areas. They are useful in high traffic areas and activity areas, such as under swings. Advantages include that they are hard wearing and require minimal maintenance. Disadvantages include:

- the expense (many products can only be installed by professional operators)
- heat retention
- increased glare

- subsidence and deterioration
- difficulty of incorporating with trees
- lack of distinction between the surface being used as impact-absorbing (therefore, denser and able to be used in a fall zone) and where it is used as a simple ground surface
- some surfaces are coarse and harsh on bare feet, hands and knees.

Proprietors considering installing these types of products are encouraged to view their use at other sites, and to explore the pros and cons for use in the intended outdoor play space. They should also check the life expectancy of various materials.

Proprietors that use solid surfacing, such as rubber and synthetic products, for impact-absorbing surfaces must ensure that they are installed in accordance with the manufacturer's test results. It is important for existing (and future) staff to be easily able to recognise where a solid surface, such as rubber and synthetic, has been installed for use as an impact-absorbing surface, and where the cover is simply a ground surface – and does not provide the required impact attenuation for fall zones. Colour coding may overcome confusion, or alternatively ensuring that in all areas where solid surfacing is used it meets the requirements for impact absorption.

It must be noted, however, that a variety of ground surfacing is preferred over the selection of only one material type. A variety of ground surfacing encourages children to learn from their varied experience.

For further information on the safe installation of synthetic and rubber tiles, and poured surfaces (solid surfacing) as impact-absorbing surfaces see the **Safety and Australian Standards** section of this guide.

Grass

The use of grass is often a first choice for children's services; however, grass can be difficult to establish in some sites. It is difficult to grow in high-traffic areas, and limited water use makes lawns difficult to maintain. The inability of grass to act as an adequate impact-absorbing surface must also be considered.

Grass is an attractive, multi-purpose surface that is suitable for a range of experiences, but it is also sensitive to heavy wear and tear, and requires high maintenance, including watering in hot months. High-traffic and overly shaded areas are not the best environments to maintain a turf grass. The maintenance of grassed areas during periods of drought is also challenging. Alternative ground surfaces may be more suitable. Those choosing grass should also consider different varieties of grass that may be more hardy or suited to the climate zone.

Positioning lawns

The overall layout and design of the space will determine the success of a lawn. Small strips of grass in high-traffic areas, particularly around entry and exit points to buildings, are not likely to survive. Heavily shaded areas for lawn, especially on the southern side of buildings, fences, dense shrubs or trees, should be avoided.

Types of grass

Due to variation in climate, there is no single turf grass available that can provide a satisfactory turf in all parts of Victoria. A local plant nursery should be able to provide advice about the most suitable grasses for high-traffic areas.

Soils and drainage

Good drainage is essential for establishing a quality grass surface. Proprietors should seek professional advice regarding soil type and solutions to drainage problems.

Pre-grown turf

Pre-grown turf can produce an established lawn, and can be used in a shorter time than seed-grown lawn. It is also preferable on a sloping site.

Maintenance of lawns

Maintenance of lawns includes watering, mowing and edging, fertilising and coring/aeration. Continuous trampling and compaction destroys grass because the area around the roots is denied access to air and water. Excessive water, a lack of water and fertiliser, and over-mowing can also cause harm.

Lawns are best maintained when mown regularly, at a constant height. Fertilising, coring/aeration and top dressing can be considered as part of a maintenance program. Proprietors should consider using rainwater collection tanks to aid the care of lawns. If pop up sprinkler systems are used, serious consideration should be given to positioning pop up sprinkler heads so they do not become a hazard (See section **Use of Plants**).

Natural ground covers

Natural ground covers are alternatives to grass in low traffic areas; they offer variety in texture, colour, density and fragrance. Natural ground cover can reduce glare from strong sunshine reflecting from light-coloured and shiny surfaces. Local varieties—for example, camomile, catmint, thyme, carpet bugle, and long grasses, mondo grass or other ornamental and low-allergen grass—may be considered.

Imitation grass/outdoor synthetic carpet

Imitation grass and carpets can provide a durable alternative in high-wear areas. The appearance of imitation grass is often the closest alternative to real grass. These carpets can be laid onto a compacted bed of sand or onto hard surfaces.

The surface can be prickly for babies to crawl on, can wrinkle and may cause friction burns if children fall onto them at speed. They may also become mouldy in some locations, but they can be useful in small spaces where there are few alternatives. Plants can be grown through holes cut through imitation grass to improve the aesthetics of spaces, and also to define play spaces.

Paving and other built surfaces

Brick paving, decking, concrete, asphalt, and ceramic and clay tiles are useful surfaces for outdoor play spaces, particularly for transition zones (for example, verandahs, patios, courtyards) and paths. Their use, combined with landscape planting, can be successful, but the use of hard surfaces should be contained to areas where falls are unlikely, particularly when there is limited space available. In an area with restricted space, these surfaces should be designed with great care to ensure variety and that softer and impact-absorbing materials are included.

Gravel, granitic sand, sand, stones and pebbles

Both fine gravel and granitic sand (particle size 3mm), used to a depth of 200mm, provide excellent drainage and enable areas to be usable during or immediately after rain. These materials sometimes have clay particles mixed in to provide a more stable surface and, therefore, can stain children's clothing. Gravel and granitic sand are best contained by appropriate edging.

There may be other locally available natural products that suit the same purpose as fine gravel and granitic sand. Additionally, a variety of smooth stones and pebbles creates interest and variety in outdoor spaces.

Use of plants

A fairy garden

A big old oak tree located in the centre of the children's play space inspired them to create a fairy garden. We gathered materials from inside and the children chose a place in the tree to hang their fairies. They collected wooden blocks and flowerpots from the outdoor shed and planted plants under the tree. Later, the children suggested a picnic in the fairy garden for afternoon tea. The children moved the tables and chairs into the fairy garden and ate their afternoon tea.

Plants create a living environment with constant change, offering an alternative to the manufactured environments of urban settings. They attract living creatures, such as birds, butterflies and insects, and enable children to interact with, observe and learn about nature.

Plants provide a constant supply of objects for nature study, art, props and other creative activities. There is endless variety in fruits, barks, leaves, roots, seed pods and flowers, providing colour, sounds, shapes, forms and textures.

Many flowers, foliages, barks and roots have perfumes that emerge as their leaves are crushed, walked on, or brushed past.

In addition to their aesthetic value, plants can be used in the outdoor play space to:

- divide experiences that are best separated from each other
- create small spaces for children's hiding or retreat areas
- create a thicket, bushes or cascading wall for cubbies
- provide small-scale climbing
- screen off an unattractive fence or wall, while ensuring it is not scaleable
- create a green **tunnel** for children to run, crawl or wheel through
- reduce noise and dust from busy roads
- provide shade from sun and shelter from wind
- cover or drape plain walls
- introduce themes
- increase access to activities through raised beds of various heights; for example, vegetable patches
- direct traffic flow
- provide loose play materials near sand or water play areas; for example, cones
- reflect the cultural diversity of the community
- attract birds, butterflies and insects with indigenous plant species (select flowering nectar shrubs)
- introduce different colours, shapes, forms, textures and perfumes into the environment
- reflect the local environment
- provide alternative ground surfaces; for example, camomile, catmint, thyme, carpet bugle, and long grasses, mondo grass and other ornamental grass
- reflect and experience the changing seasons.

Plants should be avoided if they:

- irritate respiratory conditions such as asthma and hay fever
- irritate the skin
- have highly toxic parts
- have sharp thorns, spikes or small branches
- have small fruits, which babies may place in their mouths or noses
- drop a large amount of seeds.

The **Information and References** section provides contact details for:

- the Asthma Foundation of Victoria. The Foundation provides information about Asthma Friendly Children's Services and provides the brochure *The low allergen garden*, which has numerous tips about choosing plants.
- Victorian Poisons Information Centre, Royal Children's Hospital. The Victorian Poisons Information Centre produces an information sheet listing plants that are best not to grow in places where children may have access to them. It is available on their website.

