

**NATURAL RESOURCES CONSERVATION SERVICE**  
**GENERAL SPECIFICATION POST AND TIMBER FENCE**

**FENCE**

(Feet)

**CODE 382**

Standard Drawings can be found here: <http://www.mt.nrcs.usda.gov/technical/eng/drawings.html>

**GENERAL REQUIREMENTS**

**SCOPE**

The work shall consist of furnishing materials and installing materials for the specified design at the location(s) shown on the plan map, drawings, or as staked in the field.

Fencing includes brace assemblies, gates, cattle guards, and other components required for meeting site conditions and achieving the objectives of the practice application.

It shall be the responsibility of the owner to obtain all necessary permits and/or rights, and to comply with all regulations and laws pertaining to this installation.

Boundary fences shall comply with state laws and standards for construction. NRCS will not survey property boundaries.

On Federal, State, or Tribal lands, the landowner / leasee must have clearances and approvals or permits from the responsible permitting agency prior to any construction.

For federally funded practices the area of potential effect for each undertaking must be investigated for cultural resources under section 106 of the National Historical Preservation Act of 1966, as amended, before soil disturbance occurs.

For federally funded practices, NRCS must determine if installation of this practice will affect any federal, tribal, or state listed threatened or endangered species or their habitat prior to application or construction. If this action may affect a listed species or result in modification of critical habitat, NRCS will advise the land user of

the requirements of the Endangered Species Act and recommend alternative conservation treatment(s) that avoid adverse effects. Further assistance will be provided only if the land user selects one of the alternative conservation treatments for installation; or at the request of the land owner, NRCS may initiate consultation with the U.S. Fish and Wildlife Service. Any special requirements for endangered species are shown under Special Requirements.

For federally funded practices, if during installation any cultural resources, historical resources, threatened or endangered species are found, the landowner / leasee agrees to stop all work and immediately notify NRCS.

NRCS assumes no responsibility for interference with private or public utilities or facilities.

Installation shall be in accordance with these specifications and special requirements. For federally funded practices, no changes are to be made in the specifications, design, or drawings without prior approval of NRCS.

Installation shall be done in such a manner that erosion and air and water pollution are minimized and held within legal limits.

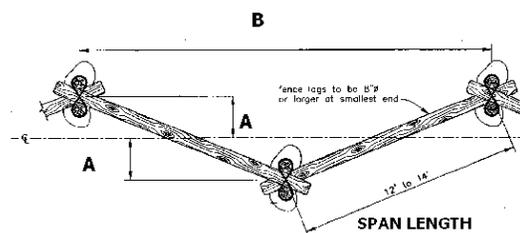
The owner, operator, contractor or other persons will conduct all work and operations in accordance with proper safety codes with due regards to the safety of all persons and property.

The completed job shall be workmanlike and present a good appearance. The job site shall have a neat appearance after completion.

Waste materials shall be burned, buried, or removed from the site as required by local laws and regulations.

## Specification MT382(Post and Timber Fence)-2

Chemicals pollutants such as oil, transmission fluid, lubricant, and grease spills shall be cleaned up, disposed of, and removed from the site in accordance to Federal, State, Tribal and Local governmental regulations. The contractor shall be responsible for preventing his operation from contamination open and ground water sources.



## TYPE OF FENCES

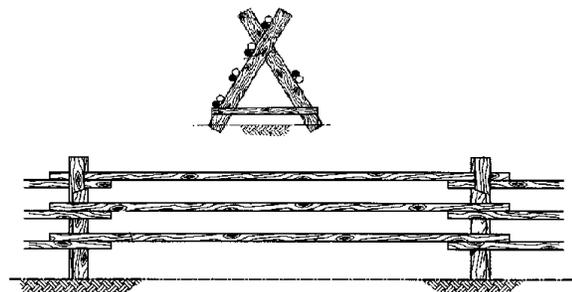
### Post and Timber Fence

There are several types of post and timber fence designs that are rustic in appearance and require relatively little maintenance, including:

### BUCK-POLE FENCES

*(Standard drawings MT-SD-382.130 through MT-SD-382.132).*

Buck-Pole fences are suitable for camp grounds and recreation areas with high scenic values. This fence design is adapted to sites with high snow accumulation.

