

## Horse Accessible Gates

Another concern was finding a way to allow horse and pedestrian access, while restricting ATVs and motorcycles. Two types of structures that will allow horse access, but restrict ATVs, are the “V” gates used at the Ashley National

Forest (figures 4 and 5) and at the Lolo National Forest (figure 6). The bottom log should be removed from the gate shown in figure 6 because the log could be a tripping hazard and it prevents wheelchair access. A horse stile restricts



Figure 4—A horse walking through a “V” gate in Utah. This gate is not accessible because it is narrower than the minimum width required for passage of a wheelchair (32 inches) and the bar across the opening is higher than 1 inch.

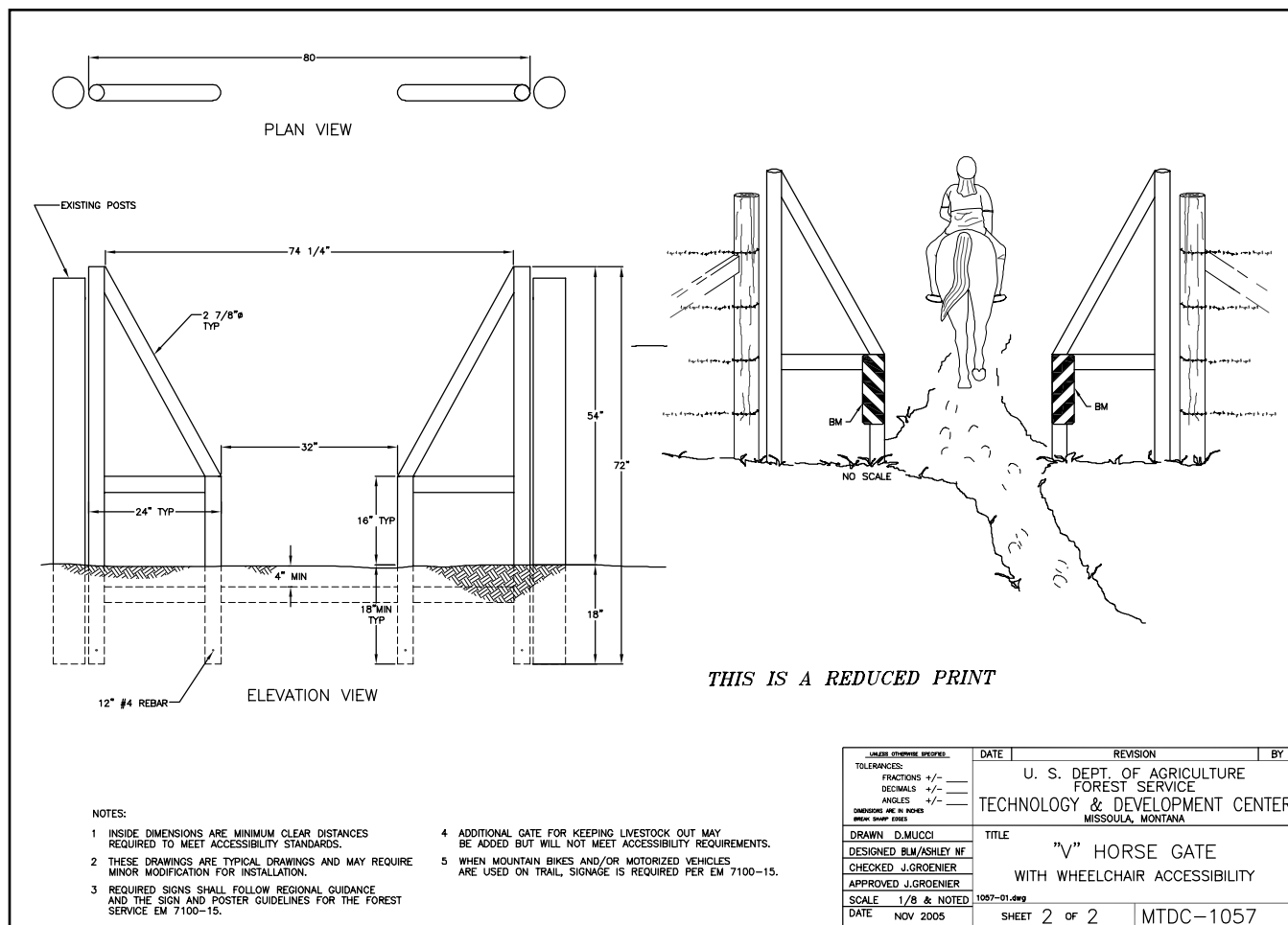


Figure 5—Accessible “V” gate drawing (MTDC-1057-02).