Additionally, some local councils may provide information about plants that are suitable to local areas.

Plant survival

Children's environments can be difficult areas for plants, especially where there is year-round use. Proprietors should choose plants that are suited to local soil and climate and tolerant of children's activities. Each plant's full-grown height and density should be considered, or they can be used as pruned plantings. When pruning plants, it is important that newly trimmed branches do not become a hazard; for example, at eye height or as a sharp object.

Compaction around plant roots can be prevented by:

- installing a low fence or barrier between the roots of the plant or tree and the play area
- planting in raised beds.

Watering

Proprietors should consider the amount of water that will be used on gardens and lawns and its impact on the children's service's environmental or water conservation policy. Any relevant water restrictions must be adhered to. (See also the information on water conservation in the discussion on water play in the **Play space details** section of this guide).

Efficient gardening practice recommends that gardens be watered in the cool of the day. Watering should target the root zone around the base of the plant instead of the leaves. Watering should be thorough and less frequent. It is also advised to use mulch or compost to increase water absorption and the moisture content of the soil.

Where feasible the installation of automatic dripper systems that can be set to operate in the evening will enable efficient watering. Consideration should be made to installing rainwater collection tanks.

For further information about efficient water use and information about drought tolerant plants go to the Victorian Government website **Our Water Our Future** (<http://www.dse.vic.gov.au/dse/index.htm>).

Positioning pop-up sprinkler heads

Where automatic watering systems are installed, the position of sprinklers should be carefully considered in the initial planning stages. Sprinklers should not be located where children can trip over them or fall onto them from climbing equipment. Positioning along the edges of grassed areas or against a path or wall can help minimise sprinkler hazards.

Sun protection

While exposure to sunlight has some beneficial health effects, excess sun exposure in the first 15 years of life contributes significantly to the lifetime risk of skin cancer. Too much exposure to ultraviolet (UV) radiation can cause sunburn, skin damage and skin cancer. Most skin cancer can be prevented.

Children's services can help prevent skin cancer: both because children attend children services at times when UV radiation levels are high, and because they play a significant role in changing behaviours through role modelling and education. UV radiation cannot be seen or felt, and can be damaging to skin on cool, cloudy days as well as hot, sunny ones.

The Cancer Council Victoria advises that whenever the UV radiation index levels reach 3 (moderate) and above, sun protection is required. At that level, UV radiation is intense enough to damage skin and contribute to the risk of skin cancer. In Victoria, sun protection is needed from the beginning of September until the end of April, when UV radiation index levels are 3 or above for most of the day. Particular care should be taken between 10am and 2pm (11am and 3pm during daylight saving), when UV levels reach their peak.

To protect against skin damage and skin cancer when the UV index level is 3 or above, a combination of five sun protection measures should be used:

1. **slip** on sun-protective clothing—that covers as much skin as possible
2. **slop** on SPF30+ sunscreen—that is broad spectrum and water resistant, application should be 20 minutes before going outdoors and every two hours afterwards, sunscreen should never be used to extend the time spent in the sun.

3. **slap** on a hat—that protects the face, neck and ears
4. **seek** shade
5. **slide** on sunglasses—that meet Australian Standards

To ensure that children are still able to use the outdoor play spaces during these times, proprietors can plan and design outdoor play spaces to take into account:

- where shade falls at different times of the day and year
- peak use periods
- the location of shade in relation to the type of play area; for example, the sand pit or climbing area
- strategic placement of shade structures to maximise shade
- shade should be cool and protective in summer, and allow light and warmth in winter
- aesthetic and environmental advantages of natural shade, even if this means using temporary shade structures while waiting for vegetation to mature
- how existing shade can be used by locating play areas directly under trees, or repositioning play structures
- protection required from UV radiation reflected from surfaces such as glass, brick and concrete; replacing highly reflective surfaces with less reflective materials, such as wood, grass or mulch
- heat absorption on surfaces

Shade options include:

- natural shade—trees and bushes
- permanent or temporary built structures such as shade tents, shade sails, pergolas and roofed areas.

For **natural shade**, proprietors should consider trees that:

- have broad canopies and dense foliage
- provide sufficient clearance beneath the canopy to allow access
- suit the local area's soil type and climate
- are deciduous to allow for light in winter
- don't have spiky branches, fruit or seed pods
- don't attract bees or wasps
- have the potential to reach the right size for the needs of the individual play space.

For **built shade structures**, proprietors should consider:

- the need for local government permits
- professional shade planning, including shadow projections
- professional installation
- location of existing services, such as drainage, power lines, gas and water
- supervision of children—ensuring the design of the structure does not impede the vision of carers
- structure supports should be clearly visible and placed to avoid children colliding with them
- padding on shade poles situated in traffic areas
- vertical supports that are not scaleable by children, and that do not make fences scaleable
- capability to withstand a variety of weather conditions and high winds

- ongoing maintenance costs—proprietors should choose structures with minimal repair and parts costs
- use of appropriate sun protective materials—with a UPF (ultraviolet protection factor) rating as close to 50 as possible.

Refer to the more **Information and References** section for more information on the resource agency The Cancer Council Victoria. The Cancer Council Victoria's **SunSmart** (<http://www.sunsmart.com.au>) website also has information about planning effective shade, including the resource, *Shade for everyone*.

Paths

Paths of varying widths, surfaces and borders can fulfil a range of purposes and, therefore, should be carefully designed. They can:

- provide all-weather access to parts of the play space, including storage and utility areas
- provide easy access to different parts of the play space for children or adults with a disability
- provide ways of dividing a space, linking play spaces and leading children to *special* areas
- introduce new materials, textures and surfaces for a variety of activities
- provide movement from one activity to another without disturbing others' play
- provide a feeling of *getting away* as well as *stopping off* at various areas of interest
- provide borders to delineate play areas using logs, plants and rocks
- provide a range of challenges for users of wheeled toys.

The design of paths should ensure that they do not run downhill or into walls or barriers. Paths should also accommodate prams and wheelchairs.

Paths are useful for circulation purposes and play experiences in outdoor spaces. These can be wide paths for major traffic flow, if space allows, or smaller, more enclosed pathways among scented plants, which can invite exploration and lead to a secret spot. A looped ending to a bike path enables a continuous one-way flow and can avoid the creation of hazard points.

Although pathways should be planned in any new outdoor play space or redevelopment, sometimes paths are created by the pattern of the play over time and can be encouraged by the planting of edging vegetation and the placement of log borders. Small children's needs can be better addressed with paths that have smooth, flat surfaces without too many curves and with interesting planting and play features along the borders.

Refer also to the section on bikes and wheeled toys, see section **Active Play**

Path surfaces

Many surfaces are suitable for paths, including:

- smooth, sealed surfaces such as concrete, or paving tiles where all-weather, everyday access is required
- dirt paths over irregular terrain and around tree roots
- small gravel, or granitic sand that crunches underfoot and drains quickly
- pebbles for small sections
- native mulch or pine bark
- narrow timber rounds and stepping stones
- a variety of paving materials (with different colours, textures and shapes, such as mosaics) used in one path
- decking set into the ground level.

Some younger children might have difficulty with surfaces such as gravel and pebbles, particularly when it is used in paths.

Outdoor seating in play areas

Outdoor play spaces are enhanced with the purposeful design of informal and formal seating. Informal seating or perching spaces for staff and children can be created on sand pit edges, on the edge of low decks, on timber rounds, on sleeper-style timbers and on low retaining walls. Some objects that children can safely move around for individual use, such as small cable reels and small logs, will also provide flexible seating.

Each of these seating options can be adapted for more than one function. This adaptability is important where children use the same outdoor play space continuously, and where space is limited.

Small group seating areas will be valuable for a few children to listen to a story, for eating outside and for quiet activities for small groups. These should be pleasant areas with winter sun and summer shade, and ideally should be separated from busy parts of the play area. A diameter of about 2.5m is suitable for a small group of young children. A sloping area can become a mini-amphitheatre.

