



MARYLAND-NATIONAL CAPITAL PARKS & PLANNING COMMISSION

MONTGOMERY PARKS

VOLUNTEER TRAIL RANGER HANDBOOK



Name: _____
Park Name: _____
Park Code: _____ Trail Name(s): _____
Section (if applicable) _____

Dear Trail Volunteer,

Welcome and thank you for your commitment to being a Montgomery Parks Volunteer Trail Ranger. You will play an important role in ensuring that the public will be able to enjoy M-NCPPC Montgomery Parks' celebrated network of natural surface trails, which are some of the most popular recreational facilities in the county. With over 130 miles of natural surface trails in the parks system, it is a challenge for our staff to regularly inspect and maintain them all. This is where you, the volunteer, will provide an essential function.

This handbook provides Volunteer Trail Rangers with Montgomery Parks' natural surface trail inspection guidelines and techniques. It furthermore spells out the process for completing the "Trail Inspection Form" and performing basic maintenance tasks in the field.

If you have any questions after reviewing this information, please feel free to contact us. Thank you again for volunteering with Montgomery Parks!

Volunteer Services Office
9500 Brunett Ave.
Silver Spring, MD 20901
301-495-2504

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PART ONE: INTRODUCTION TO THE PROGRAM

What does a Volunteer Trail Ranger do?

Your job as a Volunteer Trail Ranger is essentially to help staff maintain Montgomery Parks trails to the standards contained in this handbook by informing them of serious hazards and problems that may arise. As an official (albeit unpaid) member of our staff, you will have certain official duties, above all evaluating the your section's safety and accessibility for all permitted users by filling out and submitting a Trail Inspection Form online once each quarter and after major storm events. We also ask that you perform some basic maintenance on your assigned trail to keep it ship-shape.

By contrast, certain tasks are handled by volunteers and/or staff separate from the VTR program. These include:

- Cutting large trees, either downed, leaning or standing
- Using power equipment
- Digging, including shaping tread and implementing reroutes
- Leading organized groups on trail projects
- Perform maintenance on trail structures
- Confronting those who break park rules or encroach on park land



Not for performing volunteer inspections. Yet....

Safety

Volunteer Trail Rangers are responsible for their own health and safety when inspecting and maintaining trails in Montgomery Parks, and ensuring that their actions don't injure others. They should not attempt any maintenance that is beyond their ability or that would compromise their health and safety. All tools should be kept in serviceable condition to prevent injury.

For all emergency situations, call 911. For all other situations warranting law enforcement, call the Park Police at **301-949-3010**. Afterward, also contact the Trail Volunteer Coordinator. Park Police will notify other appropriate park staff.

Where park staff fits in

Many offices and individuals play an instrumental part in building and maintaining Montgomery Parks trails. Some of the folks you'll work with include:

- ❖ Trail Volunteer Coordinator: Your immediate point of contact for most VTR-related issues.
- ❖ Volunteer Services Office: The coordinating brain trust for all volunteer activities in Montgomery Parks.
- ❖ Montgomery Parks Regional Management and Maintenance Staff: They do the heavy lifting, resolving most of the work orders generated by your inspections.
- ❖ Montgomery Parks Service Center: The central clearinghouse for all trail-related work requests, and the recipients of your completed inspection forms.
- ❖ Park Police: Patrols park trails, and your point of contact for all observed illegal activity and emergency situations.

Note: specific roles and responsibilities are located in Appendix C

PART TWO: PERFORMING THE INSPECTION

Items for inspections

Necessary Equipment:

1. Pencil/pen and paper. Small memo pads work well. **Write-In the Rain** books are also ideal for taking notes outdoors and are available from many online retailers.
2. Map of your assigned trail/park - can be downloaded and printed from www.montgomerytrails.org in the maps section.
3. Trail Ranger Volunteer Handbook – keep at home for reference
4. Clothes for walking and working outdoors – long sleeves and hat recommended
5. Clipboard
6. Pen or pencil
7. Water and snacks
8. Sturdy shoes or boots
9. Work gloves

Necessary Tools: There is a good chance that you might already own some of these. If you don't, it is recommended that you purchase them.

