



Applying Accessibility Guidelines to Your Site

How did we end up with so many accessibility guidelines and standards? Which guidelines and standards apply to your site? The following information will demystify accessibility guidelines and standards.

The History of Accessibility Guidelines

As explained earlier in this guidebook, accessibility laws have been enacted and updated since 1968. Here is a brief history of the guidelines for buildings, recreation facilities, and trails:

- **American National Standards Institute (ANSI)—1969 to 1980.** The first accessibility guidelines used by Federal agencies under the Architectural Barriers Act (ABA).
- **General Services Administration Accessibility Guidelines—1980 to 1984.** The General Services Administration (GSA) developed its own set of guidelines for all buildings other than those of the U.S. Department of Housing and Urban Development, the U.S. Department of Defense, or the U.S. Postal Service. Those agencies developed their own guidelines.
- **Uniform Federal Accessibility Standards (UFAS)—1984 to 2006.** These standards updated and expanded the GSA accessibility guidelines. The standards were adopted under ABA and applied to all federally funded facilities, unless there was a higher standard of accessibility for that type of structure required by other legal standards or guidelines.
- **Americans with Disabilities Act Accessibility Guidelines (ADAAG)—1991 to 2010.** ADAAG explains how to apply the Americans with Disabilities Act (ADA) of 1990 in the built environment. These guidelines apply to services provided by State and local governments, and public accommodations, such as motels and hotels.
- **Americans with Disabilities Act/Architectural Barrier Act Accessibility Guidelines (ADA/ABAAG) of 2004.** Issued by the U.S. Access Board, these guidelines were developed as a merger and update of UFAS and ADAAG requirements. Chapters 1 and 2 contain application, administration, and scoping requirements. The 100 and 200 series apply only to those entities covered by ADA, (State and local government entities and private entities open to the public) and are NOT for Federal agency use. The F100 and F200 series apply only to facilities constructed by, for, or on behalf of Federal agencies. Chapters 3 through 10 provide the technical specifications that apply to all entities, unless the State or Federal agency has its own accessibility guidelines that are an equal or higher standard.
- **Architectural Barriers Act Accessibility Standards (ABAAS) of 2006.** The GSA, standard-setting agency for Forest Service facilities, adopted the ABA portion of ADA/ABAAG as the standard for all agencies under its standard-setting jurisdiction. The new ABAAS replaced UFAS.
- **ADA Standards for Accessible Design (ADASAD) of 2010.** The U.S. Department of Justice adopted the ADA portion of ADA/ABAAG for use by State and local government entities and private entities open to the public. ADASAD is effective as of March 15, 2012.
- **Outdoor Developed Areas Accessibility Guidelines (ODAAG) of 2012.** The U.S. Access Board developed ODAAG as a component of ADA/ABAAG. It contains accessibility guidelines for outdoor developed recreation areas and trails that are federally funded. Federal agencies may develop and use their own guidelines only if they are an equal or higher standard.
- **Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) and Forest Service Trail Accessibility Guidelines (FSTAG), 2012 Updates.** These guidelines are an equal or higher standard than ODAAG for outdoor recreation facilities and trails on the National Forest System. These guidelines must be used for the design, construction, alteration, purchase, or replacement of recreation sites, facilities, constructed features, and trails that meet FSTAG criteria on the National Forest System (FSM 2330 and FSM 2350).



Current Accessibility Guidelines That Apply to the Forest Service

The Forest Service and those working with or for the Forest Service on National Forest System land must comply with the following enforceable guidelines and standards when designing, constructing, or altering any facility or component addressed by those standards on National Forest System land.

Architectural Barriers Act Accessibility Standards (ABAAS). Forest Service drinking fountains, toilet facilities, parking lots and spaces, cabins, and administrative buildings are among the components covered by ABAAS. The complete ABAAS is available at <<http://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-aba-standards/aba-standards>>.

Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) and Forest Service Trail Accessibility Guidelines (FSTAG). These guidelines must be used for the design, construction, alteration, purchase, or replacement of recreation sites, facilities, constructed features, and trails on the National Forest System. The complete FSORAG and FSTAG are available at <<http://www.fs.fed.us/recreation/programs/accessibility/>>.

Table 1 shows examples of different facilities that are covered by ABAAS, FSORAG, and FSTAG.

What if the Guidelines Appear To Conflict With Each Other?

It may appear that some accessibility guidelines conflict with other guidelines or codes, or with the realities of the outdoor environment. Railings must be high enough to protect visitors from a drop off, but railings that high might limit the viewing opportunity for a person using a wheelchair. Which requirement takes priority? Trash receptacles are supposed to be accessible so that everyone can use them, but then how do we keep bears out? Handpumps are vital to drawing water in campgrounds where the water system isn't pressurized, but operating the long handle of the traditional pump requires more force and a longer reach than allowed by accessibility provisions. Roads that have restrictions or closures to use by motorized vehicles may be open to foot travel, so how can a road be gated or bermed to keep out vehicles but still allow access by a person using a wheelchair? When you are faced with these types of situations, stop and think carefully about the issues. The solution always comes back to ensuring safety, abiding by the regulations, and doing so in a manner that includes the needs of all people.

