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promoting the value of play

DESIGN ADVICE FOR SUPERVISED EARLY CHILDHOOD SERVICES

The type of centre and the nature and purpose of the program need to be clearly understood by designers of outdoor play spaces. Designers and managers of services are encouraged to seek out the opinions and requirements of different user groups, and to involve them in the planning and design process.

The ages of children

Designers need to know how and when the space will be used by children of varying ages, and requirements. Children's use of space will differ according to their age and development. Babies and younger children may require less space whilst older children tend to need a wider range of activities, more complex physical challenges and to be able to play in groups as well as on their own. Older children may be more boisterous than babies and toddlers.

The group size

The Regulations indicate that seven square metres is the minimum outdoor space to be provided per child. Spaces catering for large groups may need more complexity of design to allow for diverse and multiple play opportunities to occur concurrently, as well as providing private and small group spaces.

Wear and tear on each area, and demand for play structures and equipment will be also greater for large groups of children.

The length of the outdoor program

A child who attends full time care in their years prior to school spends more hours in care than in the rest of his/her entire school life. The amount of time children spend in a service ranges from a few hours at a time (occasional care and sessional pre-school) to full-day care.

The more time a child spends in care, the more impact its physical and social environment is likely to have upon that child's development. Children in long-term, full-day care, especially, require a playground that has the flexibility to meet all their outdoor play requirements throughout each day and over the span of their early childhood years.

Shared outdoor areas

Children's programs can operate in places that have other functions at different times of the day or week. Issues to be considered include:

- ◆ what other uses are made of the space;
- ◆ security and safety provisions;

- ◆ the degree to which these uses are compatible; and,
- ◆ how the maximum benefit to all users can be achieved.

Staffing

The number of staff and the level of training, will affect the way outdoor play spaces are used and managed. Designers need to be aware of the types of activities which require concentrated supervision (such as a challenging arrangement of climbing equipment), and to balance siting and design options with the available number of staff and the requirements for child/staff/parent ratios.

When existing playgrounds are being redeveloped it is essential that staff currently working in the environment are consulted in the planning and development process to ensure there is a clear understanding of the purpose of all aspects of the design. Documentation of the design process and the rationale for decisions made should be maintained and made available to all new staff being employed by the service.

How groups are organised

Child-care services, usually cater for children from birth to 6 years of age. These age groups can be organised in a number of different ways, with the two most common being either *peer grouping* or *cross age groupings* (family groups).

Peer groupings

Peer groupings cater for children of a similar age group. Child care centres often separate babies and toddlers from the three to five year olds, with further age-specific divisions occurring if space allows. However although centres may provide separate play spaces indoors, the outdoor play space may not be separated requiring all age groups to share the play space. Although services frequently address the safety and management issue by turn-taking, with each group having a time allocation of outdoor play, to allow less crowding, this often does not provide flexibility for programming and requires resetting of environments frequently during the day.

Mixed age groupings

Centres with mixed ages may group children into 'family groups' of children across a range of ages.

This occurs mostly in occasional care situations, family day care, playgroups and in some long day care centres for short periods or early and late in the day. Families from a variety of cultural backgrounds are often more familiar and more comfortable with this type of care, where siblings can be together.

Sometimes long day care centres offer Outside School Hours Care for primary school aged children. Such mixed age groups, combining for example eight or nine year olds with two year olds, need great care and skill in both the design of outdoor spaces, and the management of the programs by staff.

There are some challenges in planning outdoor play for mixed age groups. These relate not only to safety issues of younger children being exposed to equipment and play that they are unable to safely manage, but also to meeting the specific needs of each age

group, particularly in providing challenge and managed risk opportunities for children of all ages.

- ◆ Space organisation needs to be more carefully considered in a small playground intended for a mixed age group. Some design and management implications of mixed age groupings are:
- ◆ Spaces which can be used for many purposes and by any age group should be favoured over spaces or activities which have only one function and which may not be suitable for all age groups;
- ◆ Storage provision needs to be larger to cater for a wider range of interests;
- ◆ Movable items of equipment such as trestles, ladders, or planks need to be emphasised so that staff can adjust play equipment and settings according to the children's different developmental levels;
- ◆ Fixed play equipment should be kept to a minimum, and very carefully placed, separating toddler items from those for older children. Activities such as swinging and bike riding whilst key play activities in centres may simply not be possible in some small spaces; and,
- ◆ Temporary fences of mesh, lattice, or self-supporting panels may need to be utilised to delineate areas for different ages at certain times of the day.

SITE REQUIREMENTS

Space

The Education and Care Services National 2011 Regulations set a minimum size for outdoor areas of seven square metres per child, (not including passageways, thoroughfares, storage or other ancillary areas) for the total maximum of children to be cared for or educated in the centre at any one time.

This allowance should be considered to be an absolute minimum, and it is strongly recommended that more space should be allowed wherever there is an opportunity to do so.

Site conditions

Careful consideration needs to be given to the slope of the site to ensure level areas to facilitate play. Carefully planned drainage and the siting of drainage pits are essential to ensure maximum use of playspaces during wet weather.

Fences and gates

- ◆ The outdoor play space must be fenced in accordance with the Children's Services Regulations. Self closing gates are recommended;
- ◆ Internal fences may also be required to divide spaces for different age groups, to protect gardens or animals or to provide adequate supervision. These fences must not abut the perimeter fence in a way that allows that fence to be climbed.

Shade provision

Shade must be strategically placed to maximise shade. Shade options include :

- ◆ Shade sails
- ◆ Shade trees
- ◆ Pergolas and roofed areas

The placement of buildings

The design and placement of a children's services centre building has a strong impact upon the nature of children's activities and the flow between indoors and outdoors. Safety, ease of supervision, and the quality of outdoor play will be affected by:

- ◆ the position of the building on the site;
- ◆ the orientation of the building;
- ◆ the location of neighbouring residences;
- ◆ the location of posts and poles:
- ◆ the location of windows and doors, play rooms and bathrooms, and the relationship of each to the outdoor areas; and
- ◆ the design of easy links such as verandahs, patios, pergolas and porches between the indoor and outdoor areas.

Storage facilities

Adequate and safe storage is essential to house all moveable play equipment and objects used for and during play. Such items need to be easily stored and moved around to allow safe and efficient access throughout the day for both adults and children; and for the setting up and packing away of play areas. This includes sheds, cupboards and spaces located within easy access of play areas for:

- ◆ play equipment, props and materials to be used in play;
- ◆ large equipment not currently in use;
- ◆ loose parts such as palings, pipes, logs, bricks when not in use;
- ◆ separate and secure storage of tools and adult equipment; and
- ◆ washing, recycling and rubbish.

Circulation systems

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

- ◆ provide movement from one activity to the other without disturbing the play of others;
- ◆ provide the feeling of 'getting away' and that 'stop off' at various interest areas;
- ◆ be used as borders to delineate play areas using logs, plants, rocks etc.; and
- ◆ provide a range of challenges for the use of wheeled toys.

Access to site

- ◆ Paths need to be designed to ensure that they do not run downhill or into walls or barriers;
- ◆ Waiting areas for parents and carers need to be provided;
- ◆ Paths need to accommodate prams and wheelchairs;
- ◆ Access for transport vehicles may assist in the regular maintenance of outdoor play areas.

Basic Play Areas

Careful planning and organisation of the site is required to ensure play spaces provide a *balance* of play experiences to meet the play needs of all children. These elements must then be set out in a way that maximise the potential of the outdoor play space.

All outdoor play spaces should include the following elements:

Active areas to include:

- ◆ open areas for active play such as; running, jumping, chasing, ball games and for large group activities; and
- ◆ areas with impact absorbing surfaces for climbing equipment.

Creative play areas to include:

- ◆ sand pits;
- ◆ dirt digging patches;
- ◆ alternative small 'pits' of pebbles, gravel, coarse sand;
- ◆ water courses;
- ◆ spaces for cubby building in shrubby semi-enclosed areas;
- ◆ flat areas suitable for block constructions, tables and chairs, woodwork benches, and painting easels.

Quiet play areas to include:

- ◆ 'secret' areas where children can be on their own or with a small group;
- ◆ quiet seating areas and/or semi-enclosed flat areas for small group activities;
- ◆ bushy areas where children can observe nature i.e. areas in gardens or in/under trees;
- ◆ animal enclosures which might be movable or fixed; and
- ◆ areas where adults (parents) can sit and play alongside their children. i.e benches and other seating.

Natural area to include:

- ◆ gardens where children can grow their own plants;
- ◆ a range of planting to encourage play, such as tree climbing and hiding;.
- ◆ natural environments that encourage birds and insects; and
- ◆ worm farms and compost areas, recognizing that flies, wasps and mice are not desirable.

CONSIDERATIONS FOR QUALITY IN OUTDOOR PLAY AREAS

In order to enrich play experiences for children, the following planning and design issues need to be considered:

Complexity and detail

A complex space is one comprising many intricate parts. Complex environments invite exploration. Children have an acute sense of detail, and 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 sandpit. A two level sandpit structure with irregular rock edging and various timber work surfaces provides a far more complex and attractive play environment for children.

Natural Environments

Young children need exposure to, and experience in environments that provide learning opportunities in and about the natural environment. The constantly changing nature of natural environments as well as the complex variations of textures, sound and temperatures challenge children to approach each interaction with the natural environment in new ways. Such interactions include experiencing wet and then dry surfaces or noticing the difference between wind blown and still branches.

“A natural setting has the degree of complexity, plasticity and manipulability which allows a child to experience many developmentally significant play behaviours, such as role playing, cause-effect actions, constructive play.” (Kirkby, 1989 p7)(6)

Aesthetics

Children who are using play spaces on an almost daily basis need to be able to create their own environments through their imagination. The imposition on outdoor environments of novelty features, brightly coloured equipment and furnishings and cartoon style motifs appear attractive to some adults, but the constant intrusion of such visual stimuli can be restrictive and disturbing.

Being able to experience the natural environment through all the senses includes looking and watching the changes in the environment without the distraction of superfluous decorations which are irrelevant to many cultures.

Flexibility and change

Outdoor play spaces should be adaptable to many different activities during the year. Spaces and structures used in a variety of ways are always preferred over items which can only be used for single activities. Trestles, wooden boards, tunnels, logs, tyres, stepping stones, lightweight cubby frames and fabric can be used for a variety of play settings.

Potential for manipulation by children

An environment with loose elements for children to arrange and use for their own creations, supported by staff who allow and facilitate this type of play, is of enormous value to children. Such environments are never 'finished' and most of the time will not be neat and tidy. Cardboard boxes, plywood sheets, fence palings, plastic pipes, lattice fencing, and old sheeting are just a few of the loose parts that children use to create their own play spaces. Staff, with the help of parents, are encouraged to maintain a frequently changing supply and arrangement of loose and movable items in the play area.

‘The secret of a successful playground is in it’s 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 p)(7)

Space to meet the developmental needs of children

When developing environments and programs for children, there is a range of developmental characteristics that provide a starting point for the planning process.

The development of a play area and programs associated with outdoor play should also reflect the age and abilities of the children.

Each child is different and all children develop at their own rate. This development rarely happens at a steady rate. Children frequently have spurts of development. For example children may suddenly develop previously unseen physical skills or may master complex social skills. Alternatively, children appear to regress in their development at times, and revert to previous behaviours and levels of confidence.

Designing Play Spaces for Accessibility and Participation

Well designed playspaces are accessible and invite all users to participate. Designing play spaces for people with disabilities generally benefits all users of a space.

There are a variety of people including grandparents, toddlers, mothers with prams and pushers, wheelchairs, children and adults with walking frames and other mobility aids, visually, auditory and sight impaired persons, people with back injuries; all of whom need to access the play space. Looking at the play space with wheelchair access in mind, is a good starting point as some of the access requirements of wheel chairs are very similar to those of children's strollers and prams and enable designers to identify generic barriers that will benefit all users.

