

Outdoor learning environments standard

This is a mandated document under the [asset services policy](#).

Note: The Australian Standard for Playground equipment and surfacing AS 4685 (Parts 1-6) has been revised and released as AS 4685:2021. This document is in the process of being reviewed and updated to include the changes to AS 4685:2021. All department employees (including corporate staff and site leaders), as well as facilities managers under the Facilities Management Services Arrangements and contractors engaged on their behalf, implementing a new outdoor learning environment at schools and preschools must comply with AS 4685:2021.

Overview

The outdoor learning environments standard details the minimum and recommended standards for creating and maintaining an outdoor learning environment (OLE) for schools and preschools that provides children with optimal learning opportunities.

The development of OLEs must provide balanced environments which instil a sense of wonder, generate curiosity and spark the imagination of children and young people. The purpose of this standard is to provide the minimum requirements and processes for creating and maintaining an OLE at education facilities. A strong focus has been placed on providing children and young people with optimal learning opportunities that foster a connection to and inspire respect for the environment while allowing children and young people to develop risk taking skills and improving their confidence, health and wellbeing.



Figure 1: Trinity Gardens Primary School – Portrush Forest

Scope

OLEs include but are not limited to nature play spaces, outdoor classrooms and fixed play equipment areas intended for use by children, young people and the community.

The standard applies to all department employees implementing a new OLE or managing an existing OLE at schools and preschools including corporate staff, [site leaders](#) as well as facilities managers (FMs) under the Facilities Management Services Arrangements (FMS).

This standard does not apply to Family Day Care, Guardianship Family Day Care services or the Respite Care Program operated by the department, however compliance with the Australian Standards for fixed and moveable play equipment (AS 4685:2014) and playground surfacing (AS 4422:1996) provided in these settings is mandatory.

The standards provide mandatory requirements for all employees and contractors for capital works, medium works, minor works, site funded and maintenance projects at education facilities. The outdoor learning environments standard is not retrospective and the current version only applies to projects in the planning and concept phase that have not yet commenced detailed design.

Written approval must be gained from the Department for Education (the department) to deviate from these standards.

Conformity

All other current Statutory Acts, Codes, Standards, Guidelines and Specifications compliment this document and must be adhered to. Where products are selected and used it is the responsibility of the manufacturer, design teams, contractors and facility providers to ensure the products used are fit for purpose, compliant to all relevant Australian Standards, robust to compliment the environment they are used in, be selected to minimise ongoing service and maintenance and offer value for money.

To meet the requirements of the Industry Advocate use local products and services before selection of foreign products.

All product changes or deviations to the standard made during the design, tender and construction process must be approved in writing by the department.

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Detail

This standard will assist in the design, construction and maintenance of OLEs by defining minimum standards and responsibilities.

The school or preschool site leader is responsible for managing compliance with minimum standards, maintenance responsibilities and ongoing safety inspections for new projects, redevelopments and existing OLEs.

Site leaders can engage their Facilities Manager (FM) to assist in project management of new projects, review of compliance requirements, maintenance, repairs and safety inspections. For projects with proposed budgets in excess of \$165,000 (GST inclusive) and over, site leaders must engage their FM to deliver the project.

Design principles

The development of a new or the upgrade of an existing OLE must provide children and young people with balanced environments which optimise learning and risk-taking skills that are reasonable, appropriately identified, controlled or managed.

OLEs must be designed to instil a sense of wonder, generate curiosity and spark the imagination of children and young people.

They should foster a connection to and inspire respect for the environment and natural world and highlight the relationship between the environment and human activities.

They should provide appropriate learning opportunities for integration into curriculum including science, mathematics, geography and environmental sustainability.

The design should take into account the purpose of the learning area or play space; the likely ages and abilities of users, the likely level of supervision and potential number of users at any given time.

OLEs should provide access for people of all abilities.

OLEs should include a variety of texture, materials, spatial characteristics and surfaces, opportunities for physical movement and challenge, creative and sensory expression, cognitive and imaginative play and social interaction.

OLEs should include a minimum of 2 lockable double switched socket power outlets mounted at 1500mm height. If protected by a verandah greater than 2m deep provide IP53 rated switched socket power outlets and if exposed by verandah less than 2m or fully exposed provide IP56 rated switched socket power outlets.

Designs should avoid conflicts between active areas involving movement and moving equipment and areas for quieter activities.

Designs should take into account the needs for maintenance access to equipment, surfacing, areas of lawn, vegetation and other features.

When designing an early childhood OLE, the [preschool outdoor learning environments](#) design guide must be referred to which provides additional guidance specific to early childhood environments.

Nature play

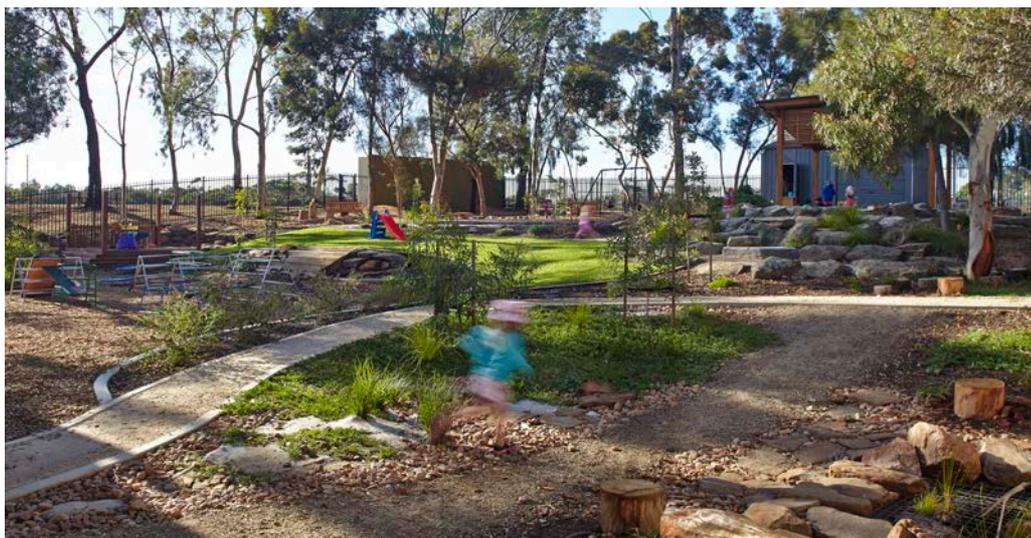


Figure 2: Ingle Farm Children's Centre

International and national evidence demonstrates that unstructured free play in nature benefits our children and young people in many ways including promoting physical activity, connecting with nature and improving health and wellbeing. OLEs that promote nature play areas that encourage rich learning and play opportunities should be considered as part of all OLE projects at schools and preschools.

Site specific environmental factors such as local habitat, drainage, weather conditions, bushfire zones and site access (emergency vehicle access) must be considered when designing OLEs with nature play elements to ensure the area can be effectively managed and maintained.

The [Nature Play SA](#) website includes a range of resources and design principles which should be referred to as part of the development of OLEs including a guide [Learning outdoors – benefits and risks](#) and the [Nature Play SA information sheets](#). The resources have been developed to increase understanding of how the risks and challenges that come with OLEs can be used to optimise learning opportunities through diverse and meaningful experiences.

The requirements of the [Australian Standard](#) suite of documents AS 4685:2014 'Playground Equipment and Surfacing' and AS 4685.0:2017 'Playground equipment and surfacing development, installation, inspection, maintenance and operation' apply equally to nature play spaces and proprietary play equipment.

Nature play environments must consider falls from heights, impact absorption and surfacing, fall protection, entrapment hazards, protrusions, damage, maintenance and contamination. Where the contents of AS 4685 do not apply directly to natural elements (ie barriers or handrails on natural logs or boulders), a [risk benefit assessment](#) must be undertaken to determine the suitability of such elements.

Risks and benefits of learning outdoors

OLEs present an opportunity for children and young people to develop risk taking skills and improve their confidence, health and wellbeing. Risk taking is an essential feature of play provision and of all environments in which children legitimately spend time playing. Play provision aims to offer children the chance to encounter acceptable risks as part of a stimulating, challenging and controlled learning environment.

Outdoor learning and play provisions should aim at managing the balance between the need to offer risk and the need to keep children safe from serious harm. Managing risk in outdoor learning and play areas can include adequate supervision, teaching children the correct way to use equipment or play elements, implementing rules for use, better design or design changes, restricting or controlling access and eliminating a hazard.

To ensure OLEs provide this opportunity, a risk benefit assessment must be undertaken during the planning stage of all OLE projects, including where changes are made to existing OLE's, new materials or equipment are introduced (including items donated by the community) or there has been a serious injury or incident.

Australian Standard AS 4685.0:2017 states that risk management in playgrounds does not require automatic removal of all risks and that risk benefit assessment is frequently a more appropriate method of assessment. A risk benefit assessment assesses both the risks that need to be managed and the opportunities that these risks present to ensure a balanced approach is implemented.

