

II. FOREST SERVICE ACCESSIBILITY GUIDELINES

The Forest Service Trail Accessibility Guidelines (FSTAG)

and

The Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG)

The Forest Service Trail Accessibility Guidelines (FSTAG) of 2006 applies to new or altered trails that are managed for hiker/pedestrian use and that connect either directly to a trailhead or to an accessible trail. These guidelines only apply within National Forest System boundaries. The entire text of the FSTAG can be found at:

www.fs.fed.us/recreation/programs/accessibility

FSTAG applies only when a trail meets all three of these conditions:

1. The trail is new or altered. An alteration to a trail is a change in the original purpose, intent, or function for which the trail was designed;
2. **and** the trail has a designed-use (in accordance with the Forest Service trails terminology, design and management processes) for hiker/pedestrian use;
3. **and** the trail connects either directly to a trailhead or to a currently accessible trail.

The Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) of 2006 applies to newly constructed and reconstructed camping facilities, picnic areas, beach access, Outdoor Recreation Access Routes (ORARs), and other constructed recreation features including benches, trash and recycling containers, viewing areas at overlooks, telescopes and periscopes, mobility device storage, remote area pit toilets, warming huts, and outdoor rinsing showers. These guidelines only apply within National Forest System boundaries. The entire text of the FSORAG is available at: www.fs.fed.us/recreation/programs/accessibility

FSTAG and **FSORAG** apply to ALL facilities and associated elements on USFS lands. However, remember that the federal accessibility legislation applies to ALL A.T. lands. Currently, FSTAG and FSORAG are the best standards available and should be used for evaluating and planning accessibility projects on all A.T. lands. As of this writing, it is anticipated that standards similar to those found in FSTAG and FSORAG will become the national standards for trails and outdoor recreation facilities.

When Do Forest Service Regulations Apply?	
FSORAG	FSTAG
Developed Recreation Site Features	Hiker/Pedestrian Trails
<p style="text-align: center;"><i>new or reconstructed:</i></p> <ul style="list-style-type: none"> - picnic areas - fire rings - grills - woodstoves - benches - outdoor recreation access routes - camping units (table/cooking pads, parking spurs, tent pads, platforms) - campground utility connections - outdoor rinsing showers - remote area pit toilets - trash/recycling containers - viewing areas and overlooks - telescopes and periscopes - mobility device storage - warming huts 	<p style="text-align: center;"><i>new or altered trails that are:</i></p> <ul style="list-style-type: none"> - designed for hiker/ pedestrian use <li style="text-align: center;"><i>and</i> - that connect either directly to a trailhead <li style="text-align: center;"><i>or</i> - connect to a currently accessible trail <p style="text-align: center;">Note: ALL 3 CRITERIA MUST BE MET BEFORE THE FSTAG IS REQUIRED TO APPLY.</p>

A. Implementing the FSTAG Process

When considering accessibility in your trail project, be sure to review the Process Overview Chart, included in Appendix A, which graphically summarizes the FSTAG steps and sequencing. There are four steps to this process.

Step 1: Determining the applicability of the FSTAG

Once you have decided to embark upon a trail project on Forest Service land, you must always review these three questions and determine the applicability of FSTAG.

1. Is the designed use “hiker/pedestrian”? If yes, then:
2. Does the work meet the definitions on the previous page for new construction or alteration? If yes, then:
3. Does the proposed trail connect to a trailhead or accessible trail?

If the answer to any of those questions is “no”, then compliance with FSTAG is not required. The finding that FSTAG does not apply should be briefly documented and put in the project file. If the answer to all three questions is yes, or there is an opportunity to increase the accessibility of the trail segment, then go to Step 1A: Determine Conditions for Departure. For an example of determining the applicability of FSTAG, we’ll use the Appalachian Trail.

FSTAG and the Appalachian Trail

How does the FSTAG apply to the Appalachian Trail? First comes the three-condition FSTAG test. It is where you determine whether or not FSTAG even applies to your trail project. You should always consider this test, and document your decision.

