Playground Maintenance Workshop

PRPS
PENNSYLVANIA
Recreation & Park Society

THE MAINTENANCE INSTITUTE
BEST PRACTICES FOR PARKS AND PUBLIC SPACES

DCNR
pennsylvania
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

Before we begin an . . .

Introduction

Meet your instructor

Before we begin an . . .

Introduction

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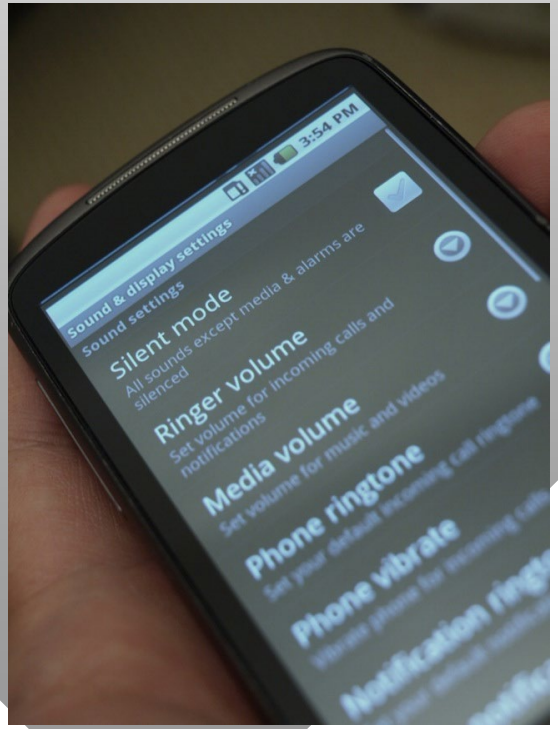


Before we begin an . . .

Introduction

Program Schedule

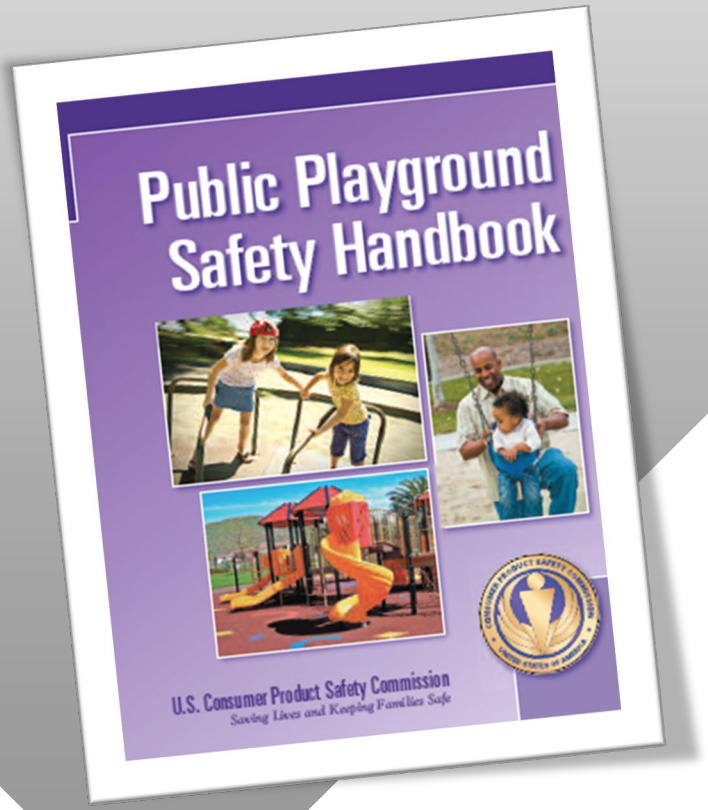
- Comfort details
- Breaks/lunch
- CEU forms

Before we begin an . . .

Introduction

Course Materials:

- "Public Playground Safety Handbook" (CPSC)
- Inspection frequency & inspection forms
- Other handouts ("S"-hooks, Daily Dozen, playground-related websites)
- Download from the PRPS website if you have not already



Before we begin an . . .