Table 1—Accessibility guidelines quick guide (which accessibility guidelines apply where).

ABAAS	FSORAG (Apply only within National Forest System boundaries)	FSTAG (Apply only within National Forest System boundaries)
Buildings, Boating, and Fishing	Recreation Site Features	Hiker and Pedestrian Trails
<p>All buildings, including:</p> <ul style="list-style-type: none"> • Administrative offices • Residences • Crew quarters • Visitor centers • Entrance stations • Parking lots <p>Building components such as:</p> <ul style="list-style-type: none"> • Restrooms with and without water • Work stations • Doors • Operating controls (door handles, faucet controls, thermostats, etc.) • Drinking fountains <p>Boating and fishing facilities, including:</p> <ul style="list-style-type: none"> • Boating facilities • Docks • Fishing piers and platforms 	<p>New or reconstructed:</p> <ul style="list-style-type: none"> • Picnic areas • Fire rings • Picnic tables • Grills • Woodstoves • Benches • Cooking surfaces • Pedestal grills • Fireplaces • Beach access • Outdoor recreation access routes • Camping units (eating and cooking areas, parking spurs, tent pads) • Campground utility connections • Water hydrants • Outdoor rinsing showers • Pit toilets in remote areas • Trash and recycling containers • Viewing areas and overlooks • Telescopes and periscopes 	<p>Trails that are new or altered</p> <p>and</p> <ul style="list-style-type: none"> • Have a Federal Trail Data Standard (FTDS) Designed Use of Hiker/Pedestrian <p>and</p> <ul style="list-style-type: none"> • Connect either directly to a trailhead <p>or</p> <ul style="list-style-type: none"> • Connect directly to a trail that substantially complies with FSTAG



Railings—Guardrails, Handrails, and Safety

Accessibility never supersedes the requirements for safety. This issue most commonly arises at overlook areas, on viewing structures, and in similar locations. For safety, the International Building Code (IBC), <<http://www.iccsafe.org>>, section 1003.2.12 contains requirements for guardrail height and the spacing of rails where there is a drop off of 30 inches or more. These requirements provide opportunities for creative design and for managers and designers to think seriously about the level of development that is appropriate for the setting. The creativity challenge is to provide safety when designing the railing or structure adjacent to the drop off, while maximizing viewing opportunities. Methods of solving this challenge are discussed in “Viewing Areas” of this guidebook.

Reconsidering the level of development at a site may be another way to balance safety and accessibility issues. It may not always be appropriate to provide paths and interpretive

signs. When signs indicate a scenic viewpoint and a pathway begins at the parking lot, visitors are likely to stop, pile out of their vehicle, and head down that pathway, often with the children running ahead. Because of the high level of development at the entrance to the pathway, visitors expect that the viewpoint will have a similar high level of development, including safety features. Development should be consistent at both ends of the pathway.

If the area isn’t developed, such as a waterfall in the forest with no signs or constructed trail to it, it may not be appropriate to develop a viewpoint. Some scenic areas should remain natural so that people have the opportunity of adventure and solitude. The safety and accessibility requirements only apply when constructed features are added to the setting.

While the accessibility guidelines for outdoor recreation areas do not require *handrails* at stairs, consider the safety of the people using the stairs and the setting when deciding whether handrails are appropriate. What is the expected



Terminology Tip

What’s the difference between a guardrail, a handrail, and a grab bar?

The following explanations of terms are based on the International Building Code and the Architectural Barriers Act Accessibility Standards. Keep these explanations in mind and use them to communicate more effectively.

- **Guardrails** protect people from dropoffs higher than 30 inches (760 millimeters). Guardrails must be at least 42 inches (1,065 millimeters) high. If the guardrail has openings that are less than 34 inches (865 millimeters) above the walking surface, they must be small enough to prevent a 4-inch (100-millimeter) sphere from passing through them (figure 15). Requirements for guardrails are detailed in the International Building Code, section 1003.2.12.
- **Handrails** provide a steady support for persons who are going up or down stairs or inclines. Handrails must be between 34 inches (865 millimeters) and 38 inches (965 millimeters) above the walking surface and be easy to grip. Details about acceptable configurations for handrails are provided in the International Building Code, section 1003.3.3.11 and in the Architectural Barriers Act Accessibility Standards, section 505.
- **Grab Bars** provide stability and allow people to use their arms to help them move short distances. The most common location for grab bars is in restrooms. The required locations of grab bars are explained in the Architectural Barriers Act Accessibility Standards, chapter 6. Details about grab bar configuration and attachment are provided in the Architectural Barriers Act Accessibility Standards, section 609 and in the International Building Code, chapter 11.

