



ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT

PLAYGROUND SAFETY



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PLAYGROUND SAFETY

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PLAYGROUND SAFETY

ALUM ROCK UNION ELEMENTARY SCHOOL DISTRICT'S PLAYGROUND SAFETY POLICY

In the continuing effort by Alum Rock Union Elementary School District to provide quality, well maintained, clean, and safe play facilities for the public, Alum Rock Union Elementary School District has developed the following standard operating procedures to protect and preserve its unsupervised public playground facilities and its users. This program may only be accomplished through a commitment to a public playground safety program which assures that every attempt will be made to eliminate playground hazards while not totally eliminating the element of risk which is an essential part of any successful children's play and learning environment.

- To guarantee the continued success of this program, the following guidelines will be adhered to by all Alum Rock Union Elementary School District departments and staff:
- All playground sites will be subject to the playground safety program.
- All equipment shall be installed according to manufacturer specifications.
- Alum Rock Union Elementary School District shall provide reasonable resources to ensure prudent and timely inspections and repairs as determined necessary by the playground safety program.
- All play equipment shall be inspected, repaired, and maintained by Alum Rock Union Elementary School District's safety team or designee on a regular basis with the necessary documentation.
- All playground equipment purchasers, installers, inspectors, and maintenance employees performing repairs shall be trained in accordance with the playground safety training program.
- All equipment shall be purchased from a playground equipment manufacturer with adequate product liability insurance.



PLAYGROUND SAFETY

PLAYGROUND SAFETY PLAN

PLAYGROUND INSPECTIONS

Playground inspections will be conducted by Aon. Periodic inspections will be conducted during the year by staff. An annual report will be submitted to the safety team regarding the safety of the playgrounds.

Play areas that are out of compliance will be made compliant according to the ASTM, CPSC and ADA regulations.

PLAYGROUND SAFETY TRAINING

A training program will be conducted each fall to train members of the Safety Committee. The training will include playground equipment safety, a playground video training program, and age appropriate equipment. The program will follow the U.S. Consumer Product Safety Commission and will help identify both design and wear-and-tear hazards on play equipment and grounds supervise and guide appropriate play activity and know what to do in a case of an emergency.

SOFTFALL

The softfall will be maintained and will be replenished on a rotating schedule by Operations. The level of softfall will be brought into compliance with current standards.

AGE APPROPRIATE SIGNAGE

Age appropriate signage stickers will be maintained.



PLAYGROUND SAFETY

PLAYGROUND SAFETY PROGRAM

It is known that many accidents on playground equipment can be prevented with a good preventative maintenance program in place. A good program establishes a frequency of inspections that are to commensurate with the use and environmental factors unique to each play area. Some playgrounds will require weekly inspections while others may require only monthly inspections. The deterioration and/or wear of various playground equipment occur due to frequency of use and environmental conditions. On the other hand, vandalism has a major influence on the frequency of inspections but is not as predictable.

Because use and environmental factors as well as materials vary, every playground is different. It is imperative that maintenance, operations, school site personnel and the safety team understand the maintenance requirements necessary to keep it safe, attractive and to extend its useful life. It is the responsibility of the manufacturer to meet the state requirements for equipment safety standards. It is also the responsibility of the playground equipment manufacturer to provide installation and maintenance guidelines.

It is Alum Rock Union Elementary School's responsibility to establish a frequency schedule for each playground. That includes playground equipment as well as protective surfacing. Protective surfacing throughout the fall zone must be maintained at a thickness or depth sufficient to meet ASTM F1292 standards (Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment) at maximum fall heights for equipment installed above the surfacing. The protective surfacing must also meet ADA (Americans with Disabilities Act) standards.

It is important that we recognize the severity of the potential hazard that may be found upon inspection. The playground will be closed until repairs are completed if the hazard is life threatening. These hazards will most likely be the result of vandalism. Minor repairs and maintenance are processed through the usual work order procedure.

Alum Rock Union Elementary School District's guidelines for playground maintenance program are:

- Playground inspections and training are conducted on an ongoing basis 12 months of the year. Annual log sheets are maintained in the Risk Management office. The logs are collected and stored in the Risk Manager's office for three years.