Introduction

Getting acquainted

- Name
- Organization
- How many playgrounds do you maintain?

Playground Maintenance Workshop

AGENDA

- Risk, Hazards, and Priorities
- Protective Surfacing
- Facility Maintenance
- Audits, Inspections, and Risk Management
- Playground Site Visit

Playground Hazards and Priorities

Playground Maintenance Workshop

CPSI Definitions: Risk & Hazard

A *RISK* is a challenge that involves *choice* by the user.

A *HAZARD* is something unknown, hidden, unforeseen, or unexpected.

Children are not expected to be aware of hazards. That's our job!

Types of Playground Hazards

- Entanglement
- Head/Neck Entrapment
- Protrusions (Impalement)
- Crush & Shear Points
- Sharp Points, Corners, & Edges
- Tripping Hazards
- Suspended Hazards (45°, 84″)
- Injuries Involving Moving Equipment

NRPA's: *The Daily Dozen*

1. Improper Protective Surfacing
   (79% of playground injuries result from falls)
2. Inadequate Use Zones (minimum of 72")
3. Protrusion & Entanglement Hazards (ex. bolt ends, structural extensions, "S" hooks, gaps at top of slides)
4. Entrapment in Openings (between 3½" & 9")


TOP OF
[redacted]
IMPACT
ATTENUATING
SURFACE

CPSC: Critical Heights of Tested Materials

Table 2. Minimum compressed loose-fill surfacing depths				
Inches	**Of**	**(Loose-Fill Material)**	**Protects to**	**Fall Height (feet)**
9		Shredded/recycled rubber		10
9		Sand		4
9		Pea Gravel		5
9		Wood mulch (non-CCA)		7
9		Wood chips		10

NRPA's: *The Daily Dozen*

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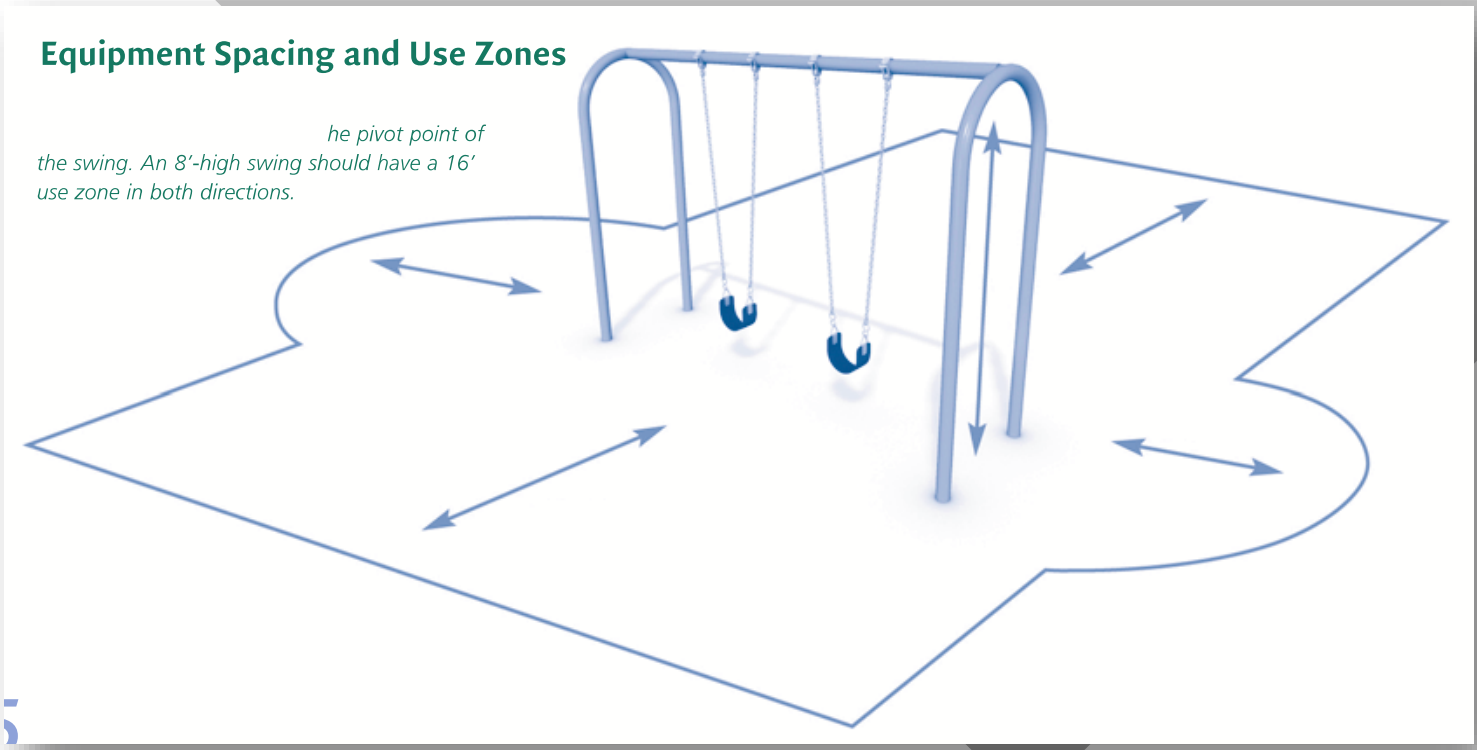
   (between 3½" & 9")