1. Long handled lopping shears
2. Folding saw (5-7 inch) or other portable hand saw
3. Trash bags - issued with assignment to your trail section
4. Flagging tape – issued with assignment to your trail section

Other things you might want to bring:

1. Hand pruners
2. First aid kit
3. Insect repellent
4. Sun block
5. Cell phone
6. Digital camera
7. Handheld GPS unit



Some common loppers and hand saws

Specialized Tools: *This equipment is available from the Trails Volunteer Coordinator by request to handle special maintenance needs as identified.*

1. Tree blazing equipment: paint, brushes, scraper, etc.
2. Pole saw/pruner – for those hard to reach places
3. Other tools and equipment as deemed necessary

Inspecting your trail section, step by step

STEP ONE: Go Prepared!

Be sure to gather all the necessary materials in preparation for your inspection, listed above. Finding yourself in the middle of the woods with no pencil or map is not an auspicious start. Trail maps are also online at www.montgomerytrails.org.

STEP TWO: Conduct Your Inspection

See the appendix for information on how to access the Trail Inspection form at www.parksvolunteers.org.

Section 1: Trail Information

Filling out this section is essential to generating accurate work requests. Your assigned trail and the park property through which it runs are recorded on the cover of your handbook. Simply select the park and trail name from the drop-down boxes.

Section 2: Trail Inspection and Basic Maintenance Work

- If you completed the inspection along with all needed basic maintenance, check the first box. (Details on maintenance are on page 13)
- If you only performed the inspection, or some basic maintenance work remains, such as touching up blazes or pruning, check the second box and provide details.
- If, in addition to the work you completed, major maintenance is required, select this option and give details in sections 4, 5 and/or 6.
- If you have performed this inspection in order to check for damage after a major storm at the request of the Trails Volunteer Coordinator, also select this option.

Section 4: Trail Problems and Hazards

When unsure whether something you notice on your trail section should be reported as a problem, ask yourself whether or not it:

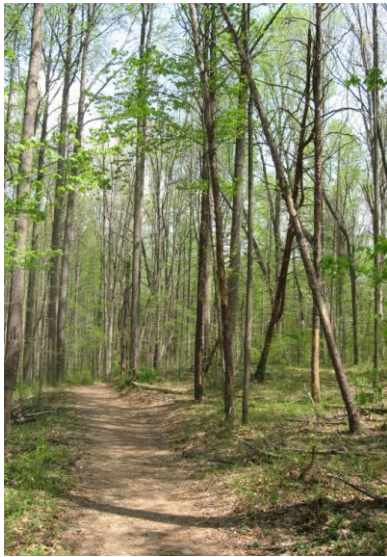
- a) Poses an immediate safety hazard for users
- b) Impedes user travel
- c) Poses an imminent threat to the surrounding natural resources or trail integrity
- d) Significantly detracts from the trail's natural aesthetics (i.e., trash dumping)

To list the location of a noteworthy trail issue, use your map to identify the nearest prominent feature such as a trailhead, intersection or water crossing. (Tip: measure distance using your stride length and number of steps). Avoid using 'on the ground' landmarks like rocks or large trees as reference points.



How not to inspect your trail

For example: "Downed tree 300 feet north of trail intersection with Elm Street." Also, you can use your flagging tape and marker to label and describe many problems for Parks staff.



See the two dangerous leaners?

- *Trees down across trail* – All downed trees that obstruct the 48" wide corridor necessary for park equipment to pass must be reported and removed. Montgomery Parks as a rule does not leave such trees in place as jumps or otherwise. Conversely, downed tree ends encroaching into the edge of an uncommonly wide trail may be left alone if at least 48" is passable and it does not pose an immediate hazard.
- *Leaner Trees* – only report dead or uprooted trees leaning into the trail corridor. If possible, wrap a ribbon of flagging tape around the tree to identify it for park staff.
- *Branches hanging above trail*: report any large dead branches (widowmakers) broken and hanging directly overhead. Label the tree with flagging tape and use your sharpie to note the problem, if you have one.



