

CHAPTER 8

ACCESSIBILITY

8-1. Introduction.

This chapter describes general criteria for designing play areas that are accessible to children and adults with disabilities. It presents guidelines and standards that apply to the design of children's outdoor play areas. In addition, information to assist designers in creating an accessible design program and guidance for creating accessible play area components is provided.

8-2. Accessibility Criteria.

Federal guidelines describe accessibility standards for adults, but are not always appropriate in children's play areas. Criteria and policies for accessible play areas follow:

a. *Accessibility Standards for Adults.* Play areas will comply with the Uniform Federal Accessibility Standards (UFAS) (Federal Standard 795). In cases where the Americans With Disabilities Act Accessibility Guidelines (ADAAG, 36 CFR 1191) provides equal or greater accessibility than UFAS, the ADAAG will be met.

b. *Accessibility Guidelines for Children.* UFAS and ADAAG requirements are based on adult-sized dimensions. When these dimensions are appropriate for children's outdoor play areas, accessibility standards for adults are referenced in this manual. In many cases, however, design criteria based on child-sized dimensions should be used for the proper functioning of the play area. These dimensions are provided where needed.

c. *Policy on Play Area Access for Children and Adults with Disabilities.* Play is a primary means through which children learn and develop. Both child development and the integration of children with and without disabilities are best supported by a diverse, challenging play area. Every part of the play area may not be accessible to all of its users, but the social experience provided should be accessible to everyone.

(1) *Provide Like or Similar Experiences.* When more than one play activity of the same type is provided in close proximity, one will be accessible. If one activity of its kind is provided, it will be accessible. For example, if two spring rocking animals are provided in the same part of the play area, one should be accessible. If only one spring animal is provided, it should be accessible.

(2) *Provide an Accessible Path of Travel.* An accessible path of travel is a pathway that is firm,

stable, and slip-resistant. It allows for ease of use by persons using a wheelchair, walker, cane, or crutches. An accessible route of travel connecting all accessible activities within the play area will be provided.

(3) *Promote Interaction Among Users.* To encourage social interaction between users with varying abilities, less challenging play activities will be provided in the same area as the most challenging equipment or components.

8-3. Disability Types.

Play area diversity increases play options for all children, including those with disabilities. Descriptions of general types of disabilities that should be considered when designing children's outdoor play areas follow:

a. *Physical Disability With Upper Body Strength.* Some individuals with physical disabilities have limited mobility, but have upper body strength that may allow transferring onto play equipment, using a horizontal ladder, or playing a manipulative game. Examples include a paraplegic who uses a wheelchair for mobility or an individual who walks with a cane or crutches.

b. *Physical Disability Without Upper Body Strength.* Some individuals with physical disabilities have limited use of their hands and arms. Use of both the upper and lower body maybe affected, as is the case with a quadriplegic or a person severely affected by cerebral palsy. Other individuals may have use of the legs but have limited arm use, such as a person whose limbs were amputated.

c. *Visual Disability.* Individuals with limited vision include people with a wide range of visual limitations. Some people with limited vision can read large print, and others cannot distinguish light from darkness. Few individuals totally lack all vision.

d. *Auditory Disability.* People with auditory disabilities are unable to respond normally to sound in most social situations. Abilities range from mild hearing loss to profound deafness.

e. *Developmental Disability.* For people described as developmentally disabled, learning ability develops more slowly than average. Reasoning and judgment capabilities may also develop at a slower pace. For most people with developmental disabilities, it is not the ability to learn that is lacking, but the speed and ease with which things are learned that is impeded. The range of capabilities in people with

developmental disabilities is greater than in any other disability group. People with developmental disabilities may also have difficulty with coordination, balance, agility, strength, body awareness, and self-image.

8-4. Play Area Components.

With proper design, most play area components can be accessible to children and adults with disabilities.

a. Entry Areas. All main entrances will be fully accessible. The overhead clearance at the entrance will meet accessibility standards for adults. The width of the entrance will be 1200 mm (48 inches) at minimum. The main entrance will be linked by accessible pathways to public transportation stops, when provided, passenger loading zones, accessible parking spaces, and to public streets and sidewalks. A person with a disability will be able to travel independently from this entrance to all accessible spaces within the play area.

b. Pathways.