PLAYGROUND SAFETY

GUIDELINES FOR PLAYGROUND SAFETY

There are over 200,000 playground-related injuries a year. The following guidelines are designed to help prevent injuries and possibly death on our playgrounds.

Surfacing - Over half the injuries result from falls to the ground. While all falls can never be prevented, a resilient surface under and around elevated structures can minimize the likelihood of a life-threatening injury. The wood fiber should be installed and maintained at a depth of 12". Twelve inches of wood fiber will minimize life-threatening injuries in falls up to a height of 12'. All elevated structures should have resilient surfaces extending a minimum of 6' in all directions from the edge of the structure. Swings and the exits of slides over 4' high require a larger resilient surface area.

Equipment Spacing- Falls from one piece of equipment onto another are also a frequent cause of injury. Any play structure over 30" high should be no closer than 9' from anything else.

Hardware - Protruding bolts and open S hooks can entangle clothing. S hooks should be closed so they cannot admit a dime and bolt ends should be recessed or have minimum threading showing. Special attention should be given to protrusions at the entrance to slides.

Entrapment - Openings in play structures that can admit a child's body but are not big enough to permit free passage of a child's head have caused entrapment and strangulation. Openings in guardrails and between ladder rungs should be less than 3" or more than 9" in width. Be aware that children wearing bicycle helmets on playground equipment have died when the helmet became caught in openings that would have permitted free passage of their bare heads. Bicycle helmets must be removed before using playground equipment.

Guardrails - To minimize falls on equipment for school-age children, platforms over 30" high should be equipped with guardrails. On equipment intended for preschool-age or kindergarten children, platforms over 20" high should have guardrails.

Maintenance - Regular maintenance checks must be conducted to ensure all hardware remains secure and there are no missing, broken, or worn components. Surfacing must also be inspected and loose-fill materials replenished to remain safe.

Supervision - Yard supervisors, teachers and administrators should instruct children on the correct use of equipment and prevent the use of items that are clearly beyond a child's capabilities. Inappropriate clothing, too, has caused injuries and even death. Drawstrings on jackets and sweatshirts can become entangled on protrusions or in narrow gaps on playground structures. To minimize the likelihood of strangulation, newer garments no longer have drawstrings at the neck. If the child's clothes have drawstrings, they should be removed if weather permits.



PLAYGROUND SAFETY

INSTALLING AND MAINTAINING SAFE PLAYGROUND EQUIPMENT

In a typical year, more than 200,000 playground accidents require emergency hospital treatment. And according to the U.S. Center for Disease Control, 60% of these accidents involve children under six years of age. Many of these childhood injuries could be prevented, but it takes effort by everyone involved with the playground -- from the designer to the owner to the user of the play equipment.

What are the major causes of playground accidents? According to the chart below, misuse of equipment and lack of adequate supervision contribute to the largest number of playground mishaps each year. Poor maintenance is the second highest factor. Together, these causes account for over three-fourths of all playground injuries suffered every year. And all of the injury causes listed -- including inadequate site planning and poor equipment design, installation and performance -- can be minimized when everyone takes responsibility for playground safety.

PRIMARY CAUSES OF PLAYGROUND INJURIES¹

| | |
|-----|----------------------------------|
| 10% | Equipment Design/Product Failure |
| 5% | Site Planning |
| 8% | Installation |
| 34% | Maintenance |
| 43% | Misuse/Lack of supervision |

Safety responsibilities

When playground safety is a team effort, it starts at the earliest design stages and continues through the playground's day-to-day operations.

The principal is responsible for:

- Identifying the age range of the intended users
- Selecting age-appropriate equipment and resilient surfacing.
- Allowing circulation patterns around and through the equipment to prevent traffic conflicts.
- Planning for access, drainage, shade, visibility and other factors.
- Soliciting input from children, parents, professionals and others who have an interest in the playground's safety and success.
- Submitting plans to the District before purchases are made.

The District is responsible for:

- Certification that the equipment conforms to ASTM, CPSC, ADA and other recognized safety and accessibility standards.