The [education risk benefit assessment template](#) has been developed to assist site leaders to assess risks and benefits of OLEs. The template provides a working example and the [guide to the education risk benefit assessment template](#) provides further information to assist in completion of the assessment. The risk benefit template can be used to assess existing sites and the OLE Standard should be used to implement appropriate controls where applicable.

Accessibility, learning and participation

The development of a new or the upgrade of an existing OLE must give due consideration to the design and location to ensure accessibility, along with optimising the learning opportunities and participation for all children and young people, including those with disability.

[Inclusive Play Guidelines](#) have been developed by the Department for Human Services. The guidelines are a tool for schools, preschools, design professionals and others to assist in planning and developing play spaces that are inclusive of all children.

The design of OLEs must consider how all users can access the OLE in an inclusive manner to enable children and young people to access and participate within the area with dignity and equity.

Consider the provision of equitable access from buildings and site access points to OLEs to ensure, where reasonable, they are inclusive for children, young people, staff and the community. Access pathways and walkways to and through the OLE must comply with AS 1428.2. Refer to [design standards](#) for details.

Rubber or synthetic impact absorbing materials used as pathways through play areas and to access play equipment must be a maximum 50mm depth to provide an appropriate surface for wheelchair access. This depth may not provide adequate impact absorption for adjacent play equipment. Impact areas for play equipment and circulation pathways must be carefully designed to take into account the different requirements for each of these uses.

When selecting items of play equipment or play structures comprising multiple components consider incorporating play components that provide opportunities for all students.

When selecting single purpose play equipment items that are unable to be modified for universal access, ensure there are opportunities throughout the play space for children of all abilities to play together.

Where ramps to access play equipment and structures are provided they must be at 1:14 gradient with 900mm clear between handrails provided on both sides of the ramp. Dual height hand rails are to be

provided with one handrail fixed at a height of not less than 865mm and a second handrail fixed at a height between 665mm and 750mm. Landings provided within a ramp must be a minimum size of 900mm x 900mm with a preference for larger landings with interactive features that can be used as intermediate play platforms.

Outdoor classrooms or gathering spaces must include adequate space for manoeuvring wheel chairs, including space for carers. For example the turning circle diameter range 1500mm (small child) 2200mm (adult).

Designs must consider access to tactile elements of the learning area. All users should be able to easily reach tactile learning areas such as water courses, garden beds, sensory gardens, horticultural areas and edible gardens.

Designs must include adequate seating for carers in key areas.

Location

The design of OLEs should consider the integration and connection to internal learning environments that promote holistic learning environments which promote the ease with which:

- Children and young people can be supervised (line of sight).
- Equitable accessibility can be achieved without significant upgrades to infrastructure.
- Access is available to power and gas services where required.
- the area is accessible by car and trailer to facilitate sand and loose fill replacement.
- The area is accessible by emergency services vehicles.

Children must be adequately supervised during play activities and when using playgrounds, with a clear line of sight of children less than 10 years of age. This includes accounting for potential hazards such as sustaining an injury from play equipment.

Drainage

OLEs must be designed to ensure adequate drainage of water to avoid pooling and adhere to the following. Please refer to the [design standards](#) for further information:

- OLEs must not be sloped in the direction of buildings. Where no other option is available adequate controls must be implemented to ensure water does not compromise building infrastructure.
- Slopes and gradients must be designed to control the flow and drainage of water.
- Grated drains are not to be located in impact absorbing areas or under play equipment.
- Grated drains must not permit finger entrapment.
- All drains must be adequately covered and secured to prevent access, fall or trips.
- All drains are to be regularly checked and cleaned of rubbish and debris to ensure they are functional.
- Where taps are provided as part of outdoor learning settings, ensure there is appropriate drainage and no water course is deeper than 300mm.

Irrigation

Landscape areas must be able to be maintained so they are fit for purpose. When planning alterations to an existing system or designing a new OLE engage qualified irrigation design consultants and soil and turf management specialists. Irrigation, soil and turf specialists can evaluate and recommend options for system designs to meet the schools or preschools needs eg above ground sprinklers or sub-surface drip systems.

Water consumption for irrigation may comprise the majority of water usage at a school or preschool. The Sustainability and wellness guideline (being drafted) provides advice on irrigation management and maximising irrigation system efficiency to reduce water consumption and costs.

Consider installation of rainwater tanks to collect roof run-off from buildings and shade structures for irrigation purposes.

Shade

The design of an OLE must incorporate the provision of adequate shade for children and young people.

The shade provided is to be contextual to the local conditions and where possible, shade provision should be provided through a combination of natural and built shade.

The availability of some unfiltered outdoor sun all year round is desirable.

Consider also the reflective qualities of various surfaces and materials (ie sand, rubber) to minimise indirect UV exposure and burn risks from under-surfacing.

Refer to section [plants and trees](#) for a guide on incorporating natural shade as part of an OLE.

Built shade structures comprising of frames with a roofing material, such as metal sheeting, clear sheeting, or combination of both. Refer to the [design standards](#) for further information.

Ensure the shade structure design allows for shade to fall over most of the area to be protected during peak hours of UV exposure.

Ensure any columns or structural frame are not within the falling space, free space or impact area of equipment items.

The lowest accessible edge of the shade structure or cover must provide a minimum clearance height of 2.5m from any part of the play structure to prevent access by climbing. Locate posts a minimum of 2.5 metres away from equipment items. Ensure minimum clearance of 1.5 metres between play equipment and any other part of the shade structure.

Include roof drainage shade structure to collect, re-use or dispose of stormwater. Preference is to capture rainwater for irrigation.

Refer to the Kidsafe information sheet – [shade in outdoor learning environments](#), for further guidance.

Plants and trees

Plants are valuable design elements in playgrounds and should be selected for their potential to provide for play as well as for their visual amenity, sensory properties, potential for shade and potential to withstand compaction, extremes of climate and the impact of users. Plants and trees in an OLE are to be selected with consideration to:

- Climate modification – provide shade and protection against sun and wind.
- Visual quality – define, separate or link spaces, create a secluded learning space.
- Environmental sustainability – introduce local native vegetation which contributes to the local ecology and natural elements that promote an appreciation of seasonal variation (colour, perfume, loose parts for use by children and young people). Resources are available on the [Natural Resource Management website](#).
- Seasonal variation that provides opportunities for loose natural materials.
- Ability to tolerate urban and water limiting conditions and do not generally require additional resources such as fertilizers or irrigation.
- Ability to be pruned and maintained.
- Branches and roots have the potential to cause significant or major damage to infrastructure due to:
 - inappropriate location
 - potential to shed a major portion of canopy
- health considerations, low levels of toxic or allergenic characteristics.
- Trees prone to dropping limbs must not be planted or maintained adjacent to or over OLEs unless their removal is prohibited. Sufficient space in which to fully develop the characteristics for which they were chosen.
- Longevity.

Development of fixture structures around or in close proximity to existing trees must comply with AS 4970:2009 Protection of trees on development sites. Tree protection zones may apply and any construction under a tree must take into account structural root zones. Obtain advice from a qualified arborist.

Trees that are prone to dropping limbs now and in the future must not be planted in an OLE. Where existing trees that are prone to dropping limbs are adjacent to or cover an existing OLE, they must either be inspected on an annual basis by a qualified arborist (as a minimum or as specified in an arborist inspection schedule) or removed if they pose a risk of dropping limbs.

Plants that are poisonous, dangerous, have allergenic properties, those with foliage, flowers and seeds that cause choking hazards are to be treated with caution, as detailed on the [raising children website](#), and are to be excluded from all early childhood OLEs. All other sites, with due consideration to the local environment and the ages of children at the service may retain plants that are identified as dangerous or to be treated with caution, however a [risk/benefit assessment](#) must be undertaken and updated on a regular basis as the plant matures.

Other plants can also pose a risk to children, for example sharp edges, leaves, thorns, branches and twigs at a child's eye height. Site leaders in conjunction with staff are to assess the OLE for these and other risks and take appropriate action to ensure the safety of children and young people.

[Clearing of native vegetation](#) may require approval from the Department for Environment in accordance with the *Native Vegetation Act 1991*. Some activities are permitted outside of the clearance controls of the Act and are described in the Native Vegetation Regulations 2017.

Tree Maintenance and Inspections

Site Leaders must assess the risk and benefits associated with plants and trees in OLEs and take appropriate action to ensure the safety of children, young people, staff and visitors.

Schools and preschools are responsible for the ongoing visual observation of trees and must undertake daily visual inspections as per the workplace inspection intranet website. Daily visual inspections are required for 'Priority 1' areas under and surrounding trees. Priority 1 areas include the following:

- Playgrounds with fixed equipment.
- Nature play spaces.
- Trees in close proximity to buildings or infrastructure.
- Climbing trees.
- High use areas.