Formal seating, such as park-style benches, can be important in a play area where staff members want to encourage visits and involvement by older adults, such as grandparents. It is a good idea to install formal seating if there is space available, but without adequate space, this type of seating is not desirable because it has a single function and takes up valuable play space.

Landscaping structures

The design of outdoor play spaces can be enhanced by the planned use of landscaping structures. These structures can include elements such as retaining walls, terraces and steps, and can maximise the available play space. Careful use of landscaping approaches can link play areas, introduce focal points and themes, highlight the natural environment or bring balance across the site. Colour, texture, size and form all contribute to bringing harmony to the environment, making the outdoor play area inviting and enjoyable to children and adults.

Landscaping structures include:

- arbours
- gazebos
- retaining walls
- stone walls
- boulders and rocks
- steps
- stepping stones
- focal points, such as birdbaths or bird feeders
- trellises
- mounds
- amphitheatre-style seating
- garden lighting
- logs
- shade structures.

Refer also to the section on **use of plants**.

Note: see also the **Information sheet on arsenic treated (CCA) wood** in the **Information and References** section.

Animal enclosures

Animals can be a valuable part of a children's program, especially where children are unable to keep pets at home. However the needs of the animal for quality care must be carefully considered. Some animals—such as hens, rabbits, guinea pigs and budgerigars—are particularly suitable for young children because they can be satisfactorily housed in cages or hutches.

Animal health issues to consider are:

- Investigation of the particular needs of each type of animal cared for at the service.
- Adequate space for animals should be provided in a quiet part of the outdoor play space.
- Animals housed outside require protection from vandalism and predators.
- Housing must be in properly secured hutches with warm and protected sleeping quarters and open sunny areas.
- Constant maintenance and cleaning of hutches will be necessary to minimise the risk of infection.
- Hutches can be portable or substantial, fixed enclosures that allow the children to enter
- Storage will be required for animal bedding and feed.
- The care of pets over weekends and holiday periods.

Other issues to consider are:

- cultural considerations for different animal types
- potential allergy responses
- maintaining good safety and hygiene practices
- maintaining adequate supervision.

The site

The overall site design, the orientation of the site, the placement of buildings and storage sheds, fences, service areas and parking areas will impact on the size, shape, and placement of the outdoor play space. These are all important elements for the initial site selection for new services.

This section of the *Outdoor play guide for Victorian children's services* outlines information that will assist those planning and using a site for a children's service ensure the site is suitable for outdoor play. This includes planning, drainage, storage, fences and gates.

In regard to outdoor space, Regulation 43 of the Children's Services Regulations 1998 states:

43. Outdoor space

(1) *The licensee must ensure that -*

- (a) *outdoor space is provided at the children's service with a useable area of at least 7 square metres for each child who may be cared for or educated by the children's service...*
- (2) *In calculating the area of useable outdoor space, pathways or thoroughfares less than 3 metres wide, car parking areas, ancillary areas, storage sheds and other fixed items that prevent children from using the space must be excluded.*

For more information on the **legislative requirements** see that section of this guide.

Site planning

Those planning a site for a children's service, and hence an outdoor play space, should consider:

- sun angles
- prevailing wind and rain directions
- slopes and drainage characteristics, including the location of drainage pits
- existing significant trees
- the positions of services such as gas, water, drainage, sewerage and power lines
- maximising the shade afforded by eaves and verandahs in spring, summer and autumn
- access for maintenance and emergency vehicles
- the orientation of the building and whether the outdoor play space/s can be located on the north side of the building
- the number of outdoor play spaces
- neighbours: type, proximity and the impact the centre will have on them, and vice versa
- traffic noise and other disturbances
- the location of windows and external doors in relation to children's rooms
- the location of toilets in relation to the outdoor space
- the position of paths and taps
- the design of transition areas that link indoor and outdoor areas, such as verandahs, patios, pergolas and porches
- safety and ease of supervision
- the location of posts and poles
- the location of play space details; for example, sand pits, active play, natural areas
- any easements on titles.

Buildings should be positioned so that outdoor play spaces are not:

- divided up into small, unusable areas
- distributed in a thin strip around the perimeter of the building
- sunless and damp in winter or lacking shade in summer
- difficult to supervise, such as narrow *L* or *U* shaped yards.

Site contour

The majority of the play space should be level. Where flat areas are achieved with cut and fill, terracing and retaining, the following points should be considered:

- Children learn from, and are often attracted to, climbing up and down walls or edges but falls can occur. Protective guards can prevent some falls.
- Major flights of steps are inconvenient, reduce access for some users and are potentially hazardous. Where steps are necessary, the design of their rise and step size should be suitable for children.
- Divisions in terraces should create spaces large enough to be used productively.
- Low-level changes (approximately 150 mm) provide relatively safe interest and challenge for toddlers.

Gentle slopes in appropriate places can encourage children to run up and down and can provide unique play experiences. Sloping sites can be more difficult to plan for, however, and create the following limitations or hazards in the outdoor play space:

- difficulty in locating spaces for climbing equipment, block building and other ground-based activities
- steep paths for bikes and wheeled toys, especially when they run towards verandah posts, walls, fences or gates
- sloping paths near sand pits, where sand makes a paved surface slippery
- play spaces that slope towards the building, where pine bark and sand will gravitate indoors or be washed away
- grassed areas in excess of one-in-four gradient, which are difficult to mow and slippery when wet
- access to the service via a steep path
- limited areas where babies and toddlers can practise walking on a level surface.

Refer also to the section on site selection, in the **Design guide for Victorian children's services** (<http://www.dhs.vic.gov.au/csguidelines>).

Drainage

Good drainage will help gain maximum value out of the play space, making it usable more quickly after rain and optimising conditions for plant growth. Ideal drainage will enable surface water to saturate the soil to a depth that will prevent loss of surface soil after heavy rains. A well-drained play space is usable all year round.

The following strategies can improve drainage:

- installing sub-surface slotted plastic or clay pipes, set in a bed of screenings in areas where sand or other materials can clog drains
- using large diameter (150 mm) drainage pipes, helping prevent blockages
- contouring soil surfaces to help the dispersal of surface storm water to the nearest drain
- building up low areas to avoid water collection
- planting trees, such as melaleuca, and water-loving plants that draw large volumes of water from the soil
- inspecting and maintaining pipes and guttering on a regular basis.

Drainage pits

Where drainage pits are located in outdoor play spaces, care must be taken to ensure they are not a hazard. Proprietors should avoid locating them in climbing areas where they can be a trip or serious fall hazard. Pits can spoil an otherwise open grassed area, limiting the types of experiences that could take place there.

Storage

Adequate and well-located storage is an essential feature of the outdoor area if an outdoor play space is to offer maximum flexibility to staff, children and other users. It is preferable that children are able to access their own play props and equipment from storage areas, but it may not be appropriate for children to have access to all items.

Storage sheds, cupboards and other storage spaces are required for:

- large and small play equipment, props and materials to be used in play
- equipment not currently in use
- loose play items, such as palings, pipes, logs.

It is common in newly designed children's services for outdoor storage rooms to be a component of the building, accessed through a roller door near the play areas, and perhaps also from an indoor area. This has several advantages including increased climate control via the building's insulation, access in all weather conditions and access to lighting and power outlets.

Regulation 43(2) of the Children's Services Regulations 1998 specifically excludes storage sheds in the calculation of useable outdoor space. (See also **Legislative requirements**).

Access to a separate and secure service yard for the storage of tools and maintenance equipment, rubbish, cleaning equipment and chemicals will also be required. The service yard can also be used for cleaning large play equipment. Refer also to the data sheet, Service Yard, in the **Design guide for Victorian children's services** (<http://www.dhs.vic.gov.au/csguidelines>).