Pick your battles: This stretch of trail certainly has an erosion problem – but is it a major issue?

- *Washout of Trail Tread* - This refers to hazardous trail conditions resulting from erosion or deposits, and may include stream bank collapse, sinkholes, deep gullies, or flood damage. Officially report only washouts that present a significant safety risk or are worsening rapidly, posing a serious natural resource threat.
- *Major mud holes/trail widening*: Only report areas with deep mud that result in trail widening when users look for a way around. When in doubt, simply make a mental note to keep an eye on it for your next inspection, in case it worsens.
- *Large trash items or dump sites*: Report any trash item too large to handle on your own, or any

area inundated with more trash than you can gather in your assigned quarterly hours. Areas off-trail that are more difficult to see should be indicated by a piece of flagging tape at the edge of the trail.

- *Other*: This is for rare issues such as private encroachments onto park property, new informal trails or if a section of trail is too narrow (see width guidelines, page 12).

Section 5: Trail structures

Quickly check any structures in your section such as culverts, staircases, bridges or retaining walls for obvious damage and document any you find; do not attempt to repair them (Although cleaning out culverts is appropriate). Also, check that all signage is intact and accurate (see Appendix B).

**NOTE: All bridges are now affixed with a steel plate with an identification number. If there is a problem observed with a bridge include this number in the description.*

Section 6: Trailhead information kiosks

If your section has a kiosk, check it for:

- Structural damage (wooden frame, Plexiglas panels, roof, vandalism, etc.)
- Missing, outdated or faded park maps
- Other dated information to be removed

Section 7: Work Performed and Comments:

Use this space to make note of anything you observe you feel is worthy of mention, such as problems you're watching, areas that might benefit from reroutes or anticipated long-term problems. Also document any major work completed you feel is worthy of note, such as removing a large limb or a trash pile.



A good example of a mudhole worth reporting



Bridge in need of an approach ramp



Trailhead kiosk w/ basic park map

STEP THREE: Submit your report

Even if your trail(s) required no maintenance, still be sure to submit a report to us online telling us as much. This lets us know that you've performed your inspection(s) for the quarter and that maintenance staff no longer needs to do so.

For instructions on accessing the form online, please see Appendix C.

PART THREE: BASIC MAINTENANCE

During the course of your inspections, we ask that you also perform some basic maintenance to keep your section accessible and clearly marked for users. All work performed as a VTR should be in keeping with the standards and techniques that follow.

Trail Corridor Maintenance

Corridor and Tread Width Standards*

1) Pedestrians Only Trails

- Active tread width of no less than 1 foot and ideally no more than 2 feet**
- Trail corridor width of no less than 2 feet and ideally no more than 4 feet
- Trail corridor height of no less than 7 feet.

2) Shared Use Trails

- Active tread width of no less than 3 feet and ideally no more than 5 feet**
- Trail corridor width of no less than 5 feet and no more than 8 feet
- Trail corridor height of no less than 12 feet

*Many of the existing trails in Montgomery Parks exceed these guidelines but function perfectly well. For example, some pedestrian trail sections are on power line rights of way or old maintenance roads. They have a wide tread and corridor, but this does not mean that they are “in violation,” or need to be retrofitted. On these trails, monitors should concentrate on reporting problems and performing maintenance only when *minimum width requirements* are not met.

**All trails should ideally have a *passable* tread width of 48”, to allow for park equipment to access for maintenance and emergency response. This does not mean the *active* tread must be this wide, only that it must be reasonably flat and be free of significant vegetation and downed logs.



Left: this hiking trail is wide due to heavy use, but is otherwise healthy. Trying to narrow it would be a waste of energy.



Right: The active tread displays receives the most use, but the wide passable tread allows other access.

Corridor Maintenance Techniques

Trail Ranger Volunteers should follow the basic maintenance techniques below to maintain a clear trail corridor. Report problems with tread narrowness, large downed trees or extreme erosion on the Trail Inspection Form.