The following should be considered as a minimum for visual inspections by site leaders:

- Dead branches and trees.
- Decayed, rotten trunks and branches, obvious cavities, holes.
- Cracked, splintered wood that has separated from the trunk or major branches.

Where the above conditions are identified, schools and preschools must refer to the last arborist report. If the school or preschool does not have an arborist report or the tree has exceeded the recommended inspection schedule (refer [scheduled arborist inspections](#)), an arborist must be engaged to assess the tree(s).

Dead trees can create habitat for local wildlife and do not always pose a risk. Where a tree has been identified as dead or dying, an arborist should be engaged to assess the tree and provide recommendations of how to maintain the tree. This can also create learning opportunities for the school curriculum as part of OLEs.

The following actions are recommended as part of an over-arching tree management site plan to be managed by site leaders:

- Regular watering depending on the tree species and age.
- Mulch should be:
 - maintained at the base of each tree for a minimum 2 years after planting to enhance growth and reduce evaporation
 - no more than 100mm in depth and should cover a circular area of 600mm for every 250mm of trunk diameter.
- Weed control.
- Branch pruning.
 - formative pruning should occur 2 years after planting to a height of 2000mm above infrastructure or building rooflines to:
 - provide branch structure
 - ensure desired shape

- accommodate site constraints
- avoid conflict with infrastructure
- reduce encroachment into pedestrian and vehicular clearance spaces as tree matures.

Tree maintenance work is a school or preschool responsibility. It can be actioned by site leaders, through their facilities manager using breakdown maintenance funding via the breakdown maintenance hotline. A qualified arborist does not need to be engaged for regular scheduled branch pruning.

Climbing trees

Tree climbing is a valuable activity for physical and social development, helping children and young people build confidence, develop coordination, problem solving skills and strength.

Site leaders must engage a qualified arborist to assess any tree proposed to be used for climbing before it is used as a climbing tree. The arborist shall confirm the suitability, health, structural integrity and weight bearing capacity of accessible branches. Site leaders shall also undertake a risk assessment to assess trees used for climbing in consideration of the following:

- Type of tree (species).
- Likely effect on the health and longevity of the tree from climbing activities.
- Whether areas under the tree canopy are free from hazards including permanent fixtures and moveable equipment.
- Proximity of tree to buildings, fences or other fixed structures.
- Presence of any animal, insect or bird nests.
- Abilities of the age cohort who will have access for climbing.
- Availability of low branches to safely commence climbing.
- Whether branches are strong enough for weight bearing, as assessed by a qualified arborist.
- Branch formation, intersecting branches and ensuring branches that form an upright U or V shape do not provide an entrapment hazard.
- Ensuring branches are free of sharp edges and protrusions.
- Fall zones are free of obstructions.
- There is an ability to limit the maximum height the children can climb to 2200mm measured from the highest branch used for foothold to the impact attenuating surface below.
- Clear lines of sight are available to adequately supervise climbing activities.
- Ability to install a clear visual indicator of maximum permitted climbing height.
- The number of children permitted in the tree at any one time.
- The development and implementation of a supervision plan.

Impact attenuation must be provided to the impact areas under the climbing tree in accordance with AS 4685:2014 and AS 4422:2016. Refer [falling heights and impact absorbing materials](#).

Clear lines of sight must be available to the climbing tree and all accessible areas within the tree canopy for supervising adults.

Install a visual indicator on the tree to mark the maximum climbing height that can be clearly seen by children using the climbing tree and for supervising adults. This may be a paint line or other attachment that does not damage the tree and can be seen from a distance by supervising adults.

Further information is obtained in the following Kidsafe SA fact sheet - [tree climbing](#).

Weather and climatic conditions

Extreme weather conditions and changes in climatic conditions can impact the health and stability of trees and increase the likelihood of tree limbs falling. Such events include but are not limited to:

- Storms.
- Heat waves.
- Strong winds.
- Large variations in temperature.
- Prolonged periods of low rainfall.
- Specific events such as fire or floods.

A visual inspection must be undertaken following extreme weather events with a focus on Priority 1 areas outlined above. Where tree limbs and branches overhang Priority 1 spaces and an arborist report has not confirmed the risk rating of the tree in the past 12 months, access to the space must be restricted following the weather event and a qualified arborist must be engaged to confirm if the tree poses a risk.

Scheduled arborist inspections

To ensure trees are effectively maintained schools and preschools must engage a qualified arborist to inspect trees around the school or preschool on a scheduled basis. The frequency and areas of the arborist inspection will be dependent on the types of trees at the site and the areas under and surrounding the trees (refer to the inspection guide below).

Where an arborist has not previously been engaged and the school or preschool does not have an inspection schedule specified by an arborist, the site leader must engage an arborist to undertake an initial inspection of all trees on the site.

Arborist reports are funded by the school or preschool through the [project commencement form \(PCF\)](#) process and costs can be sought from the sites facilities manager. Arborists shall assess the condition of each identified tree, recommended remedial work (removal, pruning, trimming) and inspection schedule, risk rating (high, medium, low) cost to undertake the work and include photos and location on the site. The arborist report must also identify any regulated and significant trees and if development approval is required before work can be actioned.

Guide to the frequency of inspections

These inspections are in addition to the inspections to be undertaken by schools and preschools listed under [tree maintenance and inspections](#). This is a guide only and a qualified arborist must be engaged to determine the inspection frequency.

Priority 1 areas under and surrounding trees

An annual inspection is to be undertaken unless determined by an arborist to be more frequent. Frequency to be recorded in the site arborist report.

Additional inspections must be undertaken following extreme weather or changes in climatic conditions.

Priority 1 areas include:

- Playgrounds with fixed equipment.
- Nature play spaces.
- Close proximity to buildings or infrastructure.
- Climbing trees.
- High use areas.

Priority 2 areas under and surrounding trees

An arborist inspection is to be undertaken 2 yearly unless an arborist report recommends a specific frequency. Priority 2 areas include:

- Recreational or sport grounds and ovals.
- Car parks.
- Medium use areas.

Priority 3 areas under and surrounding trees

An arborist inspection is required 5 yearly to the following areas:

- Low use areas that are dispersed or used infrequently for recreation/egress.
- Open areas.

Tree removal

Tree removal should be considered as a last resort and all other options must be assessed and used in preference to removal, eg engage an arborist inspection and report. Options include, but are not limited to:

- Root severance or barriers.
- Pruning.
- Infrastructure modification.

If a tree is on council land, schools and preschools must work with their local council to ensure appropriate and safe tree removal.

Regulated and significant trees

Significant pruning and removal of regulated and significant trees on schools and preschools sites are exempt from approvals processes under the *Planning, Development and Infrastructure Act 2016*.

Advice must be obtained from an arborist prior to undertaking significant pruning of regulated and significant trees.

Prior to removing regulated and significant trees, obtain an arborist report on the health and stability of the tree(s) and consider the outcomes of this report along with the value the trees provide for play as well as visual amenity, sensory properties, potential for shade and significance of the trees to the school community. Funding

If any high or medium risk recommendations are identified in the arborist report it should be submitted to [Asset and Facility Services](#) for assessment via email. Any corporately funded actions will be undertaken via the FM. Low risk trees will be a school or preschool responsibility as part of ongoing grounds maintenance.

Fall zones and impact absorbing materials

The Australian Standards for playgrounds provide guidelines for fall heights and impact absorbing materials:

- AS 4685.1 to 6:2014 Playground equipment and surfacing.
- AS 4685.11:2014 Playground Equipment.
- AS 4422:2016 Playground Surfacing – Specification, requirements and test method.
- AS 4685.0:2017 Playground equipment and surfacing Development, installation, inspection, maintenance and operation.

Schools and preschools can access further information on the above standards by contacting the [Asset Standards and Environmental Management](#).

Refer to the Kidsafe SA information sheet – [playground surfacing and swings](#) for further guidance.

Free height of fall

The free height of fall (FHOF) is the distance measured from the greatest vertical distance between the intended body support (eg hands if hanging, feet if standing) and the impact area below the equipment (playground) or natural elements (tree, log or rock).

All equipment or natural elements that have a FHOF of 600mm or more above ground level, or equipment with forced movement, must have an impact area.

Minimum depths of impact absorbing materials are only required under impact areas and not over the whole play area.

The maximum free height of fall for moveable equipment in early childhood settings is limited to 1500mm. Refer to AS 4685:2014 Playground Equipment and Surfacing for specific requirements for all applications.

The maximum free height of fall for fixed equipment in early childhood settings is 1800mm. The maximum free height of fall for all other settings is 3000mm, except for upper body equipment (ie monkey bars) which have a maximum free height of fall (measured from the surface of hand support to surface below) of 2200mm.

For climbing trees, the maximum distance between the last standing branch and impact area is 2200mm.

Falling space

Falling space is the space in or around the equipment that can be passed through by a user falling from an elevated part of the equipment.

The falling space is a 3-dimensional area, commencing at the free height of fall and extending over the same horizontal dimensions that apply to the impact area then extend to the vertical area between.