The Appalachian Trail Test:

Condition 1: Is the Trail new or altered?

Answer: While trail managers often consider a relocation or a reconstruction project as creating new treadway, by the definition in the FSTAG, because the trail itself is not changing in intent or purpose, (i.e. it’s still part of a primitive backcountry trail with the defining A.T. Experience language), these projects are not considered new or altered trails, but rather maintenance. In most cases the A.T. will not meet this condition. However, this condition should always be considered and decisions regarding projects should still be documented.

Condition 2: Is the Trail a hiker/pedestrian use only Trail?

Answer: Yes, the A.T. meets this condition.

Condition 3: Does the trail connect either directly to a trailhead or to a currently accessible trail?

Answer: While the A.T. crosses many roads, by the definitions in FSTAG, not all of the A.T.'s access points are actually "trailheads". A trailhead, for the purposes of FSTAG, is defined as a "site designed and developed by the agency, trail association, a trail maintaining club, a trail partner, or other cooperators to provide staging for trail use." For purposes of the FSTAG the following do not constitute a trailhead:

- Junctions between trails where there is no other access,
- Intersections where a trail crosses a road, or users have developed an access point, but no improvements are provided by the Forest Service, trail associations, a trail maintaining club, a trail partner, or other cooperators beyond minimal markers for health and safety.

In most cases the A.T. will not meet all three of the conditions, but may in some. Generally, the first condition (new or altered trail) will not be met, so in most cases the application of FSTAG will not be required. However, for all projects on Forest Service lands, the evaluation of these criteria should be conducted and documented to ensure that trail managers have considered and made a sound determination on the applicability of FSTAG. This documentation should include when and why the determination was made, and who made it. The documentation should be placed in the project file.

While the FSTAG does not apply to maintenance, where practicable and feasible, managers are encouraged to improve accessibility on trails through trail maintenance and repair activities that incorporate universal design. When a trail is maintained, there is often an opportunity to improve access.

In the event that a project meets all three conditions, or it is determined that you want to pursue an accessible project, then you apply the standards set forth in FSTAG including the four **Conditions of Departure, General Exceptions, and Technical Provisions**. Each of these concepts is discussed in detail below.

It is important to remember that for every project proposed on USFS lands, this process needs to be followed and documented, and it is also recommended for use on A.T. projects where accessibility is desirable.

Step 1A: Determine Conditions for Departure

Section 7.3 of the FSTAG explains the construction requirements necessary for accessible trails, including trail **grade, cross slope, resting intervals, surfacing, clear tread width, passing spaces, tread obstacles, protruding objects, openings, edge protection, and signs**. All of these requirements are minimums.

When FSTAG is applied, compliance requires that trail managers consider accessibility

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through a trail analysis process. Trail managers must analyze their trail design to see if they can meet the technical provisions, which define the parameters under which a trail can then be called “accessible.” The process of applying FSTAG requires a significant amount of technical measuring and documentation, especially regarding conditions for departure from the guidelines and technical provisions.

In fact, the FSTAG recognizes that 100% accessibility will not always be feasible or possible due to the natural terrain, existing vegetation, or other constraints. To protect the unique characteristics of the outdoor environment and trail recreation opportunities, exceptions and deviations from some technical provisions are permitted where certain circumstances, called Conditions for Departure, apply. Section 7.1.1 of the FSTAG identifies four conditions for departure. Circumstances under which exceptions can be made due to the conditions for departure are not the same for every situation.

Conditions for Departure

The following are the four conditions for departure that permit deviations from specific technical provisions where allowed by an exception:

1. Where compliance would cause substantial harm to cultural, historic, religious, or significant natural features or characteristics.

This may include a large boulder or rocky outcrop, body of water, unique vegetation, or area protected under federal or state laws. An example of this would be McAfee Knob in Virginia, or the summit of Katahdin.

2. Where compliance would substantially change the physical or recreation setting or the trail class, designed use, or managed use of the trail or trail segment or would not be consistent with the applicable forest land and resource management plan.