¹ Statistics compiled by Landscape Structures' risk manager and claims investigators using ten years of accident report history.

The Manufacturer is responsible for providing:

- Clean and concise installation instructions.
- A step-by-step maintenance program.
- Product liability insurance to protect the playground's owner against lawsuits that result from equipment failure.

The Installer is responsible for:

- Installation according to the manufacturer's recommendation.
- Insurance coverage on the work performed.
- Helps guarantee that the equipment is age appropriate.

District personnel are responsible for:

- Supervision of the playground, when appropriate.
- Posting safe-use instructions, when appropriate.
- Following the manufacturer's instructions for maintaining the equipment.
- Safety inspections (periodic)
- Repairs.

Parents and adult supervisors on the playground are responsible for:

- Supervising children to assure safe play

Students have the responsibility of:

- Playing without hurting others.
- Knowing their limitations.
- Following instructions.
- Obeying parents and other adult supervision.

The most important safety factors in designing a playground are:

- Age appropriateness of sites and play equipment. School age children (5-12) and preschool children (ages 2-5) have different dimensions, skills and play styles. You should provide separate play areas for each group.
- Environmental conditions. Be sure the play area will be adequately shaded to protect against sun exposure, well-drained, visible from nearby paths, away from automobile and bicycle traffic, and separated from water or other natural hazards.
- Equipment design. Playground equipment should be structurally sound, durable and engineered with safety in mind.
- Layout of play area. If you aren't familiar with how children's play patterns affect playground use, consult a landscape architect or a professional designer. Your play structure representative can also help with layout to minimize traffic conflict.
- Protective surfacing. Playground surfacing must have adequate depth of a loose-fill material that is ADA approved.

Selecting equipment

Despite today's emphasis on government and industry safety guidelines, there are significant differences between brands of playground equipment--and some equipment may not meet safety standards at all.

When specifying equipment, you should insist that the equipment conforms to the following:

- The Consumer Product Safety Commission's Handbook for Public Playground Safety.
- The ASTM F1487 Standard Consumer Safety Performance Specification for Playground Equipment for Public Use. All equipment should be certified to conform to their standard according to the procedures established by the IPEMA (International Playground Manufacturer's Association).
- Accessibility requirements of the ADA (American's with Disabilities Act).
- Make sure the protective surfacing around the equipment has been tested by a third party according to the ASTM F1292 Standard Specification for Impact Attenuation of Surface Systems under and around Playground equipment.

You should also look for engineering and construction features such as:

- Appropriate deck heights for the age group that will use the equipment.
- Structural integrity of posts, decks and other components.
- Secure fastening methods. (e.g. well-designed clamp-and-post systems or through-the-post fasteners).
- Corrosion protection, such as the use of aluminum or galvanized steel components with coatings of polyester or PVC. Bolts and pins should be plated or made from stainless steel.
- Special coatings on decks, handrails and other areas that require maximum traction and insulation from temperature extremes.
- Non-toxic coatings such as polyester powder coatings instead of paint (paint must have less than .06% lead for safety).
- Protrusion-free design to avoid puncture wounds, eye injuries, cuts, scrapes and bruises.
- Gap-free decks and other components, to prevent entrapment of fingers, heads and bodies.
- Slides with entrance hoods and runout areas.
- Swing fasteners that use a fully enclosed design, rather than older and more dangerous S-hooks.
- Vandal-resistant hardware that requires a special tool for removal.

Installation

Site preparation and equipment installation should be handled by certified professionals.

Inspections and maintenance

With poor maintenance being responsible for some 34% of all playground injuries, it's vital that Alum Rock Union Elementary School District has a preventative maintenance program.

It's important that your program:

- Be thorough. A maintenance checklist shouldn't merely say "check swing hanger for excessive wear". Instead, it should say: "Replace swing hanger due to wear of original diameter".
- Maintain Records. Being able to show who did the inspections, when they were performed, what the results were, and what repairs were made can be important when you're faced with a possible lawsuit. Work orders should be able to show the record of the repair and when it was fixed.

