Playground Safety Series

Part One
Playground Surfacing
By
Colorado School Districts Self Insurance Pool

CSDSIP

Trainer Guide

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Playground Safety Series Trainer Guide

Introduction

The Playground Safety Series is designed to provide school personnel with an introduction to safety inspection and maintenance concepts applicable to play equipment and playgrounds. Participants will be introduced to common playground risk exposures and given strategies to identify and manage those risks. The information provided in this program should be customized to reflect your policies, procedures and management protocols to improve its effectiveness.

The purpose of the playground surfacing series is to provide a safe environment for students and users while on the playground. Maintaining playground surfacing will help prevent accidents and injuries that are the results of inadequate or poorly maintained surfacing.

Mission

The Mission of The Colorado School District Self Insurance Pool (CSDSIP) is to provide a user friendly format to bring public schools into compliance with the current standards and best practices advanced by the Consumer Product Safety Commission and ASTM Guidelines. These voluntary standards have evolved into the standard of care for designing and managing public playgrounds.

CSDSIP Support

We anticipate that the implementation of the playground safety series may generate a need for a deeper level of understanding for playground risk management or generate more sophisticated questions than are addressed in the training material. The CSDSIP Risk Control Staff are Certified Playground Safety Inspectors and are available to assist you in the development and review of your playground safety program.

Training Objectives

After completing Playground Surfacing Series you will:

- ✓ Understand different fall surfacing types including Unitary and Loose Fill
- ✓ Know what inappropriate surfacing is
- ✓ Have a better understanding on how to use the table for minimum compressed loose-fill surfacing depths
- ✓ Know the importance of use zones
- ✓ Know what good surfacing practices are
- ✓ Understand the importance of documentation
- ✓ Have reference guide for guidelines and standards

Administrator Guide

A recent Colorado Supreme Court decision, Loveland v. St. Vrain SD, has increased the liability exposure of schools related to the maintenance and safety of their playgrounds. Playgrounds are an important component of the learning environment and through proper safety inspections and routine maintenance they may support your educational mission.

Prioritizing Your Maintenance Inspections

As the playground safety administrator, you should be familiar with your school's playground maintenance schedule and the responsibilities assigned to building staff. You should provide a copy of the school's policies and procedures to the training participants.
The following factors may affect your maintenance schedule and inspection frequency:

- The frequent use of the playground
- The age of the users
- A frequency of accidents
- The age and types of equipment
- Changing climate conditions
- Appropriate drainage
- The availability of staff and maintenance resources

Taking into account the above factors your **high frequency** inspections should be done as often as *daily* or no less than *weekly*. Handout A, *Routine Inspection and Maintenance Issues,* provides a list of maintenance issues to check for during your inspections. Specific to this training, the playground surfacing items are highlighted in yellow.

Much like high frequency maintenance inspections, scheduling your **low frequency** inspections also depends on the above factors. These checks should be done as often as *monthly* or no less frequently than *annually*. Handout B, *Suggested General Maintenance Checklists*, shows a list of maintenance issues to check for during these inspections. Specific to this training, the playground surfacing items are highlighted in yellow.

***Basic* Maintenance**

Building Engineers and Custodians are expected to complete basic maintenance of the playground surfacing material. The following tools should be made available to your maintenance crew to complete basic repairs/checks:

- Applicable Maintenance Checklist
- Clipboard
- Pen
- Tape Measurer
- Shovel(s)
- Rake(s)

- Wheel barrow(s)
- Personal protection safety equipment

* When the maintenance issue exceeds your crew's ability to make the repair or they are without the equipment needed, a work order should be generated.

Documentation

It is important that you and your maintenance crew adequately document your inspections and repair activities. Good documentation will demonstrate the level of reasonable care used to maintain a safe playground. Poor documentation may be held against you as an example of lack of care or concern for safety.

It is recommended that your safety inspection and maintenance documentation be maintained for a long period of time, even years after the equipment is replaced. Children have until the age of majority (2 years after they turn 18) to take formal legal action against a school. Keep the documentation on site during the current school year. Anything older can be moved to central location or archived electronically. ***You should review your school's records retention policies and how they address playground inspection and maintenance records.***

Safety inspection and maintenance documentation should be reproduced and secured separately following the report of a severe playground injury. A severe playground injury is an injury that results in a fractured bone, dislocation of a joint, head injury or a laceration requiring stitches.