Difficulty may occur if the design of a play space is looked at from two differing perspectives, ie: from a disability perspective and from a general perspective. This view continues to endorse 'difference', rather than viewing play spaces 'for all'. If play spaces are designed 'for all', they will be naturally welcoming, rather than sending a message that the space has been adapted specifically for the disabled.

Is there a variety of soft impact absorbing surfaces?

Soft impact absorbing surfaces of different textures allow for the access and participation of people with differing levels of mobility and other impairments. A wheelchair or pusher may have difficulty accessing a climbing fort across loose materials. Rubberised surface paths to access equipment are useful for this purpose.

Are there changes in ground levels?

Gently sloping paths allow for safe access from one level to another while pieces of equipment or areas that have lower and higher platforms allow for participation of all users.

Is there convenient access linking play spaces?

Ensure there is unobstructed access connecting equipment, play spaces, quiet and active areas.

Does the equipment allow for access at varying height levels?

Access points can be constructed at middle and upper levels of equipment as well as at ground level to increase opportunity for participation in play.

Is vegetation accessible?

Integrating the vegetation into the play space, rather than having a separate sensory area provides access for all. Paths that meander through vegetation and raised garden

beds, provide for more active participation than having all vegetation in garden beds situated around the perimeter of the play space. Trees and shrubs pruned to remove overhanging and protruding branches provide safe access to vegetated areas.

Gently sloping paths, a variety of soft impact absorbing surfaces, and different smelling plantings (although not so many that it is overpowering and confusing) are of benefit to all play space users, as is the provision of additional handrails and clearly legible signs.

The design process of outdoor spaces should not focus only on disability and required access, but should reflect the aspect of participation. Are there strategically placed benches and platforms that will allow persons the opportunity to not only access the space but to fully participate?. e.g. the plan may include a raised garden bench for planting, but is there an accessible adjacent surface for tools, and materials that will ensure participation?

Design for disability should not be considered to be an expensive 'extra', but something that will benefit all users. Whether your play space is already in existence, or is only in the planning or design stages, the building or the drawings can be checked to avoid barriers.

Reflecting diverse cultures in the design

Children's services need to reflect the diverse cultures, needs and interests of the community they serve. Each service will provide environments which have varying significance depending on it's use by different cultural groups. It is important for groups planning or operating centres to consider the needs of all children who will use the space and the expectations of their families.

Cultural issues need to be considered when planning an outdoor play area. For example, the idea of isolating children in a centre away from other age groups may be inappropriate in some communities. Provision for the integration of other users, such as grandparents and other adults may be important and could be accommodated simply by the provision of a seating area.

Areas designed to accommodate small groups experiences provide opportunities for children who speak the same language to interact without the distraction of large group play. Varieties of play spaces could include areas which children may have at home and are therefore more familiar with. For example, gardens with a variety of diverse vegetables, fruits and plants from different cultures can be grown. A variety of plants and other materials could be collected from the local families themselves providing opportunity for people to get involved and to achieve a sense of belonging. Small play spaces are also vital for those children and families who may have gone through abuse and trauma perhaps through a refugee experience. A quiet and safe environment will enable these people to participate in the play area according to their individual needs.

The use of natural materials in outdoor play areas is an excellent way of making sure many people in the local community are familiar and comfortable with their environment. There are many countries around the world where the use of brightly coloured plastics is scarce or non-existent. Designers must also consider the values in some cultures

around cleanliness and hygiene and therefore provide areas which are easily accessible, as well as having messy play areas.

Designers need to familiarise themselves with local issues, to take positive steps to be inclusive of a variety of cultures in the local community and thereby avoid accidental or deliberate alienation of some groups, through either inappropriate design or neglect.

The FKA Multicultural Resource Centre is able to advise services on issues relating to cultural perspectives.

The planning process is similar whether the project involves the development of a new play area or the alteration of one that already exists.

THE PLANNING PROCESS

The planning process is the first stage and involves the preliminary collection of information and ideas, before the detailed design process begins. Use it as an opportunity to identify needs, discuss issues thoroughly, resolve differences of opinion, allocate organisational tasks and empower the group through the learning and decision-making process.

1. Form a planning group

This group should not be too large. People involved include:

- ◆ Owners or proprietors;
- ◆ Parents and committee members with an interest or responsibility such as volunteer workers, or church committee members if on church grounds;
- ◆ Staff, both the director and staff who work with children in the outdoor area;
- ◆ Specialist advisers who can provide resources and enable you to benefit from the experiences of similar groups. – playground designers, horticulturists, architects; and
- ◆ Someone, trained in early childhood education, and with practical experience of operating a centre. This is especially important for committees establishing a new centre.

Planning groups take responsibility for decision making as the project progresses. They also have the responsibility to ensure the flow of information to others affected but not included in the planning process.

2. Gather information

Familiarise yourselves with the site and, if you are upgrading an existing playground, observe how it is used at present and understand the reasons behind it's current use.

Share ideas and experiences, visit other services, collect photos, invite guest speakers, and collect information and ideas from a variety of cultural perspectives. Use libraries and resource centres to access relevant publications and resources.

3. Obtain an accurate site plan

Existing services should have site plans on file; if not, check with your government regional office or the local council for a copy. Otherwise you may need to have the site surveyed. Ask for a 'contour and feature' plan, (scale 1:100), showing accurate levels and locating all important features (fences, buildings, trees etc).

For new services a site plan will have to be prepared as part of the building design process. Check that the site plan is still accurate before designing the play area. Check on regulatory aspects.

4. Choose designers

Committees as designers

The term 'designer' has been repeatedly used in this guide. Many groups take on the role of designer themselves and this can be a positive experience with good results if the group has the required skills, or seeks help and information as required.

Developing your own design can ensure that the outcome meets the specific needs of your centre. It is imperative that staff with experience working in the existing play space have considerable input into any redesign plan.

The processes discussed in this guide apply equally to committees as designers as well as to groups working with professionals.

It can be important to ask children what they would like in their play area.

Asking for professional help

A number of professionals will be able to offer skills that are useful, depending upon the nature of the project. These include:

- ◆ experienced teachers and other early childhood trained professionals;
- ◆ architects and engineers - for buildings and initial site works and drainage;
- ◆ landscape architects - for site planning and design, play areas and planting schemes;
- ◆ horticulturists and tree surgeons - for specialised planting advice and plans;
- ◆ play equipment suppliers/ manufacturers - for play structures; and
- ◆ landscape contractors /gardeners - for construction of outdoor areas.

Select professionals who will listen carefully to your needs, and who have the skills to put your ideas into practice.

If more than one professional is to be engaged, such as an architect and a landscape architect, insist upon early co-operation in developing the initial concepts.

From the professional's point of view, it is of great importance to clarify in writing:

- ◆ what the group expects;
- ◆ what the budget is;
- ◆ who is to be the main point of contact; and
- ◆ who takes final responsibility for the project.

THE DESIGN PROCESS

Planning and design involves four essential stages, and brings together information about the two main parts of the project - the site to be developed and the users.

Stage 1 Task definition

Ensure that the whole group is working towards the same goal. Describe your objectives in terms of the experiences you would like children to have in the playground, the visual impact you wish it to have and the practical considerations of maintenance and management.

It is important that all members of the group understand that the requirements of a play space in a children's service environment are different from those of a school or public playground.

Stage 2 Information gathering

Establish who will use the site, how and when they will use it, and what their specific requirements are likely to be. These are important considerations in the design process. For example, if a service accommodates a weekly playgroup provision, adult seating space, existing equipment and accessibility for prams may need to be considered.

Site information

This is the process of recording physical information about the site and its existing features onto an accurate site plan.

Note for all sites:

- ◆ sun angles;
- ◆ wind and rain directions;
- ◆ slopes and drainage characteristics; and
- ◆ features outside the site which could affect the play area such as noise, a bus stop or shady trees.

For existing centres also note:

- ◆ building lines, fence lines and gates;
- ◆ position of windows and doors;
- ◆ position of playrooms;
- ◆ accessibility and visibility of toilets;
- ◆ position of paths and taps;
- ◆ existing play structures and significant trees;
- ◆ position of services such as gas, water, drainage, sewerage and powerlines; and
- ◆ access points for maintenance trucks and emergency vehicles.

Stage 3 Preparing the design brief

A design brief is a set of instructions for a designer. It is intended to communicate and confirm the goals of the group, and match the specific users' requirements with the opportunities and constraints of the site.

A brief should outline the extent of the project and particular issues which are important and need emphasis.

Analyse user requirements

Activities which have been listed during the information gathering phase must be analysed for their feasibility, establishing which activities relate well to one another, and which conflict and should be separated. Priorities at this point are useful in discovering a range of possible relationships between activities.

Analyse site information

Consider features recorded in the information; decide whether they present problems (constraints) or potential (opportunities) for design.

Check all legal and other regulatory requirements.

- ◆ Council approval
- ◆ Soil testing

List all requirements for design into one document.

This could include the following information:

- ◆ details of the selected site or alternative sites;
- ◆ user age groups and number of children;
- ◆ other existing play areas and the play equipment;
- ◆ ideas from children, staff and parents;
- ◆ what kind of play experiences are required;
- ◆ the type of soft impact absorbing surfacing and sun shelter to be included;
- ◆ preference for types of construction materials;
- ◆ storage needs and rubbish bins;
- ◆ any site limitations;
- ◆ time lines;
- ◆ budget;
- ◆ any requirement to carry out the development in stages;
- ◆ the need to comply with your current audit schedule;
- ◆ whether you need full working drawings and specifications;
- ◆ any special requirements regarding the site, the users, or any other aspect of the brief;
 - ◆ how the centre is likely to have the playground built (ie by volunteers, playground equipment suppliers or specialist builders); and
 - ◆ their obligations to provide the centre with a maintenance schedule for any equipment (as per **AS/NZS 4486.1.1997**).

Stage 4 Design

If a professional designer draws up plans for a playspace, it is important that the client studies the plans and has them explained in detail at each stage.

Concept plans

Concept plans are intended for discussion and review, and are likely to be changed a number of times. Ideas may be represented at first by rough circles ('bubble diagram'),

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 provide more detailed resolution of the information in the concept plans. They show dimensions of spaces, structures and landscape elements.

They indicate materials to be used, where trees and shrubs will be planted, how wide paths are intended and what they will be made of, what any structures will be like, and how the ground will be shaped but are still not working drawings.

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 any 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.

Future development plans - Master plan

A 'master' plan shows the direction of development for a play space over time. Playground development can be an expensive process. A master plan also allows for the cost of construction to be broken down into financially manageable and practical sections. It helps to provide some direction to future committees, and a framework for decision-making. It should provide some flexibility for the future. For example, the climbing area may be the focus initially, then at a later date as funds allow, the sandpit area can be developed.

Master plans are valuable to prevent rushed decisions without proper planning, such as the quick purchase of a new piece of play equipment to use up money at the end of a financial year. This may be a wasteful and ineffective way to use finances.

Master plans will vary in the level of detail they show, depending upon their purpose. They may be a mix of all the kinds of plans discussed above.

Submit plans for approval to those authorized to grant approval.

CONSTRUCTION, MAINTENANCE AND MANAGEMENT OF PLAYSPACE

Children's services centres vary in the amount of assistance they receive in the construction and maintenance of buildings and grounds. Regardless of the amount of assistance received from local government or other agencies in the construction, modification or maintenance of the centre, the provision and maintenance of safe, healthy and appropriate outdoor environments remains the responsibility of the licensee of the children's service.

Construction

A contractor or voluntary group may be used to carry out the construction of the play space. Voluntary construction may be carried out by parents or by community groups such as 'Rotary' or 'Lions' clubs. Tertiary garden design students or workplace training groups may be also used. Staff consultation will be necessary to ensure the least disruption to programs and the safety of children during the construction stage.