(1) *Accessible Routes of Travel.* An accessible route is a continuous unobstructed route, such as a primary pathway or fully accessible surfacing, which is accessible to persons with disabilities. At minimum, the accessible route will extend from the play area perimeter to each type of activity within the play area.

(2) *Accessible Routes Within the Play Equipment Use Zone.* At least one accessible route will be provided within the use zone. The accessible route will extend from the play area perimeter to each type of play equipment that provides a different activity or function.

(3) *Surfacing of Accessible Routes.* The surface of the accessible route should be firm, stable, and slip-resistant. Examples of appropriate surfacing include: concrete, asphalt, and synthetic safety surfaces. Accessible safety surfacing within the play equipment use zone will meet the requirements of ASTM F 1292, except where a ramp, deck, or stationary bridge connects to a pathway at the edge of a use zone.

(4) *Minimum Width of Accessible Routes.* The minimum width of accessible routes will be 1500 mm (60 inches).

(5) *Maximum Slope of Accessible Routes.* The cross slope and running slope of accessible routes will meet accessibility standards for adults.

(6) *Edge of Accessible Routes.* If the accessible route is adjacent to loose-fill material or if there is a difference in height between two adjacent surfaces, the edge of the route will be treated to prevent a wheelchair from traveling off of the route or from tipping into loose-fill material. If the route is within

the use zone of play equipment, the path and edge treatment will meet the requirements of ASTM F 1292.

(7) *Accessible Routes with Slopes Greater than 1:20.* Any accessible route with a slope greater than 1:20 is a ramp. Ramps will meet accessibility standards for adults.

(8) *Seating and Rest Areas.* Along all primary pathways, a 1500 mm by 1500 mm (60-inch by 60-inch) level space should be provided every 60 to 120 m (200 to 400 feet). Seating should be provided every 0.25 km (1/8 mile).

(9) *Auxiliary Pathways.* Auxiliary or secondary pathways will have a minimum width of 900 mm (36 inches). If the pathway is longer than 6 m (20 feet), a turnaround area will be provided every 6 m (20 feet). For play purposes, an auxiliary path may be textured or bumpy for a maximum length of 1500 mm (60 inches).

(10) *Drainage Grates.* Grate openings will have a maximum width of 12 mm (1/2-inch). The longest dimension of grate openings will be perpendicular to the accessible path of travel.

(11) *Wheeled Toys.* Wheeled toys are an important method of independent mobility for children with disabilities and should be allowed on play area pathways.

(12) *Changes in Texture.* Changes in texture and material should be provided as nonvisual and tactile warnings for hazards and dangerous locations, such as crosswalks, stairs, water areas, etc. Textures used as a warning or cue for people with visual disabilities will be consistent throughout a site.

c. Sports and Games. Fully accessible viewing areas will be provided for spectators, parents, and children. Firm sports and games surfaces will be provided for wheelchair use. Accessible drinking fountains will be provided.

d. Dramatic Play. Playhouses should have an interior space large enough to allow wheelchair access. An entrance will be provided that at minimum meets accessibility standards for adults. Windows will be provided at a height that allows viewing from a wheelchair. Performance platforms should be located at ground level. If a ramp is present, a turning space will be provided for children in wheelchairs that at minimum meets accessibility standards for adults.

e. Sand Play. If provided, both ground-level and raised sand play components will be accessible.

(1) *Back Supports.* For ground-level sand play, a firm, stationary back support will be provided for leaning or resting. Back supports will be provided in close proximity to the most active part of the sand play area to promote social interaction. Back sup-

ports may include any vertical surface with a minimum height of 300 mm (12 inches) and a minimum width of 150 to 375 mm (6 to 15 inches). Boulders, logs, and posts may be used as back supports.

(2) *Transfer Points.* For children 2 to 5 years, a transfer point will be provided at a height of 275 to 350 mm (11 to 14 inches) to allow children to transfer from wheelchairs onto ground-level sand play surfaces (fig 8-1). For children ages 5 to 8 years, a transfer point will be provided at a height of 350 to 400 mm (14 to 17 inches).