- A safety audit of all playgrounds should be performed to ensure compliance with current ASTM, CPSC and ADA guidelines. The audit should be performed by a consultant that has completed the National Playground Safety Institute's Certified Playground Safety Inspector training.



PLAYGROUND SAFETY

AGE APPROPRIATE PLAY EQUIPMENT

One of the biggest challenges in designing a playground in creating safe, developmentally appropriate play experiences for children of different ages.

Preschool and school-age children differ dramatically not only in physical size and ability, but also in their cognitive and social skills. Therefore, age-appropriate playground designs should accommodate those differences with regard to the type, scale, and the layout of equipment.

The CPSC Handbook divides playground users into two groups:

Preschool children - 2 to 5 years old.

School age children - 5 to 12 years of age

A third group, infants and toddlers, includes children under 2 years of age. The CPSC doesn't address the needs of this group in its handbook guidelines. However, the grouping importance of non-parental child care makes it obvious that the safety needs of infants and toddlers can be an important consideration on playground design.

The emotional and developmental differences between these two groups can be dramatic. For example:

Infants and Toddlers

Infants are sensory creatures who explore relentlessly with their eyes, hands, feet, torsos, noses, and mouths. They creep, crawl, sit up, pull up, and otherwise exert themselves at ground or floor level until they learn to walk, when they launch themselves on the journey to being "toddlers" -- a term that is defined more by state licensing requirements than by any universally recognized developmental standard. Toddlers need space to exercise their new physical freedom while avoiding territorial conflict with their peers.

Preschoolers

Two-year olds represent the lower age limit of the preschool group. These young children enjoy dramatic play and imitating others. They like a place of their own, and they have a limited attention span.

For this audience, the best playground challenges involve climbing over, under and around things, plus activities that foster fine motor skills. Social skills are not well developed, and a desire to "be like the big kids", may result in conflicts and exposure to physical risks.

School-age children

At the older end of this age range, we have children who are about to make the transition from the elementary grades to middle school. These 12 year olds can be nearly twice the height of 2 year olds and can have more than eight times the grip strength.

Twelve-year-olds are enthusiastic, subject to peer pressure, and fond of "messing around" on the playground--traits that can lead to vandalism and aggression if sufficient play challenges aren't available.

Physical challenges for developing gross motor skills are especially important for this age group. Older children forget that preschoolers are smaller and weaker, and accidents may result when they engage in high-spirited play around younger children.

Clearly, there is no justification for mixing children from these three developmental groups. Trying to rationalize a common play area for economic reasons is irresponsible and self-defeating, since unnecessary risk is the quickest path to injuries and lawsuits.

Match abilities with appropriate activities

To minimize your risk and provide children of all ages with a safer, more satisfying play experience, you should consider separating age groups. (see chart below for more information)

1. An infants and toddlers area for babies and children under the age of 2. This might include:
 - Tunnel mazes and activity panels with “pull up” handles for infants.
 - Small multi-level play structures for toddlers, with crawl tunnels and slides of modest height.
2. Preschool areas for children between 2 and 5. This play area should include one or more of the following items:
 - A linked-play structure that is scaled to young children’s dimensions, with age appropriate play activities such as crawl tunnels, small slides, unclosed play spaces, activity panels that develop fine motor skills. and decks of modest height.
 - Independent play events such as spring riders, talk tubes, and “theme” climbers that promote active and fantasy play.
 - A sandbox with play tables for manipulative play.
 - Learning wall clusters at ground level for young children of all abilities.
3. A school-age area for 5 to 12 years old featuring:
 - A linked-play structure with decks and play activities geared to the body dimensions and play needs of older children.
 - Swings, fitness clusters and other independent play events designed to provide physical challenge
 - Sports equipment such as basketball outfits or tetherball.

Provide a buffer zone

A buffer zone will provide clear separation between the age-specific play areas. This can be an area with benches and picnic tables, a pedestrian path, a decorative fence, or landscaping such as a hedge or a row of closely spaced evergreens.

For security, each play area should be visible from the other as well as from nearby benches. Having restrooms and drinking fountains nearby (within view) is also desirable.