After the design is completed and accepted by the service and a professional contractor is to be employed:

Obtain written quotes on work to be done using the working drawings as criteria.

- ◆ get recommendations from other services who have had major redevelopment done;
- ◆ invite a number of playground equipment suppliers and/or building/landscape contractors competent in the construction of playgrounds to quote or tender;
- ◆ require the contractors to inspect the site;
- ◆ ensure that all works quoted on by different contractors address the same requirements;
- ◆ ensure commitment to time lines;
- ◆ ask for detailed information about any products or constructions and ask for warranties, availability of spare parts ; and
- ◆ stipulate that the lowest quote/tender will not necessarily be accepted.

Select a contractor

After the centre has considered the quotation or tender, select the contractor, or supplier and proceed with contractual arrangement according to the service's policy requirements.

Such a policy should include the requirement for contractors to provide the service with copies of current public liability and any other relevant insurance cover documents before the contract is finalised. The policy should encourage part payment during the construction stage.

Upon completion and before final payment:

- ◆ ask the designer/supplier to do a final check and provide written confirmation that all work completed is in accordance with relevant playground standards;
- ◆ check the finished installation with the plans and specifications that have been received;
- ◆ check that the warranty, maintenance instructions and spare part lists of any structures have been received;

- ◆ complete an area and equipment audit report as per this advice;
- ◆ request the designer/contractor to modify any areas of non-compliance; and,
- ◆ enter all relevant documents in the Inventory; and
- ◆ gain approval from any authority, such as a council of the works completed.

Staging construction

- ◆ Carrying out construction in stages may be necessary when there are limited funds or to maintain access to some outdoor space during construction. To effectively construct a play area in stages, there are a few important points to remember:
- ◆ During and after the development of each stage an adequate area of the playspace must be left in a safe and usable state for children's use;
- ◆ The whole project must be fully planned and designed before-hand. Minor details can still be altered as time progresses;
- ◆ The order in which tasks are carried out is critical. Earthworks and drainage must be done first, preferably for the whole yard at once; and
- ◆ In the earlier stages do not limit options for the future. For example, poor placement of a store room early on may prevent access for deliveries of sand.

Maintenance and Management

Centres need a systematic process to ensure the outcomes of the work of the designing group and the money expended on a new or upgraded play space is maximised. Given the turnover of committees of management and staff, it is essential to ensure that maintenance checks are carried out, long term plans are put in place and the original purpose of the components of the design are kept.

However well a playspace has been designed and constructed, continual assessment, maintenance and modifications will be required. By the very nature of children's use of the outdoor space, children will be interacting with and modifying the play space from 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 will affect pathways and garden areas. Well-used equipment will wear, resulting in dangerous situations such as splintered wood and loose bolts.

A plan or process that covers playground maintenance must be comprehensive and consistent. The following plan consists of three key layers that overlap to provide a comprehensive maintenance system.

INVENTORY

The inventory is simply a list of assets, maintained by the service, and includes the features and equipment of the playground as well as information about their age and maintenance history. An inventory need only occur on the completion of a new playspace or a major renovation of an existing one. Update as modifications are made or new equipment is added.

If an inventory is being carried out in an existing service for the first time, it is essential that an initial audit is included in this inventory to identify any play structures or features that do not meet current standards or regulations.

The inventory should include the master plan and a rationale for the play spaces within the design. i.e. the reasons certain spaces were designed, the purpose of play areas and particular pathways. Although play spaces evolve over time it is imperative that before new staff or management committees modify or redesign a playspace they understand it's original purpose. This 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 playspaces, some of these features are difficult to define as 'assets'. A purchased climbing apparatus is very definitive and will come with its own maintenance schedule. However, a dusty corner that children enjoy as their 'truck and grader space' one day, their fairy garden the next, and their mud pie area after a rainstorm is difficult to define in terms of inspection criteria and maintenance schedules. However these play areas are vital components of the play design and also need to be listed in the inventory to ensure maintenance and ongoing development.

Identify and list

- ◆ key play areas, such as sand pits, cubby houses, paved areas, yards, lawns and climbing areas;
- ◆ individual pieces of fixed equipment - climbing frames and swings;
- ◆ movable equipment;
- ◆ individual surfacing materials;
- ◆ major garden beds, shrubs and trees;
- ◆ fences and gates;
- ◆ shade fabrics (record UPF rating) and shade trees ; and
- ◆ storage systems, sheds and cupboards.

For each of these features

- ◆ identify manufacturer, installer and/or builder;
- ◆ locate and file any warranties;
- ◆ document any maintenance carried out and the dates of any future scheduled maintenance; and
- ◆ list specific maintenance requirements.

It is also necessary to list major children's equipment – block trolleys, wheeled toys and trampolines to ensure these are included in maintenance schedules and for insurance and replacement purposes.

Smaller children's equipment, tools and play props can either be part of this inventory or included in the general centre inventory. Wherever it is stored, a list of the play props or loose parts essential for children's outdoor play will provide a framework for staff and others working with the children to maintain the supply in an orderly and accessible manner. Outdated equipment should be removed so as to not take up valuable storage space.

AUDIT

The audit is a detailed, intricate and careful examination of the playground as a whole. It includes the individual playspaces, play equipment and storage facilities within the playground and all safety and maintenance requirements and future playspace needs. The inventory will form the basis of the audit. Although some local government bodies provide a periodic playground review process and Children's Services Advisors have a responsibility to include playground safety in the Annual Inspection process, safety and security of outdoor play spaces remain the responsibility of the individual children's service.

These external assessments may be included in, or indeed form the basis of, the audit process but it is essential that individual service requirements are also considered. This audit can be carried out by a maintenance committee or by a maintenance officer with the assistance of staff and parents and take place twice per year or at the very least on an annual basis.

The following guidelines can assist in the audit process.

Check key play areas:

- ◆ all constructions, retaining walls, shades, panels in fences and supports in good repair;
- ◆ play materials - hygienic, plentiful and useable - clean sand, workable dirt in the digging patch, pebbles loose and clear of debris;
- ◆ environmental factors such as growing moss, checking for spiders, snakes, or wasps.

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;
- ◆ body entrapments;
- ◆ damage to protective coating or paintwork; and
- ◆ rotting or splintered wood.

Check that siting allows for the required fall zone clearances and that old equipment is removed and remaining concrete footings disposed of or adequately covered.

Individual soft impact absorbing surface materials

Pathways – Ensure surface dressing is adequate, paving stones are level and that there are no potholes or protruding tree roots.

Soft fall areas – Check depth and/or resistance. Are borders retaining fill? In synthetic surfaces are borders preventing sand and dirt from intruding? Are any of the seams separating?

Major Garden Beds, Shrubs and Trees

Shrubby areas – Pruned for secluded access but with dangerous hardwood removed
Gardens – Healthy – relatively weed free, fertilised and mulched to ensure healthy growth. Check for poisonous, irritant or dangerous plants (spiky sedges)

Trees - Healthy, no rotting or dangerously protruding limbs. Uncompacted soils around root system. Space between tree trunk and any decking.
 Trees, shrubs, and vines – no dead or sharp branches.

Animal Enclosures Secure, safe, hygienic.
 Animals in healthy condition.

Fences and Gates All secure and in working order.
 No scalable planting or equipment against perimeter fences.

Shade Structures - secure, supports protected, attachments in good order, tension strong.
 Fabric - No tears or worn sections.

Storage systems, shed, cupboards and store yards.
 Adequate, safe and in good repair.
 Appropriately sited and with good access for children and adults.

Remember to check on any drainage or erosion problems.

Once the audit has identified work, this needs to be scheduled into contracted work, family working bees, or the children's program. It is imperative however that staff who work in that play space are involved in the audit and that they are consulted about the work scheduled to be done. This avoids such instances as a plant a child has nurtured from seed being pulled out as a weed (which it probably was) or some treasured old palings used daily to construct secret cubbies being disposed of as rubbish.

Any repairs or modifications carried out as a result of the audit should be recorded in the inventory.

INSPECTION AND MONITORING

Inspection of outdoor play spaces occurs on a daily basis by staff and other adults in that environment. Prior to children using the area, staff will need to check for any dangers.

Potential dangers include:

- ◆ discarded needles;
- ◆ 'soiled' sand or dirt areas;
- ◆ equipment that has been moved or become unsecure;
- ◆ pools of water in babies area after rain;
- ◆ stagnant water;

- ◆ spiders in tyres;
- ◆ branches blown down with sharp protrusions; and
- ◆ equipment stored in an unsafe manner .

Because of the flexible nature of early childhood play spaces and programming that allows children to manipulate much of their environment, staff need to constantly be evaluating the conditions of their play space to ensure safety. Rules need to be in place to ensure 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. Staff need to be aware of any potential hazards that become obvious, to isolate the area immediately or remove immediately if it constitutes an immediate danger and to report this action in an appropriate document.

A maintenance book should be available for staff to enter any repairs that need to be carried out. This book should be checked regularly by the person responsible for maintenance, although staff need to take responsibility to ensure any urgent action is taken immediately.

Staff has a role to report if an area of play is not working. If children are not using a play area or are using it inappropriately, discussions with other staff or play specialists may assist in programming strategies to make use of the area. The space may be able to be modified to be more appropriate to the needs of the children.

DESIGN DETAILS

Details of the use of space and of particular play areas will apply to existing services and to the design of new spaces, recognizing that every space is unique and will be planned for on this basis.

Site Details

Before committing to a design for an outdoor play space consider:

- ◆ the opportunities of the site;
- ◆ the constraints of the site;
- ◆ the range and nature of demands that will be placed upon outdoor spaces by both children, staff and others;
- ◆ the qualities that various spaces within the play area will require in order to fulfil those demands; and
- ◆ the optimal arrangements of those spaces.

Size of available space

Young children are developing fundamental skills which require adequate space and opportunity for practise. Inadequate and poorly designed play spaces have been shown to have negative effects upon children's behaviour, upon their learning, and upon teacher leadership in providing for children's outdoor play needs. Inadequate space also increases the wear and tear and maintenance on available space and facilities.

The Children's Services Regulations 1998 require a minimum of **seven square metres** per child of usable outdoor play space. This should be considered a minimum standard only.

As children may have to use the same space five days a week, 48-52 weeks a year for the first five years of life when development is critical, they require variety and challenge in their play experiences. An outdoor space needs to be sufficiently large and flexible to enable staff to set out a variety of experiences to meet the individual needs of a group of children. This is essential if mixed age groupings are planned.

Working with small spaces

Providing outdoor play opportunities for children in small spaces provides a challenge for staff planning quality outdoor programs. However, careful planning, skilful use of equipment and materials and creative and flexible space utilisation can result in innovative and valuable play experiences for children. The compactness of a small space allows adults to visually monitor more easily, allowing more time to support and observe play, while the proximity of different play experiences promotes interaction and co-operation.

Ideas for maximising space include:

- ◆ minimise fixed items in the playground particularly in the climbing area, utilising movable equipment such as trestles and planks that can be moved aside occasionally for running games or to allow for the extension of block construction and dramatic play;
- ◆ alternate play opportunities e.g. swings may be removed during the day to allow for dramatic play (throw a large piece of material over the frame as a circus tent);
- ◆ focus on movable items in the play area which can be adapted for many purposes by staff and children. – timber rounds and sawn off tree trunks can be tables, chairs, dividers, aeroplane seats;
- ◆ develop indoor/outdoor programs so children are spread between the two areas. This may require modification of the existing access between both areas;
- ◆ ensure a continuous supply of changing loose materials for variety in play; and
- ◆ train staff to maximise the play value of every corner of the yard and every piece of play material.

Working with large spaces

Large areas are by no means a disadvantage, but they need to 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 centre.