The FSTAG recognizes the value of the full range of recreational opportunities by allowing exceptions where compliance with the technical provisions would change the nature of the recreation opportunities or conflict with a resource management plan. People using primitive trails experience the outdoor environment in a nearly natural state. There is no requirement to dynamite or pave to provide accessibility if doing so would unacceptably change the character of the setting and the recreation opportunity.

3. Where compliance would require construction methods or materials that are prohibited by federal, state, or local law, other than state or local law whose sole purpose is to prohibit use by persons with disabilities.

This condition for departure is best illustrated by example. Federally designated Wilderness

areas prohibit use of mechanized equipment, so if a technical provision can't be accomplished with hand tools, this condition for departure will apply if an exception is not allowed. This condition for departure may also apply in areas where imported materials such as soil stabilizers would alter the integrity of the resource, or in designated wetlands or coastal areas that are sensitive to imported materials, or where federal statutes such as the Wilderness Act, Endangered Species Act, or state and local law impose restrictions to address environmental concerns, or where water crossings are restricted to safeguard aquatic features that are protected under federal or state laws.

4. Where compliance would not be feasible due to terrain or prevailing construction practices.

The phrase "would not be feasible" in this condition for departure refers to what is not reasonable, rather than to what is technically impractical. This condition for departure applies when the effort and resources required to comply would be disproportionately high relative to the level of access created. For example: It may be possible to provide a trail with a maximum 1:20 (5%) grade up a 1,500-foot mountain using heavy construction equipment. However, the trail would be about three times as long as under a traditional backcountry layout, which could cause inappropriate environmental and visual impacts as well as more than tripling the time, cost, materials, and amount of disturbed ground required for construction. The intent of this condition for departure is to ensure that compliance with the technical provisions of the FSTAG does not require the use of construction practices that are beyond the skills and resources of the organization building the trail.

Using the General Exceptions in the FSTAG

The general exceptions provide relief from the technical provision when a combination of factors may make it impractical to make an entire portion of trail accessible. For example, many trails have environmental barriers that are so severe or numerous that a trail through an area can't be modified to meet the intent and objectives of an accessible hiking opportunity. The exceptions do not necessarily provide relief for entire section of trail, just the section in question as you'll see in Step 2 and Step 4.

General Exception One addresses situations where extreme but not uncommon environmental factors could render compliance with the technical provisions impractical. General Exception One is concerned with the presence of limiting factors of grade, surface, and tread width and obstacles. Step 2 determines if General Exception One can be applied.

General Exception Two provides that when one or more conditions for departure exist that result in deviations from the technical provisions for over 15% of the length of the trail, the technical provisions only apply to the segment between the terminus and the first point of deviation if that segment is more than 500 feet long. If that section is less than 500 feet in length, then the technical provisions do not apply to the trail, except when a prominent feature is located between the terminus and the first deviation, then the technical provisions apply up to the prominent feature. Step 4 walks you through this.

Step 2: Identifying the Presence of Limiting Factors

The sequence for identifying the limiting factors may vary and does not need to be done in the order illustrated in the Process Overview Chart, found in Appendix A. Generally speaking, the Process Overview Chart works you through these questions:

1. Does the combined trail grade and cross slope exceed 20 % for 40 feet or more? (see Chapter V – Design Principals)
2. Is there a condition for departure, does it occur more than 500 feet from the trail terminus?
3. Is the surface not firm or stable for at least 45 feet?
4. Is the trail width 18 inches or less for a distance of at least 20 feet?
5. Is there a trail obstacle at least 30 inches high?

If you find a limiting factor where a condition for departure applies, there's no reason to evaluate the trail beyond that point. Just look at the section between the limiting factor or prominent feature and the beginning of the trail. If there are no limiting factors that would prevent compliance with the FSTAG, proceed to Step 3.