Figure 6—A gate in the Lolo National Forest that allows horses to pass, but restricts ATVs. This gate is not accessible because it is narrower than the minimum width required for passage of a wheelchair (32 inches) and the bar across the opening is higher than 1 inch.

ATVs and motorcycles and discourages mountain bikes, while allowing passage by horses (figure 7).



Figure 7—A horse stile. This gate is not accessible because the bars across the opening are higher than 1 inch.

## Combination Wheelchair/Horse Accessible Gates

The greatest challenge was to find a gate that allowed horses and wheelchairs to pass, but restricted all motorized traffic. The “V” gate design (see figure 5) allows wheelchairs and horses, but only restricts ATVs—not motorcycles. We combined the kissing gate (see figure 1) with the horse stile to design the horse gate with wheelchair accessibility (figure 8).

Wheelchairs are able to go into the center of the gate, turn around and go out the other side. Horses can walk over the two stiles. The gate dimensions work well together because the required turning diameter for a wheelchair is 60 inches. This corresponds to the minimum required spacing of the stiles for horses to step over them in stride. The stile should be no higher than 12 inches because horses may choose to jump over stiles that are higher.

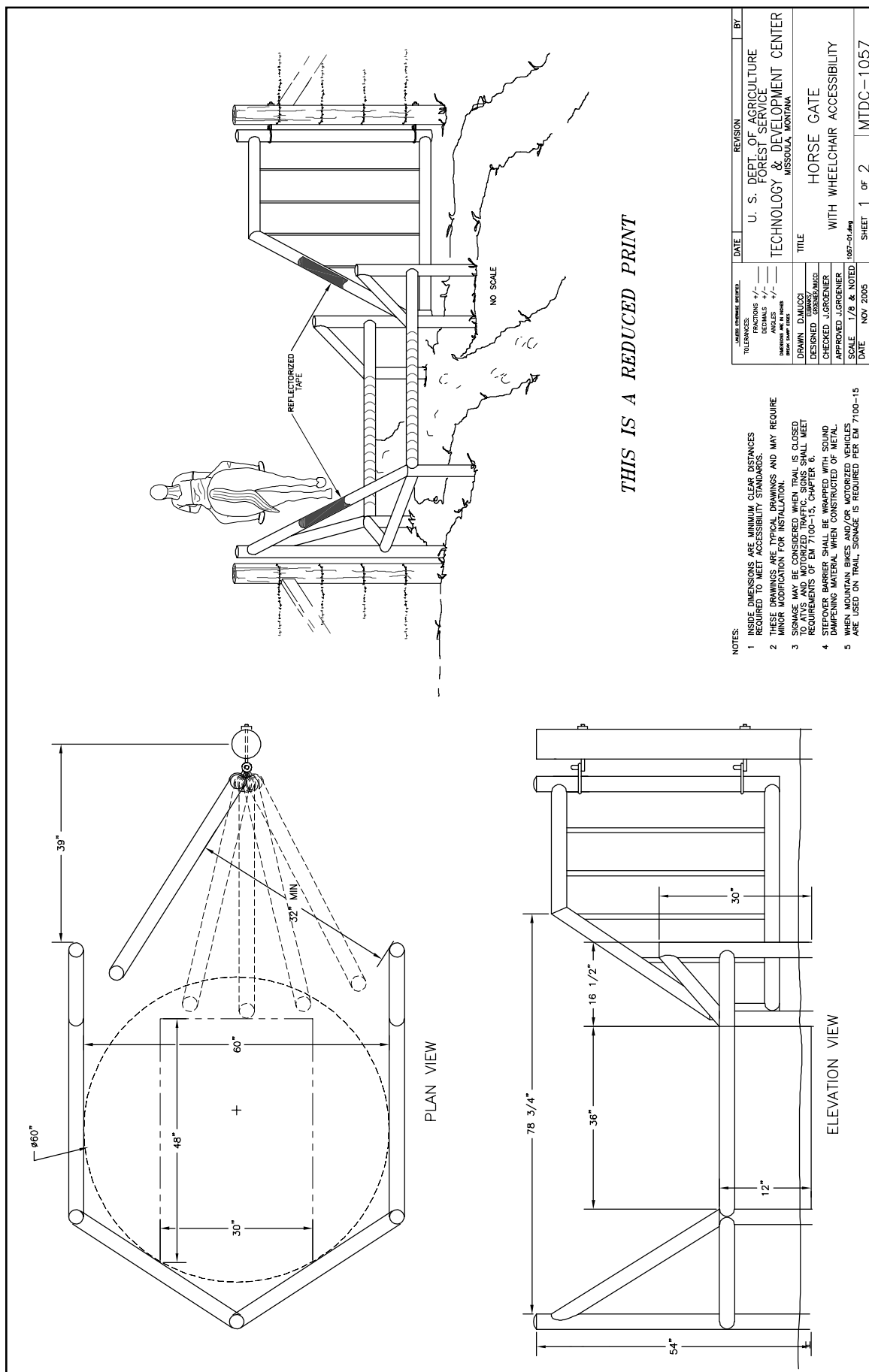


Figure 8—MTDC accessible horse gate drawing (MTDC-1057-01).

# Road Closure Drawings

Many forest roads are closed to motor vehicle traffic by gates or other types of barriers. Often, foot travel is allowed beyond the restriction device. When foot travel is encouraged on the

other side of the barrier, passage for someone in a wheelchair must be provided. The road closure drawings (figures 9 and 10) show four different ways to allow wheelchair access around a road closure gate, while restricting ATV use.