- Cut all plant stems close to ground; scatter the resulting debris as far as practical from trail corridor.
- Prune limbs close to the tree trunk or the nearest major branching point. Look for the thickened section of bark just outside of the juncture, called the bark collar. Cut the limb just to the outside of the bark collar. Discard the limbs and cuttings far from the trail corridor.
- When removing larger branches, make a partial cut underneath before cutting from the top. This way, when the branch falls it won't strip any protective bark.
- Avoid clearing with "straight edges;" work with natural vegetation patterns to "feather" or meander edges to avoid a severe appearance.
- Avoid cutting standing trees and woody shrubs whenever possible. Never cut standing trees over 6" in diameter.
- For multi-use sections that require extensive high corridor ceiling clearing, contact the Trail Volunteer Coordinator to obtain a polesaw/pruner.
- Completely remove small stumps and 'stubs' from the trail tread. If you need a digging tool, the Trail Volunteer Coordinator can provide one. Fill and compact the resulting hole to match the trail tread. Some larger stumps can simply be sawn flush with the ground.
- Remove loose, exposed rock, branches, small logs and other obstructive debris from the trail tread. Also, use a folding saw or loppers to cut at ground level out any exposed root with 2 inches of clearance above the ground or more.
- Remove small downed trees and/or branches from the trail tread or cut out a 4-foot section that allows trail users to pass through. If the downed tree or branch is too large to be removed safely from the trail tread by a volunteer or easily cut with handsaws, report it on the Trail Inspection Form.

Trash Removal

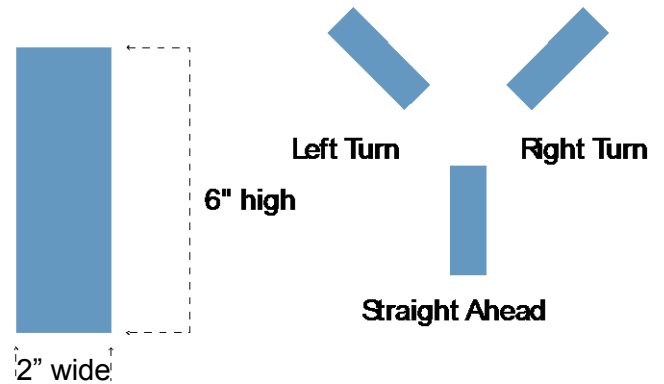
Other than large items and dump sites, bag and remove any trash encountered along the trail. Dispose of it in the nearest park trashcan. If none is available, leave the bag/s at a location accessible to park staff for collection, such as a trailhead parking lot. Note the location and number of trash bags on the form. Call the Service Center for quick pickup to avoid re-disturbance by wildlife, and call the Trail Volunteer Coordinator for more bags.

Blazing

If your section has faded or missing blazes, please replace them; contact the Trail Volunteer Coordinator to get the necessary paint and equipment. If a section lacks blazes wholesale, include this information on the Trail Inspection Form.

Paint Blaze Specifications

- Blazes are rectangular, two inches wide (2") by six inches long (6"). See below.
- Standard color - Benjamin Moore Classic Color Number 781, St Lucia Skies.
- Only apply the Left and Right Turn blazes when an abrupt turn in the trail might confuse users. They should not be used for every gentle curve.



Frequency

Ideally, trail users should have a clear view from one blaze to the next but never be able to see more than one in any direction. In areas where the trail is obvious they can be less frequent, however. Unless an area is particularly confusing without frequent blazing, less is better than more. Be sure to check both directions of travel for blazes.

