The S.A.F.E. Framework Approach to Prevent Injuries and Health Risks to Support Play Areas for Children

December 10, 2025

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CSN Children's Safety Network

Funding Sponsor

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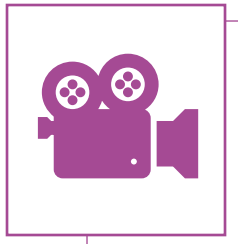

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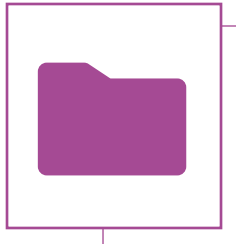

Resource files and links will be shared in the chat

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Moderator

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Director
EMS for Children Data Center

Children's Safety Network

Presenters

Heather Olsen

Professor, University of Northern Iowa
Executive Director, National Program for Play Area Safety

Sara Kreiss

Founder
Spaces For Play, Inc.

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The S.A.F.E. Framework Approach to Prevent Injuries and Health Risks to Support Play Areas for Children

Dr. Heather Olsen
Professor, University of Northern Iowa
Executive Director, National Program for Play Area Safety

Sara Kreiss
Founder, Spaces for Play

Hosted by
Children's Safety Network

DEC 10, 2025

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Purpose of Webinar

1. Importance of Play Areas for Today's Children
2. Health Risks and Injuries Remain a Concern
3. Current Events and Projects to Help At the Local Level
4. Keeping Children S.A.F.E.
    - **S**ite Location
    - **A**ppropriate Design
    - **F**all Surfacing
    - **E**quipment Maintenance
5. Resources and Information

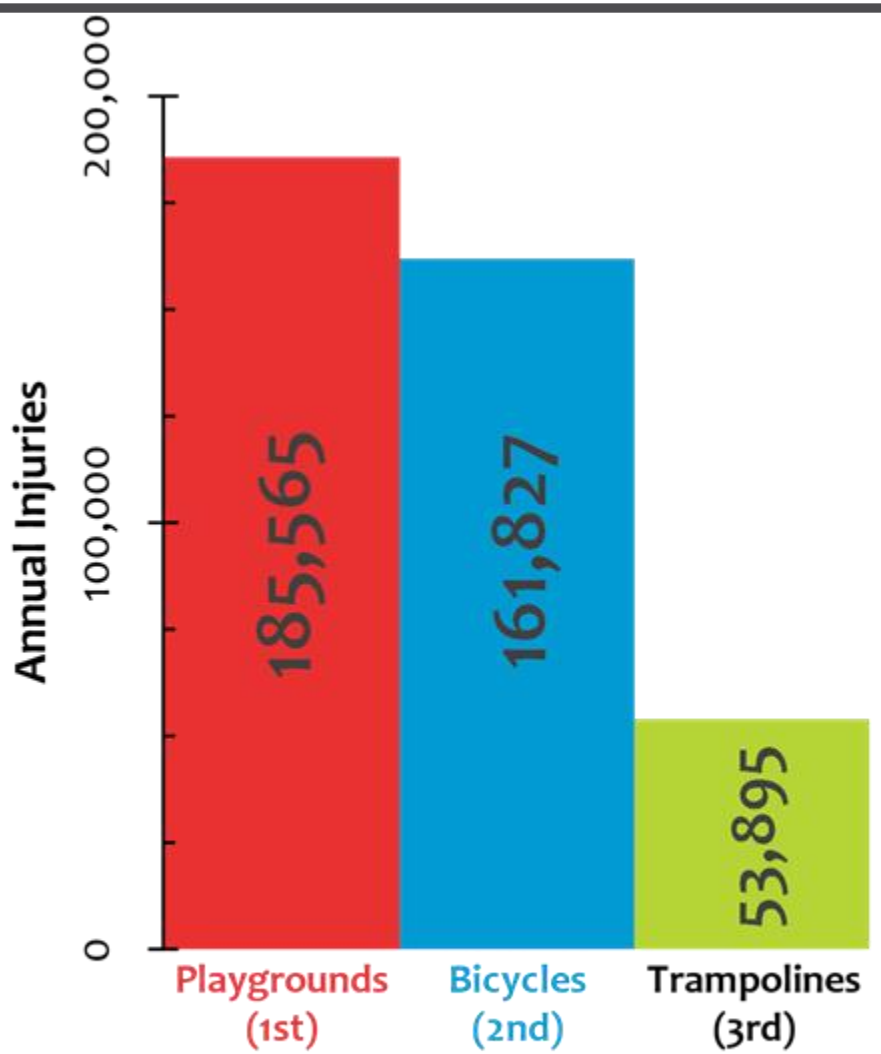
playgroundsafety.org

Outdoor play for children isn’t just fun — it’s a foundation.

Are Playground Injuries A Problem?

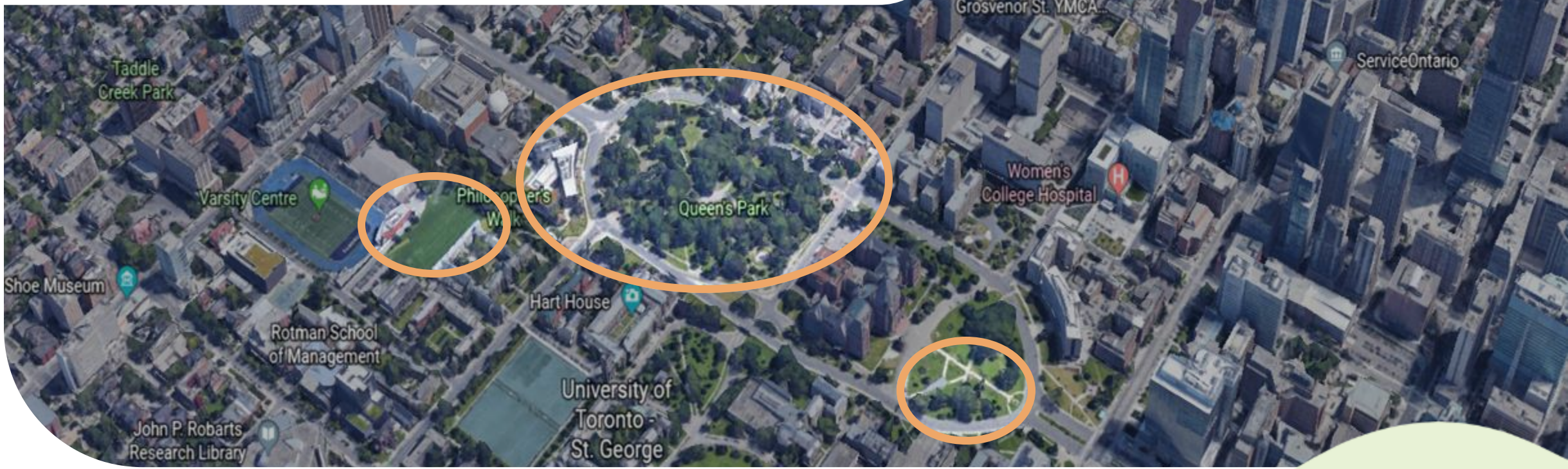
The Problem: Playground-Related Injuries Remain Stagnant

- Each year in the US, over 200,000 children are injured on playgrounds seriously enough to seek emergency room treatment (Hanway 2016; Tuckel et al. 2017).
- Upper extremity and head and neck injuries are a concern. Fractures of an upper limb account for approximately half of medically treated injuries, while head and neck injuries account for one third of all injuries (Adelson et al. 2018; Tuckel et al. 2017; Loder 2008).
- Annually 20,000 children visit U.S. emergency departments for traumatic brain injuries on playgrounds (Cheng et al. 2016).