Location and design of storage

Queries for proprietors to consider include:

- Will the storage facility be accessed by children and adults, or by adults only?
- Where children access the storage space, is access to all items convenient and safe?
- Is more than one outdoor storage facility required to accommodate all materials and make the best use of available space?
- Is the height and depth of shelves, and placement of hooks and brackets compatible with the intended storage items?
- Should storage be specifically designed to accommodate the wooden planks that are used to provide climbing, balancing and jumping experiences for children? These items are heavy and awkward to manoeuvre, and shelves, brackets or dividers to accommodate such planks should be included.
- Have ergonomic guidelines and safe manual handling guides for reaching and lifting (especially for heavy objects) been considered?
- Is space to store removable shade structures in winter required?
- Are storage sheds located so they are easily accessible for the large, heavy and cumbersome items that are used?
- Does the storage divide one useful play space into two less useful areas, or create small, difficult to manage areas, such as between a shed and a fence?
- Does the location of the storage facility create corners or spaces that are hidden from supervision?
- Will the location of the storage facility impede access for maintenance or emergency vehicles?

- Are spaces between the fence and storage shed intended for use to store movable large items, such as cable reels, tyres, and boxes? If so, have appropriate fencing and gates been considered?
- Have the storage facilities been designed with a roof overhang to protect the access point from sun and rain?
- Has the ease of cleaning and maintenance of the storage facilities been considered to ensure the area does not attract spiders, snakes or vermin?
- Have any local council planning requirements for storage sheds/structures been considered?

Refer also to the section on storage in the **Design guide for Victorian children's services** (<http://www.dhs.vic.gov.au/csguidelines>).

Fences and gates

Children's safety is enhanced by appropriate enclosure of outdoor areas. Fencing and associated gates and fittings must be designed for the safety of children, and to ensure children cannot climb over, crawl under or through, release latches or otherwise gain access beyond the outdoor space of the children's service.

Regulation 43 of the Children's Services Regulations 1998 states:

43. Outdoor space

(1) *The licensee must ensure that –*

(b) *any outdoor space is enclosed by a fence or barrier*

(c) *the fence or barrier is at least 1.5 metres high measured from ground level; and*

(d) *a child being cared for or educated by the children's service cannot go through, over or under the fence or barrier or any gate or fitting.*

For more information on the **legislative requirements** see that section of this guide.

A fence or barrier must not be scaleable by a child. It cannot be pulled out of shape to allow children to gain a foothold, or have any gaps or joins that a child could get through. If an object renders a perimeter fence scaleable—whether it is part of the inside face of the fence; a fixture, fitting or piece of equipment; or vegetation abutting the fence—then the fence is inadequate under the Regulations. Proprietors should take care in positioning fixtures, such as internal fencing, cubbies or uprights for sunshade structures, so that these objects do not render perimeter fences scaleable.

The height of the fence or barrier to the outdoor space must be measured from the ground level on the internal side of the fence or barrier. Any build-up of gardens, impact-absorbing material, soil or sand should not have the effect of reducing the height of the fence or barrier from the required 1.5m.

A lockable double gate may be desirable for vehicular access to service the outdoor areas for deliveries, such as sand and mulch, and for emergency evacuation and vehicle access. Proprietors should consider the location of such gates in the overall concept plan to ensure access is not blocked on either side by a permanent structure or tree. Pedestrian gates should be designed so that people with disabilities can easily reach latches (or ring for assistance), and can pass through in a wheelchair, and so that parents with prams can easily enter, while ensuring that small children cannot gain access through the gate.

Considerations for fencing design include:

- Sometimes a solid screen will be desirable, but it is often beneficial to provide sections that children can see through.
- A timber or masonite fence can reduce noise from busy roads.
- Dense fine-leaved plants along a fence can absorb road dust and pollution in a play area, and soften the visual impact of the boundary, but they should be carefully selected to ensure that they cannot provide children with a means of scaling the fence.

- Fences can help to protect a play area from strong winds.
- Fences can be useful as a support for blackboards, for rebound or ball bouncing walls, to support climbing plants and vegetables, and as a backdrop for storage sheds.
- An irregular fence line, particularly one that provides recesses for cubby play, creates visual and play interest in a play space.

Refer also to the Practice Note on Fencing (<http://www.dhs.vic.gov.au/csguidelines>).

Planning, designing and construction

Angelika is ready to begin planning the outdoor play space. But before she does, she consults with a group of 4 year olds about what they think.

Saras: The teacher should be in charge of what goes outside because they know where everything goes.

Bahra: It would be fun to put treasure outside to find.

Sam: I would like a zebra and a tortoise in the playground. I would play with the zebra and pat her very gently. The tortoise needs water and the sand pit.

Building on the information provided throughout the *Outdoor play guide for Victorian children's services*, this section focuses on the planning, design and construction of an outdoor play space. It also provides an overview of the typical stages in the preparation of an outdoor play space.

The planning process

Planning is the first step. It involves the preliminary collection of information and ideas before the detailed design and construction for a new outdoor play space or for modification to an existing outdoor play space can begin. This time should be used as an opportunity for the parties concerned to identify needs, discuss important issues, resolve differences of opinion, allocate organisational tasks and confirm decision-making methods.

Forming a planning group

Not all ownership or management models will choose to form a planning group but this step can be useful. If a planning group is formed, the group should not be too large. People involved might include:

- proprietors of the children's service
- owners of the premises (for example, local government)
- parents and committee members
- volunteer workers or church committee members (especially where the service is located on church grounds)
- for existing services, the director and staff
- for new services, a person trained in early childhood education, and with practical experience of operating a service
- specialist advisers (for example, playground designers, horticulturists and architects) who can provide resources and enable the project to benefit from the experiences of similar projects.

Planning groups take on the role of establishing a shared vision and preparing a design brief for the project. They may do this alone, or hand the brief over to professional consultants to complete. The role of some groups extends to decision making as the project progresses, and can include ensuring the flow of information to others who are affected but are not included in the planning process. The planning group can even be involved in tasks such as ordering materials or liaising with contractors. No two planning groups will take on the same tasks.

Gathering information

Every outdoor space is unique, and outdoor play spaces should be planned with this in mind. Before committing to a design for an outdoor play space, planning groups or proprietors should consider:

- opportunities specific to the site (for example, shade trees)
- constraints of the site (for example, a steep slope)
- defining the users of the outdoor play space (age groups and the number of children)
- understanding the demands of the users of the outdoor play space
- desired characteristics for the play environment
- possible play activities and experiences that will realise those qualities and characteristics
- different *look and feel* options for the finished site.

If the project consists of a number of service partners—for example, in a multi-use facility—agreements should be made early in the process regarding ongoing operational arrangements, which may, in turn, impact on the design of the outdoor play space.

Gathering information could include visits to existing services to explore the set up and types of play space details in use. The time could be used to share and brainstorm ideas and experiences, collect photos, invite guest speakers and collect information and ideas from a variety of cultural perspectives. Other sources of information are libraries, websites and specialist organisations (see **Information and References** section).

For new services, the phase of gathering information is also a time to become familiar with regulatory requirements and the operation of children's services. It is important to obtain a copy of the *Children's Services Act 1996* and Children's Services Regulations 1998 and review the licensing and operational matters as set out in the **Children's services guide, a guide to managing and operating a licensed children's service in Victoria** (<http://www.dhs.vic.gov.au/csguidelines>) (See also **Legislative requirements**).

The documents describe child–staff ratios, facilities requirements and other matters that will impact on the design of a children's service. Familiarisation could also include contacting children's services advisers in the local **regional office** (<http://www.dhs.vic.gov.au/csguidelines>) of the Department of Human Services (see also **Information and References**) to discuss ideas and make contact with the staff that will be working closely on the proposed project through the approval in principle stage and licensing stage.

Children's services advisers have extensive knowledge and experience in early childhood services and are a valuable source of advice and information. Planning groups or proprietors should also gather information on, and ensure they adhere to, the requirements of the Building Code of Australia, seeking advice from Building Surveyors as required.

