

## NATURAL RESOURCES CONSERVATION SERVICE

### CONSTRUCTION SPECIFICATIONS

#### FENCE – WOODEN BOARD

(Ft.)

#### CODE 382

#### VII. Wooden Board

##### A. Board Spacing

The top of the top board shall be at least 42 inches above ground level and 2 inches below the top of posts on wood posts. Install a minimum of 3 horizontal boards (rails). Space the boards 12” to 14” apart, center to center.

Place horizontal boards on the side livestock are on. If livestock are on opposite side of boards, install one or more barbed or electric wires at nose height of the animal you are trying to control.

Stagger rail joints so they don't hit the same on every post. For example for a three-plank fence, posts would alternately have two or one joint. For a four-plank fence, every post would have two joints.

Install a vertical face board (to cover joints) on every post and two on corners.

##### B. Type of Board

The horizontal boards shall be a minimum of 1” x 5” and 16’ long. Lumber shall be bald cypress, oak, eastern or western red cedar, or redwood or be treated with creosote

or comparable preservative. If painting is desired, lumber shall be treated with an anti-fungal agent or a waterborne preservative such as acid copper chromate or chromated zinc chloride.

##### C. Pull Assemblies

Pull assemblies are not required unless more than two wires are pulled, in addition to board fence. If more than two wires are pulled, see bracing for that type of wire.

##### D. Post Spacing, Length, and Depth

Space posts 8 feet apart or closer to accommodate rail length of 16 feet. Wood posts must have a minimum length of 6 feet and set or driven to a minimum depth of 24 inches. When set, earth fill placed back around posts shall be thoroughly tamped. Wooden line posts shall have a 3-inch top commercial size (2½ inches for Osage Orange).

Post spacing in areas shallow to rock may vary based on availability of sites. Probe ground with a rock probe to determine desirable post sites. Rock bits are available in some areas for drilling rock. Use stays to maintain post spacing. Stays should not be used more often than every other post. Post set as deep as

possible using a minimum of 8" x 30" or equivalent of concrete. Use live trees as posts only where soils are shallow, see section F.

**E. Line Posts**

All wooden posts (except Red Cedar, Osage Orange, or Black Locust) shall be treated according to use category UC4A of the American Wood Preservers Association (see Table 1):

Table 1: Minimum treatment rate for selected preservatives.

Use Category	Minimum Retention Rate (pcf)			
	CCA	ACQ	CBA-A	CA-B
UC3	0.25	0.25	0.20	0.10
UC4A	0.4	0.4	0.41	0.21

Excerpted from AWWPA Standards - 2004

At least half the diameter of red cedar shall be heartwood. Quality of treated wood shall provide sufficient strength and last for the expected life of the fence.

**F. Live Trees as Line, Bracing, and Corner Posts**

Only use live trees in areas where soils are shallow. Live trees used for corner, bracing, and line posts shall have a diameter breast height (DBH) equal to or greater than those prescribed for normal wooden posts.

Some alignment variation shall be allowed, but caution should be taken to minimize offsets.

Wire or insulators will not be fastened directly to trees. When using live trees, protection will be provided between the tree and wire or insulators (UC3 treated 2 x 4's, fiberglass, or rigid plastic strip).

**G. Corner, Gate, or End Assembly (See Standard Drawing Number FEN-382-BR1 and BR2.)**

Brace assemblies are required at all gates on the hinge side of the gate. Six-inch posts are required at ends, corners, and angles up to 150 degrees in the fence line.

**H. Bracing**

**(See Standard Drawing Number FEN-382-BR1 and BR2.)**

Bracing is not required for board fence; however, if wire is run in addition to boards, follow applicable standard for wire. Brace posts used for hanging gates.

The brace member shall be the equivalent of a 4" top diameter post or standard weight galvanized steel pipe of 2" diameter installed at least 3 feet aboveground or between the top two wires, whichever is higher. Place brace at least 8 inches below the top of post. The brace member shall be at least 6 feet long or 2.5 times the height of the top wire (i.e., 42 inches x 2.5 = 105 inches or 8.75 feet).

The brace wire shall be number 9 gauge smooth wire or 12-1/2-gauge high tensile strength smooth wire. Twist sticks or inline strainers will be used to tighten brace wire.

## **I. Fasteners**

Attach each horizontal board with two 16d galvanized or cadmium nails or equivalent screws. Install face board with one nail in each plank. For a three-plank fence, a minimum of three nails or screws would be in the face board.