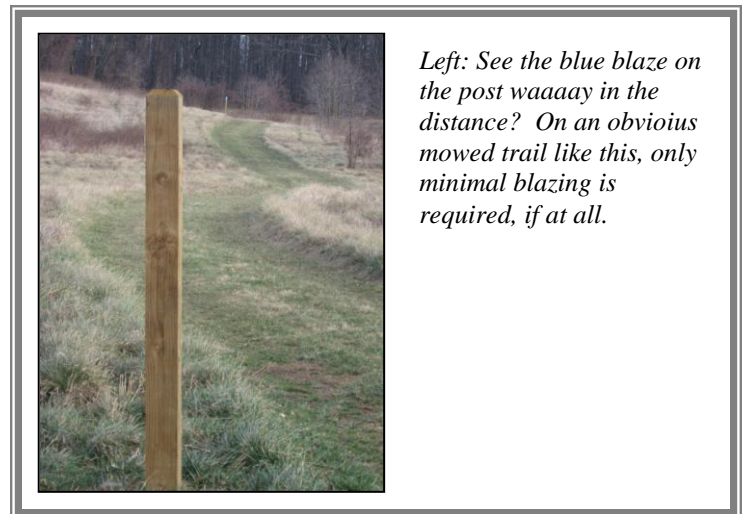
Placement

Blazes must be at least 5 feet high and visible. Do not blaze trees that are:

- more than 5 feet from the trail.
- dead
- Also, when possible avoid blazing:
 - both sides of the same tree
 - trees with peeling or splitting bark
 - very young saplings

Preparation and Painting

- On trees with rough bark, firmly smooth the top layer with a paint scraper.
- If necessary, trim branches that obscure the view of the blaze.
- Paint freehand, using the minimum amount of paint to avoid dripping and runs.



So wrong,
I don't know where to begin.



That's more like it....

Public Contact

While performing your duties as a VTR, you will undoubtedly encounter other users as well as park staff. While you are not expected to approach them, people will naturally be curious about the stranger with the clipboard and will likely engage you. As an official part of our team you are expected to represent Montgomery Parks positively to all with whom you come into contact:

- Explain what it is you're doing, the program and the thinking behind it to the best of your ability. You may even recruit a new ranger!
- Hopefully, your badge and hat will indicate you as official to any park staff. If they or any citizens have additional questions or concerns feel free to give them the Trail Volunteer Coordinator's phone number located on the back of your inspection sheet.
- Avoid confronting other users or nearby property owners about unpermitted use or encroachment. If you are able to broach the subject politely in the course of conversation with someone you encounter, you may inquire whether they are aware of the trail's permitted uses. By contrast, an inquisition, no matter how righteous it may seem, won't reflect well on anyone and will likely devolve into nasty words. When in doubt, the best course of action is to simply note such activity during your inspections and pass it on to park staff.

Thanks!

The inspection information collected and the basic maintenance performed by you enhance the management of Montgomery Parks. Your time and effort are sincerely appreciated.

Questions and comments should be directed to:

M-NCPPC Montgomery Parks
Volunteer Services Office
9500 Brunett Ave.
Silver Spring, MD 20901
301-495-2504
fax 301-585-1921