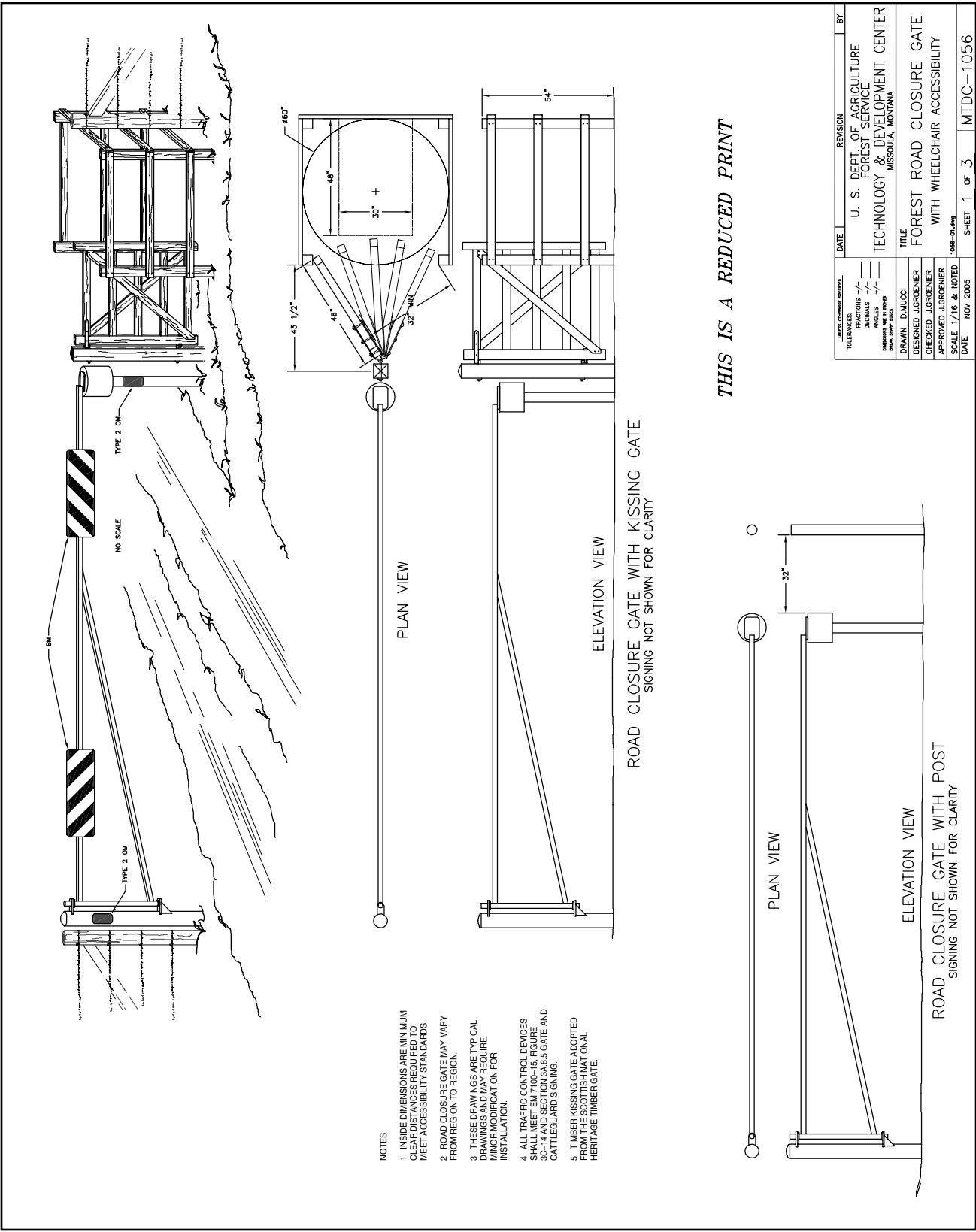


Figure 9— Accessible road closure gate drawing (MTDC-1056-01) with a kissing gate and post that allow accessibility.