Step 3: Applying the Technical Provisions

This step involves looking at FSTAG technical provisions located in sections 7.3.1 through 7.3.8, which are the provisions for trail grade, cross slope, resting interval, surface, clear tread width, passing space, tread obstacles, protruding objects, and openings. The Process Overview Chart only summarizes the requirements for trails. Designers must refer to the FSTAG for detailed instructions, definitions, and technical provisions 7.0 through 7.3.10.

A series of questions with yes or no answers is asked for each of the provisions listed above, similar to Step 2. Let's take Trail Grade as an example.

First, look at the existing conditions on the ground and determine if the trail alignment complies with the required grades (1:20 (5%) for any distance, 1:12 (8.3%) for up to 200 feet, 1:10 (10%) for up to 30 feet, etc.). If not, is there a condition for departure which would prevent adjusting the trail alignment or making other changes to achieve compliance? If a condition for departure exists, measure and record the length of the deviation and proceed to the next provision. If the trail alignment complies with the required grades or there is no condition for departure, compliance with the provision for trail grade is required.

Each technical provision is addressed in a similar manner. A determination is made for every provision: either compliance is required, or deviations are permitted. Be sure to measure and record the length of each deviation for a particular provision. Once you have worked through the technical provisions, proceed to the last step.

If at any point during Step 3 you find that the recorded length of deviations from the provisions adds up to 15% or more of the total trail length, proceed directly to Step 4.

Step 4: Calculate Cumulative Deviation Percentage

This is the final step in determining how much of the trail could comply with the FSTAG as addressed by General Exception 2.

- Tally up the measurements of permitted deviations from Step 3. If they occur on less than 15% of the total trail length, the FSTAG technical provisions apply to the entire trail.

However, if the length of permitted deviations is 15% or more of the total trail length, the FSTAG applies to only part of the trail, or may not apply at all:

- If the first deviation occurs more than 500 feet from the trail terminus, then apply the FSTAG from the terminus to the first deviation.
- If the first deviation occurs less than 500 feet from the trail terminus *and there is a prominent feature*, then the FSTAG applies from the trail terminus up to the prominent feature.
- If the first deviation occurs less than 500 feet from the trail terminus *and there is no prominent feature*, then the FSTAG does not apply to the trail at all.

That's all there is to it! The Process Overview Chart is shown in Appendix A.

Documenting Decisions

Once a determination is made regarding the FSTAG, section 7.1.3 of the FSTAG requires documentation of the determination be saved in the project file. The documentation doesn't have to be anything elaborate, and there's no required format. A single page stating how and why the determination was made, which conditions for departure and exceptions apply to what trail sections, the date, and the names of the people who made the decision is sufficient. You simply have to establish that FSTAG was utilized at the onset of the project and that a good-faith effort was applied to the consideration of accessibility. A decision not to make a trail accessible is an important decision that will affect both current and future trail users and managers. The documentation is required to assure that the decision can still be understood if the people involved are no longer available.

B. Implementing the FSORAG: Trail Facilities

FSORAG and the Appalachian Trail

The federal accessibility laws require that new facilities constructed by or for Federal, State, and local government organizations, as well as facilities provided for the public by other entities, must be accessible in accordance with the accessibility standards in place when the facility is constructed. No entity has the authority to overrule those facility accessibility laws because they think a person with a disability won't go there. All newly constructed trail shelters and privies are required to meet the guidelines.

The decision process should include, "how do we make the facility accessible with as primitive a design as possible?" The challenge is ensuring that anything built along the A.T. is designed appropriately for a primitive setting and that the facility can be used for its primary purpose by all hikers, including hikers with disabilities.

FSORAG is the U.S. Forest Service's standard for compliance with federal laws in outdoor recreation areas. FSORAG provides technical specifications for outdoor recreation facilities that are not addressed in the ADA/ABA Accessibility Guidelines (ADA/ABAAG). FSORAG is the best guidance currently available for accessible facilities on all A.T. lands.