Planning modification or renovations

In the case of existing services, whether planning minor modifications or major renovations, planning committees or proprietors should:

- become familiar with the existing site
- observe how it is currently used
- examine the trouble spots, or vacant spots
- observe locations where children move equipment or commonly congregate
- consider unused equipment or favourite objects
- discuss the site with staff who work in the outdoor play space; they will probably have constructive ideas
- ask the children who use the existing environment what changes they would like in their play space
- consider engaging professional playground specialists to advise on modifications
- obtain a copy of the current site plan (one may be on file; alternatively, check with the local government authority).

Proprietors must also contact a Children's Services Adviser in the local **regional office** (<http://www.dhs.vic.gov.au/csguidelines>) of the Department of Human Services about any proposed alteration of the design of the premises from the design that was approved for the purposes of the licence.

Professional expertise

The extent to which professional consultants or contractors are engaged on the project will vary depending on the ownership model and the intended role and makeup of the planning group, in addition to the size, complexity of the project and available funds. Knowledgeable consultants can provide good advice early in the process regarding site selection, cost estimates and master plans, which can then be developed over time. It is important to select professionals who will listen carefully to the needs of the project and who have the skills to put ideas into practice. Depending on the project, a number of professionals will be able to offer useful skills, including:

- architects and engineers to assist with building design, initial site works and drainage
- landscape architects to undertake site planning and design of play details, drainage and planting schemes
- playground consultants who are expert in creating innovative outdoor learning experiences through play
- horticulturists and tree surgeons for specialised planting advice and plans
- landscape contractors or gardeners for construction of outdoor areas
- early childhood trained professionals
- play equipment suppliers or manufacturers for play structures
- environmental consultants to undertake soil assessment (refer also to the Practice Note **Soil assessment guidelines – for applicants and licensees of children's services** (<http://www.dhs.vic.gov.au/csguidelines>)).
- professionals to undertake measurements of the useable outdoor space (refer also to the practice note Certification of area measures (<http://www.dhs.vic.gov.au/csguidelines>)).
- project managers with experience in delivering children's services projects; these professionals could be engaged to project manage, using the services of professional consultants as required; architects could also take on this role.

If more than one professional is to be engaged, it is prudent to insist on early cooperation in developing the initial concepts. It is likely that any professionals employed will require written clarification about:

- vision and expectation for the project
- budget
- main point of contact for the project
- the entity that takes final responsibility for the project.

Preparing the design brief

A design brief is a set of instructions for a designer, and is written once the planning ideas and information have been consolidated. It should outline the extent of the project and confirm particular ideals and elements that are important to the project. The spectrum of a brief is often broad, stretching from project goals down to individual requirements. It is important to be clear about the vision. If the planning group have the specific goal for the outdoor play space of incorporating the natural environment throughout all play spaces, for example, this must be clearly stated or the designer could waste time designing patterns for brightly coloured synthetic paths that will not fit with the project aims.

A design brief describes the desirable characteristics and play space details selected during the information gathering phase. These can then be balanced with each other and customised for the individual site.

The design brief does not present the solutions for the project. When a designer is engaged, finding solutions is the designer's role. A design brief is still an important document even if a planning group does not intend to engage a professional designer. The design brief refines the aims and parameters to which the planning group will continue to work towards.

A design brief might include:

- ages of the children who will use the outdoor play space
- numbers of children that will use the space at one time
- proposed size of useable outdoor space
- time of day the space will be used
- the different groups who may use the site; for example, an occasional care facility could also be used by several playgroups across the week
- preferences for desirable characteristics and play space details, eg multi-level sand pit or use of fragrant plants

- details of the feasibility of the combined options and how activities relate to, or conflict with, one another
- preferences for types of construction materials; for example, types of shade or ground surface
- requirements for supervision of children using the spaces
- requirements for maintenance of the site
- relevant Australian Standards requirements
- access to the site
- details about how the play space will be installed; for example, volunteers, playground equipment suppliers or specialist builders
- budget
- timelines.

At the design brief stage, the owners, proprietor or planning group should also consider:

- preferences for full working drawings and specifications
- whether installation is carried out in stages or as a whole
- detailed information about the products or constructions to be used
- a schedule of meetings with the professional to study the plans and have the detail explained at each stage
- maintenance schedule
- accordance with Australian Standards
- warranties and lists detailing availability of spare parts
- public liability and any other relevant insurance.

The design

A range of plans can be drawn up in the process of designing an outdoor play space that will illustrate the design and enable the proprietor or planning group to select the design that best meets the design brief. These include (but are not limited to) concept plans, developed concept plans, working drawings and master plans.

Concept plans

Concept plans are intended for discussion and review, and are likely to be changed a number of times. Ideas can be represented at first by rough circles (*bubble diagrams*), but will become firmer as ideas are reviewed and accepted. Concept plans are not working drawings and are not intended to provide the basis of a construction contract.

Developed concept plans

These plans provide more detailed resolution of the information in the concept plans. They show dimensions of spaces, structure and landscape elements. They indicate materials to be used, where trees and shrubs will be planted, how wide paths will be and what they will be made of, what any structures will be like, and how the ground will be shaped. These are still not working drawings.

The project budget should be reviewed at this stage. Planning groups or proprietors should consider how any adjustments to the concept plans will impact on the budget.

Working drawings

These plans provide the greatest level of detail and show exactly how each detail shall be built. They are intended as the basis of a construction contract and for approvals from regulatory authorities. They are the most complex and expensive to prepare, so it is important that there is clear agreement on the concepts before working drawings are commenced.

Master plans

A master plan shows the direction of development for a play space over time. It provides some direction and a framework for decision making, while retaining capacity for flexibility. The sand pit area could be the focus initially, for example, then at a later date, as funds allow, the climbing area can be developed.

Outdoor play space development can be an expensive process. Master plans are valuable to prevent rushed decisions without proper planning. A master plan also allows for the cost of construction to be broken down into financially manageable and practical sections.

Master plans will vary in the level of detail they show, depending on their purpose. They could incorporate a mix of all the plans outlined above.

Note: An application for an Approval in Principle to the Department of Human Services requires two copies of the site plan.

Obtaining approval

The section, Plan and Build, within the **Design guide for Victorian children's services** (<http://www.dhs.vic.gov.au/csguidelines>) has information relevant to the planning, designing and construction phases. The following approvals relating to the development of outdoor play spaces may be required.

Planning and building permits

Depending on the extent of work to be carried out, a planning permit or building permit may be required. There may also be requirements of the Building Code of Australia to consider. It is always prudent for the contractors to liaise with the local government authority to check whether a permit or other obligation—for example, a zoning condition or local overlay—may apply. The cost of such permits should be factored into the overall estimate. Overlays, for example, may effect vegetation, fencing, colour schemes and heritage requirements.

Department of Human Services approvals

The Department of Human Services (the department) assesses plans for new services including the outdoor space, to ascertain whether the design and location of the premises are satisfactory for the operation of a children's service. Plans for alterations or extensions to existing services are assessed to ascertain that any alteration or extension will not compromise the minimum requirements of the Regulations, that premises will continue to be satisfactory for children's use, and that children will be protected from hazards if building works are being undertaken while the children are present. Information can be obtained by contacting Children's Services Advisers in the **regional office** (<http://www.dhs.vic.gov.au/csguidelines>) of the Department of Human Services (see also **Information and References** section). Information is also available in the **Children's services guide, a guide to managing and operating a licensed children's services in Victoria** (<http://www.dhs.vic.gov.au/csguidelines>) and associated Practice Notes.

New services

When planning to build and operate a children's service, an application for an *Approval in Principle to Operate a Children's Service* is required. Once this has been granted and the service has been built an *Application for a Licence to Operate a Children's Service* is required in order for a new licence to be granted. The outdoor play space will form part of the approved plan and will require consideration by the department. A soil assessment will be required for any proposed sites for children's services (refer also to the Practice Note **Soil assessment guidelines – for applicants and licensees of children's services** (<http://www.dhs.vic.gov.au/csguidelines>))

Existing services

It is a condition on all children's services licences that the licensee must notify the department of any proposed alteration of the children's service from that on the approved plan. Existing services must notify the department of any change to the licensed premises. Children's Services Advisers will advise whether the proposed modifications or renovations to the outdoor space will require an application for approval in principle for alterations or extensions to licensed premises currently used for operating a children's service. A soil assessment may be required at existing licensed children's services where an alteration or extension requires earthworks or deep excavation and the works are going to take place in an area that is used (or will be used) for children's outdoor play, and a soil assessment has not been undertaken at the children's service.