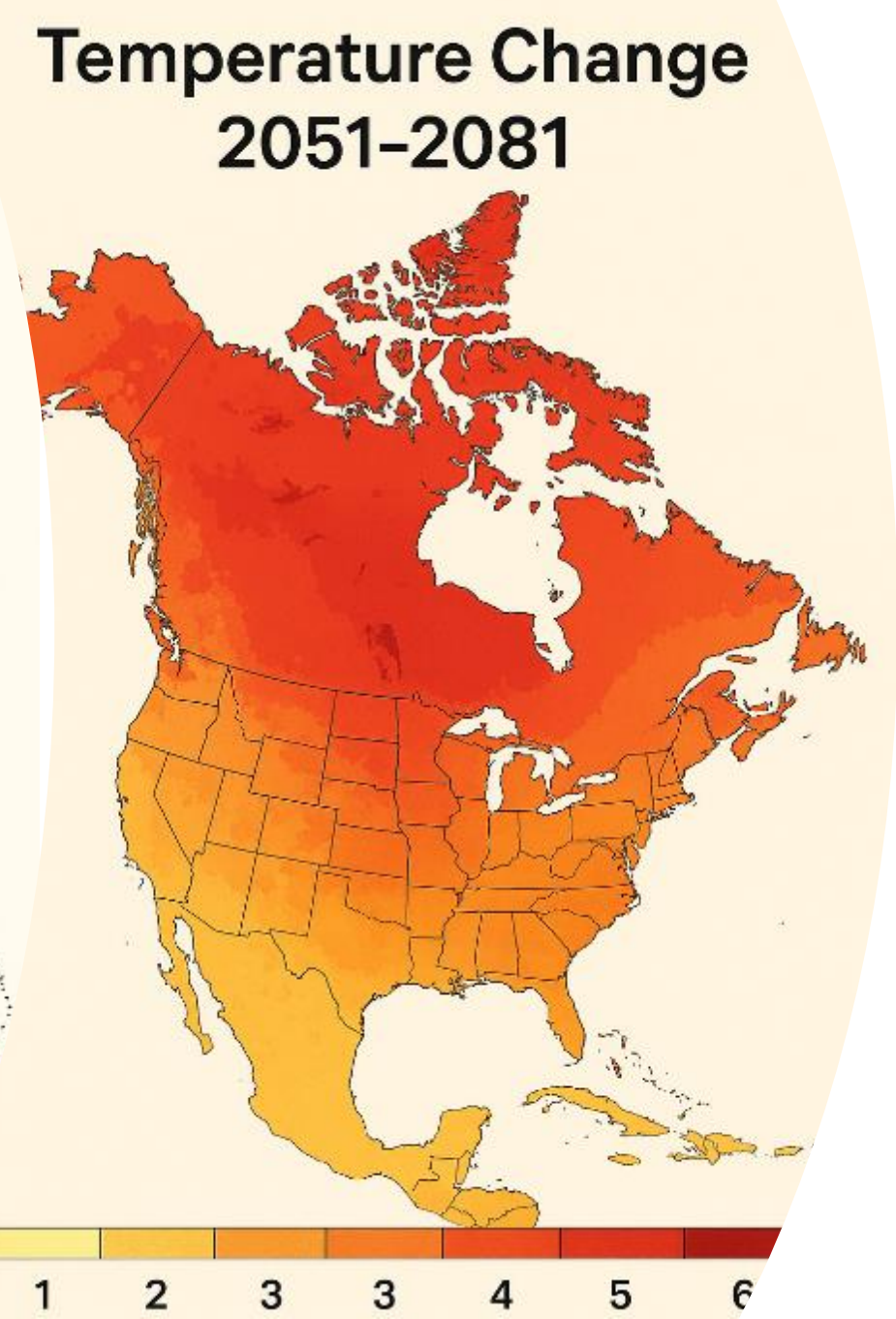


(Schwebel & Brezausek 2014)

Play Areas for Children are a central hub for child play, fun for families, and spaces for vibrant cities.



Play Areas for Children are being affected



Images created with Microsoft Copilot

Photo courtesy of the City of Toronto

Where are playgrounds and who has access?

PAST

Public playgrounds for children have existed since 1800s.

