

Beach access routes must be provided to existing beaches when a pedestrian route is constructed from a recreation site to or along the edge of an existing beach, or when an existing beach access route is altered. It must extend to the high tide level, mean high water level, or normal recreation water level as described for new beaches, so that visitors can participate in water-related recreation activities (figure 43).



Figure 43—Everybody ought to be able to get to the beach.

Several exceptions are permitted for routes on existing beaches. Designers and managers can choose to use a temporary beach access route on existing beaches for administrative, environmental, or operational reasons. Factors that might influence a decision in favor of a temporary beach access route include the restrictive permits that may be required in coastal and shoreline areas, or excessive wave action that can cause erosion, quickly turning a permanent beach access route into a hazard. Vehicular access or access provided by an assistive device isn't an acceptable temporary beach access route.

Routes created solely for shoreline maintenance don't have to meet beach access route requirements; neither

do undeveloped public easements, nor access trails when another beach access route meets the requirements and accesses the same beach within $\frac{1}{2}$ mile (800 meters).

Beach access route requirements are not triggered when an existing beach is being replenished with new material to restore eroded areas, so long as no other improvements are made. Beach access routes are not required when the pedestrian route, boardwalk, or pathway along the edge of an existing beach is elevated 18 inches (455 millimeters) or higher above the beach surface.

Slopes and Resting Intervals for Beach Access Routes

Running slopes—the slope parallel to the direction of travel—on a beach access route may be up to 1:20 (5 percent) for any distance, up to 1:12 (8.33 percent) for 50 feet (15 meters), and up to 1:10 (10 percent) for 30 feet (9 meters). To ensure that the beach access route is not designed as a series of steep segments, no more than 15 percent of the total length may exceed a slope of 1:12 (8.33 percent). As with ORARs, **for alteration projects only**, the requirement for running slope doesn't have to be met if there is a condition for departure. Cross slopes—the side-to-side slope—may not exceed 1:33 (3 percent). The basic slope requirements are the same as for ORARs (see figure 29).

Resting intervals identical to those required for an ORAR are required whenever the running slope of a beach access route exceeds 1:20 (5 percent). See *ORAR Slopes and Resting Intervals* for resting area requirements.

Maneuvering Space for Beach Access Routes

Space must be provided at the high tide level, mean high water level, normal recreation water level, or at the end of a beach access route so someone using an assistive device can move around safely. This maneuvering space is different from a passing area, because maneuvering space

can't overlap the beach access route. Other requirements, such as running slope and cross slope, are the same as described for an ORAR passing space.

Surface and Clear Tread Width on Beach Access Routes

A beach access route must have a firm and stable surface and have 36-inch (915-millimeter) minimum clear tread width. If a condition for departure exists, such as when a beach access route passes between a large boulder and a stream, the clear tread width may be reduced to not less than 32 inches (815 millimeters) for no longer than 24 inches (610 millimeters).

Passing Spaces on Beach Access Routes

Where the clear tread width of a beach access route is less than 60 inches (1,525 millimeters), passing spaces are required at least every 200 feet (60 meters). No exception is permitted. Passing spaces are at least 60 inches (1,525 millimeters) wide by 60 inches (1,525 millimeters) long (see figure 33). Another option allows a T-intersection of two beach access routes or other walking surfaces to be a passing space, provided that the arms and stem of the T-shaped space extend at least 48 inches (1,220 millimeters) beyond the intersection (see figure 34). Either configuration would provide enough room for someone to move to the side and let an oncoming person pass. The cross slope of a passing space shouldn't exceed 3 percent.

Changes in Level on Beach Access Routes

Obstacles along a beach access route must not be more than 1 inch (25 millimeters) high. There is no exception.