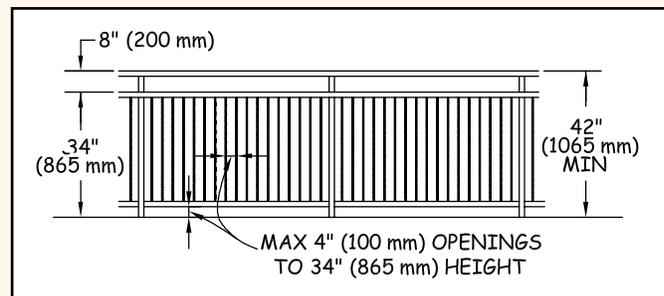


Figure 15— Dimensions required for guardrails.



amount of use? The determination must be made on a case-by-case basis. For example, a handrail might not be necessary where there are a few regularly spaced stairs to an individual camping unit. However, handrails on stairs in a high-traffic recreation site may be important for safe use of the stairs. If the decision is made to install handrails at a recreation site, consider how the appearance of over development can be avoided while providing for safe use of the stairs. Choose materials carefully; determine how many railings will be provided based on safety considerations rather than convention, and so forth. When it is determined handrails are needed for safety at a specific site in an outdoor recreation area, use the technical requirements for handrails located in ABAAS, section 505.

Trash Receptacles and Wildlife

Safety is also the primary issue when it comes to the accessibility of *trash receptacles*. In bear country, use trash and recycling containers designed to keep the bears out to minimize contacts between bears and humans. Operating controls for these types of containers require more force than is allowed for accessible operation. Until bear-resistant trash and recycling containers that comply with the technical requirements for accessible operating controls are available from more than one source, recreation areas where bears and other large animals pose a risk to humans are exempt from this requirement. Incidentally, dumpsters—the big containers that are mechanically lifted and tipped to empty into commercial garbage trucks—are exempted from accessibility guidelines. More information about trash receptacles is in “Trash, Recycling, and Other Essential Containers” of this guidebook.

Handpumps and Water Systems

Handpumps also have been a concern (figure 16). Because of the piston-like pump mechanism, handpumps require a long reach. As the depth of the well increases, so does the force necessary to draw water, so most handpumps require a force greater than 5 pounds (2.2 newtons) to operate. An accessible handpump is now available for purchase. For shallower wells, this pump can draw the water while remaining in full compliance with the grasping, turning, and pressure restrictions of the



Figure 16—Not all campers can operate a standard handpump.

accessibility guidelines (figure 17). More information about the new pump is available at <http://www.fs.fed.us/recreation/programs/accessibility/>. For wells with a static water depth of 40 feet (12 meters) or less, the accessible handpump can be used for many new or replacement installations. Accessible pumps for deeper wells are being developed and should be used when they become available. In the meantime, the accessibility requirements for handpump operating controls are under an exception explained in “Water Hydrants” of this guidebook.



Figure 17—With an accessible handpump, the choice of who does the pumping is up to the campers.



Solar powered water systems (figures 18 and 19) are an excellent sustainable solution that can provide drinking water throughout the recreation season. In addition, a faucet that fully complies with the accessible operating control requirements can be used (figure 20). Even national forests in Northern States are having good success with their solar systems.



Figure 18—The water pump inside the pumphouse at Vermilion Falls Recreation Area on the Superior National Forest is powered by the solar panels on the roof. People can obtain drinking water without using a handpump at this site that has no electric service.



Figure 20—This water spigot is operated by first pushing the handle to one side, then pressing the push button. The water will stop when the button is no longer depressed.

Foot Travel on Trails and Roads With Restrictions

When *gates*, *barriers*, or *berms* are installed on a trail or road to close it to motorized traffic or for other purposes, but foot travel is encouraged beyond the closure, people who use wheelchairs that meet the legal definition must be able to get behind the closure, as required by Section 504 of the Rehabilitation Act of 1973. As explained in “Program Accessibility” of this guidebook, a wheelchair is permitted anywhere foot travel is permitted.

When foot travel is encouraged beyond a closure, the Office of General Counsel of the U.S. Department of Agriculture has determined that a minimum of 36 inches (915 millimeters) of clear passage must normally be provided around or through the gate, berm, or other restrictive device (figures 21

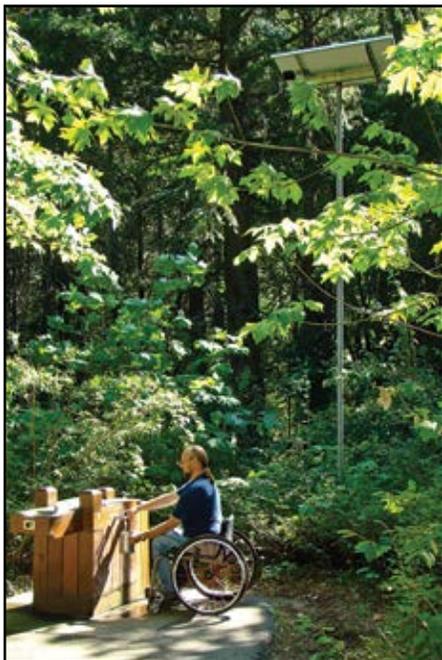


Figure 19—The water pumps for many campgrounds, such as this campground in the deep, narrow Icicle River Valley of the Okanogan-Wenatchee National Forest, can be housed in small pedestal enclosures and powered by solar panels on an adjacent pole. The pedestal enclosure also houses solar batteries.