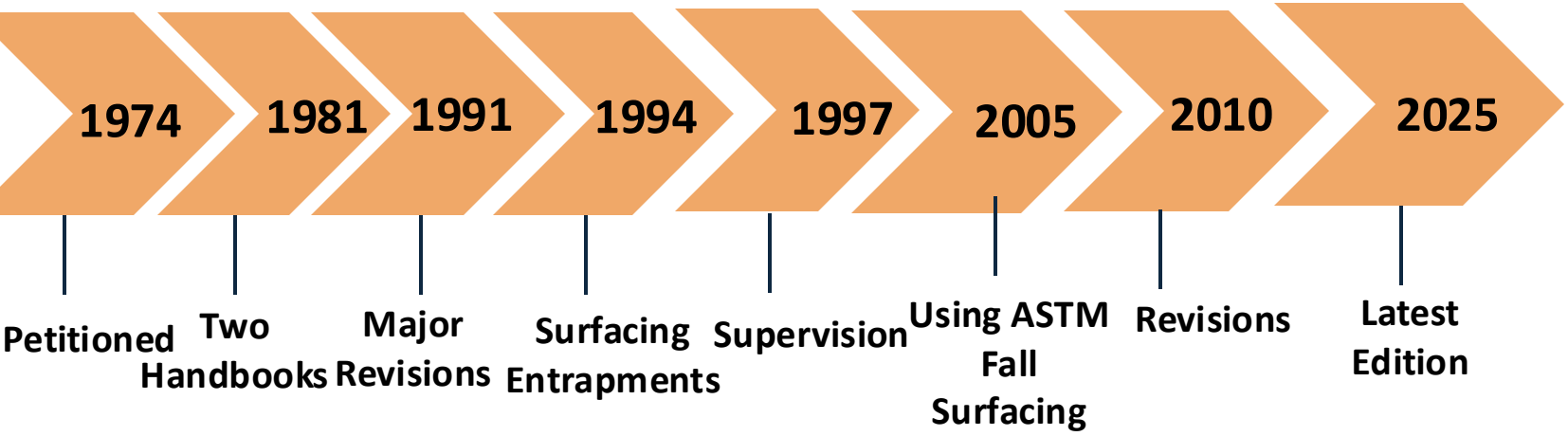
PRESENT

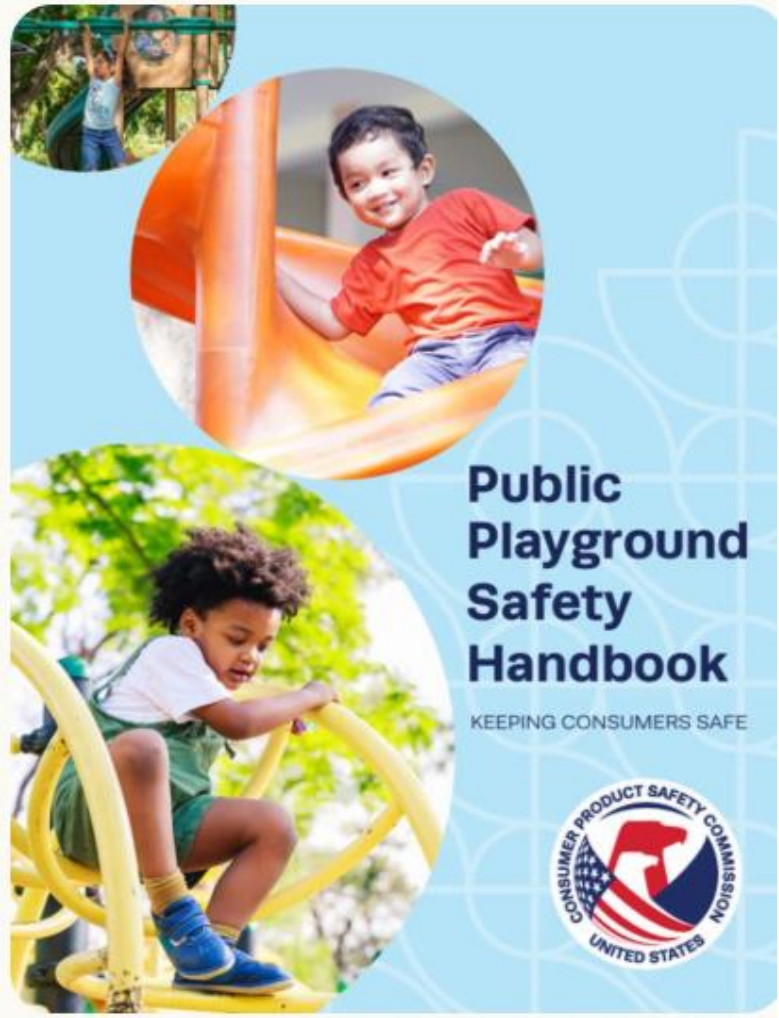
Historical influences have prioritized minimizing serious acute injuries by providing technical requirements for the design, construction, installation, and inspection of playground equipment and surfacing.

FUTURE

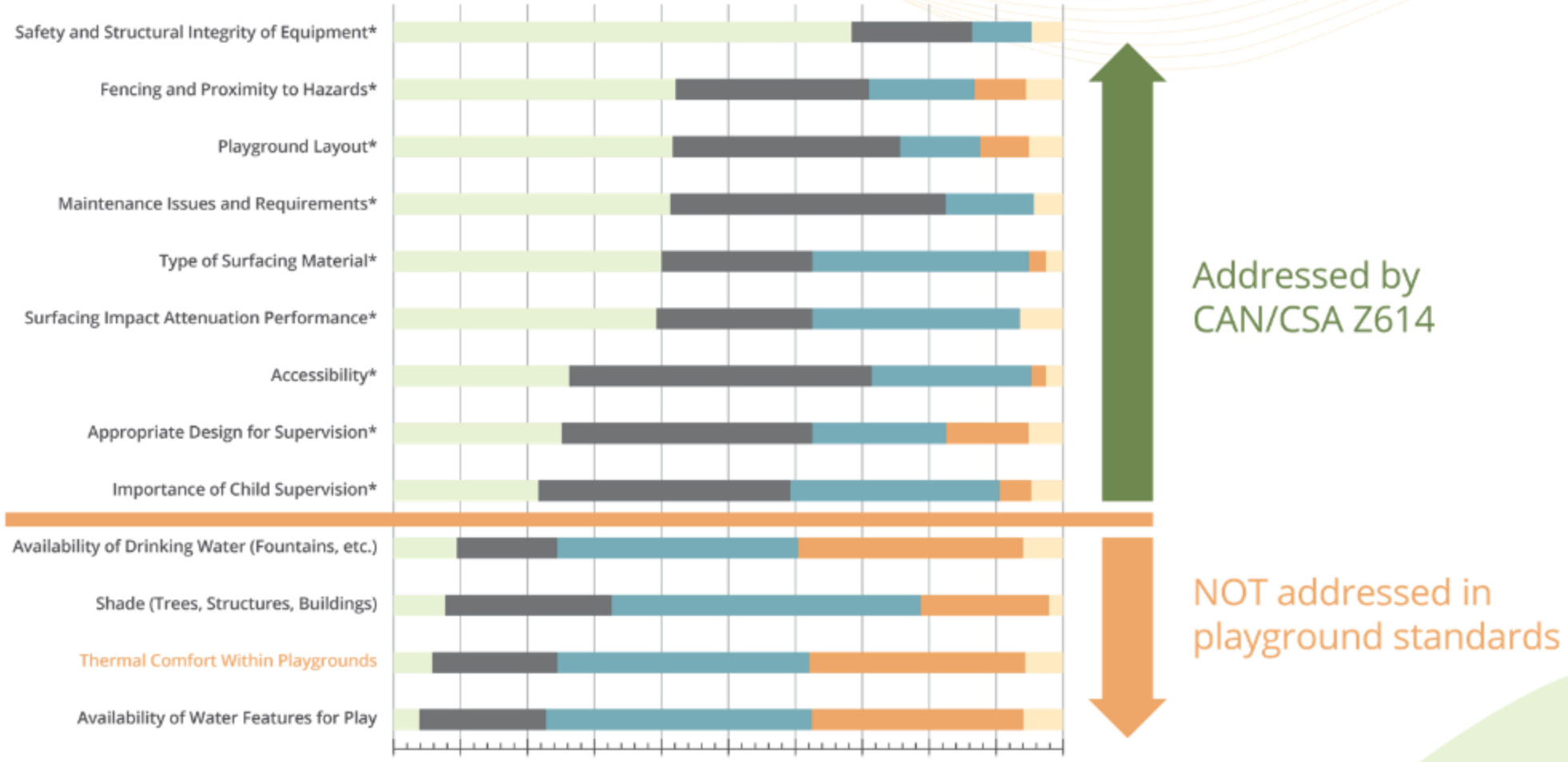
New and upgraded playgrounds should not only be designed to reduce serious acute injuries, but also to be safe from changes in climate.

Consumer Product Safety Commission





What Has Been Prioritized Within Playgrounds?