Protruding Objects on Beach Access Routes

Protruding objects are things such as leaning trees, rock ledges, and driftwood that extend into the clear width

of a beach access route. At least 80 inches (2,030 millimeters) of clear headroom must be provided on beach access routes, the same requirement as ABAAS section 307. Where the vertical clearance of a beach access route is less than 80 inches (2,030 millimeters) because of a condition for departure, a barrier must be provided to warn people who are blind or visually impaired (see figure 35).

Openings in Beach Access Routes

Openings are gaps in the surface of a beach access route. Gaps include spaces between the planks on a boardwalk and drainage holes in temporary or permanent surfaces. Openings that are big enough for wheels, cane or crutch tips, or shoe heels to drop through or get stuck in are hazards that shouldn't exist in pedestrian routes. Openings up to ½ inch (13 millimeters) wide are permitted. Elongated openings must be placed so that the long dimension runs perpendicular or diagonal to the primary direction of travel (see figure 37). An exception allows openings that are less than 1/4 inch (6.4 millimeters) wide to be placed parallel to the dominant direction of travel.

Edge Protection for Beach Access Routes

Edge protection is required along beach access routes where the dropoff from the route to the beach is 6 inches (150 millimeters) or higher. Edge protection may be a curb, wall, railing, or other projecting surface that defines the edge of a pedestrian route and helps to keep people from falling off. Edge protection must be at least 2 inches (50 millimeters) high (figure 44). If the dropoff from the route to the beach is more than 1 inch (25 millimeters) but less than 6 inches (150 millimeters), edge protection isn't required, but the vertical edge of the dropoff must be beveled with a slope of 1:2.

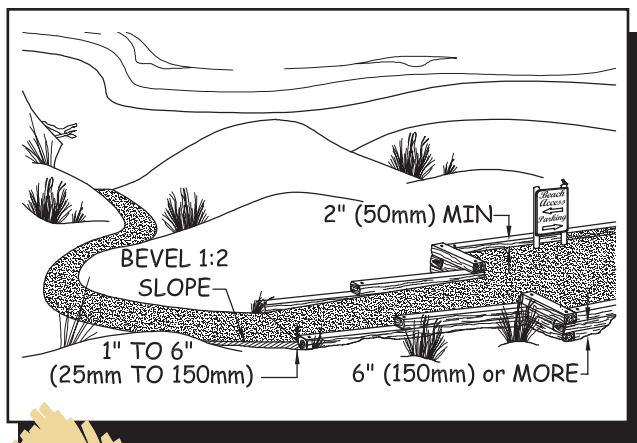


Figure 44—The requirements for edge protection on a beach access route.

42 Providing Creature Comforts and Conveniences—Constructed Features

Constructed features are the site furnishings and other elements provided in picnic areas, campgrounds, and other recreation sites. The constructed features addressed in sections 4, 5, and 6 of the FSORAG include **picnic tables, cooking surfaces, camping units, parking spurs, tent pads and platforms, fire rings, wood stoves, fireplaces, utilities, utility sinks, benches, trash containers, and recycling containers.** Also included are **viewing areas, telescopes, periscopes, storage facilities for assistive devices, pit toilets, warming huts, outdoor rinsing showers, and signs.**

The Forest Service policy of universal design directs the agency to construct, purchase, and install only elements and constructed features that are accessible. For example, even if steep terrain or other conditions in an alteration project at a recreation site preclude complying with the slope provisions for the ORAR to a picnic table or camping unit, all the components and furnishings still must comply with the relevant sections of the FSORAG. Individuals can select the location where they want to

picnic or camp without being limited by the location of accessible features of the picnic or camping unit. This requirement includes all picnic tables, pedestal grills, and other features in a picnic area or campground if they are purchased or constructed by or on behalf of the Forest Service. The few exceptions to this general rule are explained below.



CONSTRUCTION TIP—

Is it really accessible?

Manufacturers don't necessarily understand accessibility requirements. Some manufacturers advertise their products as "accessible" or "ADA compliant," even though they aren't. The only way to make sure that a product such as a picnic table or fire ring is truly accessible is to compare the dimensions of the product to the ABAAS or FSORAG requirements. Ask the manufacturer for the shop drawings or for the location of a retailer or campground near you where you can examine the product.