Obtain expert advice

Outdoor playground equipment has been designed with specific age groups in mind. Playground structures offer specific play systems for children 0-2, 2-5, and 5-12. All structures should be approved by Risk Management before purchase to prevent safety hazards and inappropriate play areas.



PLAYGROUND SAFETY

PLAYGROUND SURFACING

Falls to the surface; account for 75% of all playground injuries according, to the U.S. Consumer Products Safety Commission. Yet playground surfacing is usually just an afterthought in the design process.

This is not surprising. Unlike new play equipment, a safety surface is about as glamorous as a car's seatbelts--and nearly as important, especially to the more than 170,000 children who are injured in playground falls every year.

The CPSC Handbook on Public Playground Safety emphasizes the need for adequate surface protection. The Handbook's authors say:

“The surface under and around playground equipment can be a major factor in determining the injury-causing potential of a fall. It is self-evident that a fall onto a shock-absorbing surface is less likely to cause a serious injury than a fall onto a hard surface. Because head-impact injuries from a fall have the potential for being life-threatening, the more shock-absorbing a surface can be made, the more likelihood that the severity of the injury will be reduced.”

Shock absorbency and critical height

Alum Rock Union Elementary School District has considered the shock absorbency of the different materials available. Our standard playground surfacing material is wood-fiber.

The standard measure of shock absorbency is “critical height”, a term that originated in Europe. The CPSC defines critical height for a surfacing material as “an appropriation of the maximum fall height from which a life-threatening head injury would not be expected to occur.”

The CPSC Handbook goes on to say that the critical-height value of the surfacing material under and around playground equipment should be no less than the height of the highest accessible part of the equipment. This is interpreted differently for each type of play event: the highest deck on most composite structures; the height of the entrance platform to a slide; or the top rung on a horizontal ladder, etc.

Statistics show that 50% of the injuries caused from falling from a 20' slide are fatal.



PLAYGROUND SAFETY

SAFETY AUDITS AND MAINTENANCE INSPECTIONS

Playground design has improved markedly since 1981, when the U.S. Consumer Product Safety Commission's Handbook on Public Playground Safety was first published. Today, any equipment that meets the standards set by the CPSC and the American Society for Testing and Materials (ASTM) is likely to be safer than the play equipment we grew up with. And high quality equipment that exceeds CPSC and ASTM minimums can dramatically lower the risk of accidents and injuries on a typical playground.

Unfortunately, much of today's existing play equipment was designed before federal and industry guidelines were written. What's more, those guidelines have evolved over the years. The most recent edition of the CPSC Handbook incorporates the concept of age appropriate play, which was non-existent in the original 1981 edition, and the 2017 ASTM standard has changed from earlier versions, as well.

Finally, even the best-designed playground can present hazards if equipment is incorrectly installed, broken, physically worn, damaged by vandals or weakened by the ravages of time. This is why a safety audit and regularly scheduled maintenance inspections are a necessary part of every playground's safety program.

Definition of terms

The terms "safety audit" and "maintenance inspection" refer to two different things.

- A playground safety audit is a one-time process that focuses on compliance with the current standard of care.
- Maintenance inspections are conducted at regular intervals and focus on immediate hazards caused by aging or damaged equipment -- e.g., worn swing hangers or missing fasteners.

It's important to understand not only the difference between these types of inspections, but the importance of both in minimizing accident risk and liability exposure.

To put it another way, a well-designed playground could pass a safety audit with flying colors, yet fail in a periodic maintenance inspection. Similarly, an impeccably maintained playground could fail a safety audit because of inherent design flaws.

Safety Audits

The purpose of the safety audit is to identify non-conforming products and designs, installation problems and environmental conditions that could pose long-term hazards to children. Current CPSC guidelines and ASTM standards are the prevailing standard of care.

Some of the items covered in a safety audit include:

- Entrapment violations. The inspector uses head, torso and neck probes to assess the entrapment risk.
- Protrusions. Protrusions gauges are used to determine whether protrusions are within acceptable limits.

- Layout. Does the equipment promote traffic conflicts? Are fall zones too small? Are there potential hazards from adjacent roads, bicycle paths, water or electrical lines, or sports fields?
- Surface hazards. Is the protective surface appropriate for the height of the equipment used?