The Key Design Concepts and measurements below apply to all constructed features, and should be considered in planning decisions. If only one type of each constructed feature is provided, it must meet the technical provision; if more than one of each feature is provided, then at least one of each must meet technical provisions. For guidelines and technical provisions including ADA/ABAAG go to: www.fs.fed.us/recreation/programs/accessibility/

1. Key Design Concepts and Features

Transfer height: height between ground and feature that one uses to transfer between wheel chair to constructed feature.

- a. Always between 17" - 19" inches high.
- b. This includes shelter floors, tent platforms, bench seats, transfer areas, etc.

Doorways and openings: must be at least 36" clear width and open outward.

Side Trail:

The trail between a shelter and trail, shelter and privy, privy and trail etc. is not an Outdoor Recreation Access Route (ORAR), but should follow FSTAG.

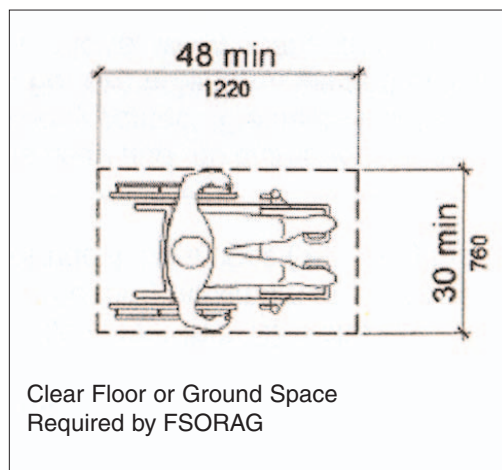
Reach Range: area one uses to utilize an element; may be up, down or at chair level.

- a. 15" - 48" in height, and for shelves 22"- 25" in depth.
- b. This includes shelves, pegs, etc.

Edge Protection: if provided for ramps, platforms, etc., at least 3" high.

Clear Ground Space: area that allows for direct or side approach to, or use of feature.

- a. 30" by 48" area.
- b. Must be firm and stable.



Slope of element: no more than 2% in any one direction, if drainage required no more than 3% allowed.

Steps: ONLY as a last resort at locations are in a site where there is not enough side slope, steps to a structure must function as transfer platforms.

- a. The treads must be at least 14" deep and 36" wide.
- b. One step must fall 17" to 19" above the center of the clear ground space.
- c. Step risers should be 6", or 9" (max).
- d. We strongly encourage you to AVOID STEPS!

Boardwalks:

- a. Width of at least 36".
- b. If it has edge protection follow specs for that. Boardwalk gaps should have gaps less than 1/2" wide.
- c. Transfer area from ground to board or to floor must be less than 1" high.



The Mountaineer Falls Shelter in Carter County, Tennessee, built in 2006 and maintained by the Tennessee Eastman Hiking Club. This A.T. shelter provides an accessible entrance, area platform, pegs, and fire ring.

Railings: Are required when a feature sits at least 30” off of the ground.

- a.*** Must be 42” high.
- b.*** Openings must be small enough to prevent a 4” sphere from passing through.
- c.*** Choose vertical versus horizontal slats.
- d.*** Guardrails: protect people from drop-offs over 30” high, see International Building Code (IBC) 1003.2.12.
- e.*** Handrails: provide steady grip when going up or downstairs or inclines, see IBC 1003.3.3.11 and ADA/ABA section 505.

2. Overnight Sites:

Dining and work surfaces: include but are not limited to bars, tables, counters etc.

- a.*** Height of top of surface always between 28”-34”.
- b.*** Must include toe clearance/knee clearance below table surface.
- c.*** This would include picnic tables, or shelves we provide for stoves, etc.