Smaller personal spaces can be created with:

- ◆ the alignments of walls, edges, fences and garden beds;
- ◆ elimination of environments where endless space disappears into the distance through open mesh fences;
- ◆ changes in surfaces and levels;
- ◆ small seating areas;
- ◆ divisions, either permanent or temporary to create small scale spaces that:
- ◆ separate a quiet space from a busier active area;
- ◆ prevent children running across the path of a swing;
- ◆ provide an area where children may retreat alone for a while;
- ◆ separate babies from older children's activities where these are not compatible;

- ◆ create the illusion of a larger area by the subtle introduction of complexity and dividing elements.

Such divisions may be created in the following ways:

With 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;

With structures - decks, low fences or screens, pergolas, shade structures and other overhead fixtures;

With movable objects - hanging items from overhead structures, boxes, cable reels, logs, planks, seats, hay bales, tents, tunnels climbing frames, safety barricading and fabrics;

With landscape elements - built edges, mounds, retaining walls and paths.

Dealing with a sloping site

Very steep slopes can create problems for children's services and sometimes a very steep site may need to be rejected as unsuitable for a new centre, if the problems cannot be satisfactorily overcome.

Gentle slopes in appropriate places are acceptable for running up and down and for facilitating special play experiences. However some sloping situations can be both hazardous and a nuisance, particularly for under 2s and include:

- ◆ steeply sloping paths as access to the centre, or 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 very slippery;
- ◆ play areas which slope toward the building, where pine bark and sand will gravitate indoors or be washed away;
- ◆ areas where the amount of flat space is insufficient for climbing equipment, block building or other ground-based activities;
- ◆ areas where babies and toddlers who are learning to walk cannot practise on a level surface; and
- ◆ grassed areas in excess of one in four gradient which are difficult to mow and slippery when wet.

Generally, some flat surfaces will be necessary to operate an outdoor play program. Flat areas may need to be created by terracing and the use of retaining walls in cut or fill situations. Keep in mind the following issues:

- ◆ children are often attracted to climbing up and down walls or edges, and falls are to be expected. Protective railings may need to be installed to prevent falls;
- ◆ low level changes (approximately 150 mm.) provide interest and challenge for toddlers, in relative safety;
- ◆ major flights of steps are inconvenient and possibly hazardous; and

- ◆ divisions - into terraces must create spaces large enough to be used for the intended purpose, especially for climbing activities and swings.

Drainage is important

A well drained play area will be usable all year round.

Good drainage will help gain maximum value out of the play area; make the space usable more quickly after rain and optimise conditions for plant growth. Good drainage enables surface water to saturate the soil to a good depth and prevent the loss of surface soil after heavy rains.

Specific advice needs to be sought regarding site problems, but the following methods of reducing drainage problems may assist:

- ◆ install sub-surface drainage of slotted plastic or clay pipe set in a bed of screenings in areas where sand or other materials may clog drains;
- ◆ use of large diameter (eg 150 mm) drainage pipes will help to prevent blockages;
- ◆ contour soil surfaces to help the dispersal of surface storm water to the nearest drain;
- ◆ build up of low areas to avoid water collecting;
- ◆ plant trees such as *Melaleuca sp* and other water-loving plants that draw out large volumes of water from the soil; and
- ◆ inspect pipes and guttering regularly to ensure they do not leak.

Siting of drainage pits

Take care with the location of drainage pits in the play area. Avoid locating them in climbing areas where they may be a trip or serious fall hazard. Pits can spoil an otherwise open grassed area, limiting the types of experiences which could take place there. Pits which already exist in a climbing or running area should be covered with impact absorbing mats or alternatively staff may locate equipment such as water trays, woodwork benches or outdoor tables over them.

Fences and gates

The Children's Services Centres Regulations 1998 requires that a 1500 mm high perimeter fence or barrier, measured from ground level is installed. Self-closing gates are strongly recommended. Children cared for or educated at the service must not be able to go through, over or under the fence, barrier, gate or fitting.

A double gate is also useful for deliveries such as sand and mulch, and for emergency evacuation and vehicle access. It is important to consider the location of such gates in the overall concept plan, so that access to them on either side is not blocked by a permanent structure or a tree.

Pedestrian gates must be designed so that people with disabilities can reach latches (or ring for assistance) and can pass through in a wheel chair, and so that parents with prams and pushers can easily enter., whilst ensuring that small children cannot gain access through the gate.

The suitability of any fence design will depend upon the area under consideration:

- ◆ sometimes a solid screen will be desirable, but often it is beneficial to provide points where children can see through;
- ◆ on busy roads a timber or masonry fence helps reduce noise;
- ◆ dense fine-leafed plants along a fence may help to absorb road dust and pollution in a play area and soften the visual impact of the boundary;
- ◆ 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.

Shade

Sun protection in early childhood reduces the risk of skin cancer. Children usually attend children's programs in the hours of the day that have peak UV radiation risk, from 10am –3.00pm and this is frequently the times that children are outdoors.

When planning and designing outdoor play spaces consider:

- ◆ the aesthetic and environmental advantages of natural shade, even if this means utilising temporary shade structures while waiting for vegetation to mature;
- ◆ how existing shade can be utilised by siting play areas directly under trees, or repositioning play structures;
- ◆ indirect UV radiation from reflected surfaces such as concrete. Use shade to reduce reflective UV radiation. Also replace surfaces with less reflective materials such as brick, grass or mulch;
- ◆ the location in relation to the type of play area e.g. sandpit or climbing.

For shade structures consider:

- ◆ any local government requirement regarding permits;
- ◆ where shade falls at different times of the day;
- ◆ the location of existing services such as drainage, power lines, gas and water;
- ◆ the impact in winter. It may make the area dark and damp or it may also be used as rain protection;
- ◆ safety and supervision issues. Ensure the:
 - ◆ siting of structure supports are clearly visible and placed to avoid children's collision;
 - ◆ any vertical supports are not scaleable by children;
 - ◆ shade structure does not impede the supervision of children.

The Cancer Council Victoria has publications with advice regarding the provision of shade in children's outdoor play spaces.

The placement of buildings

Careful consideration of the placement of buildings is required to ensure safe and easy access between indoors and outdoors and to ensure that both spaces complement each other in providing the most effective play opportunities in both spaces.

Children's services buildings are preferably sited to:

- ◆ utilise a north/north easterly orientation for play areas;
- ◆ buffer intrusive traffic noise and disturbance;
- ◆ provide strong links between play rooms, toilets and outdoor play areas for easy physical and visual links for both children and staff;
- ◆ provide indoor/outdoor areas sheltered from rain and cold wind; and
- ◆ maximise shade afforded by eaves and verandahs from September – April.

Avoid siting buildings so that outdoor spaces are:

- ◆ divided up into small unusable areas;
- ◆ distributed in a thin strip around the perimeter of the building;
- ◆ sunless and damp in winter and lack shade in summer;
- ◆ difficult to supervise (such as narrow “L” or “U” shaped yards); and
- ◆ store rooms that block views of main parts of the yard or divide the space.

‘Linking’ Spaces

Transitional areas- such as verandahs, pergolas, porches and patios, often with hard surfaces (paving or decks) provide a useful transition between the indoor play rooms (and toilets) and the outdoor playspace. A well designed centre will plan to ensure the integration of the outdoor and indoor play areas.

A range of activities will occur in such an area if it is well designed. This may include:

- ◆ outdoor play on a wet day;
- ◆ experiences which need a firm surface;
- ◆ experiences using materials which have to be 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; and
- ◆ mats for small group play.

Important design points:

- ◆ Design verandahs and similar areas large enough to allow use of more than one activity without blocking off entries or taking up too much of the yard;
- ◆ The space should be close to level if possible, and grade gently away from the building for drainage, and preferably should be at 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 be used to provide shade and shelter. However, consider the quality of the shade provided and select ground surfaces that minimise UV reflection;
- ◆ Verandah poles can be a danger for running or children bikes. Locate them carefully in the early stages of design of the building.

Store rooms and storage systems

Adequate and well sited storage is an essential feature if a playground is to offer maximum flexibility to staff, children and other users.

One of the key requirements for quality outdoor play is readily accessible and easily identifiable play props to assist with the children's play. Ideally older children need to be able to access their own play props in order for them to be truly in charge of their play and learning. Babies and toddlers will need assistance to such materials.

Siting of store sheds

Storage sheds provide one of the most sensitive siting problems in a play area. They need to be sited so that:

- ◆ staff and children from all playspaces have convenient access;
- ◆ they are close to flat areas where the large, heavier and more cumbersome items will be used, e.g. block construction;
- ◆ they do not divide one useful space into two less useful areas or create small difficult to manage areas such as between a shed and a fence; and
- ◆ they not block views around the playspace.

Positioning in the middle of a playground is often the least successful placement for a shed.

Plank storage

One of the most difficult storage items is the collection of wooden planks that are used to provide, climbing, balancing, and jumping experiences for the children. These are awkward to manoeuvre in and out of small store sheds and require vast amounts of space.

A special enclosure to house items such as planks may help to solve some common storage problems. Built against a wall or used as a solid divider fence between play spaces, a plank cupboard may simply need:

- ◆ a roof for weather protection;
- ◆ doors for security and to prevent climbing; and
- ◆ shelving brackets spaced at suitable intervals.

Alternatively, given the sophistication of some of the timber finishes currently available, some services have opted to leave their boards outdoors regardless of the weather conditions. Properly maintained it is considered that the extra cost of replacing boards, if any, is far outweighed by the savings of time, staff health issues (those boards are heavy) and the risk of increased insurance payments.

A behind-shed utility area

Spaces between the fence and store sheds can sometimes be utilised to store movable cable reels, tyres, and boxes. A fence and gate will be required and continual maintenance to ensure that the area does not attract spiders, snakes or vermin.

Paths

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 amongst scented plants which may lead to a 'secret' spot and invites exploration.

Although pathways should be planned in any new playground or redevelopment, at times 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.

Paths in the play space provide:

- ◆ all-weather access to parts of the yard such as store room and utility areas;
- ◆ easy access to different parts of the yard by children with a disability or adults;
- ◆ a way of dividing a space, linking play spaces and leading children to 'special' areas; and
- ◆ different materials, textures and surfaces for many different activities.

Paths for bikes and wheeled toys

Paths provide opportunity for the use of wheeled toys, including bikes, so that pathways will frequently be used for as bike tracks. If bikes are to be part of the play equipment then pathways need to:

- ◆ circulate around perimeter of main play area and have direct access to the storage shed;
- ◆ be wide enough for two bikes to pass each other;
- ◆ enable use of walkers or a block trolley;
- ◆ safe use of prams and strollers;
- ◆ use of wheelbarrows for sandpits; and
- ◆ be provided with some shade.

Small children need paths with smooth flat surfaces without too many curves and with interesting planting and play features along the borders.

Older children can be provided with more challenges such as curves, inclines, rougher surfaces of gravel or dirt. Paths can also meander to play spaces with parking areas to encourage more complexity in the bike play.

Avoid:

- ◆ circular loops around the yard that can interfere with all the other activities they surround;
- ◆ paths that can cut a play area into two smaller and less useful spaces; and
- ◆ siting paths too close to fixed or movable play equipment constituting a safety hazard.

Surfaces

There are many surfaces to choose from:

- ◆ smooth, sealed surfaces such as concrete, or paving tiles where all-weather, everyday access is required. (Paving is considered to be a hard surface and generally, 1800 mm space is required between a hard surface and climbing equipment (and further from a swing).
- ◆ dirt paths over irregular terrain and around tree roots;
- ◆ gravel, lilydale topping or granitic sand which crunches underfoot and drains quickly;
- ◆ pebbles (for small sections);
- ◆ natural mulch from native trees;
- ◆ timber rounds and stepping stones; and

- ◆ different paving materials (colours, textures and shapes) used in one path

It should be noted that smaller children can have difficulty with surfaces such as gravel and pebbles.

PLAY AREA DETAILS

Outdoor play spaces in early childhood settings differ significantly from those in schools or public parks. The importance of planning the outdoor areas cannot be overstated, to ensure that there is a variety of quality play experiences for all children at all times.