Administrators should record and maintain record of maintenance staff attendance and participation in playground safety training.

Learning Objectives Review

After the Playground Surfacing series is completed administrators may use these questions as material review to evaluate what the participant's comprehension and understanding.

Playground Surfacing Material - Question and Answer Session

1. What is a very common hazard pattern on a playground?

   Answer: Falls

2. Name the two options available for surfacing material on public playgrounds.

   Answers:
   Unitary
   Loose – fill material

3. Name one type of unitary surfacing?

   Types of unitary surfacing:

   Rubber mats
   Tiles
   Poured in place

4. Name two types of loose fill surfacing?

   Types of loose fill surfacing

   Pea gravel
   Sand
   Wood mulch
   Wood chips
   Shredded rubber

5. Give an example of inappropriate surfacing.

   Asphalt
   Carpet
   Dirt
   Grass

6. When using loose fill material, name two areas that need frequent inspection and maintenance to ensure surface levels never drop below minimum level

   Swings
   Slides

7. What Table do you use to help you determine the minimum required depths of loose-fill material needed based on material type and fall height?

   Answer: Table 2. Minimum compressed loose-fill surfacing depth from Consumer Product Safety Commission Handbook for Public Playground Safety

8. What types of inspections are done as preventative maintenance, which include maintaining surfacing, removing debris and issuing work orders for any repairs that are needed?

   Answer: Low frequency

9. What types of inspections are done as routine or remedial maintenance? They are usually are conducted often and are done daily to weekly.

   Answer: High frequency

10. Why should you consider marking equipment supports with a minimum fill level?

    Answer: to aid in maintain the original depth of surfacing material

Inspection Activity

You may use the attached handouts to walk your maintenance staff through example **high frequency** and **low frequency** inspections. The group should look for examples of the learning objectives and discuss their plan of action to remedy the condition and to document the action taken.

Training Specifications

The following sources were utilized in the development of this training program. These sources provide guidelines and/or standards applicable to playgrounds:

- U.S. Consumer Product Safety Commissions Pubic Playground Safety Handbook
- ASTM F 1487-Standard Consumer Safety Performance of Playground Equipment for Public Use
- ASTM F 1292- Standard Specifications for Impact Attenuation of Surfacing Systems Under and Around Playground Equipment
- ASTM F 2223-Standard Guild on Playground Surfacing
- ASTM F 2075- Standard Specifications for Engineered Wood Fiber

Limits of Liability (Disclaimer)

The authors and publishers of this training (document) assume no risk or liability for incident arising from the application of this information in any way. This training (document) should not be construed as a substitute for ASTM Performance Standard U.S Consumer Safety Commissions Guideline or the Applicable play area safety coded and/or standard of the state or jurisdiction in which the training document is used.

Participant Handouts

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Handout A

Routine Inspection and Maintenance Issues

- ☐ Broken equipment such as loose bolts, missing end caps, cracks, etc.
- ☐ Broken glass & other trash
- ☐ Cracks in plastics
- ☐ Loose anchoring
- ☐ Hazardous or dangerous debris
- ☐ Insect damage
- ☐ Problems with surfacing
- ☐ Displaced loose-fill surfacing (see Section 4.3)
- ☐ Holes, flakes, and/or buckling of unitary surfacing
- ☐ User modifications (such as ropes tied to parts or equipment rearranged)
- ☐ Vandalism
- ☐ Worn, loose, damaged, or missing parts
- ☐ Wood splitting
- ☐ Rusted or corroded metals
- ☐ Rot
- ☐ Drainage

Notes:

Date:_____ **Inspected By:**_____

Source: Handbook for Public Playground Safety

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Playground Maintenance High Frequency Schedule

