NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

ANIMAL TRAILS AND WALKWAYS

(Ft.)

CODE 575

DEFINITION

Established lanes or travel ways that facilitate animal movement.

PURPOSE

- 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.

CONDITIONS WHERE PRACTICE APPLIES

On lands where control of animal movement is needed.

CRITERIA

General Criteria Applicable to All Purposes

All planned work shall comply with all federal, state, and local laws and permit conditions and requirements. The landowner shall obtain all necessary permits prior to construction or any land clearing activities.

Animal trails or walkways shall be constructed wide enough to accommodate movement of animals and access by operator for management and maintenance.

Trails or walkways shall be designed and constructed with consideration of site soil characteristics.

Cultural resources, threatened or endangered species, wetlands, streambanks, floodways or other ecologically sensitive areas, and areas of special scenic value will be protected through the proper design and placement of trail(s) or walkway(s).

Trails or walkways shall be constructed in such a manner that accelerated erosion will not occur. Where necessary, diversions with a stable outlet will be provided. Surface shall be crowned or outsloped, as needed.

Oklahoma conservation practice standard, Stream Crossing, Code 578 will be used when animal trails or walkways cross streams or other shallow water bodies.

Sensitivity of the animal's feet, with respect to the intended purpose of the trail or walkway, will be included as a design parameter in selecting the surface material for trails or walkways.

Consider the adequacy of natural surfacing. If trails or walkways are seeded or planted to vegetative cover, vegetation will be protected from grazing until fully established and capable of withstanding grazing and/or trampling. Vegetative cover shall be established in accordance with Oklahoma conservation practice standard, Critical Area Planting, Code 342. Where maintaining vegetative cover is necessary but not possible, Oklahoma conservation practice standard, Heavy Use Area Protection, Code 561 will be used to provide adequate surface protection.

Oklahoma conservation practice standard, Fence, Code 382 will be used when needed to keep animals confined to the trail or walkway until the desired destination is reached.

Additional Criteria Applicable to Providing or Improving Access to Forage, Water, Working/Handling Facilities and/or Shelter

Trails and walkways will be designed and constructed of sufficient size to accommodate the expected frequency of use and animal type(s) planned for the operation.

When needed to facilitate movement of animals through a series of paddocks or pastures, gate openings and lane layouts shall allow for efficient flow of animals with the least amount of

stress.

Ramps may be used to allow animal access to a fenced pond. Studies of the pond area should be conducted to determine the best location for the ramp. Existing fences, grazing patterns, shoreline slope and water depth should be considered when choosing the optimum location for the ramp.

Ramps shall be planned and designed based on approved standard drawings. The slope of the ramp shall match as close as practical the shoreline slope of the pond to aid in construction. However, in no case shall the slope of the ramp be steeper than 3:1 (horizontal to vertical) or flatter than 5:1. If excavation is required, the areas to the sides of the ramp below shall be sloped to 2:1 or flatter.

The width of the ramp shall be adequate to provide animals with easy access to the pond and for maintenance purposes. The minimum width of a ramp shall be 8 feet. The requirements for width shall be a minimum of 1.0 foot of width for each 10 animal units.

The length of the ramp shall be sufficient to maintain access to water at varying water depths and to provide a stable base at the lower end of the ramp. A minimum water depth of 5 feet, measured from the designed permanent water level, is recommended. Where the pond depth is greater than 5 feet at the ramp location, excavation may be required to provide a stable base at the lower end. Additionally, the ramp shall extend a minimum of 0.5 feet above the designed permanent water level for freeboard.

Rock for the ramp shall be well graded 3 inch rip rap of adequate quality to withstand underwater conditions. The rock placed on the ramp shall be a minimum of 6 inches thick. A non-woven geotextile shall be installed under the rock.

If needed for containment of rock, a Geocell containment system shall be used.

Additional Criteria Applicable to Improving Grazing Efficiency and Distribution

Fenced or unfenced animal trails or walkways will be used to distribute grazing to overcome terrain features causing uneven grazing distribution and pressure.

Additional Criteria Applicable to Protection of Ecologically Sensitive Areas.

Cultural resources, threatened or endangered species, wetlands, streambanks, floodways or other ecologically sensitive areas, and areas of special scenic value will be protected through the proper design of trail(s) or walkway(s).

CONSIDERATIONS

Oklahoma conservation practice standard, Prescribed Grazing, Code 528 can be used to further improve grazing distribution and pressure.

Oklahoma conservation practice standard, Use Exclusion, Code 472 can be used in conjunction with trails or walkways to minimize the impact on sensitive areas.