ACTIVE AREAS

Climbing Areas

Opportunities to engage in active and agility 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.

Soft impact absorbing surfacing

In order to challenge children and provide managed risk taking experiences, the climbing area requires a soft impact absorbing surface to minimise injury from falls from equipment.

Why is the ground surface in an outdoor playspace so important?

A significant body of scientific 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.

Where is an impact absorbing surface needed?

The Australian Standard states that an impact absorbing surface is needed wherever falls from play equipment are possible - ie. in the 'fall zone'.

Impact absorbing surfaces are required in outdoor playspaces to reduce potential injury to children as a result of normal play activity.

Impact absorbing surfaces which have been tested are required in any area where falling is possible from a height of 500mm or above.

An impact absorbing surface is not necessary where falls **are prevented** by engineering means. This **does not** mean that fall zones can be reduced arbitrarily.

What is the fall zone?

The fall zone is the area under and around a piece of playground equipment from which a child could fall. It extends under and around equipment in every direction in which it is reasonably foreseeable that a child could fall. It is the minimum distance from any part of equipment to any hard surface (borders, paths, tree trunks or adjacent equipment)

Concrete footings should be buried underground. Industry practice is that the top of the concrete be 50-100mm below natural ground level, and then covered with the required depth of impact absorbing material.

How big is the fall zone?

The fall zone must be 1.5m (1500mm) – 1.9m (1900mm) in Supervised Early Childhood Centres. Details available from PLAY AUSTRALIA.

This allows for the height of most users, plus the outward momentum they could have as they fall.

For moving equipment this distance is measured from the extremity of the movement. Children falling, jumping or being pushed off equipment should land within the fall zone onto an impact absorbing surface. Under certain circumstances fall zones may be reduced. (i.e. when equipment will not permit falling)

What is the maximum free height of fall permitted in an outdoor playspace?

This is the greatest distance between a part of the equipment to which a child has reasonably foreseeable access and the playing surface or part of equipment beneath. It is measured from the standing surface (usually a platform) to the surface underneath the equipment. If the design of your equipment allows children access to higher parts (not necessarily intended for standing) then this should be considered the fall height.

The 1.5m (1500mm) is the maximum fall height, however this height is clearly too high for very young children.

Generally **1.0m (1000mm)** is considered the maximum for 0-3 years.

If the fall height is less than 500mm, the impact absorbing material does not need to be **tested**. The standard outlines examples of surfaces that provide some impact absorption, and so would be acceptable with fall heights of less than 500mm, for example, well-maintained turf. It also gives examples of other surfaces that do not absorb impacts and that would not be acceptable, for example, concrete, or timber.

What is adequate impact absorbing material?

The required impact absorbing material depth depends on the material used and the height of the equipment from which falls can occur. The height from which a fall could occur onto a surface that has the capacity to absorb the impact, is the 'Safe Fall Height'. Put briefly, falls from above the Safe Fall Height onto a surface with an **inadequate** depth, are likely to result in brain injury.

Any impact absorbing material installation should have a Safe Fall Height greater than the highest point on the playground equipment to which a user has 'reasonably foreseeable access'.

Impact absorbing material information

Playground Equipment Suppliers are required to provide information on their products' performance and on the required Safe Fall Height.

This should be in the form of certified test results, explaining what impact absorbing surface material depth (for loosefill materials) or structure (for fixed or 'unitary' products) is necessary for the required Safe Fall Height.

Suppliers must also provide inspection and maintenance procedures necessary to ensure their product continues to perform at the required level throughout its life.

Impact absorbing surface material requirements

Loose material Below 500mm fall height

The impact absorbing surface material does not need to be tested but it should have some impact absorption.

Above 500 mm fall height

- ◆ 200 mm loose material
- ◆ plus 50 mm for deterioration
- ◆ plus 20% for traffic (i.e. under a swing, at the foot of a slide etc.)

i.e. 300mm is recommended to be installed so that the actual depth of the impact absorbing surface once settled on a daily basis is 250 mm.

Rubberized product

As per the manufacturers test results.

Equipment

Australian Standards provide important information concerning many aspects of play equipment structures. Current information can be requested from the Playgrounds & Recreation Association of Victoria

Climbing Structures

This area may have some permanent fixed equipment installed or it may have movable equipment placed on it to provide flexible options for gross motor activities.

Having movable equipment provides the option for the equipment to be removed to allow for running and ball games that may not be possible if fixed equipment is installed.

Trees

Trees that have appropriate impact absorbing surfacing installed make ideal climbing challenges for children provided there is competent supervision and some firm rules about the height to be climbed.

Swings

Although swings are considered to be a component of active play and do need to be placed on impact absorbing surfaces, it is not advisable to have these attached to climbing structures. In fact, if space allows it is advisable to have these situated in a separate space with landscaping to prevent traffic flows from moving in front of the swing.

Garden beds, seats, grouped tree trunks, tyres etc around the area discourage children from running in front of swings whilst locating swings in a corner of the play space utilises the fence line to provide two fixed sides.

Lawns

Grass is an attractive, multi-purpose surface that is suitable for a range of experiences but sensitive to heavy wear and tear and requires high maintenance, including watering, in hot months.

It is not a soft impact absorbing surface for the purpose of siting fixed climbing equipment, but movable equipment with a fall height under 500mm may be used on grass.

Siting lawns

The overall layout and design of the space will determine the success of a lawn. Small strips of grass in heavily trafficked areas particularly around entry and exit points to buildings probably will not survive.

Avoid heavily shaded areas for lawn, especially on the southern side of buildings, fences, dense shrubs or trees.

Types of grass

There is no single turf grass available which can provide a satisfactory turf in all parts of Victoria, due to variations in climate. In Southern Victoria the most suitable grasses for high wear situations are mixes of:

- ◆ tall fescues;
- ◆ kentucky bluegrass;
- ◆ perennial ryegrass;
- ◆ fine fescues.

North of the divide in Victoria warm season grasses include:

- ◆ couch grass;
- ◆ kikuyu.

Both experience a period of dormancy in cooler months.

Soils and Drainage

Good drainage is essential for the establishment of a quality grass surface. Seek advice regarding soil type and solutions to drainage or retention problems.

Seed versus pre-grown turf

Pre-grown turf has the great advantage that it can be established and used in a shorter time than seed. It is also preferable on a sloping site.

A major disadvantage of turf appears to be that it is not as easy to obtain as great a variety of mixes as grass seed which can be mixed specifically for particular situations.

Damage to grass

Grass is destroyed by continuous trampling and compaction around the roots that prevents access to air and water. Harm is also caused by excessive water, a lack of water or fertiliser and over- mowing.

Maintenance

Good maintenance includes regular watering, fertilising, mowing and aeration.

Watering

Efficient watering requires regular slow wetting of the soil to the full depth of the grass roots. Water logging must be avoided. The frequency of watering will be determined by the soil type but early morning is the preferred time for watering. Consideration needs to be given to the amount of water that will be used and it's impact on any environmental policy of the centre.

Hand watering tends to be ineffective and time-consuming and is easily neglected. Watering systems on automatic timers will often be worth the expense, especially over the summer months when some centres will be closed.

Siting pop-up sprinkler heads

The position of sprinklers should be carefully planned in the initial planning stages. Do not locate sprinklers where children can fall onto them from climbing equipment or trip over them. Positioning along the edge of the grass or against a wall or a path edge may help minimise the hazard.

Mowing

Lawns should be mown regularly at a constant height depending on the grass species.

Fertiliser

A successful turf fertiliser program must allow for the nature of use of the turf, the grass species, the soil type, competition from trees, and the nutrient loss through removal of grass clippings. Lawn food mixes are readily available and are best applied at intervals during the growing season, rather than in one heavy application.

Coring/aeration

This task reduces the effects of compaction, by forking the moistened soil to 150mm and top dressing with a sandy loam in late winter or early autumn for cool season grass, and spring for summer growers.

Alternatives to grass surfaces

Where grass is very difficult to establish, or water usage and other maintenance responsibilities make grass difficult to grow, it may be necessary to consider alternative surfaces. The choice will depend upon the budget, and the types of activities that need to take place in the centre. Some alternatives are:

Synthetic rubber tiles

These are expensive, and may provide a safe, flat surface for active play, block building and games.

Imitation grass/ outdoor synthetic carpet

These carpets can be laid onto a compacted bed of sand as well as onto hard surfaces but they are not impact absorbing and must not be used under climbing equipment.

They can improve durability for high wear areas and their imitation-grass appearance is the closest alternative to real grass. They can be prickly for babies to crawl on, can wrinkle and may cause friction burns if children fall onto them at speed. They may be valuable in small spaces with few alternatives.

Loose materials ('tan' bark, pine bark or mulches)

These are usually used under climbing equipment or as garden bed mulches. It is generally undesirable to use them as surfaces for whole play spaces if this can be avoided, as they can be dark and dusty, difficult for young children learning to walk and can be ingested by babies.

Paving/Decking

Decking, brick paving, concrete, tiles or asphalt are also useful surfaces for many activities but climbing equipment must not be used on hard surfaces. In a restricted area, the surfaces should be designed with great care to ensure variety, minimise glare and UV radiation reflection and incorporate planting.

Gravel and granitic sand

Both fine gravel and granitic sand (particle size 3.00mm to a depth of 200mm) provide excellent drainage so areas are usable during or immediately after rain. These materials need to be contained by use of appropriate edging. These materials may have clay particles mixed to provide more stable surface.

Exposed dirt

Providing drainage is adequate, small sections of soil will compact with use and provide a relatively maintenance free surface.

CREATIVE PLAY AREAS**Sand Pits**

If you can only afford one major piece of play equipment, give priority to a sand pit, which is the highly used and loved by children. Sand is an excellent and important medium for creative play. It provides a prop for many social/dramatic activities for small or large groups. It may be provided in many ways ranging from small portable trays and containers through to large and natural free flowing settings such as multi-level, landscaped sandpits.

Because of the variety of uses of sand as a play medium, more than one sandpit is preferable. Young children enjoy carting sand. By linking two sandpits with a pathway, sand may be transported from one area to the other.

Having a tap connected to either mains, water tank or bore allows the addition of water to increase the complexity of the play, change the consistency, ensure periodic flushing, and enable the cleaning of feet and equipment at the end of play.

Sand Depth

A depth of approximately **600 mm** is recommended for sand pits that are going to be subjected to boisterous digging. However some smaller sand pits may need less sand if they are to be used for driving trucks or simple moulding or cooking experiences. It is also beneficial to have a slip resistant flat area outside the sandpit onto which sand can be deposited temporarily as part of the play.

Choice of sand

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

Sandpit Surrounds

Height of edges

Sandpit edging can either be flush with the ground or have raised edges. Both types of edging have advantages and disadvantages. It is desirable to have at least one part of the sandpit raised with access for a child in a wheel chair to play with the sand on the same level as other children.

Edges flush with surrounds make it:

- ◆ easier to sweep sand back into from a paved surround;
- ◆ easier for young and/or disabled children to access; but
- ◆ more likely to spill out, causing a slippery surface on paving.

Raised edges:

- ◆ may help prevent spillage;
- ◆ can be useful for seating or perching, or for a table or shelf for children to work on; but
- ◆ may be a trip hazard if too low (i.e. less than **100 mm.**) and a fall hazard if too high (more than for **300-500 mm-** onto grass **125-200mm** onto concrete or brick);
- ◆ may be difficult for younger children to climb if it is higher than **200 mm**;
- ◆ may need to be raised to allow hooks for attaching covers.

Edging materials

Timber:

- ◆ must be durable or treated for in ground use;
- ◆ splinters must be smoothed off and edges slightly rounded;
- ◆ bolts, hooks, nails and other fixing devices must 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; but
- ◆ very hard materials to fall onto; and
- ◆ expensive to remove if a change is required.