Figure 21—This road closure gate does not provide enough clearance to allow pedestrian passage.

What if the Guidelines Appear To Conflict With Each Other?



Figure 22—One way to get around a vehicle road closure gate: a paved bypass.

and 22) to ensure that a person who uses a wheelchair can participate in the opportunity behind the restriction. This clear passage is required by the accessibility guidelines as explained in “Gates and Barriers” of this guidebook. Various methods can provide pedestrian passage around a restrictive device, but prevent passage by animals or vehicles that are

not allowed beyond the gate or barrier. The Forest Service has developed designs for the tech tip “Accessible Gates for Trails and Roads.” These gate designs can be locally constructed from materials appropriate to the setting. The plans are available at <http://www.fs.fed.us/recreation/programs/accessibility/pubs/htmlpubs/htm06232340/index.htm> and <http://www.fhwa.dot.gov/environment/fspubs/>.

Indications that foot travel is encouraged include:

- Destination signing
- A pedestrian recreation symbol without a slash
- A Forest Service map that highlights an opportunity behind the closure
- A trail management objective or road management objective stating that pedestrian use is encouraged

In areas where foot travel isn’t encouraged, but occasional pedestrian use is allowed before and after installation of the restriction device, work with individuals who use wheelchairs to determine the best solution.





Important Tools for Accessible Recreation

The following tools work together with the accessibility guidelines when accessible recreation facilities and programs are being developed and managed.

Built Environment Image Guide

The “Built Environment Image Guide” (BEIG) provides guidance for improving the image, aesthetics, sustainability, and overall quality of the Forest Service’s built environment. It emphasizes key elements to showcase the Forest Service’s national identity and an image of quality and service. Within eight geographically defined architectural character types, BEIG emphasizes design that projects the overall Forest Service image while echoing local values, heritage, and culture. Use of BEIG contributes to an integrated approach to planning and design, including early collaboration among planners, designers, specialists, managers, and maintenance personnel.

The goal of BEIG is to influence the design, construction, and maintenance of buildings and other constructed features so they will:

- Fit on the land
- Reflect sensitive site planning and a concern for natural processes
- Harmonize with the local landscape and climate
- Incorporate the principles of sustainability as an integral part of their architectural character
- Be accessible
- Be durable and low maintenance

BEIG specifically requires use of universal design principles and points out that if universal design principles are applied to a site or facility design from the outset, they rarely, if ever, have any obvious effect on architectural character. When the principles of universal design are skillfully executed, facilities can still fit seamlessly within the natural and social environments. More information about BEIG is available at <http://www.fs.fed.us/recreation/programs/beig/>.

Recreation Opportunity Spectrum and Recreation Site Scale

Recreation Opportunity Spectrum (ROS) classifications provide guidance on the:

- Amount of development that is acceptable at any given site
- Amount of deviation from the site’s natural characteristics that is appropriate during development
- Types of materials that are appropriate for the setting
- Typical recreation activities in each setting classification (figure 23)



Figure 23—This free-style climber appears to enjoy the challenge, self-reliance, and independence characteristic of semi-primitive and primitive recreation opportunity spectrum settings. *Photo credit: Disabled Sports USA, Rockville, MD*

The spectrum assigns classifications of Urban, Rural, Roaded Natural, Semi-Primitive Motorized, Semi-Primitive Non-Motorized, and Primitive based on identified setting characteristics. Some units also include a Roaded Modified classification. Maps should be available at district or supervisor’s



offices showing ROS classification for the National Forest System lands administered by that unit. More information about ROS is available at <http://www.fs.fed.us/cdt/carrying_capacity/rosfieldguide/ros_primer_and_field_guide.htm>.

The amount of development at a site is described using a six-level recreation site planning development scale ranging from 0 (no site modification) to 5 (extensive site modification). Site modifications are provided for visitor convenience and comfort in recreation sites with characteristics meeting the criteria for scale level 3, 4, and 5. Rustic or rudimentary site modifications may be provided for resource protection at level 2 or less. Definitions of each level of the Forest Service's recreation site scale are included in the Forest Service Manual, Chapter 2330, exhibit 01.

Although neither ROS classifications nor the recreation site scale determine accessibility requirements, take both into account when designing site improvements. For instance, you may need improvements for resource protection in primitive and semi-primitive settings at recreation sites meeting the criteria for scale levels 1 or 2. In urban, rural, and roaded natural settings, you may want to provide improvements for visitor comfort and convenience at recreation sites meeting the criteria for scale levels 3, 4, or 5.