In most cases, the falling space of different items of equipment may overlap, except in equipment with forced movement.

Refer AS 4685:2014 Playground Equipment and Surfacing.

Free space

Free space is the space immediately around a user undergoing forced movement. Forced movement could be defined as movement where it may be difficult or impossible to stop part way through a typical arc of motion due to gravity or momentum.

Free space is represented as a series of cylindrical spaces originating from perpendicular to the surface bearing the user and along the path of movement. It does not include the 3-dimensional area outside the imaginary cylinder in which the falling movement takes place.

There shall be no overlapping of adjacent free spaces or of free space and falling space unless stated otherwise as part of AS 4685:2014.

Refer AS 4685:2014 Playground Equipment and Surfacing.

Impact area

An impact area is the area that can be hit by a user falling from a piece of playground equipment, climbing trees and other natural elements in the OLE and must have impact attenuating surfacing. Minimum depths of impact absorbing materials are only required under impact areas and not over the whole play area.

Impact areas can be determined by measuring the free height of fall of a piece of equipment, fixed structure or natural element.

For any elevated parts of equipment, logs, rocks, climbable surfaces, climbing trees or other natural elements between 600mm and 1500mm above adjacent horizontal surfaces the impact areas shall be 1500mm around the elevated sections of the equipment.

For any elevated parts of equipment, logs, rocks, climbable surfaces, climbing trees or other natural elements over 1500mm, the impact area must be calculated using AS 4685.1:2014.

Impact attenuating surfacing should be provided under all items of play equipment with forced movement regardless of elevated height. There are specific impact areas for different types of moving playground equipment. Refer to the Kidsafe SA factsheet for specific advice on [impact areas and equipment placement](#) contact [Kidsafe SA](#).

General impact area guidance

Swings

The impact area for a swing set in which 2 flexible seats are individually suspended from a horizontal load bearing beam are determined through measurement and calculation. In general, for a swing with a horizontal load bearing beam with a height of 3000mm, the distance from a stationary swing seat to the containment edge should be approximately 4500mm both in front of and behind the seat.

Slides

For slides attached to platforms where the run of out section is short, a long impact area of 2000mm is required beyond the end of the slide.

Cableway or flying fox

Cableways and flying foxes require a minimum impact area of 2 metres at each end and to each side of the cableway.



Figure 3: Log installation - Trinity Gardens PS - Portrush Forest

Impact absorbing materials

Loose fill

Natural loose fill is the preferred impact absorbing material in OLEs. Natural loose fill must be tested to and comply with AS 4422:2016 requirements. The school or preschool is responsible for obtaining written information or verification from the manufacturer or supplier of loose fill material in regards to its impact absorbing properties and compliance with relevant Australian Standards prior to purchase.

Bark chips must comply with AS 4422:2016 and where used for impact absorption, the bark chips must be maintained to a minimum depth of 300mm in impact areas. This requirement exceeds the minimum depth of softfall identified in AS 4685.0:2017. Installation at a greater depth allows for product loss and dispersion as children use the playspace. Overfill bark chip areas when new loose fill is installed to a minimum depth of 350mm to allow for settlement and compaction.

Alternatives to bark chips such as sand must be certified in accordance with AS 4422:2016 or be verified in accordance with AS 4685.1:2014 Table 4 which identifies grain size, particle type, minimum depths and critical fall heights. Contact [Asset Standards and Environmental Management](#) for further information.

Sand type varies and may have differing depth requirements. During wet weather or when sand is made wet through water play it can compact and this reduces the impact attenuation properties. Where sand is used for impact attenuation, schools and preschools must prepare a risk management plan for use of the playground during wet weather or water play.

Perform a daily visual inspection of loose fill each morning before children/young people enter the play area and other areas where climbing equipment or trees are located in accordance with the [workplace inspection intranet website](#). Ensure at least one employee has received playground inspection training. Refer to the [site managed safety inspections](#) for quarterly and annual inspection requirements and [comprehensive playground equipment inspection](#) sections for further requirements.

The depth of loose fill material should be regularly measured and topped up to compensate for loss and dispersion as a result of equipment use. If required rake or replace loose fill, particularly in high traffic and heavy use areas such as under swings and at the end of slides.

Verify there is sufficient loose fill material in the impact areas underneath and surrounding playground equipment, nature play elements and climbing trees with a fall height of greater than 600mm.

As loose fill material can be easily displaced it should be retained by a border or edge. Borders or edging should be:

- An appropriate height to ensure loose material can be maintained at a depth of 300mm and does not allow dispersion.
- Made of materials that are durable and do not present a trip hazard with adjacent pedestrian walkway surfaces or have any sharp protrusions.
- Positioned appropriately to ensure playground equipment impact area clearances are maintained

Refer to the Kidsafe SA factsheet – [playground surfacing](#).

Loose fill in early learning settings

Children under three should not have access to small objects of a size that presents a choking hazard including bark chip softfall.

For new projects, major upgrades and extensive redevelopment of existing outdoor play areas, consider the type of loose fill to be provided in outdoor play areas that can be accessed by children under three years of age. Bark chip soft fall in these areas is not recommended.

For existing centres with bark chip soft fall in outdoor play areas accessed by children under three years of age consider alternative natural loose fill products when complete replacement of existing loose fill is required.

Rubber or synthetic impact absorbing material

The use of rubber or synthetic impact absorbing material is only recommended in high use areas where it is likely that loose fill will be regularly displaced (such as under swings and at the end of slides).

Consider whether the reflective and heat retention qualities of the surface material are suitable for the application. Rubber and synthetic impact absorbing materials absorb heat and on hot days can cause burns to children.

Rubber or synthetic impact absorbing material must be:

- Installed by an appropriately skilled person who can provide written confirmation that the equipment has been installed in accordance with the manufacturer's instructions and relevant Australian Standards. Certification of compliance must be retained by the school or preschool.
- Tested in accordance with AS 4422.

The site leader or delegate is responsible for ensuring rubber or synthetic material is regularly checked for:

- Sheets or edges separating from the base layer.
- Damage to top surface or mould growth.
- Poor joints and embedded foreign objects.

Drop testing of rubber or synthetic impact absorbing material in accordance with AS 4422 is required at a minimum of every three years. Refer [site managed safety inspections](#).

Refer to the Kidsafe SA factsheet – [playground surfacing](#).

Protection against falling from heights

Protection from falling can be provided in the form of handrails, guardrails and barriers. For specific details on the requirements for protection for different categories of equipment and heights refer AS 4685:2014.

Handrails

Handrails are intended as rails to assist the user to keep balance and may be in addition to the requirements for a barrier (see 'barriers' below). They may be used on stairs and ramps leading to platforms and on climbing items.

Guardrails

Guardrails are intended as a rail to prevent the user from falling from the equipment and may be in addition to the requirements for a barrier (see 'barriers' below). When used on a platform, guardrails shall completely surround the platform except for entry and exit openings necessary for other items of play equipment. The width of entry and exit points shall have a maximum clear opening on 800mm except in the case of stairs, ramps and bridges where the width of the opening shall be no greater than the width of the adjoining element.

Slides greater than 1000mm in height require a guardrail above the starting section of the slide, positioned between 600mm and 900mm above the slide surface.

Barriers

Barriers are intended to prevent the user from falling from the equipment and from passing beneath. Barriers can be used on platforms, stairs, ramps or rigid bridges. Barriers may also be required to other trafficable surfaces and retaining walls where there is a change in level between adjacent ground surfaces.

Consider the age group of users of the OLE, barriers may be advisable above the minimum requirements of AS 4685:2014 in particular situations. On equipment easily accessible to younger children, or in early childhood settings, any platform and walkway 600mm and above in height from adjacent ground level should have a barrier at least 700mm high.

In all other situations, required barriers to be 1m in height measured vertically from the surface beneath. Barriers must not permit a 130mm sphere (refer small head probe in AS 4685.1:2014) to pass through any opening. Any horizontal or decorative infill elements must not facilitate climbing.

Tops of barriers should not encourage children to stand or sit on them.

Gaps under barriers shall be no greater than 89mm.

Openings in the barriers must not create any form of entrapment, including gaps, V-shaped openings or protrusions in which a part of clothing can become trapped while or immediately before the user is undergoing a forced movement.

To prevent head entrapment openings must be less than 89mm or more than 230mm in diameter.

To prevent finger entrapment openings must be less than 8mm and more than 25mm in diameter. In chains, gaps must be smaller than 8.6mm. In S-hooks and connectors gaps must be smaller than 8.6mm or larger than 12mm.

Refer to the Kidsafe SA information sheets – [Entrapment](#) and [Barriers, guardrails and handrails: protection against falling](#).