Rocks

- ◆ provide natural organic shape;
- ◆ can inspire creative play; but
- ◆ need to be carefully chosen to provide rounded and flat surfaces for sitting and moulding;
- ◆ can graze;
- ◆ can be slippery when wet if smooth.

Synthetics - Rubber or polyurethane 'anti-stumble,' kerbs and edging can be:

- ◆ useful where falls onto edges are likely, such as in centres where children may have mobility and balance problems. and in very small yards; but
- ◆ expensive.

Working surfaces in and around sandpits

Provide wide flat surfaces in or surrounding the sandpit to set out play equipment to encourage and stimulate play. Children need space to mound and stir and space is needed for both adults and children for sitting. If edges are narrow include some additional surfaces such as decking, timber rounds or smooth boulders, but remember that sand can be slippery on smooth decking surfaces.

Drainage

Sand pits may be drained by:

- ◆ naturally well drained soils;
- ◆ grading the sub base to a collection point;
- ◆ screenings in a graded base, separated from sand with fabric;
- ◆ agricultural pipe in screenings;
- ◆ a sump below the level of the sand; or
- ◆ a brick base with gaps for drainage, graded to drain.

Covers

Sandpit covers are necessary where fouling or littering is a problem. Covers should:

- ◆ be light and easy to remove to ensure they are removed daily to aerate the sand and be readily available for play in spite of weather forecasts;
- ◆ be durable;
- ◆ allow sun and rain to penetrate, preventing the sand from becoming stagnant (eg mesh or shade cloth); and
- ◆ be able to be stored safely during sandpit use.

They can be:

- ◆ custom-made to any shape and fixed with hooks (which must not protrude); or alternatively
- ◆ cloth may be simply held in place with sufficient tyres to prevent the cover from moving.

NOTE: Unless covers fit completely with no gaps, their usefulness is negated.

Protection from sun and wind

Young children spend much of their time in the sand pit and it is generally the most favoured play space. Protection from sun and wind and rain is essential. The provision of solid covering enables sand play to continue even in wet weather. A solid roof or pergola also provides opportunity to suspend pulleys or scales to extend play.

A range of choices is available:

- ◆ roof or verandah;
- ◆ pergola;
- ◆ deciduous trees or creepers;
- ◆ large umbrellas anchored securely;
- ◆ makeshift awnings of shade cloth or other fabric tied to trees or buildings;
- ◆ roll up awnings; and
- ◆ shade sail.

Digging Patches

Digging in soil provides different play experience from sand play, and should be provided in a separate area, away from the sand pit to prevent any spilt soil from mixing with the sand area.

The digging patch provides opportunities for large muscle play given that metal spades are often used. For this reason it must be sited where it can be easily seen and supervised by staff. To minimise accidents it must also be kept out of the main traffic areas. As this area is frequently messy due to the nature of the play, siting away from entry areas or immediately outside buildings is advisable for aesthetic reasons and to avoid the trampling of mud indoors.

Where boundaries are necessary these may be defined by shrub planting, smooth boulders, logs, planks, bricks or any combination of these.

Digging areas need:

- ◆ a convenient water supply;
- ◆ to be large enough for large muscle activity;
- ◆ a depth of **500-600 mm**;
- ◆ soil which can be manipulated by small children, (add old sand and lawn clippings and dig over periodically to keep this workable); and
- ◆ to be sited away from underground services.

Having an old table or cable reel adjacent allows the soil to be utilised as mud play.

Water

Water is a valuable medium for creative play and useful for soothing, intriguing or stimulating children, depending upon how it is used. It can be used as a vital ingredient in sand play and digging patches and can be made available on it's own in many different ways: hoses, either from mains supply, rainwater tank or bores; containers with taps; or dipped from a large bucket.

Whichever method is used, serious thought must be given to the environmental issue of water use and to developing the children's awareness of this through recycling of water onto gardens and lawns. Playground design needs to take into account any features that will require water maintenance.

Planning and siting taps

Plan a suitable number of water outlets. Make sure there is provision for drainage under taps, and that they are not sited where they will be a trip hazard or a nuisance for other activities by hoses lying over traffic areas.

Other water features for children's play range from reticulated 'trickle' streams and waterfalls, pools and ponds, to taps, hoses and sprinklers, trays, dishes, baths and other small containers. Children will also need access to water to water gardens, fill bird baths or water painting.

Safety is always an issue with water in children's environments and policies need to be put in place in each service regarding the use of water including the emptying of containers. As well, consideration should be given to the environmental impact of water usage.

Ponds for play which allow children to enter should be shallow, around **50 mm. to 75 mm**, easy to drain, and easily accessible, without steep sides and preferably with a non-slip surface. Ponds are not suitable for areas used by babies and toddlers.

A permanent pond to develop a wildlife habitat in the outdoor play space requires a metal grid, permanently held in place to prevent access by young children.

Cost

Many of the 'permanent' features for water play (ponds and streams) are expensive to build, have less use in cool climates, and require more serious attention to details such as drainage, connection into waste water systems and filters. . The importance of these issues will vary from service to service, depending upon the space and other resources available.

Cubbies

'Cubbies' are small enclosures either provided by adults or created by children themselves. Most often they are used for role-play, dramatic, fantasy play and they provide associated social, cognitive and language development, depending upon the age group. The feeling of being enclosed and hidden is an important aspect of cubby play.

Several studies (Davey, 1984; Hart, 1997) have documented that environment modification to create closed spaces is high on the list of preferred activities for children. It would seem then that refuge, a prominent symbol in both natural habitats and built environment, plays an important role in children's developmental needs. (Kirkby 1989 p7)(8)

The play value of cubbies is maximised when:

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

Four different ways to provide for cubby-type play are:

Permanent, built cubbies

Permanent cubbies or forts with a platform, a ladder and a space underneath often confuse two types of play which are not always compatible:

- ◆ if children want to use their toys on the platform they have to struggle up a ladder or net with them. The items then become a hazard as they may be dropped onto other children;
- ◆ climbing and busy physical activity may intrude and conflict with the role-play activity.

The design of any cubby structure should have the feeling of being hidden, but have some permanent openings to provide for supervision.

Cubbies at ground level can relate well to sand pit play if staff have a policy of sand being able to be removed for use as a dramatic play prop. This will require careful management to ensure sand is not spread, causing a slip hazard or wastage.

For children using the same play space for long periods of time it is very important that there are also opportunities for them to create their own cubbies.

Lean-to cubbies.

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

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

Built framework for additions by children or staff.

A timber support, such as a tee-pee of lashed poles, or a lightweight steel framework, such as a climbing trestle, can be useful for draping cloth, tarpaulins, and parachutes over.

Cubbies amongst planting

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

Quiet areas

Small spaces and secret places

Small and 'secret' spaces play an important role in the play of young children. They are particularly important for providing:

- ◆ privacy in centres where children spend long days with a large group of children and where there are often few opportunities for solitude;
- ◆ children an opportunity to create their 'own' space;
- ◆ somewhere for two or three children to play quietly together; and
- ◆ a quiet space for a small-group activity such as reading.

Many ideas suggested for dividing up a play area can be applied to creating such small spaces. The spaces can be quite tiny 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 the activities and to privacy.

Large cardboard or wooden boxes, built cubbies, small planted areas, groupings of logs or sleeper seats, and spaces under decks all create small spaces. Sometimes a small focal point such as a low 'table' or 'seat' made of a round cut from a telegraph pole or a low smooth rock placed in a small space will enhance the play possibilities.

Outdoor seating in play areas

Seats are important in a play area where staff want to encourage visits and involvement by older adults such as grandparents. However it is, otherwise generally not desirable to provide 'formal' seating such as park-style benches in outdoor play spaces as these usually only have a single function and take up valuable play space.

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 or on low retaining walls.

Some objects which the children can safely move around for individual use, such as small cable reels and logs, will provide flexibility.

Small group seating areas will be valuable for a few children to listen to a story, for eating outside and for quiet, small-group activity. These need to be pleasant areas with winter sun and summer shade, and ideally should be separated from busy parts of the play area. They need not be much larger than about 2500mm diameter for a small group of young children.

Steps and decks can be designed to provide informal seating.

A sloping area can become a mini amphitheatre.

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

Animals

Animals can be valuable in children's programs, especially where children are unable to keep pets at home. However the needs of children should be balanced with the needs of the animal for quality care. Some animals are particularly suitable for young children. Hens, rabbits, guinea pigs and budgerigars are common, as they can be satisfactorily housed in small cages or hutches.

Animal health considerations:

Seek detailed information about the specific needs of each creature.

Space for animals should be provided in a quiet part of the playground.

- ◆ Animals housed outside require protection from vandalism or predators;
- ◆ Housing must be in properly secured hutches with warm and protected sleeping quarters as well as open sunny areas;
- ◆ Constant maintenance of hutches will be necessary to minimise risks of infection;
- ◆ Hutches may be portable or could be substantial fixed enclosures which allow the children to enter;
- ◆ Storage will be required for bedding and feed; and
- ◆ Provision for the care of pets must be made over the weekend and for holidays periods.

Gardens

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

Choosing a suitable part of the site will depend upon the types of plants to be grown, but a well drained, sunny position will offer the most choice and is preferred by most flowers, vegetables and herbs.

Choose plants which:

- ◆ are easily grown,
- ◆ have a quick growth cycle,
- ◆ produce their fruits or flowers during the term; and
- ◆ can be shared or enjoyed by the whole group.

Gardening on verandahs, patios and rooftops.

Gardening and growing things need not be restricted to services with large outdoor spaces or natural surfaces. Sprouting beans and peas, growing bulbs, and other gardening experiments on a verandah or patios can be exciting.

Pots and raised beds can be placed in hard surfaced areas such as roof top play spaces to accommodate trees, shrubs and other planting. The added height allows for drainage the active involvement of disabled children.

Associated activities such as the collection of compost and the study of worms and other soil improving organisms are also valuable learning experiences.

Plants for play areas

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

Plants provide a constant supply of objects for nature study, artwork, props and other creative activity. There is endless variety in fruits, bark, leaves, roots and flowers, providing colour, sounds, shapes, forms and textures. Many flowers, foliage, bark and roots have perfumes which emerge as you crush their leaves, walk on them or brush past them. Careful use of scented plants may be helpful for orientation by children and adults with visual impairment, but ensure that a riot of perfumes does not confuse.

Plants and children with disabilities

It is important that the interesting qualities of plants are made available and accessible to children with disabilities by:

- ◆ planting suitable trees and shrubs in accessible places
- ◆ gathering loose leaves, flowers and fruits and bringing them indoors
- ◆ taking children on excursions to interesting gardens
- ◆ raising garden beds for access from wheelchairs or other mobility aids.

Plant survival

Children's environments can be difficult places for plants - especially small, full-day care centres where there is continuing pressure on every centimetre of space for most of the year. Choose plants that are suited to local soil and climate, and tolerant of children's activities. The installation of automatic watering systems and heavy mulching to prevent weed growth and water loss are both recommended if funds allow.

Try to prevent compaction around roots by:

- ◆ installing a low fence or barrier between the roots of the plant or tree and the play area;
- ◆ planting into raised beds; and
- ◆ substantial 'temporary' fencing, for at least the first two years.

Using planting in a play area design

Use plants to:

- ◆ divide experiences which are best separated. from each other;
- ◆ create small spaces for children's hiding or retreat areas;
- ◆ create a thicket or bushes for cubbies;
- ◆ provide small-scale climbing;
- ◆ screen off an unattractive fence or wall;
- ◆ create a green 'tunnel' for children to run, crawl or wheel through;
- ◆ attempt to lessen noise and dust from busy roads;

- ◆ provide shade from sun and shelter from wind;
- ◆ provide loose play materials near sand or water play areas;
- ◆ reflect the cultural diversity of the community; and
- ◆ attract birds and insects with indigenous species.