During a safety audit, hazards are categorized by their potential for causing severe injury. The resulting report will help you determine which hazards require immediate corrective action, which should be next on the list, and which are minor enough to allow corrective action as time and money permit.

Who should conduct a safety audit?

Ideally, a playground safety audit should be conducted by a Certified Playground Safety Inspector -- meaning a person who has passed the National Playground Safety Institute’s written examination.

Maintenance inspections

Over a ten-year period, Risk Managers and claims investigators compiled statistics on the primary causes of playground injuries. They found that 34% of all injuries were caused by inadequate maintenance of play equipment.

Clearly, a willingness to spend time and money on maintenance is the first prerequisite for reducing injuries caused by worn, broken, corroded or vandalized equipment. But it’s equally vital to develop formal inspection procedures to assure that problems needing repair aren’t overlooked.

Factors that determine maintenance needs:

There are many factors that contribute to the need for maintenance, such as:

- Physical wear. Swing hangers, bearings and spring assemblies are prime examples of wear-prone parts that require maintenance at regular intervals. School-age children tend to be harder on equipment than preschoolers.
- Environmental factors. Wood may crack and rot over time. Uncoated steel rusts quickly. Plastic may fade or deteriorate when continually exposed to the sun’s ultraviolet rays. Freeze/thaw cycles can lead to warping or cracking. Acid soil often corrodes equipment buried in the ground. The use of quality materials can slow the aging process, but nothing lasts forever.
- Vandalism and accidental damage. Unscrewed fasteners, slashed swing seats and graffiti are examples of damages that can affect even the best-maintained equipment. Structural damage from settling and vibration can be less obvious but even more serious.

Hazards Identified In National Playground Survey¹

| <u>% of playgrounds</u> | <u>Hazardous condition</u> |
|-------------------------|---|
| 92% | Inadequate protective surfacing |
| 76% | Poorly designed swings (The number and spacing of swings affects risk) |
| 75% | Obstacles in “fall zones” (The fall zone is the area in and around the play equipment where a child might fall.) |
| 57% | Equipment too high (When decks and other equipment are high off the ground without adequate safety barriers, the potential for injury climbs dramatically.) |

¹ Survey of 443 playgrounds in 22 states, funded by the U.S. Public Interest Research Group and the Consumer Federation of America.



PLAYGROUND SAFETY

PLAYGROUND INSPECTION TIMELINE

PLAN CERTIFICATION

Planning stage of purchasing a playground. A certification on age appropriateness, location and safety should be completed.

INITIAL CERTIFICATION

After purchase and installation of playground

TRAINING

ANNUAL

District staff and custodians will be trained on playground equipment.

HIGH FREQUENCY AUDITS

DAILY

Custodians, yard supervisors, administrators and teachers do conduct a daily inspection for general safety of the playground.

LOW FREQUENCY AUDITS

ANNUAL

JULY

First annual audit will be completed by a certified inspector. Reports shall be written and the playground inspection reports collected and stored in the Risk Management office.

All needed repairs should be sent to Maintenance through a work order, phone call or email. All repairs must be written up on a work order either generated from the school site or the Risk Management office. Maintenance will treat all work orders as an emergency. The person finding the needed repair should yellow tape the area until the Maintenance Department arrives if an immediate safety issue. Maintenance will follow up with the appropriate action after evaluating the area.

Records will be maintained on the repair through completion. A database of all work orders will be maintained in Risk Management.

COMMUNICATION

It is important that good communication is maintained between the school site, Risk Management, Maintenance and the inspector. Laws and regulations change constantly. It is imperative that everyone follows the specifications provided by Americans Society of Testing and Materials (ASTM) Standard Consumer Safety Performance Specification for Playground Equipment for Public Use (F 1487-98) and the Consumer Product Safety Commission.



PLAYGROUND SAFETY

GLOSSARY

| | |
|------|--|
| ADA | Americans with Disabilities Act |
| ASTM | American Society for Testing and Materials |
| CPSC | Consumer Product Safety Commission |



PLAYGROUND SAFETY

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