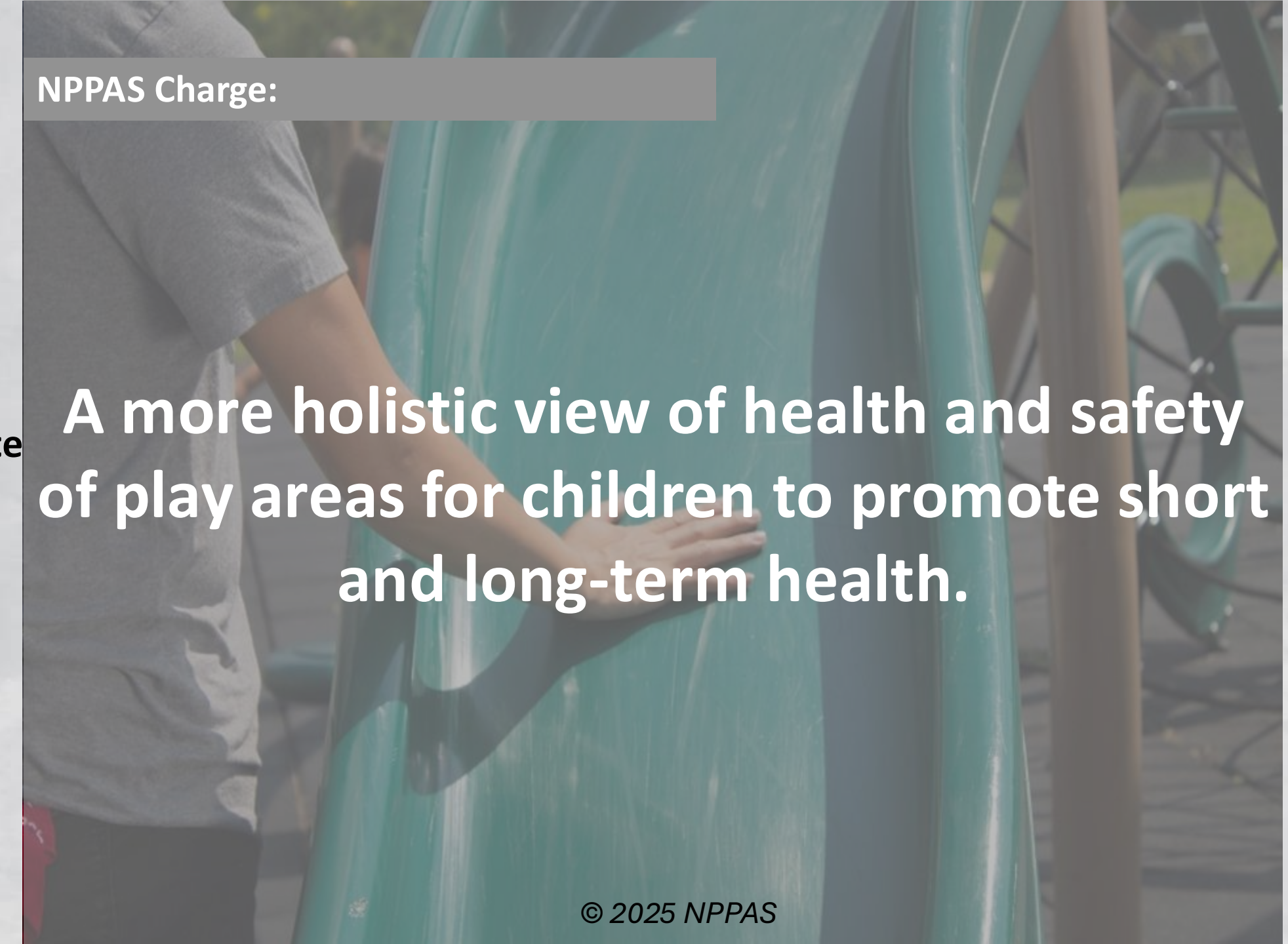


S.A.F.E. Injury Prevention Framework

NPPAS
NATIONAL PROGRAM FOR PLAY AREA SAFETY

Site Location

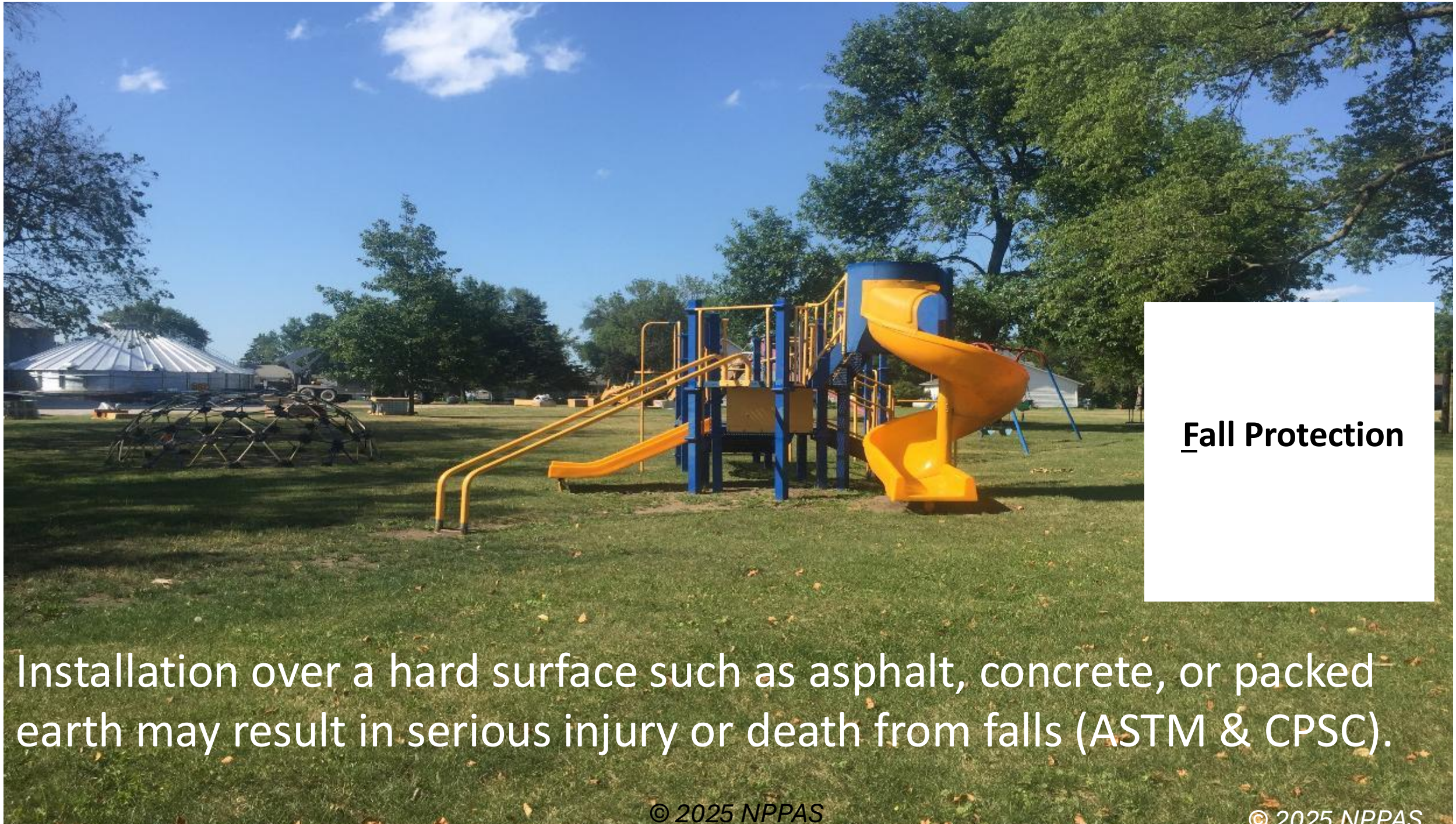
Photo courtesy of BCI Burke



NPPAS Charge:

Appropriate Design

A more holistic view of health and safety of play areas for children to promote short and long-term health.