Wilderness Access Decision Tool

Details and implementation guidance for applying Title V, Section 507(c), the section of ADA that applies to Federal agencies and to the programs and facilities on federally managed lands, can be found at <<http://www.wilderness.net/index.cfm?fuse=toolbox&sec=accessibility>>. Federal managers of wilderness areas can use this matrix to make appropriate, objective, and consistent decisions that meet the legal requirement to provide equal opportunity for all individuals, while ensuring no fundamental change to the wilderness experience for all individuals, in accordance with the 1964 Wilderness Act.

Appalachian Trail Conservancy's "Backcountry Sanitation Manual"

This comprehensive manual explains the basic issues of remote area sanitation, including health, aesthetics, and regulations, but it focuses on the construction and maintenance of moldering and composting toilets, and includes case studies and design plans. The "Backcountry Sanitation Manual" <<http://www.appalachiantrail.org/docs/trail-maintainers-corner/2011/04/14/backcountry-sanitation-manual.pdf>> is a cooperative project of the Green Mountain Club and the Appalachian Trail Conservancy.

Resolving problems of backcountry sanitation is a continuous challenge for trail clubs and land managers. This manual was created in the belief that all remote recreation areas will benefit from an expanded discussion of backcountry sanitation.

*Pete Antos-Ketcham, Director of Operations,
Green Mountain Club*

Appalachian Trail Conservancy's "Increasing Opportunities for Access on the Appalachian Trail: A Design Guide"

Using the Forest Service's FSTAG and FSORAG, this design guide incorporates real-world Appalachian Trail examples as case studies that represent opportunities that can be used on other pedestrian trails. The guide's theme—universal design—transcends issues solely related to access for persons with disabilities by describing how universal design reduces resource damage and maintenance, saving money. The guide is available free of charge at <<http://www.appalachiantrail.org/docs/trail-maintainers-corner/increasing-opportunities-for-access-on-the-appalachian-trail-a-design-guide.pdf>>, (Appalachian Trail Conservancy 2007).





Accessibility Guidebook for Outfitters and Guides Operating on Public Lands

This guidebook contains a framework to help outfitters and guides who operate under a special-use permit from the Forest Service provide high-quality services for all visitors (figure 24). The guidebook addresses basic facility accessibility issues, but focuses primarily on program and activity accessibility. Outfitters and guides who operate businesses on public lands are governed by ADA because they are providing public accommodations and are also governed by Section 504 of the Rehabilitation Act because they are operating under special-use permits from Federal agencies. The guidebook identifies legal requirements and provides suggestions and practical tips for complying with ADA and Section 504 of the Rehabilitation Act. The guidebook is available at <http://www.fs.fed.us/recreation/programs/accessibility/>.



Figure 24—Outfitters and guides provide the logistics and support for visitors to enjoy a wide range of opportunities on national forests, including fishing.

Accessibility Guidebook for Ski Areas Operating on Public Lands

This guidebook provides a framework to help ski areas operating under special-use permits from the Forest Service better serve all visitors (figure 25). The guidebook addresses facility and program accessibility. Ski areas located on public lands are governed by ADA because they are providing public accommodations and also are governed by Section 504 of the Rehabilitation Act and related regulations because they are operating under special-use permits from a Federal agency. The guidebook includes legal mandates, suggestions, and practical tips for complying with laws and regulations and providing high-quality services. The guidebook is available at <http://www.fs.fed.us/recreation/programs/accessibility/>.



Figure 25—Ski areas that operate on public land must provide equal opportunity to access their services.

Cooperative Publications

The Federal Highway Administration (FHWA) cooperates with the Forest Service to provide Forest Service publications and videos to the public. Many publications are available at <http://www.fhwa.dot.gov/environment/fspubs/index.htm> in HTML and PDF (Acrobat) formats. Print copies for some publications can be ordered at <http://www.fhwa.dot.gov/environment/rectrails/trailpub.htm>.





Standard Forest Service National Trail Specifications

The engineering management publication “Standard Specifications for Construction and Maintenance of Trails” (EM-7720-103) provides a uniform set of specifications for contracted trail work throughout the Forest Service. Although these specifications do not address accessibility, they can be used in conjunction with FSTAG. The publication is available at <http://www.fs.fed.us/database/acad/dev/trails/trails.htm>.

Trail Construction and Maintenance Notebook

The Missoula Technology and Development Center’s “Trail Construction and Maintenance Notebook” contains basic trail building information. It is available at <http://www.fhwa.dot.gov/environment/fspubs/07232806/index.htm>.

Although this document doesn’t address accessibility, it is an important tool that you can use in conjunction with FSTAG during trail construction and planning.

Designing Sidewalks and Trails for Access

FHWA’s “Designing Sidewalks and Trails for Access” is a two-part report on pedestrian accessibility, (Beneficial Designs Inc. 1999 and 2001).