Overview of Use Zones

- Swings: *To-Fro:* 2x height in front & back
  Tot: 2x pivot to bottom of seat
  Tire: seat top to pivot + 72″
- Structures ≥ 30″: 72″ overlap
- Slides: 72″ to 96″
- Springing Equipment (Standing): 84″
- Stationary Play-Linked Equipment: 72″
- Composite Play Structures: comprised of individual use zones

ASTM F 1487 / CPSC: Use Zones for To-Fro Swings

- Swings: *To-Fro:* 2x height in front & back
  Tot: 2x pivot to bottom of seat
  Tire: seat top to pivot + 72”



ASTM F 1487: Use Zones for Stationary Equipment

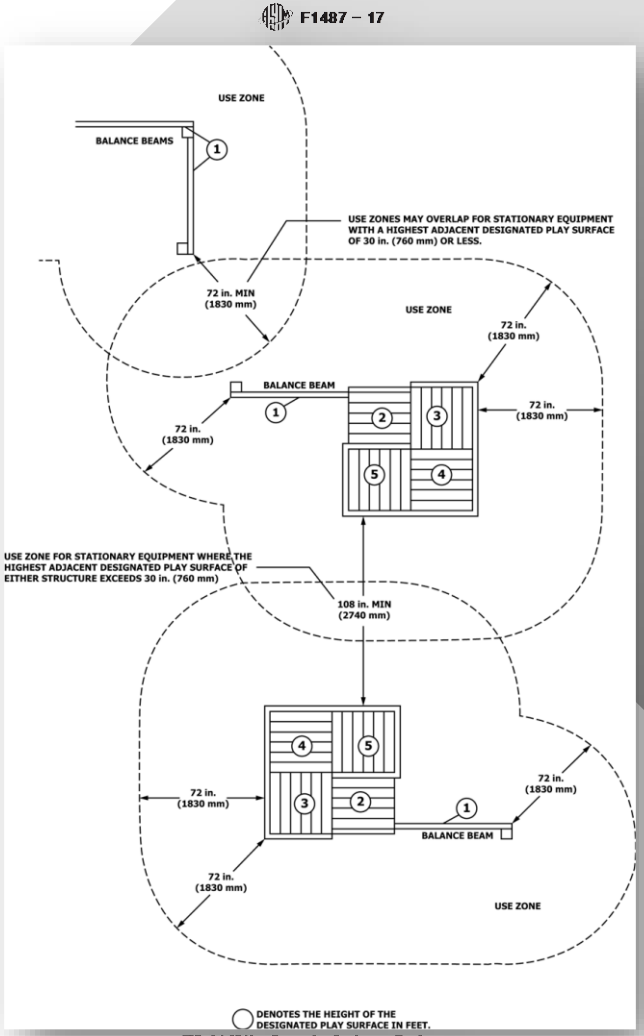


FIG. A1.32 Use Zones for Stationary Equipment
Reference Paragraphs 9.2 and 9.2.3

- Structures ≥ 30”: 72” overlap
- Structure < 30”: 108” clear

ASTM F 1487 / CPSC: Use Zones for Slides

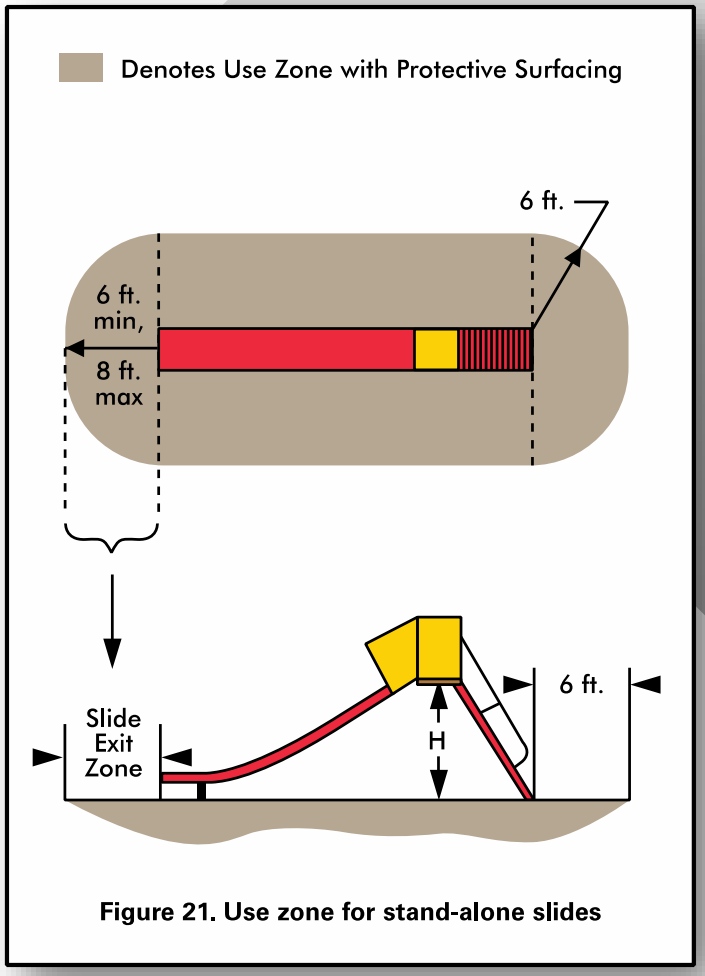


Figure 21. Use zone for stand-alone slides

- Slide Structure: 72”
- Slide Exit: 72” to 96”

ASTM F 1487: Use Zones for Standing Rocking

- Springing Equipment (Standing): 84”
- Use Zone can not be overlapped (motion equipment)