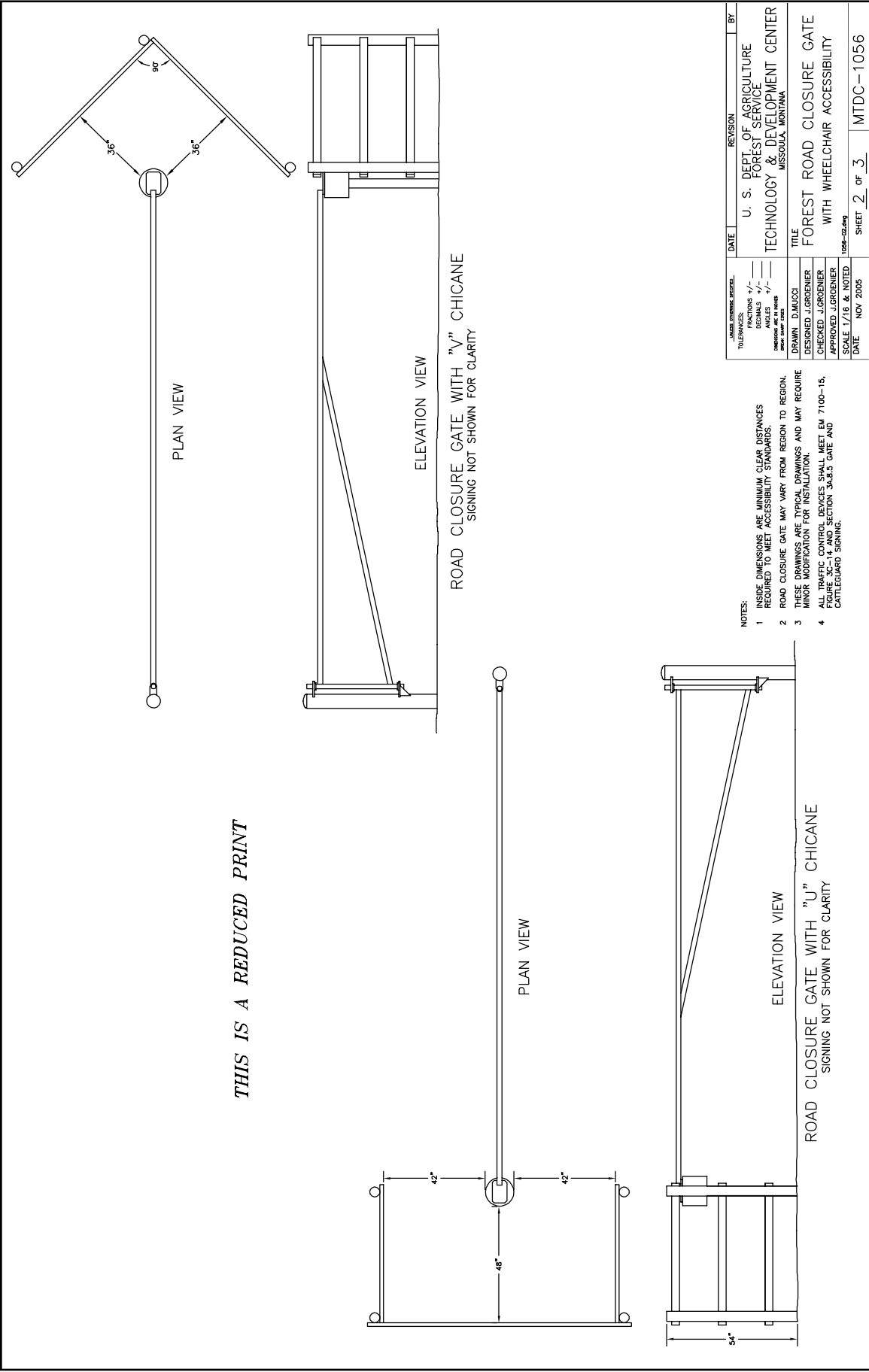


Figure 10—Accessible road closure gate drawing (MTDC-1056-02) with "V" and "U" chicanes (hidden entries) that allow accessibility.