Refer also to the Practice Note: **Soil Assessment Guidelines – for applicants and licensees of children's services** (<http://www.dhs.vic.gov.au/csguidelines>).

Selecting professionals

Once the design brief has the necessary internal approvals by the children's service (for example, from the licensee or committee), the process of selecting and engaging professionals can commence. This is often done by inviting quotations or tenders on the design brief. The method used to carry out the design, installation and construction of the outdoor play space can depend on the location of the children's service and its circumstances, the size of the project, the funds available, and the skills available in the community for use by the children's service.

Possible methods include:

- engaging both a designer and a builder
- engaging a designer–builder
- engaging a supplier of playground equipment to install its own standard products
- engaging a supplier of playground equipment and an assembler–installer
- engaging a project manager to oversee the project from beginning to end, using other professionals as required
- purchasing equipment from a playground equipment supplier and installing it using volunteer labour
- using volunteer labour, such as a group of parents, or service clubs—for example, Rotary or Lions clubs, tertiary garden design students or individuals on workplace training.

When seeking written quotes or tender specifications, planning groups or proprietors should:

- provide the design brief or working drawings as criteria for the preparation of the quote so that various quotes will be comparable
- require the professionals (contractors) to inspect the site
- ask for detailed information about any products or constructions and ask for warranties and availability of spare parts
- ensure commitment to timelines
- stipulate that the lowest quote or tender will not necessarily be accepted.

The Australian Standards indicate that the manufacturer of playground equipment is to provide information about each piece of playground equipment (that is, manufactured structures and impact-absorbing surfacing), including installation, inspection and maintenance information for each piece of equipment. The standard also provides that the manufacturer shall give installation instructions for the correct assembly, erection and siting of equipment. The manufacturer shall also indicate if a particular level of competence is required for any of the installation tasks.

Construction

After the planning group or proprietor has considered the quote or tender, a selection must be made about which contractor or supplier to employ and any contractual arrangements that will be entered into, according to the policy of the children's service. Such a policy would prudently require contractors and suppliers to provide the service with copies of current public liability and any other relevant insurance cover documents before the contract is finalised.

In existing services, staff consultation will be necessary to ensure the least disruption to programs and the safety of children during the construction stage. Where the work will disrupt use of an outdoor play space or access to the site of an existing children's service or change emergency exits, for example, strategies to ensure children are safe should be discussed with the Children's Services Adviser at the time of notifying the Department of Human Services of proposed changes to the licensed premises. (See Department of Human Services approvals, in the section Obtaining Approval).

Staging construction

Carrying out construction in stages could be necessary when there are limited funds, or in order to maintain access to some outdoor space during construction. It is important that children are able to access outdoor spaces every day.

To effectively construct a play space in stages, important points to consider are:

- The whole project should be fully planned and designed prior to starting work on stage one. Minor details can still be altered as work progresses.
- It will be necessary in some cases for construction to occur when children are not attending the service; for example, during the weekend or a holiday break; or may require the temporary closure of the service.
- During and after the development of each stage, an adequate area of the play space must be left safe and easy to use for children.
- The order in which tasks are carried out is critical. It is recommended that earthworks and drainage works be done first. Refer to the Practice Note: **Soil Assessment Guidelines – for applicants and licensees of children's services**.

Completing the installation

At completion and before final payment, the planning group or proprietor should:

- ask the contractor or supplier to do a final check and provide written confirmation that all work completed is in accordance with relevant Australian Standards
- check the finished installation against the plans and specifications that were provided; the designer or playground equipment supplier who has supplied, but not installed, equipment could be invited to participate in this process
- check that the warranty, maintenance instructions and spare parts lists of any structures have been received
- complete an audit (see Maintenance Audit in section **Maintenance**)
- request the contractor or supplier modify any areas of non-compliance
- record all relevant documents, including the inspection report, in a register

Maintenance

No matter how well a play space has been designed and constructed, continual assessment and maintenance is required and, from time to time, modifications could be necessary. By the very nature of children's use of the outdoor play space, children will be interacting with and modifying the play space through activities such as digging garden beds, making cubbies, enclosing areas for a new pet, or planting secret gardens. Favourite areas will have worn surfaces and different traffic flows could affect pathways and garden areas. Heavily used equipment will wear and hazards may arise, such as splintered wood and loose bolts.

Appropriate maintenance is relevant to protecting children from hazards. Sections 26 and 29 of the Children's Services Act 1996 provide for such protection:

26. Protection of children from hazards

- (1) *The proprietor of a children's service must ensure that every reasonable precaution is taken to protect children being cared for or educated by the service from any hazard likely to cause injury.*
- (2) *A staff member of a children's service must ensure that every reasonable precaution is taken to protect a child in the care of that staff member from any hazard likely to cause injury.*

29. Premises to be kept clean and in good repair

A proprietor of a children's service must take reasonable steps to ensure that the buildings, the grounds and all equipment and furnishings used in operating the service are maintained in safe, clean and hygienic condition and in good repair.

For more information on the **legislative requirements** see that section of this guide.

It is crucial to plan for the maintenance of the outdoor play space. Three strategies that can contribute to such maintenance systems are:

1. daily inspection and monitoring
2. use of a maintenance register
3. undertaking a periodic maintenance audit.

Inspection and monitoring

Inspection and monitoring are best undertaken each day, prior to children using the outdoor play area.

Items to look for include:

- soiled sand or dirt areas
- equipment that has been moved or become unsecured
- pools of water (only where the location is unsafe)
- stagnant water
- spiders in tyres or other equipment
- branches blown down with sharp protrusions
- equipment stored in an unsafe manner
- discarded rubbish, especially hazardous items such as discarded syringes and broken glass
- snakes, especially in summer.

Staff members should be aware of any potential hazards that become obvious. They should isolate the area immediately, or remove the hazard immediately if it constitutes a danger, and report their action appropriately.

Because of the flexible nature of early childhood play spaces and programming that allows children to manipulate much of their environment, staff members should continually evaluate the conditions of the play space to ensure safety. Safety will be enhanced where simple rules are in place, such as ensuring large objects are not likely to fall from the top of climbing frames, or that bikes are not parked under climbing equipment where children can fall on them.

Maintenance register

A maintenance register is one part of a strategy to plan for the maintenance of children's services. A maintenance register can include:

- master plan (or developed concept plan or working drawings) and a rationale for the design of play spaces; for example, the reasons certain spaces were designed, the purpose of play areas and particular pathways (this will be helpful when a change of staff occurs)
- copy or original certification of area measurement for outdoor space (see Practice Note, **Certification of area measurements** (<http://www.dhs.vic.gov.au/csguidelines>)).
- features and assets of the play space
- details of the age of equipment and its associated maintenance schedule and history
- audit reports that are periodically conducted, including any repairs or modifications carried out as a result of the audit, (an associated separate maintenance book or section to the register is often helpful)
- information about impact-absorbing surfaces:
 - loose fill impact-absorbing materials: recommended material depth; when it was last replenished; suppliers; maintenance and inspection procedures.
 - solid impact-absorbing surfaces: compliance with relevant Australian Standards (usually requested at purchase); location where used as a fall zones versus use as a general ground surface.

When developing a maintenance register for an existing outdoor play space, it is essential to undertake an initial audit to identify all play structures and features. The result of this initial audit should be checked for compliance with standards and relevant regulations. A maintenance register could also be prepared on the completion of a new play space or a major renovation of an existing space.

Although outdoor play spaces evolve over time, it is imperative that new staff or management committees understand a play space's original purpose before they modify or redesign it. A master plan of the outdoor play space identifies the concept spaces and the rationale behind them. It could also include a plan for future development. Familiarity with a master plan then avoids such instances as moving a vegetable garden to access more sunlight when the space was actually designed as a digging patch, and then having staff bemoaning that the children really need a digging patch!