Sand environments

Design considerations



Figure 4: Sand environment - Wandana Child Parent Centre

It is recommended that sand areas:

- Are designed in such a way that the area creates a non-regular interesting shape to facilitate nooks and crannies that provide potential quiet areas and larger spaces for group interactions and if possible varying levels including an area for disability access.
- A lockable storage facility for equipment and loose parts should be considered as part of the design
- Are bordered by boulders and plantings with ground level disability access.

- The border used to contain the sand and the level of the sand must not create a trip hazard.
- Are not located near building entrances and any cemented or paved areas to limit dissipating sand coming indoors and the creation of slip hazards.

The depths of non-compacting sand required for impact absorption is dependent on the type of sand. Obtain details of impact absorption from the supplier. The recommended depths of sand for play areas are:

- Sand areas designed for use by children < 2 years of age: minimum depth: 400mm, centre depth: 500mm.
- Sand areas designed for use by children > 2 years of age: minimum depth: 400mm, centre depth: 800mm.

Refer to the Kidsafe SA information sheet – [Sand pits](#).

Drainage

To allow for adequate drainage of a sand area it is recommended:

- The base of sand area is to be loose paving stones on a gravel bed, banked to the centre to allow for adequate drainage.
- A drainage membrane is to be installed separating the sand from the gravel base.

Maintenance

It is recommended that:

- Sand areas be inspected and raked prior to use on a daily basis to ensure there is no broken glass, sharp objects, needles or other hazardous objects and that the area is free of hygiene hazards, such as dog and cat excrement, cigarette butts and litter.
- Sand be turned over on a monthly basis for aeration and replenished when the sand drops 100mm below the top edge of the sand area.
- Where required (as determined by local context) a cover may be used when the sand area is not in use. A means of securing and storing the cover must be available.

Rocks and boulders

Rocks and boulders can be used as borders for sandpits and garden beds, river beds and water courses and incorporated into mounds or embankments that can be used as climbing elements.

It is recommended that rocks and boulders:

- Are positioned to ensure there are no potential limb entrapment hazards or gaps.
- Are stabilised with at least a third of the boulder mass being below ground surface so that no movement occurs as children, young people and adults travel across them.
- Have adequate drainage to prevent pooling of water to discourage the harbouring of vermin and snakes between rocks and boulders.
- Are selected to minimise sharp and protruding edges.

- In early childhood settings are to be sized so as not to present a choking hazard for children.
- Are inspected and maintained to ensure moss build up does not create slip hazards.
- Rocks and boulders 600mm or more in height are surrounded by impact absorbing material in the correct impact zone.



Figure 5: Rocks and boulders - Wandana Child Parent Centre

Interactive water features (IWFs)

Interactive water features (IWFs) include all devices that supply water to outdoor learning areas for students to engage with water in imaginative play and hands on learning activities (such as hand pumps or sub-surface bubblers).

IWFs must be appropriately designed, managed and maintained in accordance with [SA Health Fact Sheet: Managing Health Risks associated with Interactive Water Features](#). Any moving parts, including controls and pump action, must be designed so there are no entrapment issues.

Water courses are preferred and must be designed so that the depth of the water, at any point, is less than 300mm. Additional considerations should be given to early childhood settings and an appropriate depth (less than 300mm) should be identified following a risk assessment.

Water courses are, where possible, to be directed into sand areas and garden beds that have suitable drainage systems.

Water supply to the IWF must be from a potable water source to protect student health and wellbeing however IWFs must not be used for drinking water. A 'Do Not Drink' warning sign must be installed at every outlet of an IWF in compliance with AS/NZS 3500.1 Clause 9.7.2.

Installation of plumbing to IWFs must comply with the NCC Volume 3 and AS/NZS 3500.1:2018 Plumbing and drainage Part 1: Water services for cold water installations. IWFs are 'end of line' equipment items and must have a testable backflow prevention device to protect the drinking water system from contamination.

Where schools and preschools install an IWF as a site funded work without involvement of their Facility Manager, the site leader must advise the Facility Manager of the installation to ensure it is included in the Preventative Maintenance Schedule.

IWFs are not acceptable in Port Pirie where cross contamination of water sources can occur from lead dust contamination in the area.

The Office of the Technical Regulator (OTR) regulates the installation of pipework connected to the IWF including the installation of backflow prevention devices. Design and installation, approvals, commissioning and periodic testing of IWFs must meet the requirements of the OTR detailed in the [Interactive Water Features Advisory Note](#).

Refer to the Kidsafe SA factsheet – [Water safety in education and care settings](#).

Design and Installation

Designs must give consideration to the sustainable use of water and should incorporate controls to reduce water consumption such as timers, a locking mechanism and water efficient outlets.

Recirculating continuous water features with an electric pump are not recommended due to increased operating costs for electricity and maintenance. Approval must be obtained from the department to connect an IWF from a rainwater tank. If approved, the rainwater tank must comply with the requirements for tanks used to supply harvested rainwater for drinking purposes. Refer to the department's [Water supply for schools and preschools procedure](#).

The following design and installation procedures must be followed for all interactive water features to ensure compliance with OTR requirements:

- All plumbing pipework and equipment supplying water to IWFs must be WaterMarked.
- Where an IWF is connected from a dedicated water storage tank, or a rainwater tank, the tank must be installed above ground and comply with AS/NZS 3500.1 Section 8. Refer also to the sections below on [Approvals and Commissioning](#) and [Periodic inspection and testing](#).
- A Reduced Pressure Zone (RPZ) backflow prevention device must be installed on the dedicated water supply branch to the IWF to protect the on-site plumbing drinking water system from contamination.
- There must be no branches connected to the pipework between the testable backflow prevention device and the IWF.
- Plumbing installations including all pipework and RPZ backflow prevention device must be carried out by a licensed plumber.

Approvals and Commissioning

The following approvals and commissioning processes must be followed for all IWFs to ensure compliance with OTR requirements:

- A [Hydraulic design submission form](#) must be submitted to the OTR for assessment, including a general arrangement drawing of the IWF plumbing, details of the testable backflow prevention device and 'Do Not Drink' signage before work commences and 14 days before booking an onsite plumbing audit.
- An audit of the installed IWF must be booked with the OTR when the work is completed.
- Testable backflow prevention devices must be commissioned by an appropriately licensed plumber.

- A certificate of compliance (CoC) must be issued to the Facility Manager and be registered on the OTR's Electronic CoC system.
- A copy of the commission, inspection and maintenance reports for the backflow prevention device must be issued electronically to the Facility Manager and the OTR email otr.plumbbackflow@sa.gov.au.
- Tanks connected to an IWF must be registered on the mandatory Preventative Maintenance Schedule.

Periodic inspection and testing

The following periodic inspections and testing must be undertaken to ensure safe use of all IWFs:

- Site leaders are to ensure water storage tanks are flushed to remove any stagnant water after holiday breaks and other extended periods where the IWF has not been in use.
- Tanks connected to an IWF must have a legionella test every 6 months under the Preventative Maintenance Schedule.
- Rainwater tanks approved to be connected to an IWF must be tested for E.coli every 3 months under the Preventative Maintenance Schedule.
- All backflow prevention devices must be retested annually under the Preventative Maintenance Schedule.
- Test results must be forwarded electronically to the Facility Manager and the OTR email otr.plumbbackflow@sa.gov.au within 7 days of completing the retest.

Grass

The aesthetic value of an OLE can be enhanced by the provision of grass or turf. Where the school or preschool is located in an environment where traditional grass cannot be sustained then an alternative surface, which is in keeping with the local environment, is to be considered.

It should be noted that grass is not an appropriate impact absorbing material under play equipment or nature play structures that have a free height of fall height of 600mm or more above ground level or equipment causing a forced movement on the body of the user.

Refer to [design standards](#) for considerations when selecting turf grasses.

Should synthetic grass be installed, then consideration must be given to adequate shade and suitable precautions regarding heat retention and cleaning.

Slopes and mounds

Mounds should have maximum gradient of 1 to 3 to allow children access without slipping, eg every 1000mm in height will need to be 3000 to 4000mm in width.

An extra 1000mm flat area should be provided at the top of the mound to act as a landing or low level platform. Where possible mounds should incorporate accessibility provisions such as wheelchair access to ensure all children and young people experience various levels of elevation.

Slides may be installed into a mound. A 1000mm free space is required from the centre of the slide on each side. Provide a 2000mm radius impact absorbing surface at the end of the slide. Handgrips are recommended at slide entrance to assist children upon entering. Landings and other features with FHO of 600mm or more above ground level incorporated in mounds must have an impact area and may require a barrier to prevent falls.

Loose material

Loose materials are items or natural materials that are portable and can be moved, carried, combined and manipulated by either an individual child or a group of children.

Loose materials are an integral element to an OLE and can include but are not limited to the following:

- Stones, pebbles, stumps, fabric, branches, twigs, sticks, wood, balls, buckets, baskets, crates, boxes, logs, stumps, rope, shells, seedpods, tyres (with no exposed steel belts), pvc pipe.