Another concern is not having enough room to allow both horse and wheelchair access around a road closure barrier. This may be remedied by installing an accessible gate for wheelchair access (see figures 9 and 10) and replacing the road gate with

a horse-friendly barrier (figure 11). The kissing gate (see figure 1) may be added adjacent to a cattleguard on a road to allow wheelchair access, while restricting cattle.

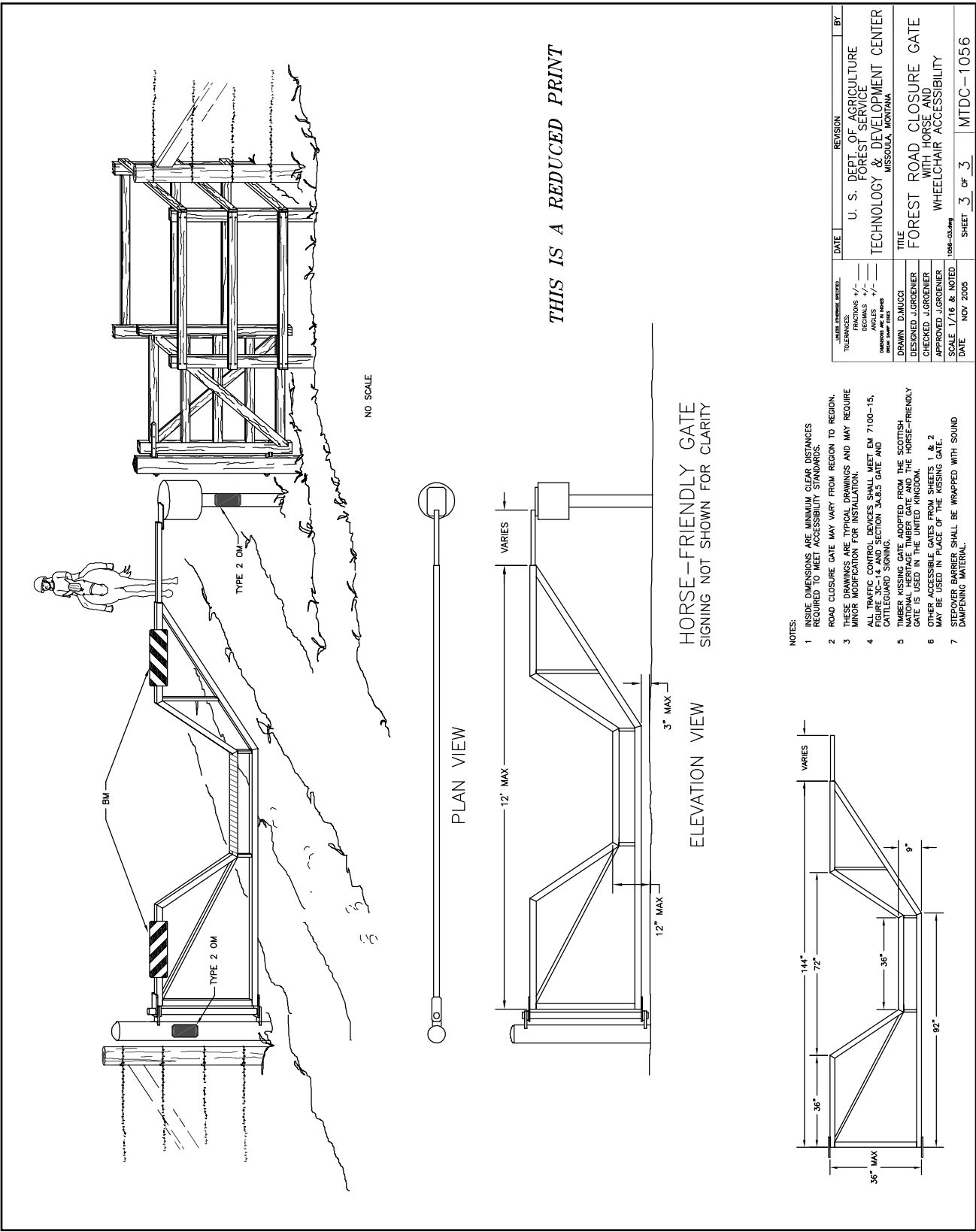


Figure 11—A horse-friendly barrier and accessible gate for road closure drawing (MTDC-1056-03).