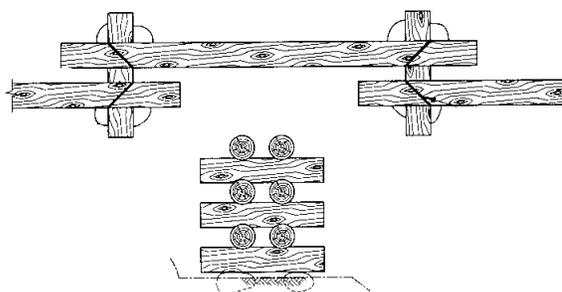


### WORM FENCES

Worm fences have a zigzag appearance because each section is constructed at an angle to the previous section. This fence design is well suited to areas of high snow accumulation. Log-worm fences are highly functional and usually have minimal maintenance requirements. These fences are particularly useful in areas where it is difficult to set regular posts, such as swampy or rocky areas.

### LOG-AND-BLOCK FENCES

Log-and-Block fences are similar to the log-worm fence, but the spans are shorter and the material is usually sized larger. This fence design is appropriate for areas of deep, drifting, snow and where appearance and durability are important concerns.



## POST AND TIMBER FENCES

### Materials Specifications

Where appropriate, materials other than the timber poles and posts (primary fence supports), will be in accordance with conventional post-and-wire fence specifications.

The materials used in construction must be in accordance with, and equal or exceed, in strength and durability, the following specifications:

**Specification MT382(Post and Timber Fence)-3**

**BUCK-POLE FENCES**

(Standard drawings MT-SD-382.130 through MT-SD-382.132).

All poles and bucks shall be of sound wood that is round and free of knots. All poles and bucks shall have the bark stripped on three (3) sides to hasten seasoning.

Timber for bucks shall be at least 6 inches in diameter at the small end. Timber for bucks shall be at least five (5) feet in length.

Poles shall be at least 3 inches in diameter at the small end. Brace poles have a minimum diameter of 4 inches.

Poles shall be two (2) feet longer than the panel design length.

**Table 1 Pole Length**

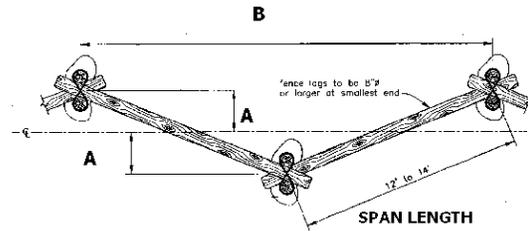
Type of Pole	Panel Length	Pole Length
Green	10-12 feet	12-14 feet
Seasoned	14-16 feet	16-18 feet

Wire used for guy wire bracing shall be No. 9 gauge, galvanized.

60d spikes shall be used for buck construction and to attach poles to bucks.

**WORM FENCES**

Logs used in fence construction shall have minimum taper and be at least eight (8) inches in diameter at the smallest end. Treated wooden stays at least 4 inches in diameter, treated 4-inch x 4-inch dimension lumber, or untreated 8 inch diameter or larger posts are used to support the logs.



**Table 2 Design Criteria with Stays**

Log Length	Span Length	A	B
14	12	2 foot-3 inches	22 feet-3 inches
16	14	2 foot-8 inches	25 feet-10 inches

**Table 3 Design Criteria without Stays**

Log Length	Span Length	A	B
14	12	>3 feet	<20 feet-9 inches
16	14	>3.5 feet	<24 feet-3 inches
18	16	>4 feet	<27 feet-8 inches

Wire used for shall be No. 9 gauge, galvanized.

