NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

FENCE

(Feet)
CODE 382

DEFINITION

A constructed barrier to animals or people.

PURPOSE

The fence practice facilitates the accomplishment of conservation objectives by providing a means to control movement of animals, people, and vehicles.

CONDITIONS WHERE PRACTICE APPLIES

The fence practice may be applied on any area where management of animal or people movement is needed. Fences are not needed where natural barriers effectively serve the purpose.

CRITERIA

General Criteria Applicable To All Purposes

Height, number, and spacing of fence wires shall be installed to facilitate control and management of the animals or people of concern.

Fencing materials, type, and design of fence installed shall be of a high quality and durability. The type and design of fence installed will meet the management objectives and site challenges. Based on need, fences may be permanent, portable, or temporary.

All materials used to construct a permanent fence shall meet or exceed the minimum requirements in the Materials section of the Specifications. Placement of posts for permanent fences shall meet the requirements for the applicable post material and fence type in the Post Placement section of the Specifications.

The fence design and installation shall follow all federal, state, and local laws and regulations.

All permanent fences are to be constructed with the intent of being left in place for at least 20 years. Therefore, the criteria for all permanent fences require material, design, and construction that shall have a minimum life expectancy of 20 years with minimal maintenance.

Fences shall be positioned to facilitate management requirements. Ingress/egress features such as gates and cattle guards shall be planned.

Height, size, spacing and type of posts will be used that best provide the needs for the type of fence required and are best suited for the topography of the landscape.

All fence wires shall be attached to the side of the post closest to the livestock. Wire shall be placed on the outside of corner posts and where placing the wires on the outside of a curve in the fence is required for structural stability.

Notching of posts to retain wires or braces is prohibited in any part of a fence.

Fence location is the responsibility of the landowner/user. Legal surveys may be needed for proper fence location.

The landowner shall be responsible for locating all buried utilities in the project area, including drainage tile and other structural measures.

Permanent Electric Fence

Barbed wire is not to be electrified or insulated for electrification.

Electronic energizers or power fence controllers shall be installed and grounded according to the manufacturer's recommendations. The energizer shall be protected by an external lightning arrestor. For protection of 120- or 240-volt energizers, a voltage surge/spike protector shall also be installed.

Permanent Non-Electrified Fence

Barbed wire fence shall not be used for containment of sheep or goats.

Woven wire fences for containment of sheep or goats, or where needed to protect livestock from predators, shall be constructed with the base of the woven wire placed within 2 inches of the ground surface.

Temporary Fence

For temporary electric fence, the number of wires and spacing shall be designed to accomplish the desired result of the fence, with a fence height at least 2/3 of the shoulder height of the grazing animal. When multiple wire systems are used, spacing of wires should be designed to ensure head electrical contact when animal attempts to place head between wires.

Manufactured products such as temporary poly-wire, poly-tape, or plastic net fence may be used for animals such as sheep, goats, hogs, and crowding areas. Follow manufacturer's directions for construction, use, and operation.

Temporary fences may be attached to permanent fences to further subdivide pastures.

CONSIDERATIONS

The fence design and location should consider: topography, soil properties, livestock management and safety, livestock trailing, wildlife class and movement, location and adequacy of feeding and watering facilities, development of potential grazing systems, human access and safety, landscape aesthetics, erosion problems, moisture conditions, flooding potential, stream crossings, and durability of materials. When appropriate, natural barriers should be utilized instead of fencing.

Where applicable, cleared rights-of-way may be established to facilitate fence construction and maintenance. Avoid clearing of vegetation during the nesting season for migratory birds.

Fences established across gullies, canyons or streams may require special bracing, designs or approaches.

Fence design and location should consider ease of access for construction, repair and maintenance.

Fence construction requiring the removal of existing unusable fence should provide for the proper disposal of scrap materials to prevent harm to animals, people and equipment.

Consider wildlife movement needs when locating and constructing fences. Strands of wire spaced too close together at the top of a fence can entangle deer.

When using gates of substantial weight, consider supporting free end of gates, when open or closed, to relieve constant pressure applied to post on hinged end of gate.

Consider soil erosion potential when planning and constructing a fence on steep slopes.

When using electric fences, use training areas to condition livestock to fences. Select a well-fenced area and construct an electric fence across or around the area to allow animals to come in contact with the electric fence. Normally, a minimum of 12 hours of exposure to the electric fence is required. Most animals will be fully trained in 48 hours. When animals approach the fence with caution, they are trained.

When using electric fence with sheep or goats, they must be clean shorn prior to being introduced to the fence.

Check with appropriate utilities prior to erecting electrified wires or ground wires near overhead power lines, telephone wires, or radio antennas. If electrified fences must cross power lines, etc., cross lines at as close to perpendicular as possible and keep top fence wire below 6 feet. Ground rods may be needed at each side of crossing for safety in case of downed power lines.

Consider all safety recommendations and cautions from suppliers, distributors, manufacturers, installers, dealers, power companies, electricians, and other professionals, when constructing fences.

PLANS AND SPECIFICATIONS

Plans and specifications are to be prepared for all fence types, installations and specific sites. Requirements for applying the practice to achieve all intended purposes shall be described. Plans and specifications shall be in keeping with the Illinois Fence standard.

The plan shall include the following:

- Location of fences marked on the Plan Map.
- Total number of acres to be fenced.
- Fence components that include items identified on Job Sheets 382e and 382ne, as applicable.
- Quantities of materials to be used that are not included in job sheets.

- Quality of materials to be used (treatment, protection, etc.)
- Completed standard drawings, as applicable.
- Applicable Job Sheets.
- Construction specifications

OPERATION AND MAINTENANCE

Develop an operation and maintenance plan that is consistent with the purposes of the practice, intended life, safety requirements, and the criteria for the fence design.

The operation and maintenance plan shall include the following, as applicable:

Regular inspection of fences should be part of an ongoing maintenance program. Inspection of fences after storms and other disturbance events is necessary to ensure the continued proper function of the fence.

Maintenance and repairs will be performed in a timely manner as needed, including tree/limb removal and water gap replacement.

Clear vegetation from fence lines to reduce voltage loss. Remove fallen limbs. Overhanging trees and limbs should be trimmed or removed as needed to prevent trees or limbs from falling onto the fence.

Voltage of electric fences will be checked periodically to ensure at least 3,000 peak volts at the farthest distance from the charger. If voltage is not sufficient, determine the cause and correct. During dry weather, ground rods may need water applied to soil around them.

Maintain between 200 to 250 lbs. tension on Hi-Tensile fence wires. Check wire tension throughout the year.

Electrified floodgates must be maintained and kept clear of debris. During extended flooding periods, switch floodgate(s) off.

Remove and properly discard all broken fencing material and hardware. All necessary precautions should be taken to ensure the safety of construction and maintenance crews.

REFERENCES

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