Before introduction of loose materials into an outdoor learning area, including acceptance of donated goods, items are to be inspected by a trained person for suitability and condition. Inspect the item for sharp edges, entrapment risks, rough surfaces, protrusions, moss, mould, rust, insect or wildlife infestation and general deterioration.

It is recommended that loose materials are:

- Inspected daily for the above hazards by a trained person in accordance with department's [workplace inspection requirements](#).
- Regularly maintained and are disposed of when useful life is reached or as hazards related to their use become apparent.



Figure 6: Loose materials - Trinity Gardens PS - Portrush Forest

Kitchen gardens and vegetable patches

Gardens and vegetable patches should be large enough for small groups to work together, with the possibility of raising plots to allow equitable access and participation.

Where existing soil is used for gardening, the soil must be tested to ensure it is not contaminated.

It is recommended that:

- Appropriate personal protective equipment (PPE) such as gloves, safety glasses and masks are available when using potting mix.
- Appropriately sized garden tools and adequate fitting gloves are provided for children and young people.
- Buckets, planter pots and watering cans are stored appropriately when not in use to prevent pooling of water and discourage the congregation of spiders, wasps and other harmful insects or animals.
- Hand washing and drying facilities are readily accessible.
- Appropriate vegetables are to be selected. Refer to [Kidsafe NSW – grow me safely](#) for further information.

Garden and vegetable patch fences

Fences around gardens and vegetable patches can be provided in a range of materials and finishes however must not have toxic treatments or toxic coatings (eg [copper chrome arsenate treated timber](#)) and must have appropriate footings and fixtures for stability and durability.

Appropriate consideration must be given to ensure the fence does not create a trip hazard, entrapment risk or obstacle which can cause injury, eg ensure there are no sharp or protruding edges (high for head or low for feet) or there are no openings in which a head/neck can become caught in the fence.

Artificial wetlands

The following requirements and procedures are to be followed in the development of any wetlands:

- Proposal for artificial wetlands is submitted via a project commencement form (PCF) to Asset and Facility Services.
- A risk assessment is to be developed and documented as part of the planning process and provided as part of the PCF.
- A 2100mm secure perimeter fence is required around the area. Fencing costs are to be incorporated into the scope of the project. Maintenance and operation of the wetland is to be included in the site's work health and safety management system.
- The site leader must obtain endorsement for the project (design, development, approval and construction) from the Department of Environment and Water.
- The site leader, in consultation with the FM, is to develop a maintenance schedule. This schedule is to consider:
 - plant and animal pest and disease management including mosquito monitoring and control
 - water quality testing and monitoring
 - plant care
 - rubbish removal
 - weed removal and control
 - water level controls and drainage
 - sediment removal

- erosion control.

Materials selection

Materials should be:

- Sourced locally, preferably manufactured or produced in South Australia.
- Responsibly sourced.
- Reused, have recycled content, have environmental product declarations, third party certification or stewardship programs.

Materials used for the construction of outdoor play elements and outdoor decking must be durable, robust and require limited on-going maintenance. Eliminate sharp edges and corners and all timber must be chamfered and sanded to avoid splintering.

Consider heat retention of materials exposed to the sun, particularly where surfaces may be used for seating. Materials that absorb heat on hot days can cause burns to children and young people.

Timber

Timber species are assigned a durability class to define timber durability and expected life in and above ground:

- Durability Class 1 timbers are the most durable, with probable life expectancy in-ground of > 25 years and probable above ground life expectancy of > 40 years.
- Durability Class 2 timbers have a probable life expectancy in-ground 15-25 years and probable above ground live expectancy of 15-40 years.
- Durability Class 3 timbers have a probable life expectancy in-ground of 5-15 years and probable above ground life expectancy of 7-15 years.
- Durability Class 4 timbers have a probable life expectancy in-ground of 0-5 years and probably above ground life expectancy of 0-7 years.

Timbers can be treated to increase their resistance to decay and termite attack and are assigned a Hazard Class in accordance with AS1604 Specification for Preservative Treatment. The recommended Hazard Class for different installations are as follows:

- Hazard Class 3 for exterior above ground timbers such as decking.
- Hazard Class 4 for exterior in-ground timbers such as posts, stumps and landscaping features.
- Hazard Class 5 for exterior in-ground timbers in contact with fresh water such as wetlands and water course installations.

Timber used externally must meet the Hazard Class ratings above and the following requirements:

- Be durable, robust and require limited on-going maintenance.
- Any timber which is to have a painted finish shall be primed all around before fixing.
- Any structural timber to conform to AS1684 Residential Timber Framed Construction.
- Rainforest timbers are not permitted.

- No timbers treated with arsenic containing preservatives are permitted.

Any timber or reconstituted timber product used as floor decking to an area that is attached to a building must be tested and achieve either a Group 1 rating in accordance with AS/NZS 3837, or be tested and certified to withstand exposure up to a minimum BAL-29 in accordance with AS 3959:2018 Construction of Buildings in bushfire-prone areas.

For schools and preschools located in bushfire zones requiring construction above BAL-29 comply with the requirements of the relevant bushfire attack level for that site.

Copper chrome arsenate timber

Copper chrome arsenate (CCA) treated timber must not be used in new OLEs and at departmental education facilities is restricted to fencing posts and strainers in agriculture or viticulture settings. In these circumstances, CCA must only be used in accordance with manufacturer's advice.

If CCA is present in existing OLEs the [enHealth Council](#), (a Department of Health body) advocates as a suitable and simple precautionary measure that children and young people should wash their hands after playing on or near CCA treated structures.

Alternative choices for CCA preservative treated timber, eg permapine includes:

- Light organic solvent protection (LOSP) suitable for H1 (inside, above ground, dry), H2 (inside, above ground) and H3 (outside, above ground).
- Tanalised ecowood or NatureWood suitable for H3 (outside, above ground), H4 (outside, in ground) and H5 (outside, in ground or fresh water).
- Treated timber must comply with Australian Standard AS/NZS 1604 series and should bear a treatment brand (a label or ink stamp) generally on the end-grain.

Schools and preschools should seek the supplier's advice regarding the suitability of these products for their intended purpose and also a relevant safety data sheet.

Fire pits

The installation and maintenance of fire pits must adhere to the requirements listed below. Sites must undertake a risk assessment prior to the installation of new fire pits.

Burning in the open (including the use of fire pits and pizza ovens for recreational purposes and food and beverage preparation) is managed by Local Councils in accordance with the [Environmental Protection \(Air Quality\) Policy 2016](#). Smoke from these activities can impact on human health and the environment, and can also cause environmental nuisance.

The Environmental Protection Authority (EPA) website provides further information on the [regulations for burning in the open](#):

Fire pits approved by Local Council in accordance with EPA requirements must:

- Be located a minimum of 3000mm away from any structure (building/verandahs/shade) and vegetation (including overhang) and not positioned directly on grass.
- Be a minimum 150mm in depth and 600mm in diameter.

- Have a tap and hose adjacent to the fire pit or adequate facilities and equipment provided for the provision of water.
- Have equipment to carry sand in close proximity to the fire pit to douse the fire.
- Have a 2000mm radius free from flammable materials cleared and maintained around the fire pit prior to use.
- Only use charcoal inside metropolitan Adelaide and townships.
- Only use dry wood, charcoal or dry plant material outside metropolitan Adelaide and townships.
- Not use any CCA timbers and other timber products containing toxic substances (including paint finishes).

Playground equipment

Australian standards

The Australian Standards for Playgrounds provide guidelines for the design, installation, maintenance and operation of playgrounds as a minimum benchmark:

- AS 4685.1 to 6:2014 Playground equipment and surfacing
 - Part 1: General safety requirements and test methods
 - Part 2: Additional specific safety requirements and test methods for swings
 - Part 3: Additional specific safety requirements and tests methods for slides
 - Part 4: Additional specific safety requirements and test methods for cableways
 - Part 5: Additional specific safety requirements and test methods for carousels
 - Part 6: Additional specific safety requirements and test methods for rocking equipment
- AS 4685.11:2014 Playground Equipment
 - Part 11: Additional specific safety requirements and test methods for spatial networks
- AS 4422:2016 Playground Surfacing – Specification, requirements and test method
- AS/NZS 4685.0:2017 Playground equipment and surfacing Development, installation, inspection, maintenance and operation.

New playground equipment, fixed play structures and nature play spaces

Schools and preschools must ensure that all new equipment, fixed play structures, nature play spaces and loose fill designed or purchased for use in an OLE comply with the relevant [Australian standards above](#). Certificates of compliance are to be obtained from the supplier and retained by the school or preschool.

When sourcing and selecting play equipment items consider quality control over installation, after sales service, maintenance and availability of replacement parts and components that local suppliers or companies with SA based representatives can offer.

Schools, preschools and governing councils must comply with the department's [Procurement governance policy](#) for the purchase and installation of any items to be installed in outdoor learning environments.

Refer to the section below on [Approvals](#) for further information on procurement requirements.