(3) *Raised Sand Area.* Raised sand areas at wheelchair height are highly accessible and can be attractive to all children. However, raised areas are not a substitute for ground-level sand play. The shallow depth of sand provided in raised sand components limits play opportunities. Accessible manufactured sand tables are one alternative for providing raised sand play opportunities.

(4) *Faucets.* Faucets will be provided that meet accessibility standards for adults.

f. Gardens.

(1) *Raised Beds.* Raised beds will be provided for children who use wheelchairs or cannot easily stoop. Locate the raised bed within the main garden area at a height of 500 to 750 mm (20 to 30 inches) above the garden surface. A minimum of 10% of the gardening surface should be raised.

(2) *U-shaped Beds.* Raised beds that are U-shaped allow easy reach from a central location. Access should be provided from either side or by forward reach at a height of 500 to 900 mm (20 to 36 inches) above the ground.

(3) *Ground-Level Gardens.* A transfer point will be provided to enable a child to transfer into the garden. For children ages 2 to 5 years, the height of the transfer point will be 275 to 350 mm (11 to 14 inches). For children ages 5 to 12 years, a transfer point at a height of 350 to 400 mm (14 to 17 inches) will be provided.

(4) *Garden Pathways.* A minimum 1100 mm (44-inch) width accessible pathway that leads to raised areas in the garden will be provided.

(5) *Water.* Easy access to water, including an accessible path of travel, lever knobs on faucets, and coilable hoses, should be provided.

g. Gathering Places.

(1) *Pathways.* An accessible pathway will be provided to all gathering places.

(2) *Seating.* Seating along primary pathways will be accessible. Along auxiliary pathways, 50% of seating will be accessible. Bench design will meet accessibility standards for adults. For manufactured benches, backrests and arm supports that meet ASTM F 1487 requirements for entrapment will be provided. Informal seating, such as boulders and logs, do not require backrests and arm supports.

(3) *Picnic and Game Tables.* Picnic and game tables will be located on an accessible surface with an accessible path of travel leading to the picnic area. Every installed, fixed picnic table will be accessible. When fewer than five game tables are installed, one will be accessible. When five or more game tables are installed, a minimum of one or 10% will have two accessible seat spaces. A minimum of two or 10% will have one accessible seat space. Each table will have at least one side that is not blocked by a fixed seat or bench. Wheelchair clearance will be provided for this open space.

(a) *Wheelchair Clearance for Adults and Teens.* For adults and teens, a clear space 675 mm (27 inches) high, 600 mm (24 inches) deep, and 750 mm (30 inches) wide will be provided.

(b) *Wheelchair Clearance for Children Under 12 Years.* For accessible picnic tables for children under 12 years, a clear space 675 mm (27 inches) high, 300 mm (12 inches) deep, and 915 mm (36 inches) wide will be provided. The tops of these tables will be a maximum of 750 mm (30 inches) from the floor or ground.

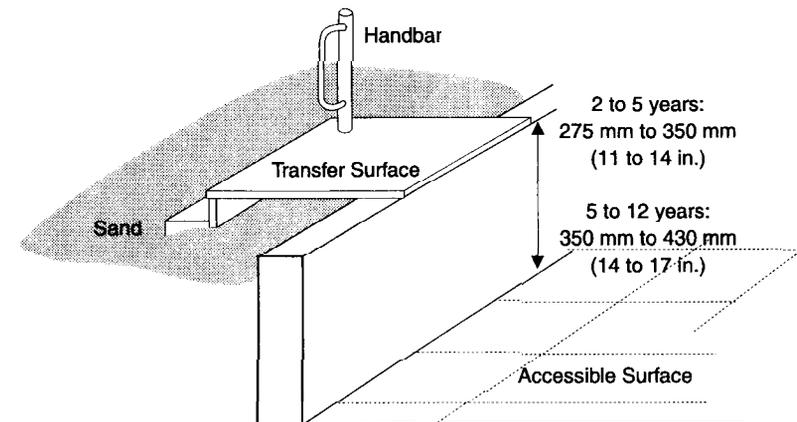


Figure 8-1. Transfer Point to Sand Surface.