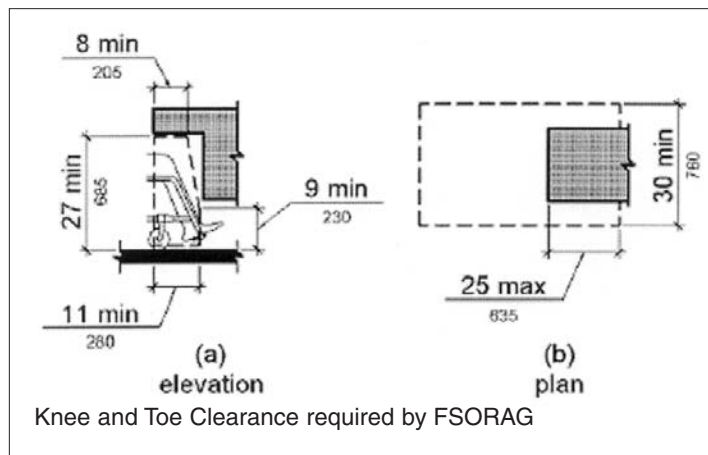
Picnic tables:

- a.*** Dimensions: at least 27” high, 30” wide and 19” deep.
- b.*** At least one wheelchair accessible seating space must be provided with 30” by 48”

of clear floor space and clear ground space 48" around usable portion of the table measured from the accessible seat but may be reduced to 36" if a condition for departure exists.

Knee and Toe Clearance: area underneath a table/shelf that allows for toes and knees to clear element.

- a. Knee Clearance Minimum 27" high, 30" wide, and 19" deep.
- b. Toe Clearance Minimum 9" high, extended at least additional 5" from the knee clearance.



Benches:

- a. Must be at least 36" long and between 17' to 19" in height.
- b. Back support must run entire length of bench.
- c. Entire bench must support 250 pounds of pressure.
- d. At least one end of bench must have adjacent clear ground space.

Fire Rings:

- a. Must be at least 9" above the ground or floor surface, unless a Condition For Departure (CFD) exists.
- b. Cannot exceed 24" in reach, unless CFD exists.

Food Hangs/Bear Boxes: Must meet technical provisions for clear ground space and "controls and operating mechanisms," (ADA/ABAAG sections 308 and 309).

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Shelter:

- a. Two story/lofts: If a shelter design contains a sleeping loft and/or a second story, there must be at least one area of ground level or finished floor sleeping space that is accessible and usable for person's with disabilities.
- b. The shelter "doorway" or opening into a shelter must be at least 32" wide.

Tent pads:

- a. Dimensions: 48" of clear ground space (13' by 16' for average 5' X 8' backpacking tent) may be reduced to 36" if CFD exists.
- b. If more than one pad is provided, 5 % of all pads must be accessible.

Bulletin Boards, Register Boxes, and Signs: between 48" and 15" high. Must meet technical provisions for clear ground space and "controls and operating mechanisms," see ADA/ABAAG, sections 308 and 309.

3. Privies

Walls: are not required for an accessible privy, if provided they require:

- a. grab bars and must support a 250 pound shear force applied to a grab.
- b. The center line of the toilet riser must be 18" from the back wall, with the back of the riser against a side wall, and facing the other side wall.

Toilet Riser:

- a. Vertical sides and a flat ledge on either side approx. 3" wide,
- b. Back rest (seat cover can serve that function).
- c. There must be a flat, clear space around the toilet riser measuring 60" X 60".

Grab bars:

- a. must be 33" to 36" above and parallel to the floor.
- b. One must be on the side wall starting 6" from the back wall and extending 36" across the toilet riser.
- c. One must be on the back wall next to the riser, at least 42" in length, starting no more than 12" from the side wall.
- d. A 2" X 4" on edge may serve as a grab bar. There may not be more than a 1.5" space between the grab bar and the wall.



Trail managers check out the Green Mountain Club's Churchill Scott accessible privy in Vermont. Note the wider door, slightly larger footprint to allow for turning radius, and ramp instead of steps.

For accessible privy, shelter, and other designs check with your ATC field office or agency partner.

Mouldering Privies: Where possible, dig the privy crib into the side of the hill and cantilever the floor, and doorway, to rest on a support at grade on the hillside, or provide a landing outside the door with an at-grade transition from the privy access trail. Where this is not possible, a boardwalk should lead to the door with a grade of 5% or less.