Given the nature of early childhood outdoor play spaces, some of the features and assets are difficult to define. A dusty corner that children enjoy as their truck and grader space one day and their fairy garden the next, for example, could be the location for making mud pies after a rainstorm. It is useful to describe the area in such a way that it can be included in the maintenance register and recognised by staff as the same space.

Examples of play space features to be documented in a maintenance register include:

- key play areas, such as sand pits, cubbies, paved areas, lawns and climbing areas
- fixed equipment, such as climbing frames and swings
- movable equipment (larger items such as wheeled toys and trampolines)
- individual surfacing materials, noting status as impact-absorbing or not; for example, solid surfacing or loose fill materials
- major garden beds, shrubs and trees
- fences and gates
- shade fabrics (recording the UFP rating) and shade trees
- storage systems, sheds and cupboards.

Record the relevant maintenance detail for each feature:

- manufacturer, installer and/or builder
- warranties and attach them to the register
- specific maintenance requirements
- document any maintenance carried out and the dates of any future maintenance.

Smaller equipment, tools and play props can either be part of this inventory or included in the general inventory of the children's service. Such inventory allows staff to maintain the supply in an orderly and accessible manner. Outdated or equipment not in good repair should be removed so it does not take up valuable storage space.

Maintenance audit

An audit is a detailed and careful examination of the outdoor play space as a whole. Such an activity can be undertaken periodically and will assist in ensuring the safety and security of outdoor play spaces, free from hazards. Such tasks are the responsibility of the proprietor and staff of each service. Audits could be carried out by the proprietor, staff or maintenance committee members.

The audit includes assessment of:

- the play spaces, play equipment and storage facilities within the outdoor play space
- requirements for all maintenance and safety
- future play space needs.

Sample checklists

Check key play areas:

- Are all constructions, retaining walls, shade structures, panels in fences and supports in good repair?
- Are play materials hygienic, plentiful and useable? Look for clean sand, workable dirt in the digging patch and areas clear of debris.
- Are there any environmental factors of concern, such as growing moss on paths, presence of spiders, snakes, rats or wasps?
- Check whether areas have been affected by drainage or erosion problems.
- Has old equipment been removed and remaining concrete footings disposed of or adequately covered?
- Do pathways have surface dressing that is adequate, paving stones that are level and paths that are without potholes or protruding tree roots?

Check all equipment and look for:

- worn or missing components
- protruding or exposed components
- loose fasteners, nuts and bolts
- worn or missing attachments and swing mounts
- worn ropes on swings
- potential spaces for **entrapment**
- damage to protective coatings or paintwork
- rotting or splintered wood
- required fall zones (see **Fall zone**)
- depth of impact-absorbing surfaces where loose fill materials are used
- repair of synthetic or rubber impact-absorbing surfaces; for example, separation of seams.

Check major garden beds, shrubs and trees, ensuring:

- shrubby areas are pruned for secluded access but with dangerous hardwood removed
- gardens and grass are relatively weed-free, and garden beds are fertilised and mulched to ensure healthy growth
- poisonous, irritant or dangerous plants—for example, those with particularly spiky points—are removed
- trees are healthy, not rotting or displaying dangerous, protruding limbs, and there is no soil compaction of the root system
- there are no dead or sharp branches on trees, shrubs, and vines.

Check animal enclosures, ensuring:

- enclosures are secure, safe and hygienic
- animals are in healthy condition.

Check fences and gates, ensuring:

- all are secure and in working order
- no scaleable planting or equipment is against perimeter fences
- soil or mulch has not built up to reduce the overall height of the fence.

Check shade structures, ensuring:

- structures are secure, supports are protected, attachments are in good condition and tensioning is strong
- fabric on shade structures has no tears or worn sections.

Check storage systems, sheds, cupboards and store yards, ensuring:

- systems are adequate, safe and in good repair
- storage systems are appropriately located with access appropriate for children and adults.

Once the audit has identified work to be completed, it is important to discuss the items with the staff that work in that play space, in addition to consulting with staff about the scheduling of work. This avoids such instances as pulling out a plant a child has nurtured from seed, or disposing of some old palings as rubbish, not understanding they are used daily to construct cubbies.

Communicating and recording maintenance issues

A system for recording maintenance items and repairs that require carrying out is a useful tool for staff. The identification of the responsible party to carry out the maintenance, plus space to record the completion date of the task and any necessary comments, are efficient communication strategies.

Solving common problems in outdoor play spaces

Suggestions for addressing eight common problems in outdoor play spaces are provided.

Inappropriate location of storage

Poor location of storage facilities could:

- block views around the outdoor play space, impacting on supervision
- block access to maintenance and emergency vehicle access
- divide spaces, creating unusable areas
- cause inconvenient access to materials
- cause rubbish to accumulate behind or beside storage facilities.

Possible solutions are:

- relocating storage facilities
- providing more than one storage facility
- redesigning the space that is marginally blocked because of the storage facility.

Refer also to Storage in the section **The Site** in this guide.

Worn grass

Causes	Possible solutions
Inadequate watering	Install automatic dripper watering system
	Install an alternative ground surface
Grassed area water logged	Improve drainage
Overuse of area	Temporary resting of the area, to allow regrowth through aeration and fertilising

High-traffic and overly shaded areas are not the best environments to maintain grass. Alternative ground surfaces may be more suitable. Planning groups or proprietors should also consider different varieties of grass that are more hardy or suited to the climate zone.

Refer also to The Ground Surface in **The Landscape** section of this guide.

Drainage problems

Poor drainage can severely impact the use of outdoor play spaces. Many solutions to poor drainage are costly and reinforce the need to consider appropriate drainage at the development stage.

Strategies to address poor drainage include:

- investigating the source of the problem; it could be from broken or leaking pipes, or neighbouring properties
- planting vegetation that draws water from the soil; for example, melaleuca species
- regrading the site to redirect surface run-off
- laying subsurface drainage
- building up low-lying areas
- creating a seasonal watercourse or bog garden.

Common problems with drainage pits include being poorly sited in climbing or running areas, and having protruding, sunken or missing grates or covers. A poorly sited pit is hazardous and is best relocated. Planning groups or proprietors should seek advice on the feasibility of moving a pit and, if this is not possible, fencing off the pit. Grates and covers that are a trip hazard should be reinstalled flush with, or just below, the surrounds and then fixed to prevent children moving them.

Refer also to Drainage in **The Site** section in this guide.

Dominating path systems

Dominating paths are those that divide a space into smaller, less useful areas or encircle a play area and encourage bikes or any other form of play to dominate or cross into other play activities.

Possible solutions include:

- reviewing the play space for traffic flow and hazard points created by the path
- removing sections of the path that create the hazard and installing gardens or a specific play activity such as a sand pit
- widening other hazard points so that two-way traffic can flow
- adding a loop ending to a path
- instituting a one-way rule on the path for use around equipment such as swings
- removing the path and installing an alternative ground surface.

Refer also to information on bikes and wheeled toys in the **Active Play** section in the guide and information on paths in **The Landscape** section in this guide.

Verandah and shade structure poles

Verandah and shade structure poles can create hazards, with children running into them. Relocating poles is rarely feasible.

Possible solutions include:

- placing pot plants or other items around the pole, so that the pole is more visible
- building seating or other visible structures around the pole, making sure this does not increase the hazard
- relocating paths or ramps to avoid poles
- Installing stepping stones, rather than paths, near poles, slowing the pace of movement
- padding the pole to a child's head height to reduce the impact of the hazard and making the pole more visible.

Inappropriate fixed playground equipment

Large, fixed playground structures are best sited within large outdoor areas, with the capacity to provide appropriate impact-absorbing surfaces and where play from the fixed structure can be extended. If this is not the case, it could be optimal for the large fixed structure to be removed to allow for more flexible play opportunities. See also information on large fixed play equipment in the **Using outdoor play spaces** section of this guide.