## Signs

Mountain bikes, motorcycles, and small ATVs may be able to maneuver around obstacles and gates. In these cases, signs should be considered for additional travel management. All signs (including object markers) must meet the requirements of the Sign and Poster Guidelines for the Forest Service (EM 7100–15), chapter 6. Additionally, signs are required when mountain bikes or motorized vehicles are allowed on Forest Service trails.

## Summary

This project developed drawings for gates that meet the accessibility requirements for wheelchairs, horses, or both, but restrict motorized vehicle access. The new gates can help the Forest Service fulfill its policy of universal design, providing access to public lands for all people.

## Web Sites for Gate Designs and Suppliers in the United Kingdom

**Scottish Natural Heritage** <http://www.snh.org.uk/publications/on-line/accessguide/gates.asp>

**BTCV (British Trust for Conservation Volunteers)** <http://handbooks.btcv.org.uk/handbooks/content/section/3320>

**Bushey and District Footpaths Association (BADFA)** <http://www.badfa.org.uk/gates&stiles/GATES.htm>

**Centrewire Ltd.** <http://www.centrewire.com/installed.htm>

**Jackson's Fine Fencing** [http://www.jacksons-fencing.co.uk/pages/products/timber\\_prod\\_range.aspx?tc1=BD](http://www.jacksons-fencing.co.uk/pages/products/timber_prod_range.aspx?tc1=BD)

## Other Accessibility Web Sites

**American Trails** <http://www.americantrails.org/resources/accessible/>

**National Center on Accessibility** <http://ncaonline.org/trails/>

**USDA Forest Service—Accessibility** <http://www.fs.fed.us/recreation/programs/accessibility/>

## Other Related Projects

Beneficial Designs, Inc., is working on a project called *Designing an Accessible Vehicle Barrier for Trails*.

Beneficial Designs, Inc.

2240 Meridian Blvd., Suite C

Minden, NV 89423-8628

Phone: 775-783-8822

Fax: 775-783-8823

Web site: <http://beneficialdesigns.com/169/>

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The drawings in this tech tip are available on the Internet at: <http://www.fs.fed.us/t-d/pubs/htmlpubs/htm06232340/drawings/> (Username: t-d, Password: t-d)

These drawings can be viewed by Forest Service and Bureau of Land Management employees on their internal computer network at: <http://fsweb.wo.fs.fed.us/eng/facilities/accrec/gates/>

## About the Author

**James “Scott” Groenier**, professional engineer, began working for MTDC as a project leader in 2003. Scott earned a bachelor’s degree in civil and environmental engineering from the University of Wisconsin at Madison and a master’s degree in civil engineering from Montana State University. He worked for the

Wisconsin and Illinois State Departments of Transportation and with an engineering consulting firm before joining the Forest Service in 1992. He worked as the east zone structural engineer for the Eastern Region and as a civil engineer for the Ashley and Tongass National Forests before coming to MTDC.

## Library Card

Groenier, James “Scott.” 2006. Accessible gates for trails and roads. Tech Tip 0623–2340–MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Missoula Technology and Development Center. 12 p.

This tech tip includes drawings for gates that can be used to close roads and trails to motorized vehicle access while still allowing access by wheelchairs and, in some cases, horses.

When the Forest Service installs a gate, berm, or other type of restriction to block motorized vehicle access but encourages foot access, a passage 32 inches wide must be provided so a person using a wheelchair can get through (Section 504 of the Rehabilitation Act of 1973).

Keywords: accessibility, all-terrain vehicles, ATVs, chicanes, horses, kissing gates, motorcycles, wheelchairs

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**Electronic copies of MTDC’s documents are available on the Internet at:** <http://www.fs.fed.us/eng/t-d.php>.

**For further information about accessible gates, contact Scott Groenier at MTDC.**

Phone: 406–329–4719

Fax: 406–329–3719

E-mail: [jgroenier@fs.fed.us](mailto:jgroenier@fs.fed.us)

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