**LOG-AND-BLOCK FENCES**

Logs used in fence construction shall have minimum taper and be at least 8 inches in diameter. Logs used in the main fence spans are 10 to 14 feet long. Logs used in block sections are a minimum of 4 feet long. Treated wooden stays at least 4 inches in diameter or treated 4-inch x 4-inch dimension lumber are used to support the logs.

Large rocks are used to keep the bottom logs above the ground.

## Specification MT382(Post and Timber Fence)-4

### Construction Specifications

#### BUCK-POLE FENCES

(Standard drawings MT-SD-382.130 through MT-SD-382.132).

Bucks are spaced 10-12 feet apart for green poles. Bucks may be spaced 14-16 feet apart for seasoned poles.

Double brace poles ("sway bucks") shall be placed on every sixth (6) buck, except on steep slopes or heavy snow areas where every third (3) panel may need to be braced. Double guy wire bracing may be substituted for brace poles when a rock or log deadman can be buried at least sixteen (16) inches deep.

Bucks are mortised for a tight fit and to provide rigidity. Bucks are notched sixteen (16) inches from the top of each buck post. The notch is a dap joint approximately two (2) inches deep. Buck members are spread at an angle not less than 60°. Angle should be 80° on untimbered terrain where fence will be subjected to high winds.

The top pole shall be greater than 3 feet and less than 4 feet high for livestock control or 6 feet high for deer control.

A top wire on the buck-and pole-fence may be used for deer exclusion.

For livestock control, the bottom pole of a four (4) pole fence shall be set 12 inches above the ground line with the remaining poles evenly distributed. The top pole commonly rests in the notch of the buck.

On the side of the buck opposite the poles, one rub pole shall be placed two (2) feet above ground level.

#### WORM FENCES

Each section of a worm fence is constructed at an angle to the previous section - the sharper the angle, the greater the fence strength and stability (see Table 2 Design Criteria with Stays and Table 3 Design Criteria without Stays).

Span sections are 12 to 16 feet long, with one foot extending beyond span crossing points. The bottom poles of a worm type fence shall be raised off the ground using relatively flat rocks that are wider than the bottom pole (minimum of 6"x12"x16"). Rocks are placed at section ends, and in the section center if the log sags excessively. Short sections of logs, 16 inches in diameter and 4 feet long may be substituted for the bottom pole rock.

Stays may be omitted if the fence width is increased per the design parameters in Table 26 Design Criteria without Stays. Stays are tied together at the bottom and top using No. 9 gauge smooth wire, double wrapped, and stapled to each stay.

Worm fences shall be at least three feet high and not more than four feet high (at the lowest span) for livestock control or six feet high for deer control.

#### LOG-AND-BLOCK FENCES

The Log-and-Block fence is constructed similar to the worm fence, except that short fence sections are set at right angles to the main sections for added fence stability.

Span lengths of the main fence sections shall not be more than 12 feet (16 foot log).

Block sections have a minimum span of 42 inches. All log ends have a two-foot overlap. Blocks to have narrow notch on top and bottom side. Block sections must be level.

The largest diameter logs are used for the bottom fence members and the smallest logs for the top tiers. Logs must fit snugly.

Logs are attached to the blocks with 12" spikes. The ends of each top log in a main fence span is tied to the top log of the associated block and stays using No. 9 gauge smooth wire, double wrapped, and stapled to logs and stays.

The bottom logs of a block-and-pole type fence shall be raised off the ground by means of large rocks at section ends and at the center of each main span. The bottom log shall be raised above the ground line no more than 14 inches.

The number of logs is dependent on the size used. Block-and-pole fences are generally constructed at least 4-1/2 feet high. Fences over 42 inches high can be a barrier to deer and elk. Sections of let-down, or post-and-wire fence can be installed to allow seasonal passage of big game.

**INSTALLATION**

Installation of the fence shall conform to the specifications and Exhibits or other drawings, as provided. Minimum life expectancy is 20 years.

The completed job shall be workmanlike and present a good appearance. The installer and other persons will conduct all work in accordance with proper safety procedures.