Fall Protection

Installation over a hard surface such as asphalt, concrete, or packed earth may result in serious injury or death from falls (ASTM & CPSC).

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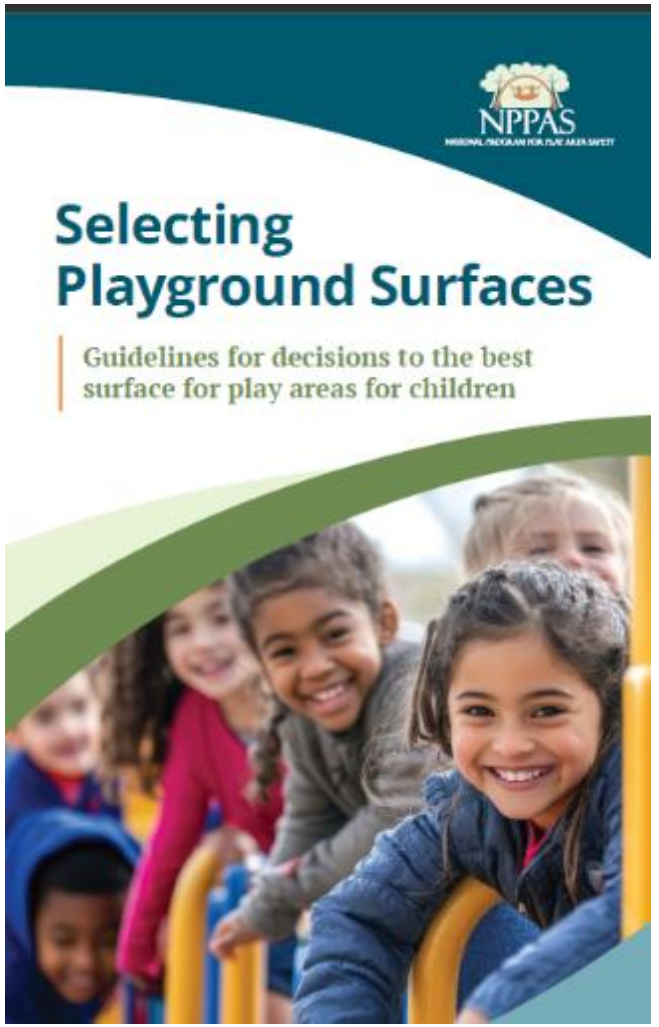
NPPAS's SAFE™ Surfacing Decision Making Model

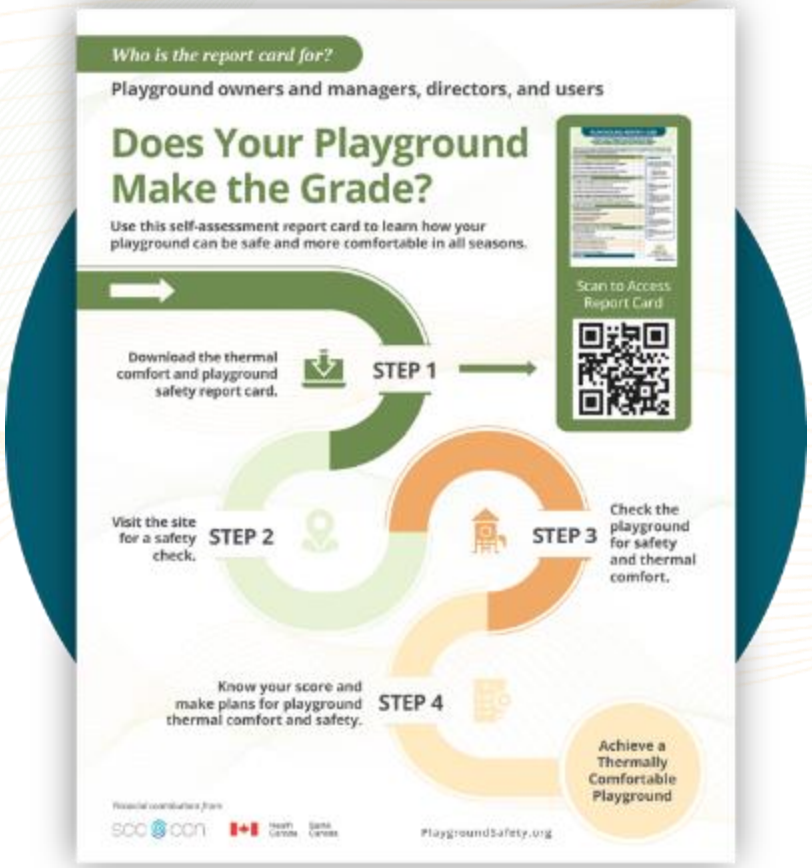
Figure 1. The S.A.F.E. surfacing decision model