- Part 1, Review of Existing Guidelines and Practices (1999), lays out the history and the practices of applying accessibility concepts to sidewalks and pedestrian trails. This report is out of print and available only at <http://www.fhwa.dot.gov/environment/sidewalks/index.htm>.
- Part 2, Best Practices Design Guide (2001), provides recommendations on how to design sidewalks, street crossings, intersections, shared-use paths, and recreational pedestrian trails. This report is out of print and available only at <http://www.fhwa.dot.gov/environment/sidewalk2/index.htm>.
- A Transmittal Memorandum and an Errata Sheet are available at <http://www.fhwa.dot.gov/environment/bikeped/guidance.htm#Access>.

Accessibility guidelines and practices, as well as construction and maintenance techniques, have evolved since these reports were published. More current information is available in other reports and guidance. For example, see the U.S. Access Board’s public rights-of-way Web site <http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way>, which includes guidance documents and other resources. Documents available at the U.S. Access Board’s Outdoor Developed Areas Web site <http://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas> include reports, such as the “Special Report: Accessible Public Rights of Way Planning and Designing for Alterations” and guidelines about outdoor developed areas. The U.S. Access Board also is considering “Shared Use Path Accessibility Guidelines” <http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/shared-use-paths/about-this-rulemaking>, for trails that are part of a transportation network. FHWA has additional accessibility information on its Accessibility Resource Library Web site at <http://www.fhwa.dot.gov/accessibility/>.

Planning and Designing Outdoor Recreation Facilities for Horses

“Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds,” a comprehensive technical resource, details those elements of planning, design, and construction that are specific to equestrian trails, trailheads, and campgrounds. The report is available at <http://www.fhwa.dot.gov/environment/fspubs/07232816/index.htm>.

The Facilities Toolbox

The “Facilities Toolbox” is an interactive Forest Service facility management Web site designed to help line officers and their staffs manage facilities effectively. The toolbox focuses on issues at administrative sites, but also contains topics such as accessibility, partnerships, recreational fees, historic facilities, and water and wastewater. The toolbox can be accessed at <http://www.fs.fed.us/eng/toolbox/>.



Natural Resource Manager

Natural Resource Manager <<http://basenet.fs.fed.us/>> (available only to Forest Service employees) is the Forest Service corporate integrated data management tool developed for the purposes of inventory, asset management, and upward reporting of information concerning constructed features, including their associated financial data. The site-specific accessibility data fields (number of accessible units, etc.) are on the Recreation Site module's Site Core 2 tab. It is an annual national requirement that this information be kept up to date. Feature-specific accessibility data entry (fields are on the Recreation Site module's Features tab) is not a national requirement; data entry in those fields is optional and it is up to regions or forests to decide if they want to record data.

Recreation and Heritage Resources Integrated Business Systems

This recreation resources management system identifies customer standards that the Forest Service expects to provide across all recreation and heritage resources program areas. Standards form the baseline for estimating the total cost for quality visitor opportunities and services. Compliance with the accessibility guidelines (figure 26) is an important quality measure within the national standards for recreation sites under the responsiveness key measure. The Natural Resource Manager database houses recreation information including inventory, operation and maintenance costs, recreation use data, and information on accessibility. The database is used to implement the recreation resources management system.



Figure 26—The perfect photo spot—a spectacular view and the right mix of resource protection, site development, and accessibility.

Deferred Maintenance

Maintenance work includes improving accessibility as well as compliance with building codes. Include the costs for any uncompleted work that is needed to bring a building into compliance with the provisions of ABA that were in force at the time of construction or major improvement to the building in the Natural Resource Manager database deferred maintenance costs.

If the transition plans to bring the structures into compliance with ABA provisions have not been completed, include the cost to complete them in the deferred maintenance figure because the plans were due for completion before the current fiscal year. The transition plan process (per 7 CFR 15e, section 150) is as follows:

- Evaluate the facility.
- Record improvements needed to meet accessibility standards.
- Develop the transition plan, including:
 - ✧ Items to be improved.
 - ✧ Schedule with completion dates for improvements that will take more than 1 year to finish.

When the transition plan is completed and approved, include the costs to implement accessibility code improvements in the deferred maintenance figure. How and when the costs are included as deferred maintenance depends on the scheduling recorded in the transition plan. Costs for actions scheduled for the current year are immediately included in the deferred maintenance figure. Costs for actions that are past due as of the current fiscal year are also included in the deferred maintenance figure. Costs for actions scheduled for future years aren't added to the current year's deferred maintenance figure. These costs are added as deferred maintenance in the year they are scheduled for completion. As work is completed, it should be shown as an accomplishment in the Natural Resource Manager database for that fiscal year.





Construction and Maintenance Practices

Even the best universal design can be ruined, often unintentionally, by construction or maintenance practices that turn accessible design features into barriers. Construction engineering and inspection personnel must have a thorough understanding of the design intent and of accessibility issues or they must check with the designer before allowing any deviations from the design. Field changes, such as increasing the slope on a walkway to reduce the cost of asphalt paving or increasing the drop at an exterior door threshold to reduce issues with driving rain, can make the entire project inaccessible.