Appendix A: Trail tread and corridor size

Figure 1 Pedestrian Only Trail Guidelines

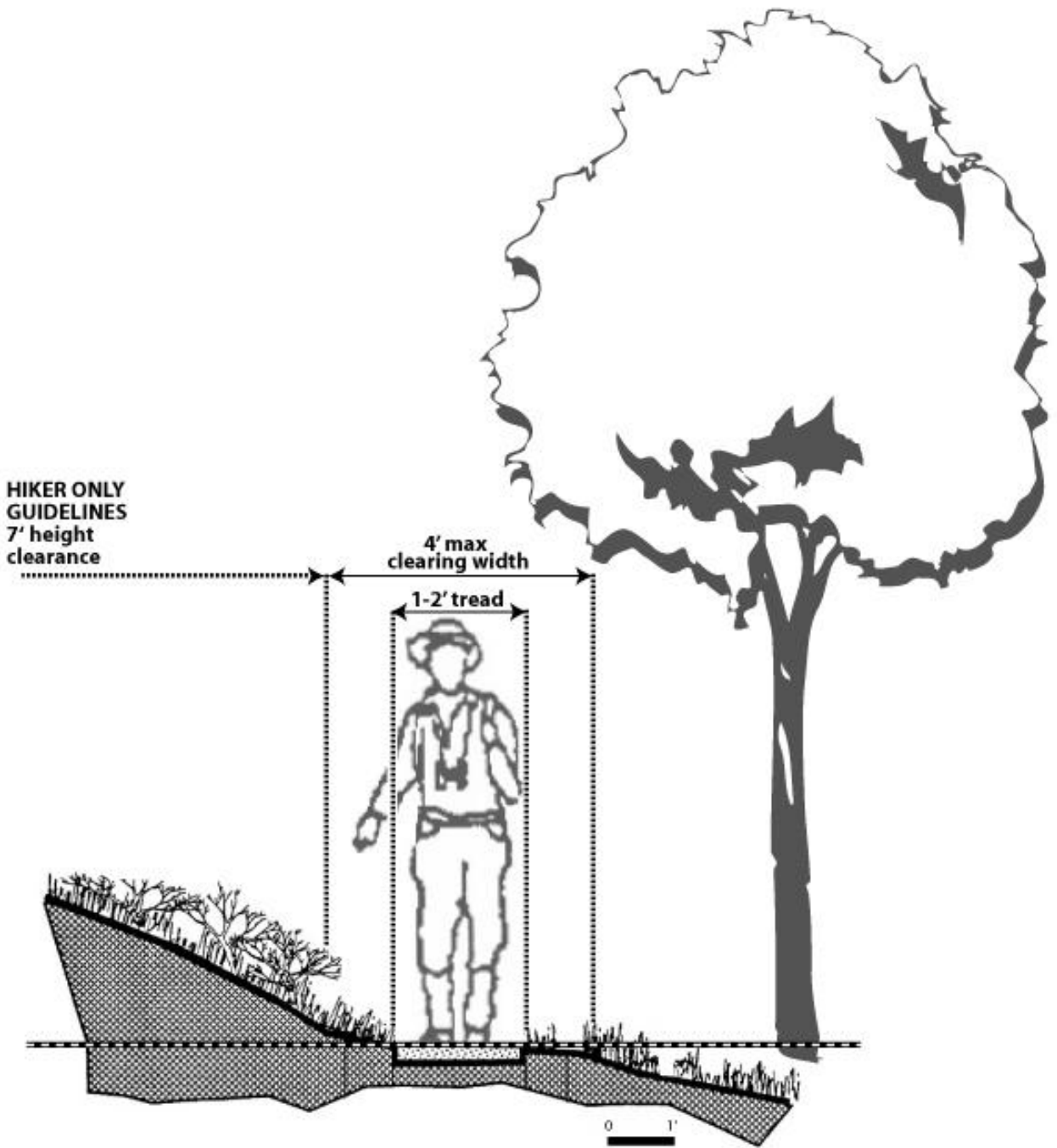
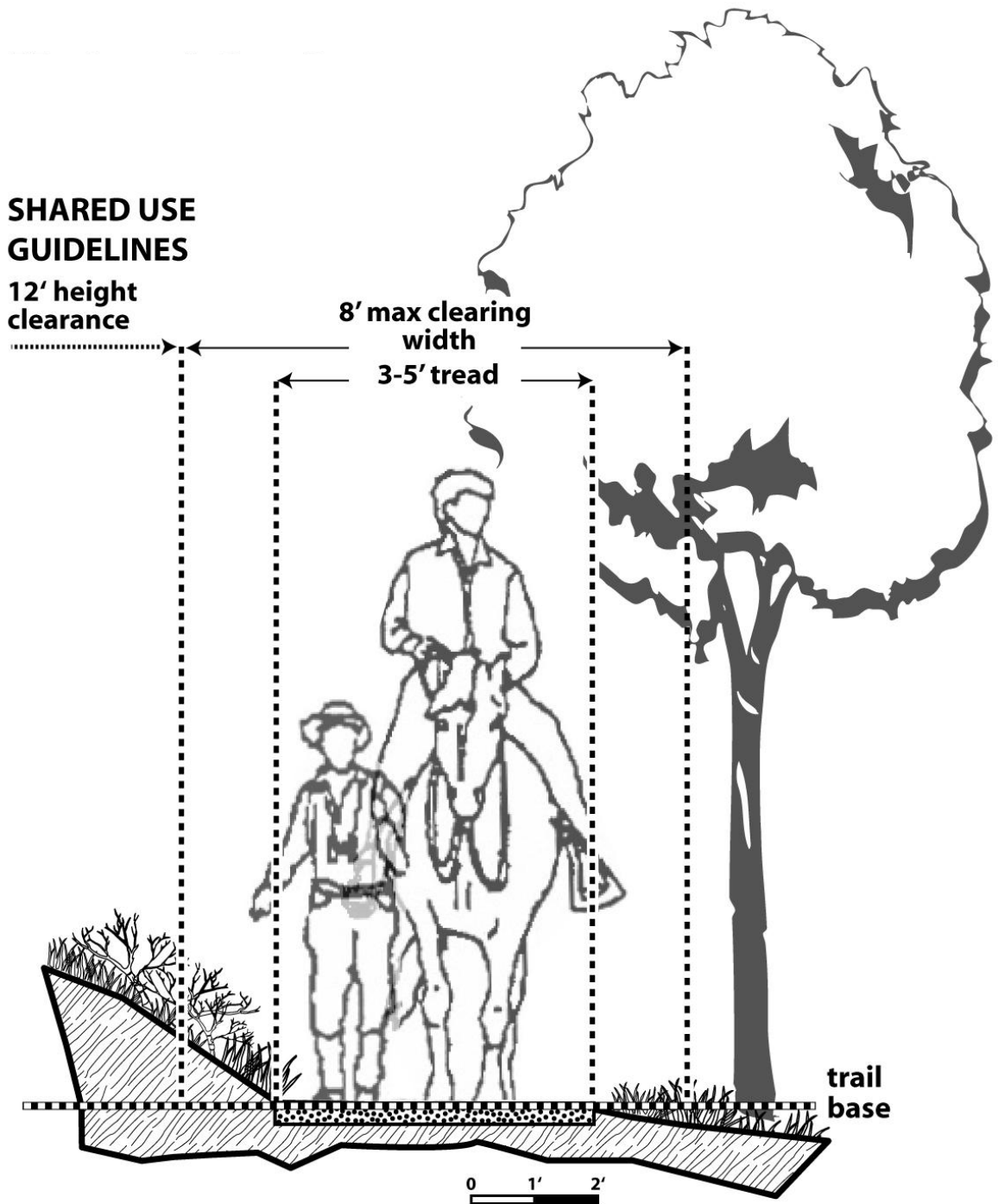


