Fence

Electrified High Tensile Smooth Aluminum Wire

NH Conservation Practice Job Sheet NH-382

General Criteria

Fencing materials, type and design of fence installed shall be of a high quality and durability. The lifespan of this practice is 20 years. The fence design and installation should have the life expectancy appropriate for management objectives and shall follow all federal, state and local laws and regulations.

Height, size, spacing and type of materials used will provide the desired control, life expectancy, and management of animals and people of concern. Acceptable designs, materials, and detailed methods are described in NH eFOTG, Section IV, NH Fence Construction Specifications.

Manufacturer's guidelines shall be adhered to during installation of each type if fence to ensure proper component assembly. All fence construction shall comply with federal, state and local fencing codes.

Specifications

All materials shall meet/exceed the following:

Wire:

- □ 12.5 ga. high tensile aluminum alloy (min. 48,000 psi)

Hardware and Fasteners:

- □ Class III or zinc galvanization for brace pins, strainers, joiners/splices and tension springs
- □ Gripping-style joiners or crimp sleeves
- □ Brace pins: ⅜" x 5" and ⅜" x 10"
- □ Staples: 9 gauge, 1¾" for soft wood, 1" for hardwood, barbed for pressure treated

Wood:

- □ Red or white cedar, black locust or pressure treated. Do not use red pine if posts are mechanically driven.

Wood Line Posts:

- □ Diameter: 4"
- □ Length: 7' (4' fence); 8' (5' fence)
- □ Depth: 3' below the ground line

Fiberglass/Other Line Posts:

- □ Diameter: ⅝" (4' & 5' fence)
- □ Length: 6.0' (4' fence); 7.0' (5' fence)
- □ Depth: 2.0' below the ground line
- □ Other materials: UV-protected plastic, composite, or other materials (except steel) based on manufacturer's recommendation

Line Post Spacing:

- □ 100' max with battens every 30-50', or
- □ 30-50' max w/o battens

Battens:

- □ ½" diameter fiberglass, UV-protected plastic, composite, or other materials based on manufacturer's recommendation

Wood Corner, Gate, and Brace Posts:

- □ Diameter: 4"
- □ Length: 8' (4' fence); 9' (5' fence)
- □ Depth: 4' below the ground line

Cross Members:

- □ Diameter: 4"
- □ Length at ¾ brace post height: 8' (4' fence); 10' (5' fence)
- □ Length above ¾ brace post height: 10' (4' fence); 12' (5' fence)

Bracing Requirements:
- □ Single H for 6 or less wires
- □ Double H for 7 or more wires
- □ Fiberglass or PVC Assemblies
- □ At all corners, ends and gates
- □ When runs exceed 1,320'
- □ When slope is > 20-30°
- □ When horizontally alignment is > 15°

Fiberglass or PVC Assemblies:
- □ Diameter: 2"
- □ Height: 5' (4' fence); 6' (5' fence)
- □ Horizontal brazing required
- □ Auger anchors for 5' assembly: 6" x 4' for corners, 4" x 3' for diagonals
- □ Auger anchors for 5' assembly: 10" x 4' for corners, 6" x 3' for diagonals
- □ Use auger extensions when needed
- □ Use 10" x 4' augers in sandy or extremely wet soils.

Trees:
- □ Allowed for posts or corners <u>only</u> when shallow soil depth to ledge/bedrock does not allow posts to be embedded properly
- □ Wire attached to treated 2" x 4" board nailed to a tree or using a rolling j-bolt
- □ Wire not attached directly to tree

Wire Spacing and Fastening:
- □ Use gripping style tensioners to tighten fence to prevent sagging, or
- □ Use in line strainers and tension springs to tighten fence to prevent sagging
- □ Attach wire at least 2" below top of wooden posts, and 1" below top of other posts

Gates:
- □ Install prefabricated gates according to manufacturer's instructions
- □ Gate shall be non-electrified when open

Energizer/Charger:
- □ Install according to manufacturer's recommendations
- □ Place warning signs as required by code and/or manufacturer's recommendations

Grounding:
- □ A minimum of 3 ground rods
- □ 6-8' galvanized steel pipe spaced at least 10' apart.

Lightning Protection:
- □ External lightning arrestors/diverters are required.

Surge Protection:
- □ Surge protector required between energizer and power supply

Insulators:
- □ Black or white, high grade, UV-resistant polyethylene or polypropylene
- □ Must be designed for <u>high tensile</u> fencing

<u>Other Considerations</u>

Fences across gullies or streams require special braces and design.

Any permanent fencing for grazing livestock should allow flexibility to facilitate implementation of the grazing plan and permit land management activities such as nutrient application, pest control, forage harvest, and other appropriate practices.

Wire should generally be attached on the sides of posts that will receive the greatest pressure from animals. Wire will be placed on the outside of posts on curves.

Locate fences to facilitate maintenance. Where applicable, clear right of ways should be established and maintained to facilitate fence construction and maintenance. When possible, install fences across slopes to improve grazing distribution, rainfall infiltration, and reduce soil erosion.

Remove temporary fence during non-grazing season to minimize flood or deer damage.

Bare steel high tensile steel wire shall not be used for horses due to the potential for injury

Barbed wired shall never be electrified or used with electrified fences.

Consider making accommodations for the passage of wildlife, particularly where known travel ways for species of concern exist.

Fence
Operation and Maintenance Plan

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following are some requirements to help you develop a good operation and maintenance program.

Operation and Maintenance:

1. The fence should be inspected frequently to see that it is not cut, broken or pushed down and the posts and braces are in place and intact.

2. Weeds, grass and sprouts along and under the fence should be clipped at least once a year.

3. Gates should be kept closed and latched to prevent swinging and sagging.

4. Signs posted on the fence should be inspected to determine if they are still visible and legible. Damaged and illegible signs should be replaced with new signs.

5. Tension in the fencing should be checked and the wire crimped and the fence repaired when the sage in the wire is excessive.

6. Do not burn weeds and grasses under and around fences as this destroys the galvanized coating and accelerates rusting.

7. Loose and lost staples and broken tie wires should be replaced during the fence inspections.

CHECK OUT:

Amount Completed: _____feet.

Remarks_____

Checked by:_____ Date:_____

Approved by:_____ Date:_____

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