The FSORAG doesn't require that any particular constructed feature be provided in a picnic area or campground. If there were no plans to provide outdoor rinsing showers, utility sinks, or utility hookups at a campground, the FSORAG wouldn't require them to be installed. However, if a feature is provided, the FSORAG requirements must be met. The same principle applies in general forest areas (GFAs). The FSORAG doesn't require constructed features and site furnishings to be provided in GFAs, but if they are provided, they must meet the requirements of the FSORAG.

Constructed features are addressed in three sections in the FSORAG: picnic areas, campgrounds, and other. The divisions aren't absolute, as some features addressed in one section may also be found in another. For example, picnic tables are addressed under *Constructed Features*

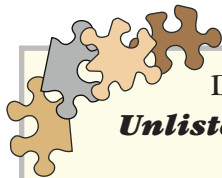
for Picnic Areas, but the same technical provisions apply to tables provided in campgrounds. Trash receptacles are covered under *Other Constructed Features*, even though trash receptacles are commonly found in picnic areas and campgrounds.

Clear floor or ground space is required at each constructed feature, but the size of the clear area varies with the feature. The differences are based on how each feature is used and whether users need to approach just one side of the feature or all sides of it. For instance, users may only need to get to the front of a water hydrant, but they need to get to all sides of a picnic table or fire ring. When several constructed features are grouped together, their clear spaces may overlap. For example, the 48-inch (1,220-millimeter) clear space around a picnic table may overlap the 48-inch (1,220-millimeter) clear space around a pedestal grill provided in a picnic unit. The clear space of a constructed feature is **not** allowed to overlap the ORAR connecting the feature to the rest of the site.

Reach Ranges and Operability Requirements

In this guide, you will see the requirement “Controls and operating mechanisms must comply with the provisions for reach ranges and operability specified in ABAAS sections 308 and 309” whenever a constructed feature has buttons, knobs, handles, or other controls or operating devices. One of the basic principles of universal design and accessibility is to provide controls that almost everyone can reach and use.

The ABAAS section 309 requires that controls and operating mechanisms have to be operable with one hand without tight grasping, pinching, or wrist twisting, using a force no greater than 5 pounds (2.2 newtons).



DESIGN TIP—

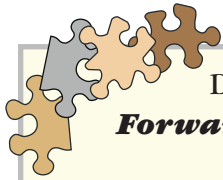
Unlisted features

What if a designer wants to provide a constructed feature that isn't addressed in the FSORAG? Lantern hooks often are provided in campgrounds, but the FSORAG does not address lantern hooks. In this case, designers would need to go back to the basic building blocks of accessible design—wheelchair dimensions, clear space, and reach ranges found in the ABAAS.

Using that information and the principles of universal design, designers would know that if the hooks were to be usable to the greatest number of campers

of all ages, with and without disabilities, the hooks would need to be placed within the reach range of someone in a seated, as well as a standing, position.

This could be accomplished by a mechanical device to raise the hook or by installing two hooks at the proper levels. The lantern hook also would need to have the appropriate clear space around it to allow someone in a wheelchair to approach it from the front or the side. The clear space for the lantern hook shouldn't overlap the ORAR.



DESIGN TIP—

Forward reach and side reach

When the terms forward reach and side reach are used in the context of accessibility, they don't refer to the object a person is trying to reach. They refer to the position of the person doing the reaching. A forward reach means that the person is facing the object and reaching forward toward it (figure 45). A side reach means that the person's side is closest

to the object, and the person is reaching either to their right or left towards the object (figure 46). People using wheelchairs can't reach as far forward over their laps as they can reach to the side. They also need different sized spaces to position their wheelchairs to be able to reach objects from the front and from the side. This is why there are different height and clear floor space requirements for forward and side reaches.

