

**NATURAL RESOURCES CONSERVATION SERVICE**  
**VIRGINIA ENGINEERING DESIGN NOTE #575 (DN-575)**  
**ANIMAL TRAILS AND WALKWAYS**

Animal trails and walkways are used to establish lanes or travelways that facilitate animal movement. The purposes are to provide or improve access to forage, water, working/handling facilities, and/or shelter, improve grazing efficiency and distribution, and/or protect ecologically sensitive, erosive and/or potentially erosive sites.

**Design Aids:**

- (in progress - Virginia Engineering Design Note #1 – Road Drainage Practices)
- (in progress - Virginia Standard Drawing VA-SO-801 – Animal Trails and Walkways)
- (in progress - Virginia Standard Drawing VA-SO-802 – Road Drainage Practices)

**Location**

Animal trails or walkways shall be located to make the best use of topographic features. Trails shall generally follow natural contours to the extent practical and minimize the disturbance of drainage patterns.

Where possible, construction should leave the major part of the trail on solid undisturbed base.

**Slopes**

Trails or walkways shall be constructed in such a manner that accelerated erosion does not occur. A maximum of 10% slope is allowed where broad-based drainage dips are used. A maximum of 15% is allowed for slopes with water bars with the exception that for distances of 100 feet or less, 20% slopes will be allowed when water bars are installed according to Virginia Engineering Design Note #1 – Road Drainage Practices. Virginia Standard Drawing VA-SO-802 shall be used as needed in the design of this practice.

**Drainage**

Adequate drainage provisions shall be installed. Such structures shall be designed to meet appropriate NRCS criteria as shown in Virginia Engineering Design Note #1 – Road Drainage Practices. Virginia Standard Drawing VA-SO-802 shall be used as needed.

Provisions should be made at the upper end of a trail or walkway system to divert runoff from entering the system.

Cross slopes shall be sufficient to prevent ponding. A 3% cross slope is recommended as the minimum.

**Alignment of Turns**

The alignment of the turns shall serve the intended purpose. It is recommended that turns be located where the least erosion will occur by runoff from the higher portions of the trail. It is

also recommended that the angle of turn should not exceed 135 degrees outside angle (45 degrees inside angle).

Switchbacks may be used as necessary to achieve optimum slopes of the trail or walkway. Landings shall be used to reduce erosion in the switchback and reduce trail maintenance.

### **Construction**

Construction of trails and walkways will be accomplished with a minimum or disturbance of soil and vegetation. Excessive erosion during construction will be avoided.

### **Bank Stabilization**

Stabilization activities shall be limited to the minimum required to stabilize the structure and to provide erosion protection. Fill shall not be placed in special aquatic sites such as wetlands or in such a way as to impair surface water flow into or out of such a site.

### **Erosion and Sediment Control**

All borrow areas shall be graded to provide proper drainage and left in good condition. All exposed surfaces of the embankment, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing, and mulching in accordance with the Virginia Conservation Practice Standard *Critical Area Planting (Code 342)*.

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.