Recycled and donated items

Recycled and donated items intended for installation as fixed play structures must be inspected by a trained person for suitability and condition prior to introduction to the outdoor learning area. Inspect the item for sharp edges, entrapment risks, rough surfaces, protrusions, moss, mould, rust, insect or wildlife infestation, robustness, structural integrity and general deterioration.

Equipment and structures are to be installed by a play equipment installer approved by the manufacturer (for proprietary play equipment items) or an appropriately skilled tradesperson with a builder's licence (for custom-built structures).

Written confirmation is to be provided from the installer that new playground equipment has been installed in accordance with the manufacturer's instructions. This confirmation is to be retained by the school or preschool.

The following documentation must be obtained and retained by the school or preschool:

- Instructions or manuals pertaining to use.
- Recommendations and instructions pertaining to maintenance and inspection procedures.
- Certificate of Compliance and inspection report verifying compliance to relevant Australian Standards for playground safety, installation, footings, structural integrity, manufacturing faults and drop testing results for unitary playground surfacing.
- Manufacturers and installers warranty.

Moveable play equipment

Moveable play equipment is primarily used by early childhood services. All new moveable equipment must comply with AS 4685.1 to 6:2014 Playground equipment and surfacing.

The maximum free height of fall for moveable play equipment is 1500mm.

Moveable play equipment includes but is not limited to the following:

- Trestle frames.
- Balance beams.
- See-saws or rockers.
- Plastic interconnected structures.
- Toddler, jogger, rebound trampolines with handles.

Moveable play equipment must:

- Be placed on a level surface for stability with due consideration for the type of surface, eg not bricks.
- Have a complying impact area and certified playground surfacing for all items that measure 600mm or more above ground level. Where equipment is intentionally connected then the impact area is to reflect the perimeter of the setup. Refer Kidsafe playground safety information sheet [moveable equipment](#).

- Be set up on a soft surface such as well maintained grass for equipment items less than 600mm above ground level.
- Have an impact area of 1500mm between each piece of equipment that is not linked.
- Have a minimum circulation zone of 1000mm surrounding low equipment items that are designed for climbing, rocking, jumping and balancing.
- Be placed to ensure pieces of equipment designed to be linked do not inadvertently create entrapment or crush points.
- Be regularly inspected for exposed bolt, sharp points, corners, edges, damaged or unsecured equipment fasteners.

Modifications to playground equipment

Any modifications to equipment should be avoided as it will void any manufacturer's warranty and deem the equipment as non-compliant. If any upgrades are necessary for safety requirements, schools and preschools must contact their FM to engage a playground supplier to undertake the work and provide a written statement that the upgrades of equipment comply with the required standards.

Inground trampolines

Inground trampolines are to be constructed of twice galvanised frame and all stainless steel hardware. Safety pads to completely cover springs and frame and extend past the outside edge of the frame by a minimum of 75mm with heavy duty reinforced tie straps to secure the pads in place.

Bounce mats are to be UV resistant heavy duty breathable weave mesh. Provide a minimum of 1000mm of free space from the edge of the bouncing surface.

Fall zones of other equipment must not overlap this space. It is recommended that 1500mm clearance zone from the edge of the bouncing surface is provided and that impact attenuation be provided within this zone.

Provide under surfacing in accordance with AS 4422:2016. A layer of suitable drainage material must be provided underneath the trampoline and agricultural drainage may also be required, depending on the soil type at the proposed site.

Installation of the trampoline, minimum impact area, required free space and soft fall surfacing must comply with the relevant standards:

- AS 4422:2016
- AS 4685.1 to 6:2014
- AS 4685.11:2014
- AS 4685.0:2017

Signage

Consider if signage is required to describe safe use of equipment items.

The use of pictograms is preferable so the message is understandable to all users.

Planning and approvals

OLEs will be provided as part of an educational site as an integral component of a capital works project. Funds for establishing additional areas or upgrades to educational sites are only funded from the department's corporate budget where:

- Capital works project involves the removal and relocation of an existing OLE due to building works.
- A specific program has been implemented by the department.

The maintenance and disposal of an OLE is a school or preschool responsibility and an appropriate budget should be maintained to ensure maintenance, repairs, replacement and disposal of OLEs can be undertaken in a timely manner.

Approvals

Project commencement form

All preschools and schools must complete and forward a [project commencement form \(PCF\)](#) to Asset and Facility Services (AFS) prior to:

- Purchasing and installing fixed playground equipment.
- Planning and undertaking work to OLEs such as landscaping to create a nature play environment.

It is recommended that schools and preschools engage a qualified landscape designer to design and deliver upgrade or new works to OLEs to ensure compliance with [Australian Standards](#).

For purchases up to and including \$33,000 (GST inclusive) a minimum of 1 verbal or written quote must be obtained and recorded at local level.

A minimum of 3 written quotes must be obtained for design services, purchase and installation of items associated with the creation of outdoor learning environments valued above \$33,000 and up to and including \$220,000 (GST inclusive) and construction or minor works up to and including \$165,000 (GST inclusive). To ensure compliance with the South Australian Industry Participation Policy, schools and preschools must seek at least 1 quote from a local source. The Office of the Industry Advocate's [SA product and service register](#) is available to identify local suppliers.

Contact the Procurement and Contracting unit for assistance with procurement requirements, email: education.procurementunit@sa.gov.au

Significant work where either the proposed budget is in excess of \$165,000 (GST inclusive) or where the works will have an impact on infrastructure, e.g. storm water, change in perimeter fence position, removal or installation of fixed structure, must be delivered by a qualified landscape designer engaged through the FM.

The PCF is to include:

- Location of equipment with measurements from other structures such as buildings, trees, fences and other equipment.
- List of items to be installed, height, sizes, equipment and materials used for construction.

The AFS will evaluate all PCFs in consultation with schools and preschools and provide endorsement before any works may commence.

Where a PCF is not received and an education site proceeds with an OLE without endorsement, all maintenance and compliance related expenses, including any costs incurred to retrofit an OLE to comply with any acts, regulations and standards will be the schools' or preschools' responsibility.

Statutory approvals

Fixed structures such as shade shelters and canopies, decks, fencing and sheds may require Development Approval including Provisional Development Plan Consent and Building Certification. Planning consent will be required where building works take place near site boundaries, schools and preschools with state or local heritage listing and schools or preschools located in heritage conservation areas or zones. Building Certification may require the engagement of a structural engineer to provide design and structural calculations.

Consult with the site FM to obtain advice on the requirements and process for obtaining Development Approval.

Facilities services provider

All significant work which is either greater than \$165,000 (GST inclusive) or where the works will have an impact on infrastructure, e.g. storm water, change in perimeter fence position, removal or installation of fixed structure must be designed and delivered by a qualified landscape designer engaged by the FM.

It is recommended schools and preschools engage qualified landscape designers to assist with the development of all projects regardless of scale or project value. These designs should be discussed with the FM and incorporated in to the PCF prior to proceeding with design, documentation and construction or delivery.

Commissioning

All new or upgraded OLEs with either fixed play equipment or nature play components must be inspected by an accredited Comprehensive Playground Inspector and the health and safety representative prior to handover to ensure compliance with the relevant Australian Standards. This includes new playground equipment or play elements installed in existing settings.

Drop testing of rubber and synthetic impact absorbing surfaces must be undertaken in accordance with AS 4422. Refer [site managed safety inspections](#) and [Kidsafe SA](#) for further information on OLE inspections.

Installation of new playground equipment requires a Certificate of Compliance with Australian Standards. The Certificate of Compliance is to be obtained and retained by the school or preschool.

Where an OLE incorporates nature play elements, a playground inspector with a strong understanding of nature play principles should be engaged to ensure a balance between risks and benefits is maintained.

Where a playground inspector has identified non-compliance with Australian Standards access by children and young people to the OLE must be restricted. It is the site leader's responsibility (if a school managed project) or the FM's responsibility (if project managed through the FM) to follow up any non-compliance issues with the installer and ensure that written notification has been provided that the issues have been resolved.

OLE register

To ensure all playground equipment and OLEs are inspected on a regular basis, an OLE register should be maintained for both equipment and nature play spaces. The register must be updated when equipment is purchased, replaced or decommissioned and detail when scheduled maintenance should occur on individual OLE components. The Australian Standard AS 4685.0:2017 Playground equipment and surfacing lists the following items to be included in the equipment register:

- Location of the playground or outdoor learning area.
- Location of the equipment in the area.
- Equipment and impact absorbing surfacing details.
- Installation details.
- Installer details.
- Manufacturer warranty details.
- Certificates of inspection and testing (if applicable).
- Inspection and maintenance instructions.
- Operating instructions (if applicable).
- Operator's records.

The OLE register should also capture nature play spaces and individual components which should be inspected, eg logs, rocks, boulder, climbing trees and impact absorbing materials should be inspected on a regular basis to ensure they are still structurally sound. Refer to Site managed safety inspections below for the procedure to address any safety and/or maintenance issues.