For areas of high livestock concentration, such as around ponds, tanks, troughs, or other feeding areas, use Oklahoma conservation practice standard, Heavy Use Area Protection, Code 561.

Consider limiting width to prevent usage as a roadway. For travelways used by vehicles or equipment for purposes other than management and maintenance of animal trails or walkways, use Oklahoma conservation practice standard, Access Road, Code 560.

Consider use water bars, culverts, or other considerations to control and direct water flow.

For Access Ramps, consider widths that correspond to sizes of materials used. For instance, Geocells may be 8 feet wide; the design width should be divisible by 4 (i.e. 8, 12, 16, 20, etc.). This will limit waste of materials.

PLANS AND SPECIFICATIONS

Plans and specifications for installing animal trails or walkways shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. Plans and specifications shall include construction plans, drawings, job sheets or other similar documents. These documents shall specify the requirements for installing the practice, including the location and the kind, amount, and quality of materials to be used.

OPERATION AND MAINTENANCE

The operation and maintenance (O&M) plan shall specify that the trails or walkways and associated practices be inspected annually and after significant storm events to identify repair and maintenance needs.

The O&M plan shall detail the level of repairs needed to maintain the effectiveness and useful life of the practice. These repairs should include, but are not limited to, the following:

- Periodic grading or re-shaping trails or walkways to maintain the designed grade and dimensions,
- Periodic addition of surfacing materials where used,
- Re-seeding of areas in which the vegetation has been damaged or destroyed, and/or
- Mending of fences and replacement of gates.

Periodic removal and management of manure accumulations will be addressed in the O&M plan.

For multiple adjacent vegetated walkways the O&M plan should provide guidance as to the rotation of walkways to allow for recovery of vegetation and for improvement of traffic - supporting conditions.

REFERENCES:

Heady, H.F. and R.D. Child. 1994. Rangeland ecology and management. Western Press.

Holechek, J.L., R.D. Pieper, and C.H. Herbel. 2004. Range management: principles and practices. Pearson-Prentice Hall.

United States Department of Agriculture, Forest Service, 2007. Trail Construction and Maintenance Notebook. Washington, DC.

USDA-NRCS. 2003. National range and pasture handbook, revision 1. Washington, DC.

Vallentine, J.F. 1971. Range development and improvement. Brigham Young University Press.

Wood, Gene. 2007. Recreational horse trails in rural and wildland areas: design, construction and maintenance. Clemson University. This page intentionally left blank.

This page intentionally left blank.

NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE GENERAL SPECIFICATIONS

ANIMAL TRAILS AND WALKWAYS

(Ft.)

CODE 575

CONSTRUCTION SPECIFICATIONS

Access Ramps. Access ramps to provide animal access to a fenced pond should be installed during construction of the pond or soon after completion to avoid dewatering. For existing ponds, dewatering of the site to a level below the bottom of the ramp will be required.

Ramps shall be located such to minimize excavation. Excavation will be required to allow for the placement of rock. This will be to the thickness of the rock lining, typically 6 inches.

Rock. Rock use for rip rap shall be durable and meet the specified gradation requirements. Only angular to subrounded rock shall be used. Rock may be placed by equipment or by hand. Placement must ensure that rocks are reasonably homogeneous with larger rocks uniformly distributed and in firm contact with one another and smaller rocks filling in the voids.

Geocell. Where needed, an approved plastic (PE) three-dimensional cellular containment grid shall be installed to hold rocks in place. The geocell shall be the same thickness as the rock liner.

Geotextile. The geotextile shall be a Class 1 nonwoven geotextile fabric with a minimum weight of 8 ounces per square yard. The fabric shall also meet the following requirements:

Property	Test Method	Requirement
Tensile Strength	ASTM D4632	180 lb. - min.
Elongation at Failure	ASTM D4632	$\geq$ 50%
Puncture	ASTM D4833	80 lb. - min.
Ultraviolet Light (% residual tensile strength)	ASTM D4355	70 % - min.
Apparent Opening Size	ASTM D4751	# 40 sieve - max.
Permittivity	ASTM D4491	0.70/sec - min.

Installation shall be in accordance with the manufacturers' recommendations. In no case shall material be dropped onto an uncovered geotextile from a height greater than 3 feet.

Prior to placement of the geotextile, the soil surface shall be prepared reasonably smooth and free of loose rocks, holes, projections, mud or standing water. The geotextile shall not be placed until it can be properly anchored and covered within 48 hours.