Check fixed play equipment for:

- **entrapment**
- safe **free height of fall**
- **fall zone**
- **surfacing for outdoor play space.**

Poorly located swings

Swings can create a serious hazard to children crossing their path and to swinging children (see also information on swings in the Play space details and Safety and Australian Standards sections of this guide).

Strategies for dealing with poorly located swings include:

- reducing three swing bays to two swing bays (in line with the Australian Standard)
- re-orienting the swing to minimise conflicts with other users, checking the fall zone at the front and back of the swing
- planting vegetation to direct traffic flow around swings
- reducing the height of the top beam thus reducing the swing arc
- removing swinging assemblies and using the frame for items using less space, such as ladders or fixed ropes
- removing the whole swing structure if hazards cannot be overcome.

Hard borders and equipment

Some strategies that can be used when play equipment in a small space is too close to hard surfaces or borders include:

- removing the hard surface
- relocating the equipment
- replacing the hard edge with a solid impact-absorbing edge

Information and references

For more information about outdoor play:

- contact **organisations** that can provide assistance
- **contact us**, or
- read some of the **references** and the **bibliography** used in the development of this guide.

Organisations

Organisations that can provide assistance are listed below.

The Asthma Foundation of Victoria

491-495 King Street
WEST MELBOURNE VIC 3003

Telephone: (03) 9326 7088

Toll free: 1800 645 130

Website: www.asthma.org.au

The website contains information about Asthma Friendly Children's Services and Asthma Victoria's brochure, *The low allergen garden*, which has numerous tips about choosing plants.

Early Childhood Intervention Australia (Victorian Chapter)

Telephone: (03) 9509 5584

Fax: (03) 9345 5900

Email: eciavic@bigpond.com

Website: www.eciavic.org.au

Early Childhood Intervention Australia (Victorian chapter) is the organisation representing early childhood intervention in Victoria. Formed in 1985, ECIA (VC) provides a statewide voice for early childhood intervention service providers and families of young children with developmental disabilities. It is a chapter member of the national body Early Childhood Intervention Australia Inc which has chapter organisations in every state and territory.

Environmental Education in Early Childhood Vic. Inc.

JS Grey Centre
Cnr Gilbert Road and Regent Street
Preston
PO Box 2535
REGENT WEST VIC 3072

Telephone/fax: (03) 9471 4673

Email: eeec@alphalink.com.au

Web: www.vicnet.net.au/~eeec/

Environmental Education in Early Childhood Vic. Inc. (EEEC) aims to promote a holistic approach to environmental education at the early childhood level. The resource centre in the J.S Grey children's centre is open Wednesdays 10.15 to 2.45 pm and one to two Saturday's per month. EEEEC also runs workshops and has sustainable centre visits at children's services in Victoria.

The organisation has produced the video, *Weaving webs—an approach to environmental education for young children*, and *EEEC resource book*, a book filled with suppliers and services in the Melbourne area. A catalogue is also available. It details books and publications, recycled or plantation wooden resources, assorted hand made dolls, *June Wade Lloyd Steiner* resources and stationary items.

FKA Children's Services (incorporating Multicultural Resource Centre)

1st Floor
9–11 Stewart Street
RICHMOND VIC 3121

Telephone: (03) 9428 4471
Fax: (03) 9429 9252
Email: fkacs@fka.com.au
Web: www.fka.com.au

The FKA Multicultural Resource Centre is a statewide service that provides consultancy support, resources and training for staff to support cultural and linguistic diversity in a range of early childhood services.

Information Victoria

356 Collins Street
MELBOURNE VIC 3000

Telephone: (03) 9278 1144
Outside Melbourne: 1300 366 356
Web: www.information.vic.gov.au

The *Children's Services Act 1996*, Children Services Regulations 1998 and the *Children's services guide, a guide to managing and operating a licensed children's service in Victoria* and practice note folder kits are available for purchase from Information Victoria.

Lady Gowrie Child Centre

36 Newry Street
NORTH CARLTON VIC 3054

Telephone: (03) 9347 6388
Fax: (03) 9347 7567
Email: info@gowrie-melbourne.com.au
Web: www.gowrie-melbourne.com.au

In addition to being an active children's service, the Lady Gowrie Child Centre provides a range of training, consultancy and community service programs together with a library and bookshop. Lady Gowrie Child Centre also has a visitors program with tours of the outdoor environment.

Playgrounds and Recreation Association of Victoria

PO Box 2060
NORTH MELBOURNE VIC 3051

Telephone: (03) 9455 0955
Fax: (03) 9455 2591
Email: prav@netspace.net.au
Web: www.prav.asn.au

Playgrounds and Recreation Association of Victoria (PRAV) is a non-profit organisation that is committed to working with, and supporting, all sectors of the community to promote the value of play and increase play opportunities for children and young people. PRAV represents the play sector of the Australian Standards Committee and provides expert advice on playground standards. PRAV is funded by the Department of Human Services to provide a telephone and email advisory service for licensed children's services in Victoria about outdoor play environments.

Noah's Ark Inc.

590 Orrong Road
ARMADALE VIC 3143

Telephone: (03) 9500 8133
Fax: (03) 9500 8966
Email: noahsark@noahsarkinc.org.au
Web: noahsarkinc.org.au/

Noah's Ark Inc. Learning and Development team's primary focus is to resource and support children's services staff to assist with the ongoing development and provision of quality programs that respect, reflect and respond to the needs of all children and families in their local communities.

Safety Centre, Royal Children's Hospital

Flemington Road
PARKVILLE VIC 3052

Telephone advisory line: (03) 9345 5085 (Monday to Friday, 9am–5pm)
Fax: (03) 9345 5086
Email: safety.centre@rch.org.au
Web: www.rch.org.au/safetycentre

The Safety Centre, Royal Children's Hospital aims to reduce unintentional injury through:

- Community consultation including the provision of resources to enhance support for those undertaking safety initiatives with local communities and with minority groups
- Information and advice
- Education programs and services
- Safety products for sale
- Collaborative health promotion initiatives, and
- Support for media campaigns, legislative reform, and improved product and environmental design.

The Cancer Council Victoria

1 Rathdowne Street
CARLTON VIC 3053

Telephone: (03) 9635 5148
Fax: (03) 9635 5260
Email: inquiries@sunsmart.org.au
Web: www.sunsmart.com.au

SunSmart, a program of The Cancer Council Victoria, provides resources and information about sun protection for early childhood services. This includes advice on sun protection policy and practice, and how to join the SunSmart Early Childhood Program. The SunSmart website also has information about planning effective shade, including the resource, *Shade for everyone*.

VICSEG (Victorian Cooperative on Children's Services for Ethnic Groups)

Telephone: 9383 2533
Email: mail@vicseg.com.au

The Victorian Cooperative on Children's Services for Ethnic Groups (VICSEG) is a statewide information, advocacy and resource centre. It is also a registered training organisation.

VICSEG services include information and training for service providers on meeting the needs of families from non-English speaking backgrounds and information for parents on the range of children's services available to them.

Victorian Poisons Information Centre, Royal Children's Hospital

Telephone: 13 11 26
Fax: 9349 1261
Email: poison.centre@rch.org.au
Website: www.rch.org.au/poisons

The Victorian Poisons Information Centre provides an information sheet on poisonous plants.

WorkSafe Victoria, Victorian WorkCover Authority

Telephone: 1800 136 089 or (03) 9641 1444
Email: info@workcover.vic.gov.au
Website: www.worksafe.vic.gov.au

The Victorian workcover authority is the manager of Victoria's workplace safety system. The Advisory Service offers answers to general occupational health and safety enquiries and also provides a detailed recorded information service 24 hours a day covering the most frequently asked questions in both compensation and occupational health and safety. Publications on safe manual handling practices are available from WorkSafe Victoria.

Contact us

Children's services advisers from the Department of Human Services are available to discuss the requirements of the legislation. They are available at regional offices. Their contact details are on the Practice Note **Regional offices**

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