**PRIMARY USE**: Minimize bank erosion.
**ADDITIONAL USES:**

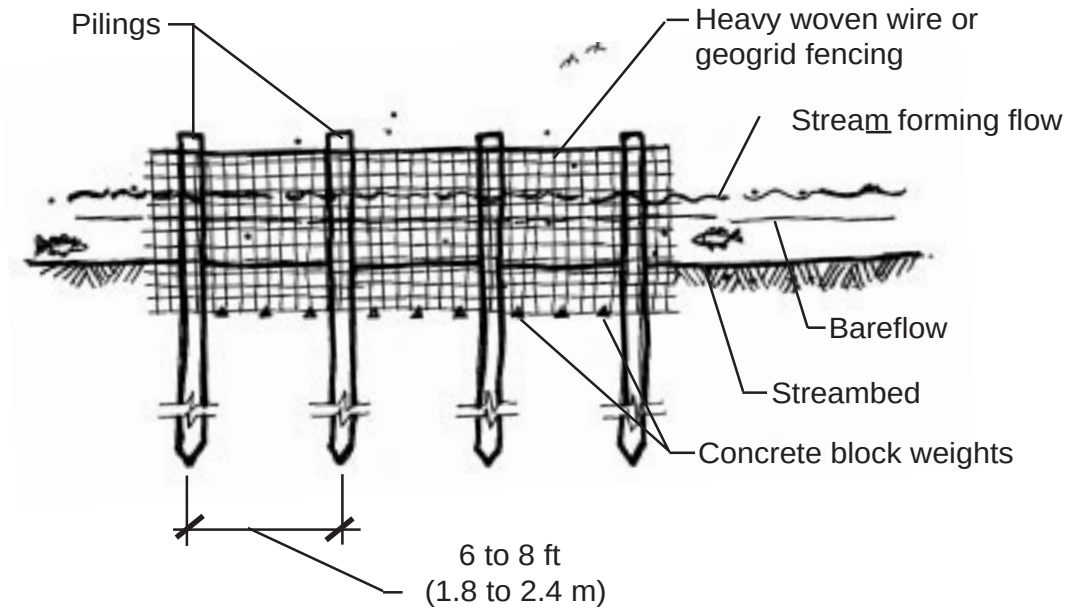
# PILING REVETMENT WITH WIRE OR GEOTEXTILE FENCING

**What is it?** Piling revetment is a continuous single or double row of pilings with a facing of woven wire or geogrid material. The space between double rows of pilings is filled with rock and brush.

## Purpose

This technique is used in streams where water next to the bank is more than 3 ft (0.9 m) deep. It is more economical than riprap construction in deep water because the need to build a stable foundation underwater for holding the riprap in place is eliminated.

**Piling Revetment with Wire or Geotextile Fencing Section View**




## Limitations

This technique is limited to streams with a flow depth of 6 ft (1.8 m) or less. This structure may be easily damaged by ice flows or heavy flood debris and should not be used if these conditions are expected. It should not be used where there are fish and/or an abundance of riparian wildlife. Consideration must be given to the long term effects upon aesthetics, changes in flows where large amounts of debris will be collected, habitat damaged caused during the installation of pilings, and possible dangers for recreational uses.

## Materials

New or used timbers, logs, railroad rails, or pipe may be used for pilings provided that they do not introduce toxins into the water. Logs need to be large enough in diameter to permit driving to the required depth.

## Installation

Drive pilings 6 to 8 ft (1.8 to 2.4 m) apart at the base of the streambank, near the stream forming flow stage, to a depth approximately half their length and below the point of maximum scour. Additional rows of pilings may be installed at higher elevations on the streambank if required to protect the bank and if using vegetation or other methods is not practical. Fasten a heavy gauge of woven wire or geotextile material to the stream-side of the pilings to form a fence. The purpose of this material is to collect debris while serving as a permeable wall to reduce velocities on the streambank. Double row piling revetment is typically constructed with 5 ft (1.5 m) between the rows. Fill the row space with rock and brush. If the streambed is subject to scour, extend the woven wire or geotextile material horizontally toward the center of the streambed for a distance at least equal to the anticipated depth of scour. Attach concrete blocks or other suitable weights at regular intervals to cause the fence to settle in a vertical position along the face of the pilings after scouring occurs. Place brush behind the piling to increase the system's effectiveness.

**Source:** Engineering Field Handbook, NRCS.

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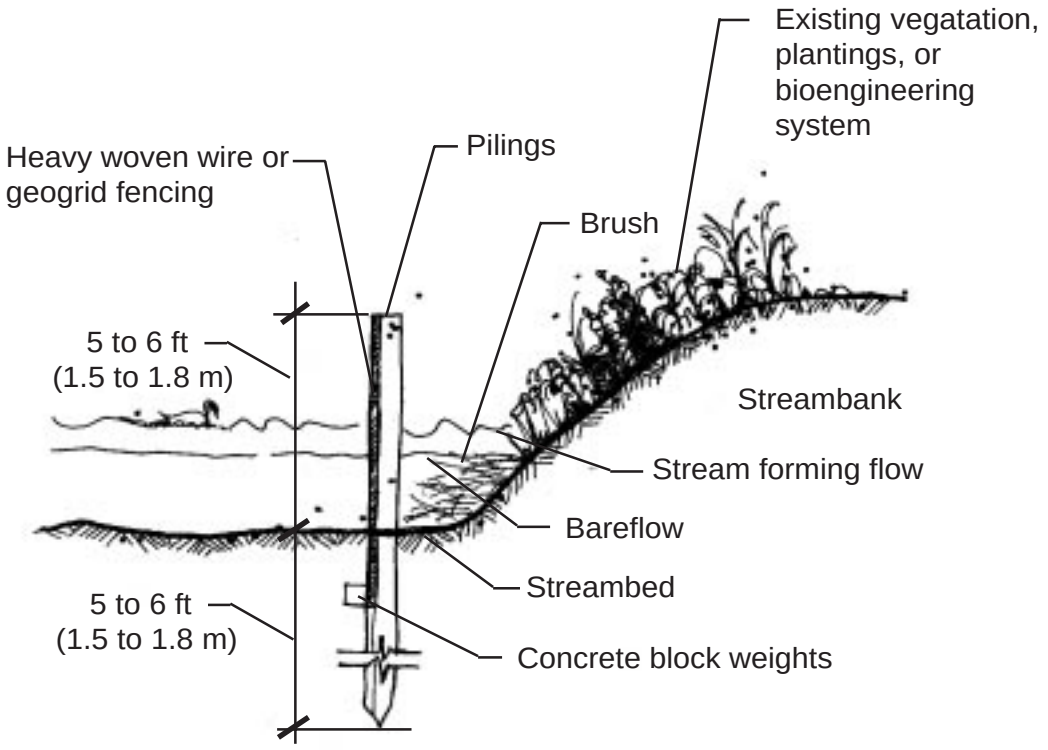
**Additonal Drawings:**




**Piling Revetment with Wire or Geotextile Fencing**
**Section View**