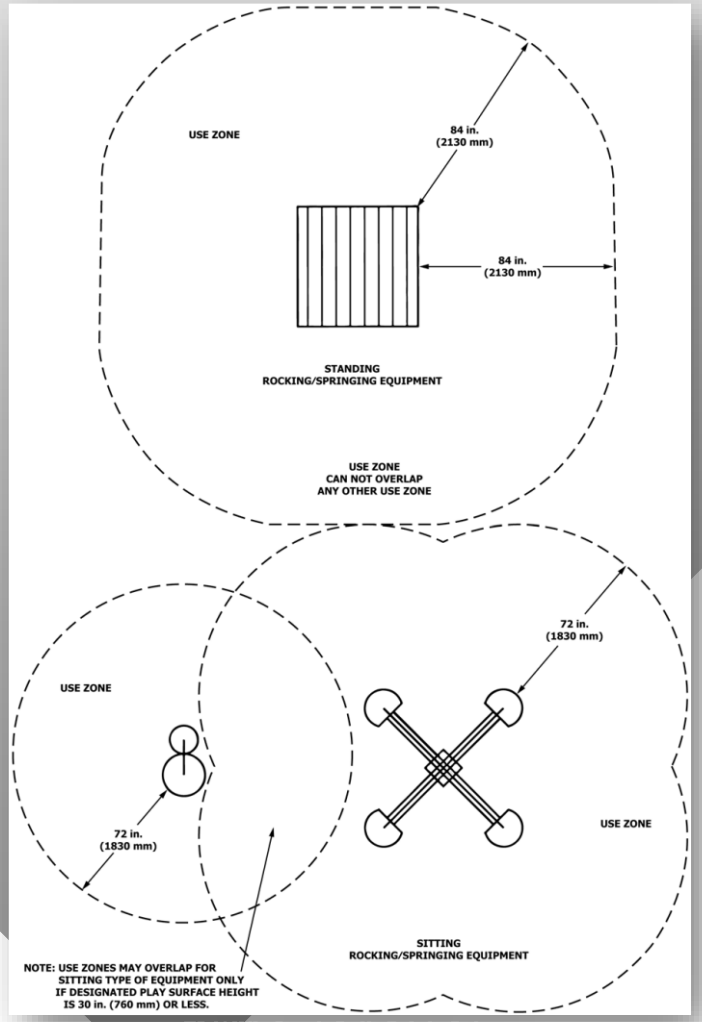