Construction Tip

Avoid unintended consequences.

Consider accessibility when construction is in progress. Any change order intended to solve one problem could create another. For example, standard speed humps can slow speeding traffic in a campground, but they can also become barriers if the main pedestrian access route through the campground is the roadway. Stagger speed humps to block only one lane at a time or limit them to the center of the road, leaving 32 inches (815 millimeters) of clear passage at each side. Both of these approaches will slow traffic without blocking access.

Maintenance and operations activities can help or hinder accessibility. Provide information on accessibility when training maintenance personnel. When employees understand how their work can affect accessibility, they can look for ways to improve accessibility. For example, trained maintenance and

recreation personnel will know not to put a chair or garbage receptacle beside the door of an accessible restroom stall that would prevent the door from opening fully and thus render the stall inaccessible. They will know that picnic tables fastened to the floor of a picnic shelter to prevent theft must be spaced far enough apart so that everyone can use them. They will know not to allow gravel walkway material to erode away from the entrance to a campground restroom, creating an elevation change that makes the restroom inaccessible (figure 27).

Maintenance also can be an opportunity to improve accessibility. A series of small changes can make a big difference.

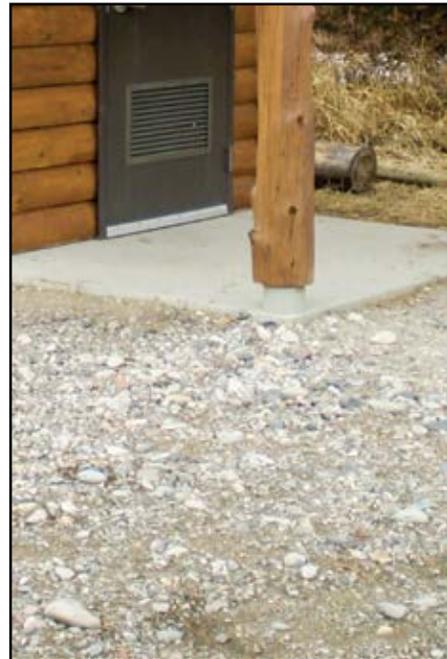


Figure 27—At this campground restroom entrance, the gravel walkway material has sunk or eroded, making the restroom inaccessible due to the difference in elevation between the walkway and the concrete.



Design Tip

Use the VanHorn Roll to minimize maintenance.

Consider how time and normal weathering will affect accessibility when designing recreation areas. For instance, at the point where the concrete pad for a restroom meets the gravel outdoor recreation access route that connects it to the rest of the campground, gravel often erodes away from the concrete, leaving a drop in grade that doesn't meet accessibility requirements. Solve this problem by rolling the edge of the concrete down under the gravel surface of the outdoor recreation access route, as shown in figure 28. This is known as the "VanHorn Roll," named for the Unita-Wasatch-Cache National Forest recreation technician who invented the concept. A similar design can be used to keep the junction between asphalt and concrete surfaces accessible over time, as shown in figure 29.

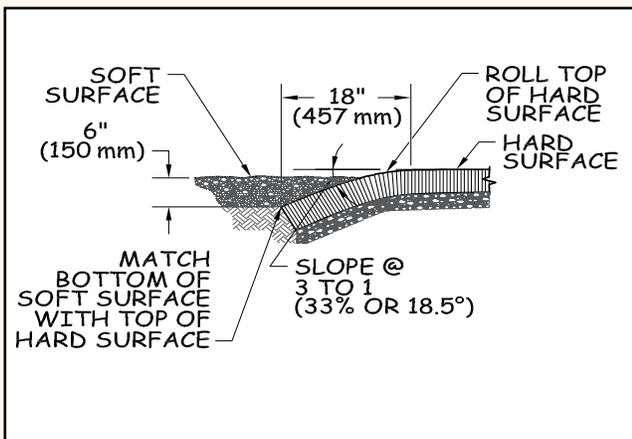


Figure 28—The VanHorn Roll is a design strategy to prolong the time a junction between concrete and gravel pedestrian surfaces meet the accessibility requirements without importing additional gravel to replace material that has eroded away.

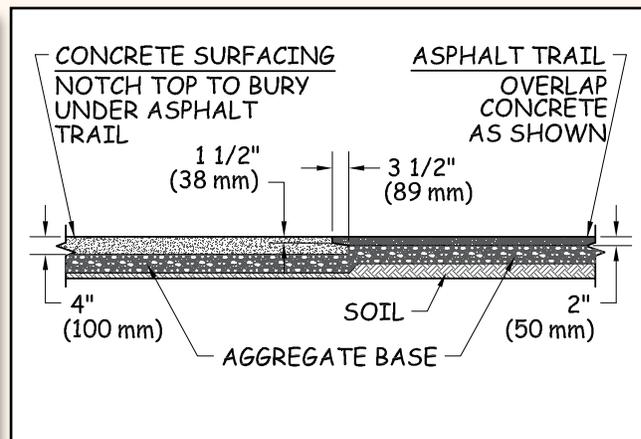
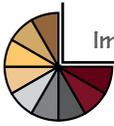


Figure 29—Differential settlement is less likely to occur between adjacent asphalt and concrete walking surfaces if the asphalt is overlaid onto a notch of the adjacent concrete surface.