playgroundsafety.org

Maintenance Is More Than Fixing Something

Equipment
&
Environment
Maintenance



playgroundsafety.org/report-card

Training & Certifications

Ensure Safe and Quality Play Areas & Playgrounds with Expert Training

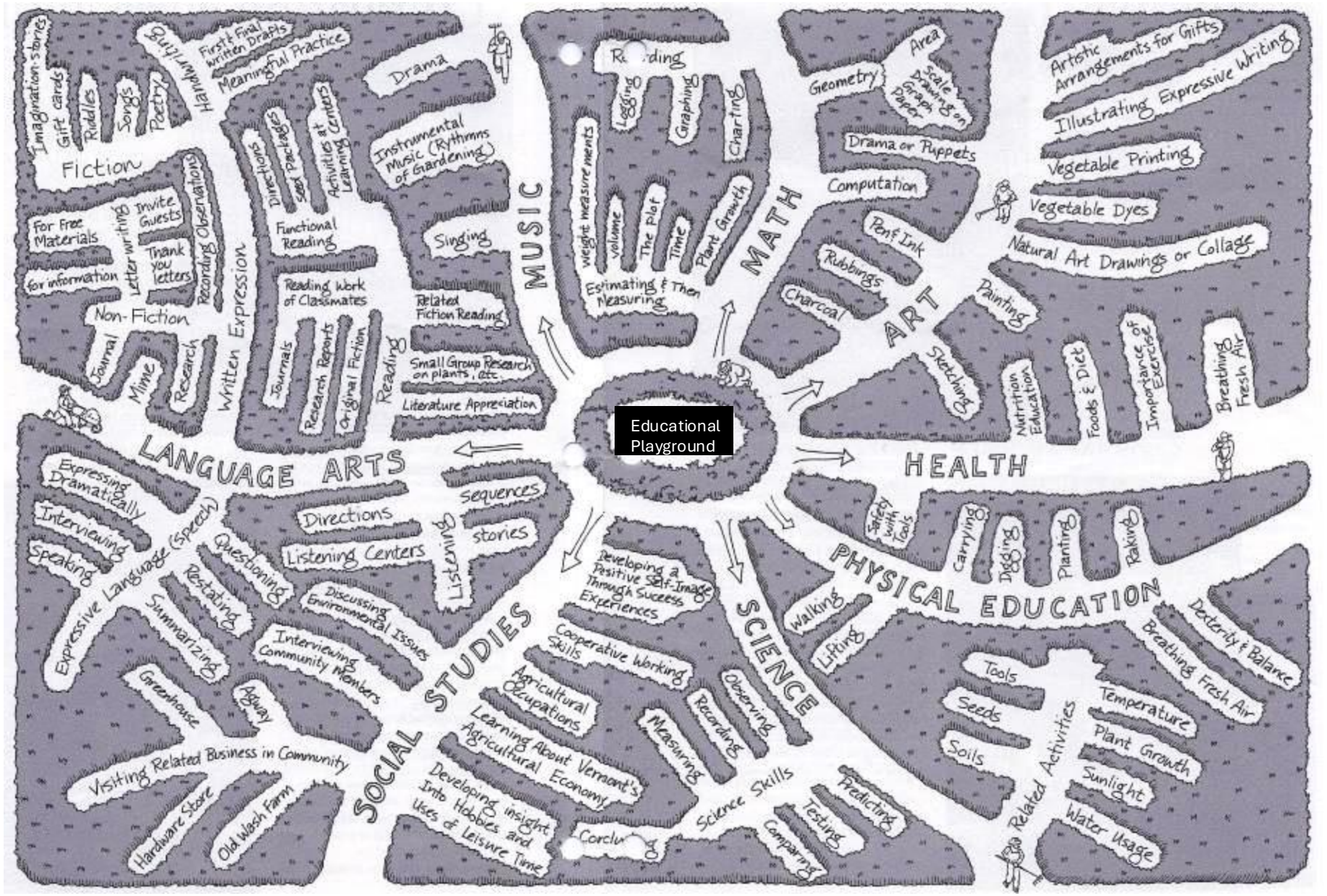
Training

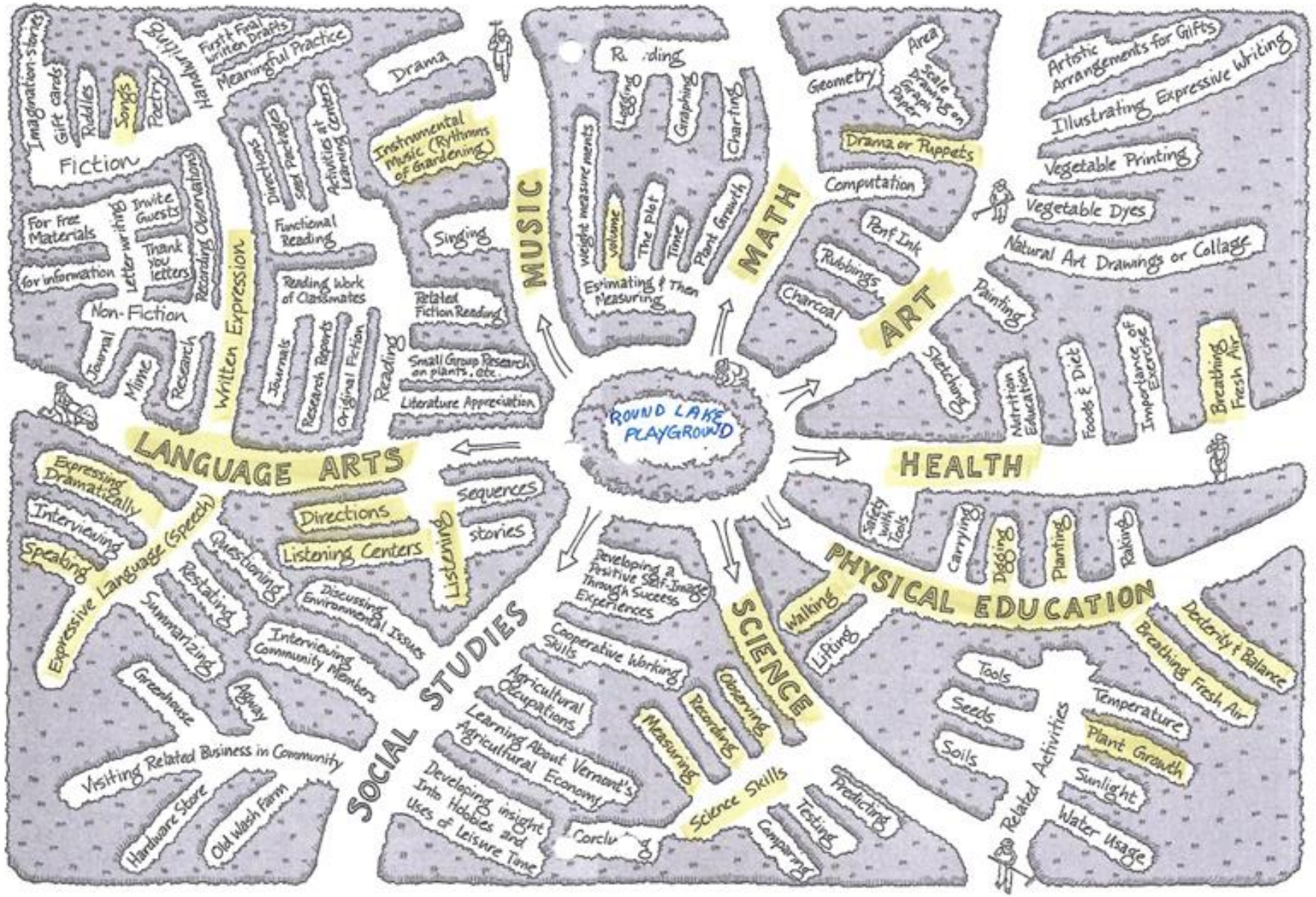
NPPAS's offers onsite and virtual trainings and workshops customized. From supervision, planning, playground safety guidelines & standards, safe and age-appropriate play, maintenance, to the importance of play, we customize training topics and hours to agency needs and budget.

Learn More

Become Certified

NPPAS's Online certification training is presented live with an experienced and qualified trainer. Through this comprehensive training, you'll be equipped with the knowledge and skills to inspect outdoor play areas in early childhood settings for infants, toddlers, and preschoolers. You'll learn how to inspect the playground overview, physical layout for safety and supervision, playground considerations, age-appropriateness, playground hazards, equipment specifications, surfacing requirements, accessibility, maintenance concerns, parts of the playground, playground testing, and the safety of loose parts and play components.