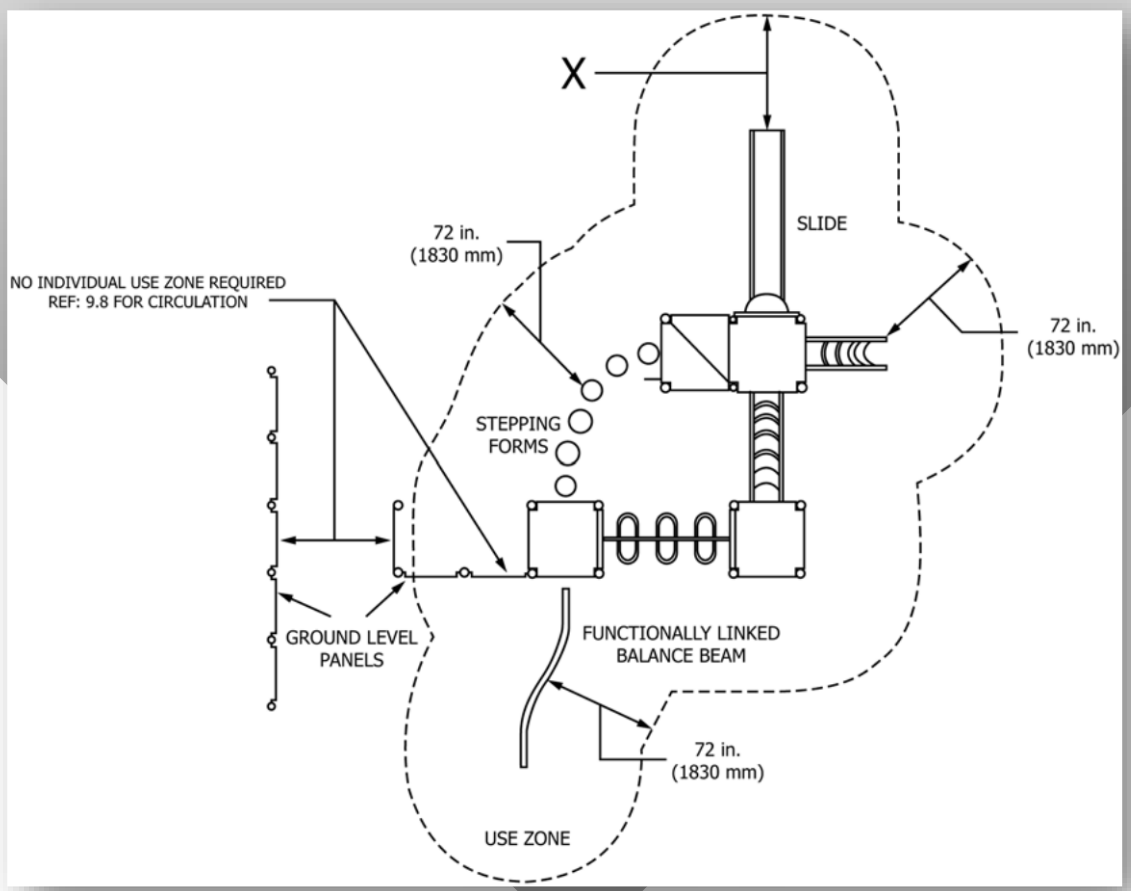