Watch for:

- ◆ plants which irritate asthma and hay-fever sufferers;
- ◆ plants which irritate the skin;
- ◆ plants with highly toxic parts;
- ◆ plants with sharp thorns, spikes or branchlets;
- ◆ plants with small fruits, which babies may place in their mouths or noses;
- ◆ trees which drop limbs; and
- ◆ climbing trees where there is a hazard underneath such as a concrete path or fence.

EQUIPMENT AND MATERIALS

Equipping an outdoor area so that it provides quality play experiences for children requires careful planning. Quality outdoor play does not necessarily require vast amounts of expenditure. Rather, equipment needs to be carefully selected and thoughtfully sited and materials need to be appropriately stored, accessible, continuously monitored and maintained.

Specific information about safety and design of manufactured play structures is found in the AUSTRALIAN STANDARDS FOR PLAYGROUND DEVELOPMENT

AS 4685 2004 Play Equipment
AS/ NZS 4422 1996 Playground Surfacing - Specifications , requirements and test method, including amendment No. 1, 5th May 1999

AS/NZS 4486 1997 Playgrounds and Playground Equipment
Part 1-Development, installation, inspection, maintenance and operation.

Selecting fixed manufactured play structures

Manufactured play structures that include climbing frames, forts, cubby houses, swing frames, slides, platforms, stages, or dramatic play structures can be purchased as pre formed units or can be custom built to suit individual requirements. However the investment in this kind of equipment is substantial and very careful thought must be given to the criteria for selection of a particular piece of equipment.

Fixed play structures impact substantially on the flexibility of the playground design due to their size and frequently by their prominence in the play space. Not only may the structure take up what is often valuable space, but because of the height of the structure and the required fall zone around it, little else can be set up in the area, limiting play to the structure alone.

In play spaces that children use every day, fixed and static play structures are frequently left unused as children soon tire of them once they have mastered whatever challenges they have to offer. Movable equipment is flexible and can be used in a variety of different ways in the outdoor play area, and provide many different play experiences.

Questions to be asked before play equipment is bought

Advice from experienced staff or early childhood professionals should be sought before any decision involving major expenditure is made:

- ◆ Why has this item been proposed?
- ◆ How is it anticipated that children will use it?
- ◆ Will it facilitate the play experiences needed by children?
- ◆ How will it provide for children's continuing skill development, as they change during the years they will be in the centre?
- ◆ Can it be used by children with a range of abilities?
- ◆ Will it allow for attachment and linking with movable items?
- ◆ Will it restrict the range of activities that can take place in a limited area?
- ◆ Does it encourage children's physical, cognitive, social, emotional or creative development?
- ◆ Does it encourage children to learn new skills?
- ◆ Does it encourage children to interact with their peers?
- ◆ Does it encourage a relationship with the environment?
- ◆ Does it encourage repetitive activity?
- ◆ How easily can the item be changed, adapted and modified for different purposes by staff and/or children?
- ◆ Can it be used in more than one way?
- ◆ Do local children already have access to similar items outside the centre?
- ◆ Does the item have a fixed theme that cannot be changed (eg. a story character, a train. etc.) and so limit the use of imagination?
- ◆ Will the installation of the equipment dominate the play space and impact on optimum use of the area?

Important safety requirements

- ◆ Does it comply with relevant **Australian Standards**?
- ◆ Is it appropriate for all age groups using the play area? If not, will it place one group at risk?
- ◆ Will it require a disproportionate amount of staff time to supervise?
- ◆ Will it place users of other programs (i.e. after hours users) at risk?

Siting issues

- ◆ Where is it proposed to locate the equipment?
- ◆ Is there sufficient room for both the item and the fall and traffic zones around it?
- ◆ Is the ground surfacing appropriate to the height of the item?
- ◆ Will it affect other activities in the yard positively or negatively?
- ◆ Will the proposed siting allow enough space to connect movable planks and ladders as well as other movable equipment and still allow for adequate safety zones?

Movable structures and co-ordination equipment includes trestles, movable climbing equipment, boards, tunnels, trampolines, ladders and scramble nets, as well as specific perceptual motor skill development equipment. Expenditure on this equipment is not as great as with fixed play equipment, however the same process for decision-making needs to be undertaken.

Children's play equipment should be available to support children's play outdoors. Indoor equipment and material can be moved outdoors to add to the variety and quality of the outdoor environment.

CREATIVE PLAY

Sand Pit

cooking equipment sets
tea sets
buckets & spades
sand moulds and
scoops
sieves, funnels small
rakes scoops
small blocks
pine cones/shells/tiles/
small tree rounds and
branches
rakes,brushes,brooms
for children to assist in
maintenance.
boats/trucks/
animal sets – farm,
jungle, dinosaur, sea
creatures
scales
planks, logs, wood
offcuts
vinyl to create ponds
plumbing or sprinkler
system pipes & joiners

Water Play

plastic pipes, flexible
hose, plastic bottles,
sieves, jugs, funnels,
buckets, water wheels,
boats
watering cans
small buckets and
brushes for water
painting

Digging Patch...

metal spades (small
adult)
plumbing pipes and
joiners
wood offcuts
posts
palings

Dramatic Play

dress up materials
equipment for
police/hospital /
firefighter/ restaurant
play either individually
stored in 'prop boxes' or
available for random
selection
steering wheel
Stop/Go signs
*Assorted additions to
play* ;-keys, maps,
torches, toy tool kits,
mobile phones, camera,
pegs,
flags,ropes, pulleys
tyres,tents and hats
dolls/teddies/blankets
'baby bathing'
equipment
washing up equipment

Imaginative Play

small plastic or wooden
animals,
small people/families

pebbles, small logs, tree
rounds, assorted cones
and seed pods,
interesting artifacts

Loose Parts

lattice, plywood,
material, canvas, wood,
T tree stakes for tee
pees, pine cones carpet
squares cushions tree
prunings

LEARNING TOOLS

*Science/maths
equipment* -
binoculars, ponding nets
pulley & rope,
magnifiers, tape
measures, torches
Language - writing
implements, reference
books, clipboard,
notebooks and chalk

PHYSICAL PLAY

Wheel toys- tricycles,
pull along and push
along toys.
hobby horses
Sporting equipment –
balls/rope/hoops/bats/
*Perceptual motor
equipment* –
trampolines, balance
beams/rocker boards/
rope

REAL TOOLS
gardening tools
woodworking Tools
scrubbing brushes

brooms, rakes &
dustpan and brushes

child-sized
wheelbarrows and
trolleys
paint brushes

Storage and Maintenance of Equipment:

Equipment will be valuable if it is easily accessible to children. Equipment needs to be continually monitored to ensure it is:

- ◆ safe and in good condition. Broken equipment needs to be repaired or disposed of rather than being continually presented to children;
- ◆ easy to access. Keep equipment in storage areas that are easy to access, close to the play space and not cluttered and therefore preventing access;
- ◆ easily identified. Labels, particularly if accompanied by a graphic illustration of the contents of a container, make for quick and easy access to play props and equipment when they are required to extend or challenge play;
- ◆ sufficient for group play. Younger children particularly, have difficulty waiting for turns or to share. By having multiples of equipment they are able to manage their frustrations and so develop their play;
- ◆ sorted, to ensure the correct equipment is available to develop particular play. Providing children with a box full of all plastic animals - farm animals, jungle animals and dinosaurs in one container gives confusing messages about the possibilities of the play. By initially providing only one set of props, e.g. farm animals, children have a shared understanding of how the play may progress.

The Adult's Role

Staff and parents in children's programs have a key role in ensuring that the outdoor play space fulfils it's potential to provide quality experiences for children. However there are many ways other adults such as grandparents, volunteers and students can actively support and participate in the outdoor program.

This contribution takes many forms including:

- ◆ maintaining gardens, either with the children or at weekends;
- ◆ participating in 'working bees';
- ◆ providing cuttings to develop garden areas;
- ◆ collecting resources such as logs, timber off-cuts; and
- ◆ assisting in the program to support the play of children.

To provide quality outdoor programs for children *must select and prepare the environment, then observe guide and assist the children so that they are challenged and supported in gaining information and an understanding of how things work (Doherty-Derkowski 1995 p58)(9)*

Observe and plan

Staff in children's centres program for individual children and the group. Program plans are based on observations of the children's interests and learning needs and result in planned experiences set in the indoor and outdoor environment.

Set environments

Planned experiences include science, mathematics, and visual arts. Staff plan these experiences to accommodate the different levels of development, the differing play styles of children and the interests of individual children and of the group. Much thought therefore goes into providing and positioning equipment, setting up a range of play spaces and making materials available.

Respond flexibly

Keep these plans fluid and flexible to allow for children's changing interests and for staff to utilise spontaneous learning opportunities as they arise.

In the outdoor environment give children as much control as possible over their play. Adults need to be flexible and ready to move with the interests of the children.

Provide interaction to support children's ideas

Do this by:

- ◆ observing children;
- ◆ asking questions to clarify children's ideas;
- ◆ posing questions to challenge the current knowledge;
- ◆ making suggestions, providing reference books and pictures to extend ideas;
- ◆ providing play props and open-ended loose parts to provide complexity to the experience;
- ◆ modelling play by participating in the play to assist children with limited play skills;
- ◆ assisting children with problem solving and rule making;
- ◆ moving away from play and allowing children to develop alone; and
- ◆ supporting inclusion of each child at their own level.

Supervise

The supervisory role of the adult in the outdoor play environment requires that at all times adults are actively engaged in observing or supporting children. Staff need to place themselves in positions wherever possible to have an overview of, or to be in hearing of the entire play space and of the play that is happening in it.

Reflect & review

At the end of the play period, the adult and/or children need to reflect on the play, evaluate it's quality and note plans for further planning implications. Provide photos, diagrams and visual representation and children's reports to parents and interested others about the play. This assists those with little understanding of early learning theory to appreciate the value of outdoor play.

COMMON DESIGN PROBLEMS IN OUTDOOR PLAY SPACES

Inappropriate siting of store sheds

Problems with the siting of storage sheds include:

- ◆ blocking views around yard;
- ◆ inconveniently located for access to materials;
- ◆ blocking maintenance and emergency vehicle access; and
- ◆ dividing spaces to create unusable areas.

It may be difficult to solve such siting problems without relocating the shed but this action is often well worth the investment.

Alternatively, consider:

- ◆ other ways of storing materials so a large shed is not necessary
- ◆ opening up one or more walls of the shed so that views through are possible. (This depends upon what is stored).

If a poorly located shed is preventing adequate supervision of the yard and funds do not allow for demolition or rebuilding, additional staff or volunteers may be required to ensure safety.

Alternatively, the space may be able to be redesigned to provide an environment that encourages quiet or sedentary activity that requires less intensive supervision such as a meandering path with gardens and seats along the way, or a fernery with bird bath and bird feeder. A low fence may be required to close off the area.

Worn grass

Seek advice as to the cause of the problem.

Consider:

- ◆ installation of a watering system;
- ◆ improving drainage;
- ◆ fencing off, resting, aeration, and fertilisation program;
- ◆ paving or reinforcing heavily trafficked areas as a last resort.

Drainage problems

- ◆ Investigate source of problem. It may be from broken or leaking pipes, or neighbouring properties;
- ◆ Plant *Melaleuca spp*, or other plants which draw water from the soil;
- ◆ Regrade site to redirect surface runoff;
- ◆ Lay subsurface drainage;
- ◆ Build up low lying areas;
- ◆ Create seasonal watercourse or bog garden.

Drainage pits

Common problems include pits:

- ◆ poorly sited in climbing or running areas;
- ◆ with protruding, sunken or missing grates or covers.

A poorly sited pit is hazardous and is best relocated if possible. Seek advice on the feasibility of moving a pit or alternatively, it may need to be fenced off to prevent injury. Cushioning mats should be used if falls are likely. Grates and covers which are a trip hazard should be reinstalled flush or just below the surrounds and fixed to prevent children moving them.