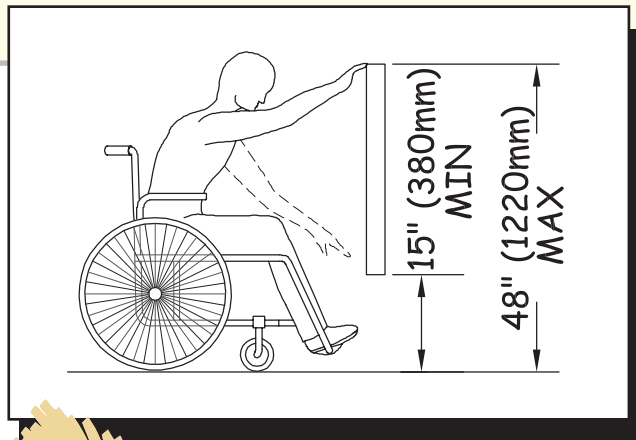


Figure 45—The requirements for unobstructed forward reach.

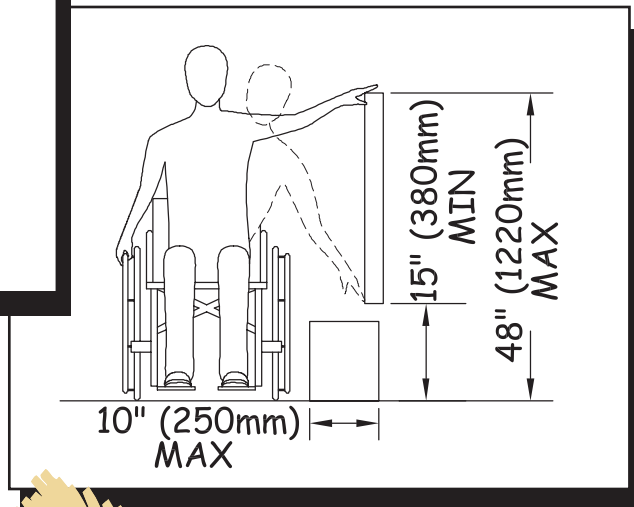


Figure 46—The requirements for unobstructed side reach.

Section 308 of the ABAAS identifies the following reach requirements:

Unobstructed Reaches—Where a forward or side reach is unobstructed, the object to be reached must be no higher than 48 inches (1,220 millimeters) and no lower than 15 inches (380 millimeters) above the floor or ground (see figures 45 and 46). For side reaches only, an object that isn't more than 10 inches (255 millimeters) wide and is below the object to be reached doesn't count as an obstruction.

Obstructed Forward Reach—Where an object must be reached over an obstruction, the clear floor space must extend beneath the obstruction for at least as far as the reach depth over the obstruction. The object to be reached can't be under the obstruction. If the obstruction is 20 inches (510 millimeters) deep or less, the object to be reached must be between the top of the obstruction and 48 inches (1,220 millimeters) above the floor or ground (figure 47). If the obstruction is more than 20 inches (510 millimeters) deep, the object to be reached must be between the top of the obstruction and 44 inches (1,120 millimeters) above the ground or floor (figure 48). The obstruction can't be more than 25 inches (635 millimeters) deep.

Obstructed Side Reach—For side reaches, obstructions can't be more than 34 inches (865 millimeters) high or 24 inches (610 millimeters) deep. The object to be reached can't be under the obstruction. If the reach depth is 10 inches (255 millimeters) or less, the object to be reached must be 48 inches (1,220 millimeters) or less above the ground or floor (figure 49). If the reach depth is between 10 and 24 inches (255 and 610 millimeters), the object to be reached can't be more than 46 inches (1,170 millimeters) above the floor or ground (figure 50).