Educational Playground
LANGUAGE ARTS
Written Expression
Fiction
Imagination stories
Gift cards
Riddles
Songs
Poetry
Handwriting
First & Final written Drafts
Meaningful Practice
Non-Fiction
Journal
Mime
Research
Letter writing
Invite Guests
Thank you letters
Recording Observations
For Free Materials
for information
Drama
Instrumental Music (Rhythms of Gardening)
Singing
Directions
Seek Packages
Activities at Learning Centers
Functional Reading
Reading Work of Classmates
Related Fiction Reading
Journals
Research Reports
Original Fiction
Reading
Small Group Research on plants, etc.
Literature Appreciation
MUSIC
Reading
Logging
Graphing
Charting
Weight measurements
Volume
The Plot
Time
Plant Growth
Estimating & Then Measuring
MATH
Geometry
Area
Scale Drawing on Graph Paper
Drama or Puppets
Computation
Pen & Ink
Rubbings
Charcoal
ART
Artistic Arrangements for Gifts
Illustrating Expressive Writing
Vegetable Printing
Vegetable Dyes
Natural Art Drawings or Collage
Painting
Sketching
HEALTH
Nutrition Education
Foods & Diet
Importance of Exercise
Breathing Fresh Air
Safety with Tools
Carrying
Digging
Planting
Raking
PHYSICAL EDUCATION
Walking
Lifting
Dexterity & Balance
Breathing Fresh Air
Related Activities
Tools
Seeds
Soils
Temperature
Plant Growth
Sunlight
Water Usage
SCIENCE
Developing a Positive Self-Image Through Success Experiences
Cooperative Working Skills
Agricultural Occupations
Learning About Vermont's Agricultural Economy
Developing insight Into Hobbies and Uses of Leisure Time
Observing
Recording
Measuring
Science Skills
Predicting
Testing
Comparing
SOCIAL STUDIES
Expressive Language (speech)
Expressing Dramatically
Interviewing
Speaking
Questioning
Restating
Summarizing
Discussing Environmental Issues
Interviewing Community Members
Listening
Directions
Listening Centers
sequences
stories
Greenhouse
Agway
Visiting Related Business in Community
Hardware Store
Old Wash Farm


ROUND LAKE PLAYGROUND
LANGUAGE ARTS
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For Free Materials
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Invite Guests
Thank you letters
Recording Observations
Journal
Mime
Research
Directions
Sign Packages
Activities at Learning Centers
Functional Reading
Reading Work of Classmates
Journals
Research Reports
Original Fiction
Reading
Expressing Dramatically
Interviewing
Speaking
Expressive Language (Speech)
Directions
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SOCIAL STUDIES
Greenhouse
Agway
Visiting Related Business in Community
Hardware Store
Old Wash Farm

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Design-Build Playground Company
SFP Founder-President
Phone: (708) 404-7272
Email: sara@spacesforplay.com

SPACES FOR PLAY CLIMBING STRUCTURES PROVIDE GROSS MOTOR CHALLENGES

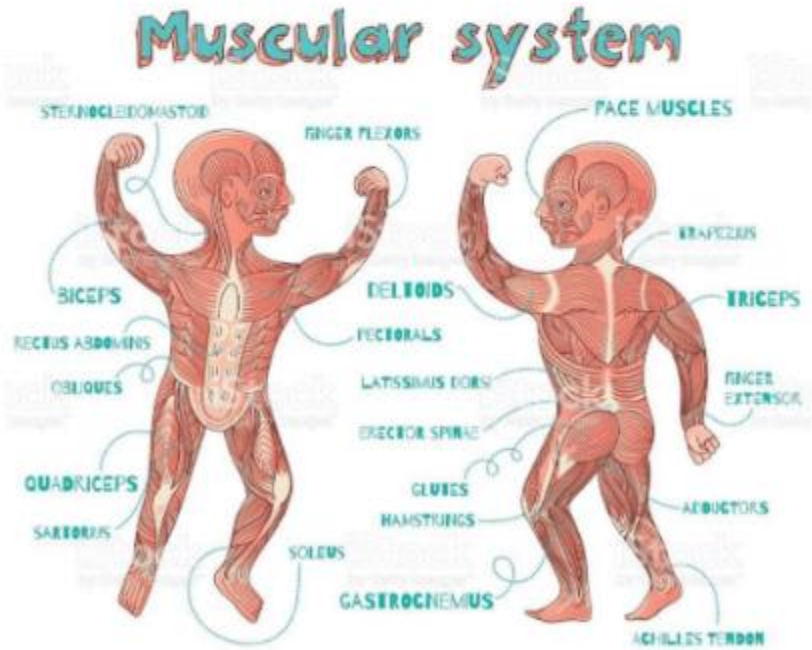
ROUND LAKE ECC

Gross Motor Movements

Our goal at *Spaces For Play* is to design a climbing structure that strengthens gross motor development. SFP uses a variety of motor challenges and limits the repetition of the same type of climbing opportunities. SFP climbing structures strengthen a variety of muscles as shown below in the Muscular System diagram below.

Pronation and Supination motor challenges refer generally to body and mind challenges at the wrist and are considered special movements for children. Other upper muscles, such as the biceps, triceps and deltoids of the arms and shoulders allow the child to hoist him/herself up into the climber structure.

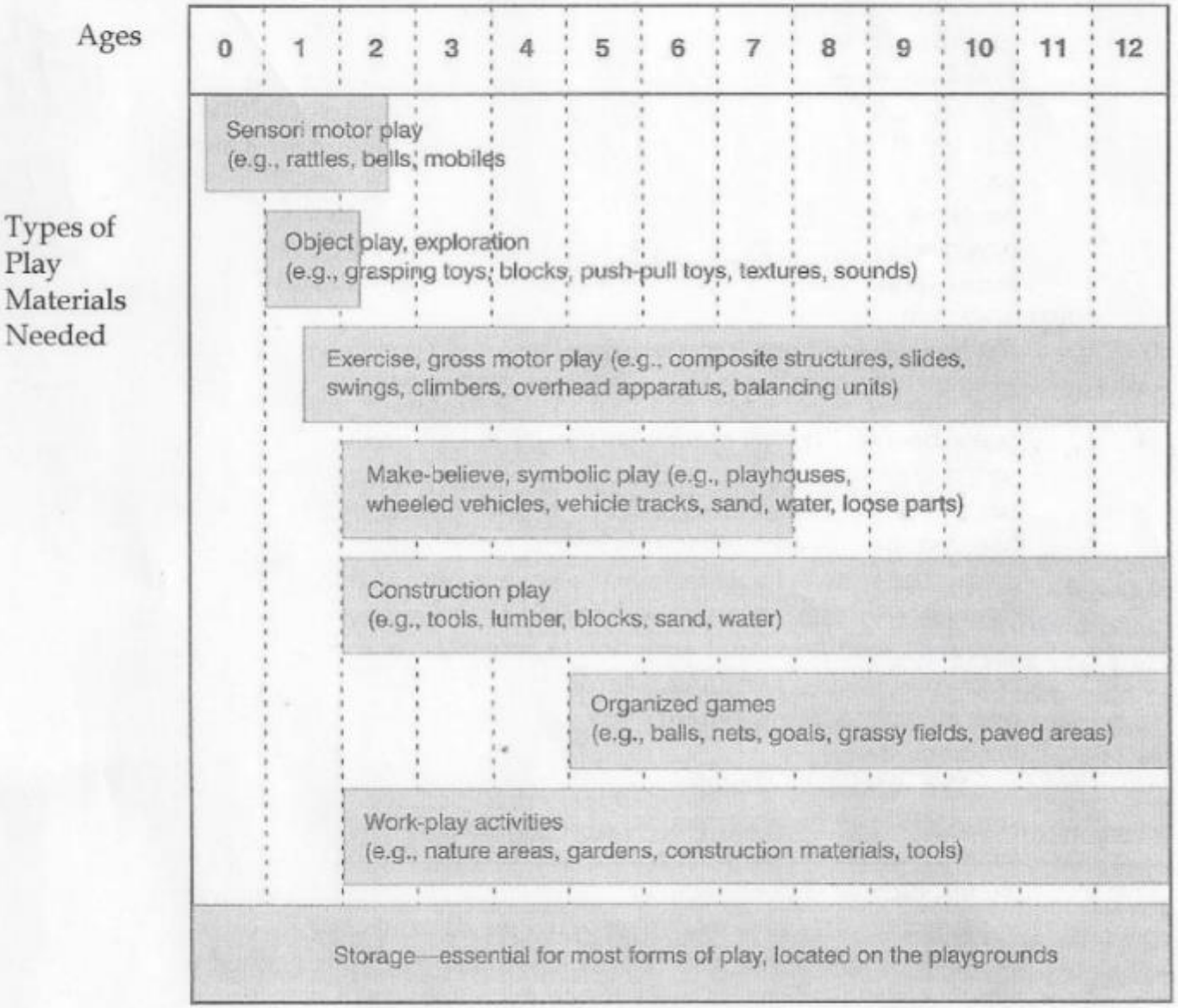
Lower body muscles such as the quadriceps, adductors, abductors and gastrocnemius help in propelling the child's entire body up and down the climbing structures which also enhances muscular strength and endurance. In the middle of the upper and lower body muscle regions, known as the core muscles, tie together all the child's movements. Muscles such as the rector abdominis and oblique muscles contract when the child climbs which helps the child develop a sense of balance and coordination.