Dominating path systems

- ◆ Paths which divide a space into smaller, less useful areas; and
- ◆ Paths which encircle a play area and encourage bikes or any other form of play to dominate.

Such paths usually need to be at least partly removed. Useful sections can be retained for all weather access and for some play activities. Remaining concrete can be broken up and re-laid as inexpensive 'stepping stones' or paving if required.

Verandah and shade structure poles where children run into them

Solutions include either padding the poles to child head height or implementing strategies to make them more substantial and visible such as:

- ◆ placing pot plants or other items around pole;
- ◆ building seating or other visible structure around pole making sure that this does not increase the hazard; and
- ◆ relocating paths or ramps to avoid poles. Relocating poles is rarely feasible.

Inappropriate fixed play structures

Firstly, ascertain the value of the equipment. Secondly, ensure that any alterations do not create other hazards and are in accordance with the maintenance instructions of the manufacturer or designer.

Poorly sited swings

Swings can create a serious hazard to children crossing their path, and to swinging children if sited too close to hard surfaces or fences. Strategies include:

- ◆ Relocate swing;
- ◆ Re-orient swing to minimise conflicts with other users and to increase the fall distance to any hard surface;
- ◆ Place barriers around a swing area so that:
 - ◆ children should not be able to climb or play on them; and
 - ◆ edges and borders must not be closer than **3500-4000mm**. from either side of the top beam (in the direction the swing moves)
- ◆ Reduce height of top beam and reduce swinging arc;

- ◆ Remove swinging assemblies and use frame for items using less space such as ladders or fixed ropes; or
- ◆ Remove whole swing structure if hazards cannot be overcome.

Inadequate clearances along swing top beam

- ◆ Remove one pair of hooks and relocate remaining hooks on top beam to comply with clearances as detailed in Playground Standards; or
- ◆ Replace or remove swing.

Guardrail/infill inadequate on climbing equipment.

- ◆ Refer to Standards for design requirements;
- ◆ Detach deck and lower it within the same post structure which has the effect of increasing the guardrail height; or
- ◆ Attach plywood, steel bars or other panels where infill is required. Ensure panels are not climbable.

Head entrapment in climbing trestles

- ◆ Remove one bar if this can be done without affecting the structure or the usefulness of the trestle.
- ◆ Replace trestles.

Head entrapment in other climbing equipment

- ◆ Seek professional advice to avoid creating a new hazard through modifications;
- ◆ Some spaces can be filled to prevent children accessing dangerous openings or spaces;
- ◆ Some components such as ladders or guard-rails may need to be redesigned to remove the problem.

Play equipment too close to hard surfaces or borders in small spaces

- ◆ Raise the height of infill around structures to comply with Australian Playground Standards;
- ◆ Remove hard surface;
- ◆ Relocate equipment;
- ◆ Install row of tyres over hard edge if possible; or
- ◆ Replace hard edge with synthetic impact absorbing edging.

Fixed play equipment without soft impact absorbing surface material underneath

- ◆ Install soft impact absorbing surface material to **250 mm** compacted depth, or 300mm uncompact depth;
- ◆ Replace fixed structures with low movable items; or
- ◆ Remove play equipment.

Large climbing fort in central (dominating) position in play area

- ◆ Remove; or
- ◆ Relocate.

Safety Issues

Children need play environments that encourage some risk taking and that help children to develop self managed behaviour.

Adults who plan to meet children's needs and interests, who support and challenge their play, providing props, time and space for children to develop that play in their own way, and who actively involve themselves in the progress of that play, will be aware of, and able to act on, any behaviours that are likely to put those children or others at risk.

Staff and management of children's services have a great concern for the safety of children, however it is imperative that overemphasis on risk does not impact negatively on the appropriateness of the outdoor play spaces provided, or on outdoor play programs offered to children.

This guide is not intended to provide risk free environments for children, but to provide advice on strategies to develop quality outdoor playspaces in accordance with Australian Playground Standards aimed to protect children from injury. Children need to be able to make informed decisions about their own safety and to develop a positive self image and competence in living skills. They need opportunities to explore and experiment in an environment that provides a degree of managed risk.

Government legislation provides for a safe environment by requiring the proprietor and staff members to ensure that every reasonable precaution is taken to protect children from any hazard likely to cause injury

This includes the responsibility for the maintenance, cleanliness and repair of buildings, the grounds and all equipment. In addition, the child's safety is enhanced where there is adequate supervision, including the appropriate ratios of staff to children, and when the child is fully engaged in appropriate play experiences.

Sun safety

Outdoor play spaces should be designed to provide shade prevention of UV radiation damage is an ongoing responsibility for both staff and parents.

Minimising the risk of UV radiation damage to young children, particularly during summer months can be assisted by:

- ◆ Organising programs to minimise the use of the outdoor play areas between 10 am and 2.pm (EST) and 11 am and 3 pm (DST) from September to April;
- ◆ Encouraging wearing of clothing that covers maximum amounts of the skin surface, sun protecting hats and sunglasses;

- ◆ Ensuring SPF30+ broad spectrum water resistant sunscreen is applied 20 minutes prior to any exposure and is reapplied after 2 hours;
- ◆ Staff and parents acting as role models in their use of appropriate clothing and skin protection; and
- ◆ Providing educative material about sun protection for children and parents.

Protecting children from hazards likely to cause injury

In taking reasonable precautions to protect children from hazards, staff and management bodies need to make professional judgements about the likelihood of injury occurring and the severity of the injury. For example – a group of rocks located in a garden bed adjacent to an open area on which the children run, tackle and play ball games has the potential to cause injury, whereas a rock feature in a sand pit where play is more sedentary would not be considered a potential hazard i.e not likely to cause an injury.

Safety issues to be aware of in the playspace

- ◆ Trip hazards caused by uneven paving in pathways, intrusive tree roots in traffic areas or retaining edging;
- ◆ Rocks and hard edges along pathways that may be used for running activities or around 'active' areas;
- ◆ 'Traffic' areas across play spaces. Sometimes the natural flow of children's movement around the play space takes them across climbing or running areas. This frequently causes collisions between children, toddlers entering boisterous ball games, and collisions with climbing equipment;
- ◆ Unauthorised use outside of hours of operation, or when toddlers and older children use the play space. Particularly in centres where families enter and leave the premises via the playground, inappropriate use occurs resulting in toddlers and babies using equipment that is unsafe for their developmental level or older children rearranging equipment into unsafe configurations;
- ◆ Spreading sand onto paths and other hard surfaces where it becomes a slip hazard;
- ◆ 'L' shaped play spaces which provide challenges for visual supervision;
- ◆ Difficult access between indoor and outdoor spaces that makes having both spaces available concurrently very difficult and that prevents smooth transition between play spaces.

Minimising the risk of injury in the outdoor play space relies very much on the quality of the programming for the children. Injuries are more likely to occur when children are unable to test their fears within the security of a supportive environment. Children who become bored through lack of challenge will engage in play that is dangerous in order to test out their skills and understand their fears.

If a cursory count of play spaces reveals that there is not enough to do, then the playground is not only not supportive of children's development and enjoyment it is actually not safe. Rivkin (1995p50)(10)

Safety issues to be aware of in the program

- ◆ Sand on pathways;
- ◆ Bike handle grips missing;
- ◆ Inappropriate use of equipment such as metal spades above shoulder level;
- ◆ Running on hard surfaces;
- ◆ Equipment left in traffic areas to cause trip hazards;
- ◆ Heavy objects on climbing frames;
- ◆ Hard objects under climbing equipment;
- ◆ Poorly cleated boards or ladders;
- ◆ Climbing equipment placed on or adjacent to hard surfaces;
- ◆ Brittle broken plastic or splintered play equipment;
- ◆ Ropes remaining suspended when playground unattended;
- ◆ Carrying heavy objects with bare feet;
- ◆ Water left in playgrounds where younger children may access; or
- ◆ Conflicting play competing for play space e.g. dramatic play on climbing frames where other children are engaging in boisterous play.

Adequate Supervision

Quality supervision does not rely on visual surveillance alone. It relies on being aware of:

- ◆ Individual children's abilities when handling frustrations so as to minimise any aggressive problem solving;
- ◆ The potential of certain play spaces, groups of children, types of play or equipment to elicit negative play;
- ◆ The state of the different play that is happening by providing safe environments that provide a challenge to children, to plan experiences and to support children's own interests, providing time and support for them to engage meaningfully in the play.

In order to supervise effectively adults need to:

- ◆ be familiar with the characteristics of the age group and of individual children to be able to make accurate assessments of safety issues;
- ◆ continuously monitor the condition of all play spaces to ensure that environments are safe and secure. Immediately remove sharp twigs from trees, move bricks and rocks that have been used by older children before toddlers use the space;
- ◆ set up experiences that promote quiet, sedate play e.g. imaginative play environments for two, sand trays, a book and puppet space, in areas that are difficult to visually monitor, such as around corners or behind shrubbery;
- ◆ move around the play space to support each area of play to ensure that the 'mood' of the play is being kept controlled. Allocate adults to more intensely monitor and guide play that may become uncontrolled or potentially dangerous;
- ◆ have a set of guidelines setting and maintaining play environments, including the behaviour of children, that provide a framework for supervision decisions.

- ◆ This framework of rules should be clearly understood by all, devised by both staff and children but not be so inflexible as to impact on either the safety of the children or the play value.

E.g. although there may be a rule that bikes do not intrude onto the climbing area, there may be times when the entire group is engaged in dramatic play in the climbing area, with mature and controlled play and with one adult supervising exclusively. The addition of bikes as part of the play will include children who would not otherwise be confident in joining in such play and lead to complexity and more learning opportunities for the children.

OR

It may have been agreed that children may only use metal spades when an adult is physically present at the play. However should that supervising adult observe that play in another area has been experiencing escalating problems in conflict resolution, and as children using spades are well focussed and controlled the digging area, the adult may move away to support the area where conflict may result in injury.

Should adults feel unable to confidently support the outdoor play program, they should seek professional development and peer support to develop the necessary skills.

Child staff ratios

The Education and Care Services National 2011 Regulations determines policy on the ratio of adult to children in children's services.

Although staff have a responsibility to maintain safe child adult ratios, this does not mean that children are limited from accessing either play space because the child adult ratio in the **specific play space** does not meet the requirement for the **entire play space**.

Australian Standards for Playgrounds specify design and construction, safety, installation and maintenance requirements for play equipment and playgrounds of all types. They include specific requirements for supervised early childhood playgrounds and play equipment. As Standards are continually being reviewed and periodically updated, centres funded by the Department of Human Services can request current Standards advice from Play Australia www.playaustralia.org.au

Copies of the Standards may be available from local libraries. The Engineers Department of your local Council should have a copy of Australian Playground Standards also.

Town Planning Schemes

Town Planning Schemes are controlled by local government and vary from municipality to municipality. A Town Planning Permit may be required before you can use land for a particular purpose such as a children's services centre, and may also be required for the construction and works required to erect or alter a building.

The need for, and conditions of, a Town Planning Permit will depend upon the municipality, the zoning and any other controls over the land where a children's services centre is proposed. In land zoned 'Residential C', for example, the preservation of 'residential amenity' will be a primary concern and noise and parking conflicts will be considered. Off street parking provision may be a condition of permit in some areas. Permits will also be required where the land has been reserved for a specific purpose other than operating a children's services centre. Special zones may be delineated in some municipalities, where changes to building design, colour schemes, fences and vegetation or other features may be restricted. Applications and enquiries must be made to the Town Planner in the municipality concerned.

Warning : The steps in the town planning process can be slow, especially if the matter is taken to the Victorian Civil and Administrative Tribunal. It is important to build into the project sufficient time, of between one and six months or more, for these permits and processes to be finalised.

Barbara Champion
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