Figure 2 Shared Use Trail Guidelines



Appendix B: Sign Standards

At Trailheads & Points of Public Access

Montgomery Parks standard signs are 5.5" X 5.5" borderless white graphics on a brown field, affixed to a 6" X 8' pressure treated post. Patches are positioned on the posts in the following order:

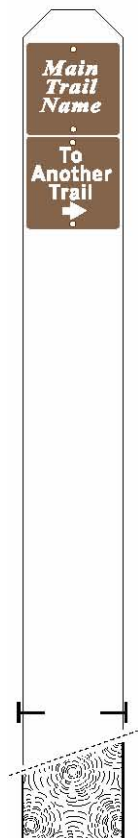
- Main Trail Name is always positioned at the top
- Directional Signs to other trail(s) follow below the Main Trail Name
- Trail User patches are located below the directional signs and always appear in the following order:
 - Hiker
 - Equestrian
 - Cyclist
- Dogs Allowed On-Leash
- No motorized vehicles allowed
- All three User Patches are always posted. If a trail excludes a certain type of trail user the appropriate patch should be used.



Along the Trail/ at Trail Intersections

NOTES:

These posts include signs that give directions or distance. Including User Patches is not necessary if permitted trail use remains the same as it was designated at the trailhead. While these signs are sometimes present at intersections with community connectors, they are not mandatory at all of them. Mainly check those in your section for damage and accuracy; if you feel a particular sanctioned (i.e., mapped) connector intersection requires signage, you may bring attention to it on your inspection sheet.



Appendix C: Glossary of Relevant Trail Lingo

Active Tread – The ground area of most frequent trail user impact

Blowdown – A tree that has been toppled by wind; also called *windfall*. This term is sometimes used in a blanket sense to encompass all downed trees, including *deadfall*.