Maintenance Tip

Improve accessibility through maintenance.

Improved accessibility doesn't always mean new construction or major renovation. Maintenance and routine service present many opportunities to improve accessibility.

An accessible surface is firm and stable. Use caution with the size and depth of gravel when maintaining unpaved surfaces. Generally, smaller gravel with some fine material can be compacted to a firmer surface than larger gravel or gravel that is all the same size. Depending on the surfacing material, mixing in some soil stabilizer may provide an accessible, natural-appearing surface.

Practical Approach

The surface is probably firm and stable if ruts are not left by:

- Someone riding a bicycle with narrow tires
- Someone pushing a 3-year-old in a folding stroller with small plastic wheels

On paved parking lots, designating the required accessible spaces is relatively easy when repainting the parking lot stripes, especially right after the lot has been seal-coated. Ensure that the appropriate wide, striped access aisles are provided next to each designated accessible parking space. The key to accessible parking is the striped zone next to it that ensures adequate space next to the vehicle to allow people to get into and out of their vehicle even if they use a wheelchair, crutches, or a walker.

Designating accessible parking spaces on gravel lots can be a problem because paint won't stay in place. If you designate accessible parking spaces only with a sign, designate end locations closest to the entrance. Ensure that accessible parking signs are 60 inches (1,524 millimeters) high and curb cuts are located appropriately—*next to*, not in the parking space or access aisle.

Building entries must be within ¼ inch (6.4 millimeters) of being flush with the grade of the outside access route and have a beveled doorsill that isn't more than ½ inch (13 millimeters) high. Sometimes it's fairly easy to add surfacing material, shim up the deck or porch boards, or use asphalt or concrete to bring the access route up to the building floor.

The surface at the base of water hydrants at recreation areas must be at least 72 inches (1,830 millimeters) by 48 inches (1,220 millimeters) and must be firm and stable. Consider building a grate and drain, or a paved surface, around hydrants if a soil or gravel surface can't be made firm and stable. If you don't have funding for a major site renovation, repair the area around a few hydrants at a time.

When operating controls need replacing, think about accessibility. To comply with accessibility guidelines, all controls must be operable by one hand without pinching, grasping, or twisting the wrist and with no more than 5 pounds (2.2 newtons) of pressure. When accessible parts are ordered, consider ordering extra parts for future replacements.



Maintenance Tip

Improve accessibility through maintenance (continued).

Practical Approach

If you can operate the control with one closed fist and with less than 5 pounds (2.2 newtons) of pressure, the control is accessible. Three ways to provide accessibility: push button, sensory-operated, and lever handle controls (figures 30, 31, and 32).

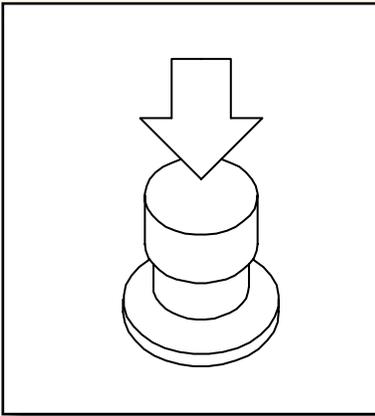


Figure 30—Push button control.

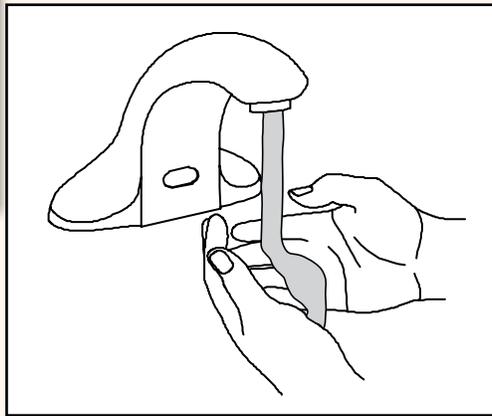


Figure 31—Sensory-operated control.

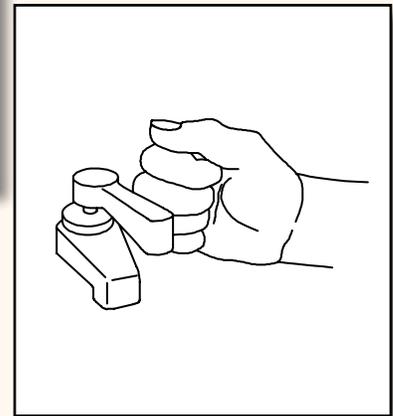


Figure 32—Lever handle control.