Site managed safety inspections

All equipment and natural elements intended for use by children and young people within an OLE, including items donated by the community, must be inspected in accordance with the department's [workplace inspection requirements](#).

Inspections are daily, quarterly and annually as outlined below. In addition, testing of rubber or synthetic impact absorbing material is required at a minimum of every three years in accordance with AS 4422.

Schools and preschools should monitor injuries that relate to the use of the playground equipment and structures and where there is a trend of increased injuries, assess whether a more frequent inspection is required.

The department has engaged Kidsafe SA to provide training to conduct visual inspections. This training, 'AHCPGD206 Conduct visual inspection of park facilities', is available for all departmental employees. The training provides accreditation to participants to conduct routine visual inspections of outdoor learning areas, including nature play areas and playgrounds. Registration for these training courses can be made via [Plink](#).

Schools and preschools must ensure there is at least 1 staff member trained in 'AHCPGD206 Conduct visual inspection of park facilities' who will undertake the required inspections.

Commissioning inspection

On completion of a new outdoor learning area installation, a comprehensive inspection must be undertaken by an accredited Comprehensive Playground Inspector to:

- Verify compliance with Australian Standards for playground safety.
- Check the installation, manufacturing faults, footings, structural integrity and surfacing.
- Complete drop testing of rubber or synthetic impact absorbing material used for playground surfacing in accordance with AS 4422.

Daily inspections

A daily playground inspection of OLEs is to be undertaken by schools and preschools to check for any hazardous objects or conditions resulting from vandalism, use or weather conditions including:

- Debris and contamination.
- Unintended water pooling and ponding.
- Sharp edges or protrusions on natural elements such as rocks and timber features and structures.
- Damage to rubber surfacing.
- Broken or missing parts.
- Graffiti.
- Condition of loose materials and items available for loose parts play.
- Condition of ancillary items such as bins, chairs, tables etc.
- Insect or wildlife infestations in equipment items, nature play structures and loose parts.
- Damage to trees.
- Condition of climbing trees.
- Visual indicators for maximum climbing height on climbing trees are intact and clearly visible for children and supervising adults.
- Soft fall or loose fill is adequately distributed in impact zones below play equipment, nature play climbing elements and climbing trees.
- Fallings spaces and impact areas are clear of obstructions and hazards including moveable equipment.

Quarterly inspections

Quarterly playground inspections must be conducted and recorded by a competent person that has attended the Kidsafe SA playground inspection and maintenance training or an accredited Operational Playground Inspector. This inspection is a more detailed inspection to check the stability and overall condition of equipment in accordance with AS 4685.0:2017 and includes:

- Operation and stability of equipment.

- Wear of components such as ball bearings, moving joints and attachments.
- Timber components for deterioration.
- Steel components for corrosion.
- Climbing trees for structural integrity and visual markers for maximum climbing height.
- Surfacing condition and depth.
- Trip and slip hazards.
- Sharp protrusions or edges.

Annual inspections

Annual safety inspections of all playground equipment and nature play structures or natural features that require impact absorbing surfaces must be conducted in accordance with AS 4685.0:2017. The annual safety inspection must involve a site leadership representative, a staff member trained in 'AHCPGD206 Conduct visual inspection of park facilities', input from employees that work in the area, FM, accredited Comprehensive Playground Inspector and the health and safety representative.

This comprehensive inspection includes:

- Check for compliance with Australian Standards for playground safety.
- Check of the overall stability of the equipment, structures used for climbing (including climbing trees), footings, surfacing, structural integrity, corrosion and rotting.
- Check for safety of any changes made due to repairs or replaced components.

Where a hazard has been identified that cannot be addressed within 24 hours, the site leader must arrange for the hazard to be quarantined and not accessible and then complete a [hazard report](#) to determine the level of risk and record actions to eliminate or reduce the risk to a reasonable level.

Refer to the Kidsafe SA information sheet – [Playground safety management systems](#).

Regular testing of rubber or synthetic impact absorbing surfaces

Complete drop testing of rubber or synthetic impact absorbing material used for playground surfacing in accordance with AS 4422 at a minimum of every three years.

Decommissioning, dismantling and disposal

Where playground equipment is no longer suitable, unsafe or beyond economical repair the FM must be engaged to ensure the decommissioning, dismantling and disposal of the equipment is managed by a competent person and it occurs in accordance with manufacturer's instructions.

Decommissioned play equipment that is unsafe must not be:

- Sold or donated to an external organisation or individual for further use.
- Transferred to another departmental site or government agency.

Where playground equipment is identified as surplus and no longer required the [disposal of goods and equipment procedure](#) must be adhered to. Contact the Procurement unit on 8226 1610 or email education.ProcurementUnit@sa.gov.au for further advice regarding the disposal of surplus equipment.

Roles and responsibilities

Site leader

Comply with mandatory requirements of this standard and exercise professional judgement to analyse the risks against the benefit of play activities to optimise learning outcomes for all children.

Undertake daily, quarterly and annual visual inspections by a trained person of OLE's including trees, playground equipment items and nature play fixed elements in accordance with 'Departmental safety inspections'. Inspections can be delegated to a trained person who is not the site leader.

Maintain and manage OLEs and ensure compliance with this standard and referenced Australian Standards.

Maintain and manage OLEs to ensure the suitability and condition of equipment, fixed structures, nature play elements, climbing trees and loose parts are safe to use and fit for purpose.

Facilities manager (FM)

The site's FM must attend the annual safety inspection of the outdoor learning area(s) with a site leadership representative, input from employees that work in the area and the health and safety representative.

Maintain up to date knowledge of departmental requirements for outdoor learning areas including playground inspection requirements.

Comply with the Facilities Management Services Arrangements and relevant mandatory requirements referenced in this standard.

Corporate Services

Comply with mandatory requirements referenced in this standard relating to corporate services to ensure the effective management of OLEs.

Asset Standards and Environmental Management (ASEM) team

Review the standard in consultation with the Early Years and Child Development division, Work Health and Safety and schools and preschools. Any changes to the standard resulting from reviews undertaken will be communicated to schools and preschools as soon as the document is released.

Definitions

free height of fall (FHOF)

the distance measured from the greatest vertical distance between the intended body support (eg hands if hanging, feet if standing) and the impact area below the equipment (playground) or natural elements (tree, log or rock).

impact area

the falling space that surrounds a piece of playground equipment or natural element.

must

indicates that a process is a legislative, Australian standard or a departmental requirement.

risk benefit assessment

risk is measured in terms of a combination of the consequence or impact and the likelihood of a positive or negative impact balanced against the benefits (learning outcomes). Refer to the risk benefit assessment template in supporting information.

site leader

any person who has the responsibility, management or control of a departmental workplace or work unit or personnel officially assigned as a nominated delegate by that person to adopt that responsibility. This includes, but is not limited to executive directors, education directors, directors, assistant directors, principals, preschool directors, managers and supervisors.

significant work

construction that is to be carried out where the proposed budget is in excess of \$165,000 (GST inclusive) or where the works will have an impact on infrastructure, e.g. storm water, change in perimeter fence position, removal or installation of fixed structure.

trained person

any person who has achieved the nationally recognised unit of competency 'AHCPGD206 Conduct visual inspection of park facilities'. This unit of competency describes the skills and knowledge required to carry out routine visual inspections of park and recreational facilities to identify visible hazards and existing and potential risks.

Supporting information

Related legislation

[Disability Discrimination Act 1992](#)

[Work Health and Safety Act 2012](#)

[Work Health and Safety Regulations 2012](#)

[Education and Early Childhood Services \(Registration and Standards\) Act 2011](#)

[Education and Care Services National Regulations 2011](#)

[Disability Standards for Education 2005](#)

Related documents

[Guide to the Education risk benefit assessment template](#)

[Risk benefit assessment template](#)

[Education Facilities Design Standards](#)

[Safety management procedure](#)

[Nature Play SA](#)

[Kidsafe information sheets](#)

[Play Australia](#)

[Workplace inspection](#)

[Australian Standards](#)

AS 4685.0:2017 Development, installation, inspection, maintenance and operation

AS4685.1 to 6:2014 Playground equipment and surfacing

- Part 1: General safety requirements and test methods
- Part 2: Additional specific safety requirements and test methods for swings
- Part 3: Additional specific safety requirements and tests methods for slides
- Part 4: Additional specific safety requirements and test methods for cableways
- Part 5: Additional specific safety requirements and test methods for carousels
- Part 6: Additional specific safety requirements and test methods for rocking equipment

AS 4685.11:2014 Playground Equipment

- Part 11: Additional specific safety requirements and test methods for spatial networks

AS 4422:2016 Playground Surfacing – Specification, requirements and test method

AS 1428:2010

- Part1: Design for access and mobility - General requirements for access – New building work
- Part 2: Design for access and mobility - Enhanced and additional requirements - Buildings and facilities

Part 3: Design for access and mobility - Requirements for children and adolescents with physical disabilities

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