(4) *Trash Receptacles.* Trash containers with easy-to-use openings will be provided in play areas. Trash containers will be located on accessible paths of travel. Trash container openings will be located no higher than 900 mm (36 inches) above the ground surface. Trash container lids will be provided that are operable without twisting or tight grasping. Spring-loaded mechanisms should not require more than 22 N (5 pounds) of operating force.

(5) *Planters.* Raised planters will be situated at a height of 500 to 750 mm (20 to 30 inches) above the ground surface to allow access to plant material.

h. Manufactured Play Equipment. Play equipment components will be accessible to children with disabilities. Accessible paths of travel, accessible safety surfaces, and transfer points or ramps onto equipment provide access for children with limited mobility. Manufactured play equipment is composed of one or more play events or activities, such as swings, climbers, and slides. Table 8-1 identifies recommended play events that may be accessible to children with physical, visual, auditory, or developmental disabilities. Design guidelines for manufactured play equipment are provided in chapter 10.

i. Plant Materials. Plant materials can be highly accessible. Important design considerations include providing access to plant materials through accessible pathways or raised planting, and selecting plant materials that provide sensory variety.

j. Landforms. Landforms can provide unique access opportunities for people with disabilities.

(1) *Accessible Hills and Mounds.* Slopes will conform to the requirements of accessible ramps. Ramps, handrails, guardrails, and level turning spaces may be required on pathways or at viewpoints.

(2) *Summit Points.* A level wheelchair turning space a minimum diameter of 1500 mm (60 inches) will be provided to accommodate wheelchair users at the “summit” points of hills and mounds.

(3) *Seating.* Seating along pathways or at summit points provides comfortable resting areas for children with limited stamina. Seating will not obstruct the minimum clear pathway width of 900 mm (36 inches).

k. Separation and Barriers.

(1) *Gates.* Pedestrian gates at entries and exits will have a minimum width of 1200 mm (48 inches). The gate opening force will not exceed 13 N (3 pounds) for play areas intended for children age 5 or less, and 22 N (5 pounds) for play areas intended for children older than 5 years.

(2) *Gate Hardware.* Hardware will be mounted on gates to meet accessibility standards for adults. When it is appropriate for children to open a gate, hardware will be mounted at heights for adults and at a height of 750 to 850 mm (30 to 34 inches) for children.

l. Signage. Signs will meet accessibility standards for adults. In addition, the following guidelines apply:

(1) *Height.* Signage height will meet accessibility standards for adults. If signs are intended for use by children, the appropriate mounting height is 1200 mm (48 inches) or lower, depending on the age of the primary user group. The height or heights that are most appropriate for users should be determined. Signs should be mounted at a consistent height throughout the site.

(2) *Location.* Signs should be visible and accessible from pathways and within reach for touch reading. Directional indicators will be clear.

(3) *Informative Signs.* Informative signs placed at the entry to a site should identify and locate accessible routes and facilities. Tactile maps can fulfill this purpose and can also be read by touch by people with limited vision.

m. Parking. Parking will meet accessibility standards for adults.

8-5. Noncompliance.

If a project can not be made accessible, in compliance with the guidelines presented in this manual, the designer will document the specific reason why the facility was not made accessible. This documentation will be maintained in the permanent project files.

Table 8-1. Play Events and Accessibility.

Play Event	Type of Disability				
	Physical ¹	Physical ²	Visual	Auditory	Developmental
Balance beam	X		X	X	X
Banister slide	X		X	X	X
Chinning/turning bar	X		X	X	X
Clatter bridge	X	X	X	X	X
Climber	X		X	X	X
Climber - arch	X		X	X	X
Climber - net	X		X	X	X
Fire pole			X	X	X
Game panel	X	X	X	X	X
Horizontal ladder	X		X	X	X
Parallel bars	X		X	X	X
Playhouse	X	X	X	X	X
Ring trek			X	X	X
Sand table	X	X	X	X	X
Slide			X	X	X
Spring rocking equipment	X	X	X	X	X
Stationary bridge	X	X	X	X	X
Swing - to-fro	X	X	X	X	X
Swing - rotating	X	X	X	X	X
Track ride			X	X	X
Tunnel	X		X	X	X
Composite structure	X	X	X	X	X

¹ With upper body strength.

² Without upper body strength.

X - Recommended play event.