Cross-slope – The amount of horizontal tilt exhibited by a trail surface, perpendicular to its direction of travel. Cross slope into a hill is known as *inslope*, and cross-slope towards the downhill side is known as *outslope*.

Fall-line – The path of least resistance for water down any slope. Any trail that travels directly or near-directly up a slope is called a *fall-line trail*, and almost invariably leads to gully erosion.

Hanger – A tree that has been either knocked over or cut, but remains suspended above the ground by other trees.

Leaner – A tree leaning to one side, whose root system has begun to pull loose from the ground. This term is sometimes used for all leaning trees, including *hangers*.

Passable Tread – The trail width free of significant obstruction to park equipment; should be at least 48" whenever possible.

Snag – A standing dead tree.

Springpole – An immature tree or sapling whose crown has been pinned down, usually by another fallen tree. Significantly sized springpoles hold a dangerous amount of stored energy and should be left to park staff.

Sills, also Footers – The bottom-most section of a bridge, perpendicular to the direction of travel and usually set into the ground, upon which the rest of the structure rests.

Staub – The remnant of a woody plant stem cut too high off the ground, leaving an impalement hazard. This term may also refer to branch remnants from pruning.

Stringer – The long pieces of a bridge that span a stream or drainage. These sit atop the sills, and underpin the decking.

Trail Corridor – The full dimension of a route, including the tread and a zone on either side and above from which brush is removed.

Widowmaker – A dead or broken limb or treetop suspended overhead that could fall, causing serious injury.

Appendix D: VTR Official Job Description

Montgomery County Parks Department
9500 Brunett Avenue Silver Spring, MD 20901
Phone (301) 495-2504

VOLUNTEER JOB DESCRIPTION

JOB TITLE: Volunteer Trail Ranger – Natural Surface Trails

LOCATION: Trails throughout Montgomery Parks, as assigned by Trail Volunteer Coordinator

TIME: Quarterly Inspections – plus after major storm events

JOB DESCRIPTION

Natural surface trails are among the most popular amenities in our park system. Concern for user safety and enjoyment and protecting the natural environment require that we regularly inspect and maintain over 120 miles of trail throughout the park system. Volunteers perform inspection and minor maintenance of assigned section of natural surface trail and report hazardous conditions, trail problems and other maintenance needs to the parks Service Center.

DUTIES AND RESPONSIBILITIES

1. Inspect assigned trail section a minimum four times per year and after major storm events. This entails recording and describing trail problems and hazards, including tree falls, structure damage, major tread damage and trash dumping.
2. Complete inspection and basic maintenance form for each field inspection. Submit form to the Montgomery Parks Service Center after each field inspection.
3. Perform basic trail maintenance tasks on assigned trail section including vegetation trimming and clearing encroaching vegetation, removal of debris and obstacles from the trail corridor, inspect and repaint directional blazes when necessary and pick up trash from trail corridor and park property.

QUALIFICATIONS

1. Can inspect assigned trail segments once per quarter and within 5 days of major storm events
2. Interested in assisting Montgomery Parks fulfill our best management practices for natural surface trails
3. Able to communicate well with the public and represent Montgomery Parks in a positive manner
4. Able to work without direct supervision and on their own time
5. Capable of completing basic trail inspection and maintenance tasks
6. Successful completion of the volunteer training session

REQUIREMENTS

1. Minimum age of 18
2. Available to volunteer up to 8 hours per quarter, or as many hours as needed to perform field inspection and complete Volunteer Trail Inspection Form.
3. Committed to following park outlined policies and procedures

TRAINING

Provided by Montgomery Parks staff at a scheduled half-day session.

BENEFITS TO VOLUNTEER

1. Become familiar with County trails and trail maintenance techniques.
2. Help protect and enhance public resources.
3. Healthy exercise while enjoying the outdoors.

Appendix E: Contact Numbers for Reference

Bob Turnbull, Natural Surface Trails Program Manager	Office: (301) 650-4369 Cell: (240) 876-2258
Volunteer Services Office	(301) 495-2504
Park Police Emergency	(301) 949-3010
Service Center (for expedited trash removal)	(301) 670-8080