FIG. A1.39 Use Zones for Rocking/Springing Equipment
Reference Paragraph 9.5

Overview of Use Zones

- Stationary Play-Linked Equipment: 72″
- Composite Play Structures: comprised of individual use zones



NRPA's: *The Daily Dozen*

1. Improper Protective Surfacing (79% of playground injuries result from falls)
2. Inadequate Use Zones (minimum of 72")
3. Protrusion & Entanglement Hazards (ex. bolt ends, structural extensions, "S" hooks, gaps at top of slides)
4. Entrapment in Openings (between 3½" & 9")

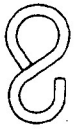

2
3
4
5
6
7
8

ASTM F 1487: Requirements for Fastening Devices

F 1487

1. Checking Loops for 0.04in. (1.0mm) gap

FAIL
Upper Loop gap
>0.04in. (1.0mm)



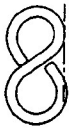
FAIL
Lower Loop gap
>0.04in. (1.0mm)

PASS
Both Loops gap
≤0.04in. (1.0mm)

2. Both loops closed
Checking lower loop projection

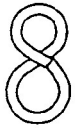
FAIL

FAIL
End of lower loop extends beyond boundary of upper loop.

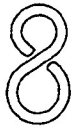


PASS
End of lower loop inside boundary of upper loop.

3. Both loops closed. Lower loop projection O.K.
Checking upper loop



FAIL
Upper loop extends beyond body



PASS
Upper loop aligns with body

PASS
Upper loop overlaps body

4. Both loops closed. Lower loop projection O.K.
Upper loop O.K.
Checking lower loop alignment

FAIL
Lower loop overlaps body

PASS
Lower loop aligns with body

FIG. A1.18 Requirements for Fastening Devices
Reference Paragraphs 6.4.5 and 6.4.5.1

NRPA's: *The Daily Dozen*

1. Improper Protective Surfacing (79% of playground injuries result from falls)
2. Inadequate Use (Fall) Zones (minimum of 72")
3. Protrusion & Entanglement Hazards (ex. bolt ends, structural extensions, "S" hooks, gaps at top of slides)
4. Entrapment in Openings (between 3½" & 9")

NRPA's: *The **Daily** Dozen*

5. Insufficient Equipment Spacing (108" between, with exceptions)
6. Trip Hazards (ex. exposed footings, abrupt changes in surface elevations, containment borders, tree roots, rocks)
7. Lack of Supervision (design playground for easy observation of children by parents – 44% of injuries)
8. Age-Inappropriate Activities [separate play areas for preschool (2-5) & school age (5-12)]

NRPA's: *The Daily Dozen*

9. Lack of Maintenance (inspections, preventative maintenance)
10. Crush, Shearing, & Sharp Edge Hazards (inspections, moving components)
11. Platforms with no Guardrails (elevated surfaces such as platforms, ramps, & bridges)
12. Equipment Not Recommended for Public Playgrounds (ex. heavy swings, free swinging ropes, swinging exercise rings, & trapeze bars)

NRPA Sample Hazard Priority Rating

1. Permanent disability; loss of life or body part
   Condition should be corrected immediately!
2. Serious injury resulting in a temporary disability
   Condition should be corrected as soon as possible.
3. Minor, non-disabling injury
   Condition should be corrected when time permits.
4. Potential for injury very minimal
   Condition should be corrected if it gets worse.
5. Existing condition is compliant

Playground Hazards and Priorities

Question and Answers

Idea Exchange

Playground Maintenance Workshop

Pipe Segment Exercise