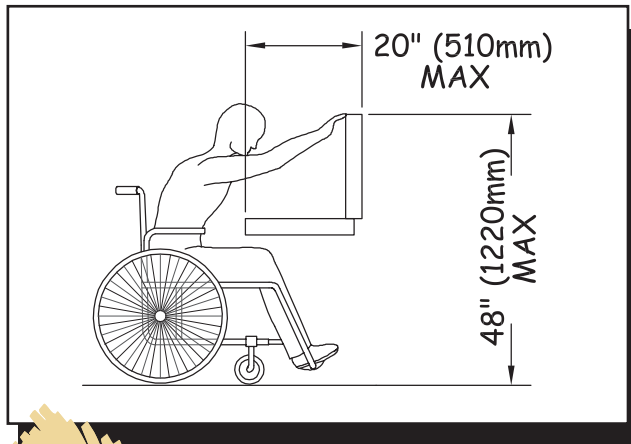


Figure 47—The requirements for obstructed high forward reach, narrower obstacles

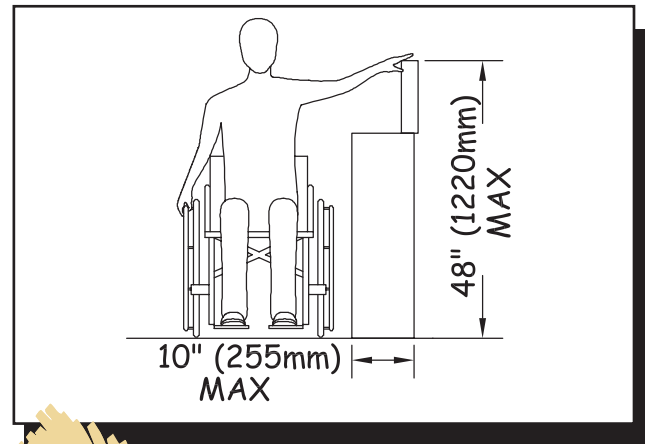


Figure 49—The requirements for obstructed high side reach, narrower obstacles.

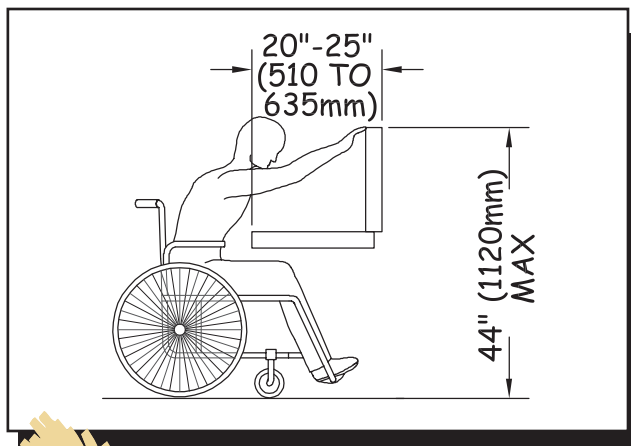


Figure 48—The requirements for obstructed high forward reach, wider obstacles.

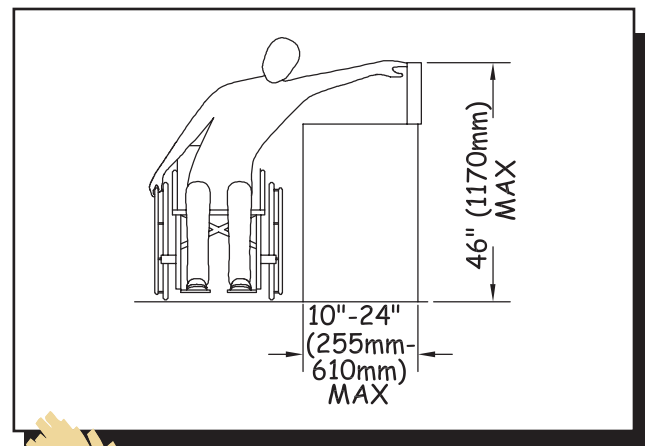


Figure 50—The requirements for obstructed high side reach, wider obstacles.