	**Oblique Block Climber/Cable Climber** This climber is similar to the Block Climber. Uneven spacing of the blocks requires eye-hand coordination, forces visual focus acquisition, release, and re-acquisition, and develops motor planning. The rope creates an optional added upper body challenge, utilizing outward rotation of the arm in grip position challenges, postural muscle strengthening of the back and shoulders as well as the forearms, hands, and wrists.
	**90° Bedrock Climber** This rock wall is similar to the Block Climber with rock shaped random grips and steps. Hip and shoulder flexors and extensors are lengthened and shortened promoting strength and flexibility. The uneven spacing of blocks requires eye-hand coordination, forces visual focus acquisition, release, and reacquisition (similar to the visual skill required in reading), and develops motor planning. Preschool and School-agers.
	**Vertical Cable Climber** Challenges upper body strength and engages hip flexors. This Is a balance challenge as well as core strength and confidence builder. Recommended for older Preschooler and School-agers.
	**Cleat Climber** Unique foot and hand positions (supination of foot and outward rotation of hips and shoulders). Wide stance challenges balance and initiates use of inner/outer leg muscles (adductors and abductors). It has two vertical posts with blocks attached on the facing sides and is the only climber requiring children to push out in order to use the climber. It works the shoulders, triceps of the arms, stretches the leg muscles and involves motor planning.

PLAY THEORY IN RELATIONSHIP TO PLAYGROUND DESIGN

Ages, Dominant Types of Play and Materials for Play



Joe Frost Play and Child Development 2001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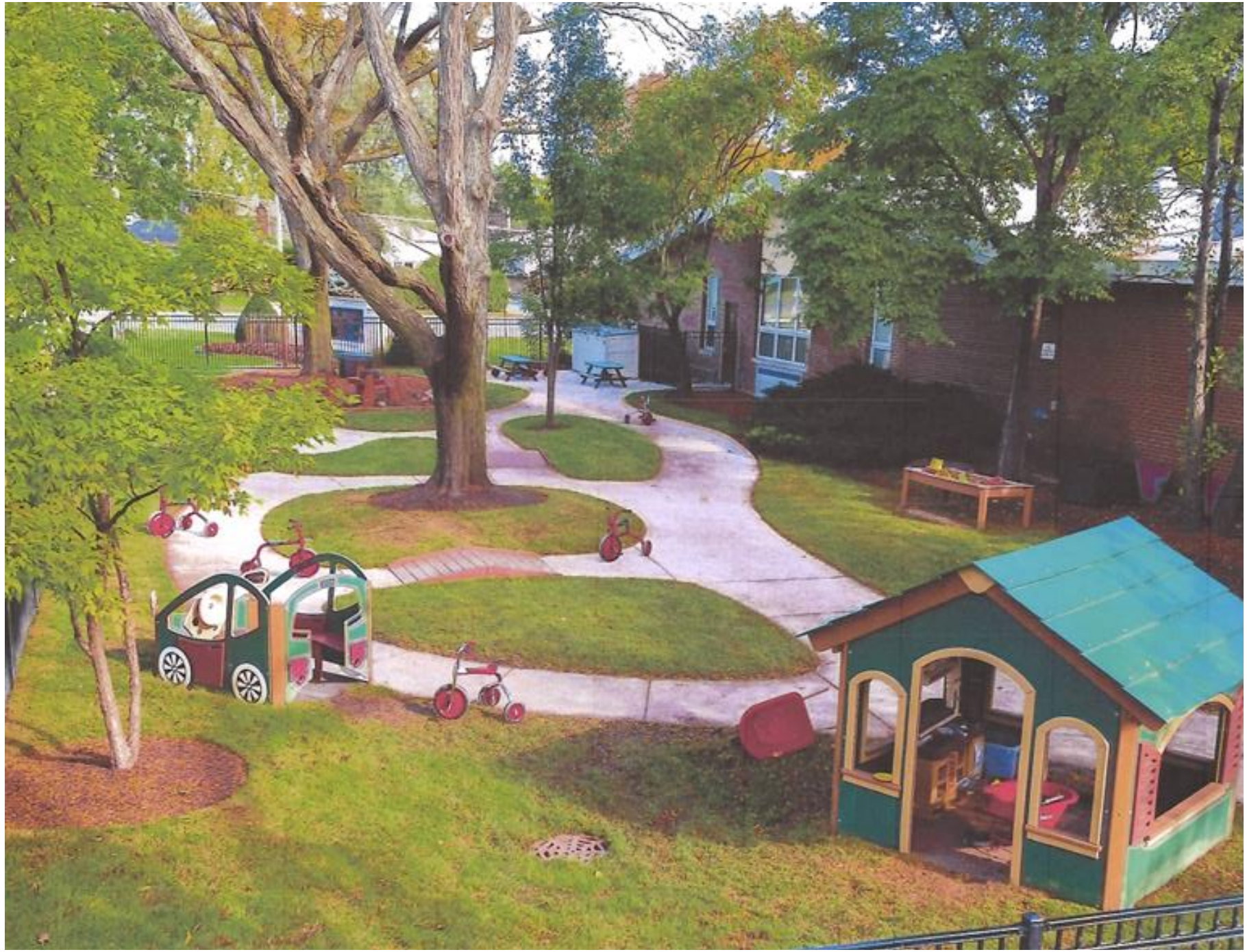

Roundlake
https://www.youtube.com/watch?v=jfEJag9SWRo

Timothy Christian
https://www.youtube.com/watch?v=WDSfIhcoRz4

Riverbend Head Start – Edwardsville
https://www.youtube.com/watch?v=_GHfq0U9KUo

Roundlake

playgroundsafety.org/thermalcomfort

playgroundsafety.org/thermalcomfort

Thank you!

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Interested in partnership, sponsorship, or collaboration? *Contact us at PlaygroundSafety.org*

Get Certified become equipped with the knowledge and skills to inspect and provide expertise in your communities

playgroundsafety.org

Questions

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