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Broken equipment such as loose bolts, missing end caps, cracks, etc.	☐	☐	☐	☐	☐	☐	☐
Broken glass & other trash Cracks in plastics	☐	☐	☐	☐	☐	☐	☐
Loose anchoring	☐	☐	☐	☐	☐	☐	☐
Hazardous or dangerous debris	☐	☐	☐	☐	☐	☐	☐
Insect damage	☐	☐	☐	☐	☐	☐	☐
Problems with surfacing	☐	☐	☐	☐	☐	☐	☐
Displaced loose-fill surfacing (see Section 4.3)	☐	☐	☐	☐	☐	☐	☐
Holes, flakes, and/or buckling of unitary surfacing	☐	☐	☐	☐	☐	☐	☐
User modifications (such as ropes tied to parts or equipment rearranged)	☐	☐	☐	☐	☐	☐	☐
Vandalism	☐	☐	☐	☐	☐	☐	☐
Worn, loose, damaged, or missing parts	☐	☐	☐	☐	☐	☐	☐
Wood splitting	☐	☐	☐	☐	☐	☐	☐
Rusted or corroded metals	☐	☐	☐	☐	☐	☐	☐
Rot	☐	☐	☐	☐	☐	☐	☐
Drainage	☐	☐	☐	☐	☐	☐	☐
Time Spent:	_____ hrs	_____ hrs	_____ hrs	_____ hrs	_____ hrs	_____ hrs	_____ hrs

Date(s):_____ Inspected By:_____

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Handout B

SUGGESTED GENERAL MAINTENANCE CHECKLISTS

Surfacing (§2.4)

- ☐ Adequate protective surfacing under and around the equipment.
  - ☐ Install/replace surfacing
- ☐ Surfacing materials have not deteriorated.
  - ☐ Replace surfacing
  - ☐ Other maintenance: _____
- ☐ Loose-fill surfacing materials have no foreign objects or debris.
  - ☐ Remove trash and debris
- ☐ Loose-fill surfacing materials are not compacted.
  - ☐ Rake and fluff surfacing
- ☐ Loose-fill surfacing materials have not been displaced under heavy use areas such as under swings or at slide exits.
  - ☐ Rake and fluff surfacing

Drainage (§2.4)

- ☐ The entire play area has satisfactory drainage, especially in heavy use areas such as under swings and at slide exits.
  - ☐ Improve drainage
  - ☐ Other maintenance: _____

General Hazards

- ☐ There are no sharp points, corners or edges on the equipment (§3.4).
- ☐ There are no missing or damaged protective caps or plugs (§3.4).
- ☐ There are no hazardous protrusions (§3.2 and Appendix B).
- ☐ There are no potential clothing entanglement hazards, such as open S-hooks or protruding bolts (§2.5.2, §3.2, §5.3.8.1 and Appendix B).
- ☐ There are no crush and shearing points on exposed moving parts (§3.1).
- ☐ There are no trip hazards, such as exposed footings or anchoring devices and rocks, roots, or any other obstacles in a use zone (§3.6).

Security of Hardware (§2.5)

- ☐ There are no loose fastening devices or worn connections.
  - ☐ Replace fasteners
  - ☐ Other maintenance: _____
- ☐ Moving parts, such as swing hangers, merry-go-round bearings, and track rides, are not worn.
  - ☐ Replace part
  - ☐ Other maintenance: _____

Durability of Equipment (§2.5)

- ☐ There are no rust, rot, cracks, or splinters on any equipment (check carefully where it comes in contact with the ground).
- ☐ There are no broken or missing components on the equipment (e.g., handrails, guardrails, protective barriers, steps, or rungs).
- ☐ There are no damaged fences, benches, or signs on the playground.
- ☐ All equipment is securely anchored.

Leaded Paint (§2.5.4)

- ☐ Paint (especially lead paint) is not peeling, cracking, chipping, or chalking.
- ☐ There are no areas of visible leaded paint chips or accumulation of lead dust.
  - ☐ Mitigate lead paint hazards

General Upkeep of Playgrounds (§4)

- ☐ There are no user modifications to the equipment, such as strings and ropes tied to equipment, swings looped over top rails, etc.
  - ☐ Remove string or rope
  - ☐ Correct other modification
- ☐ The entire playground is free from debris or litter such as tree branches, soda cans, bottles, glass, etc.
  - ☐ Clean playground
- ☐ There are no missing trash receptacles.
  - ☐ Replace trash receptacle
- ☐ Trash receptacles are not full.
  - ☐ Empty trash

NOTES:

DATE OF INSPECTION:

INSPECTION BY:

Source: Handbook for Public Playground Safe

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