

LIVE CRIBWALL

Live cribwall is a structure made of live materials to reconstruct the streambank where extreme erosion has occurred. A combination of timbers, live branches, soil, rocks, and logs are used to rebuild a bank and eventually establish a root network. The roots will eventually take over the structural purpose of the timbers.

A live cribwall is best used on the outside bend of a stream because the strongest currents act on this side of the stream.

Advantages and Disadvantages

- The structure can be filled to form a vertical wall.
- A live cribwall requires minimal space.
- Stability above and below the water level is provided.
- The toe of the slope is stabilized.
- Live cribwalls can provide a natural habitat for riparian wildlife.
- Immediate slope protection is provided.
- A large amount of material and labor is required.
- The design is complex.
- The height of the cribwall should not exceed 7 feet.
- The width of cribwall should not exceed 20 feet.

Materials

- Live branch cuttings, 0.5 to 2.5 inches in diameter and long enough to reach from the front to the back of the structure.
- Logs and untreated timbers 4 to 6 feet in length.
- Steel reinforcing bars.

Preparation

- Excavate 2 to 3 feet below the base of the streambed to a stable foundation 5 to 6 feet wide.
- Excavate the back of the trench (furthest from the stream) 6 to 12 inches lower than the front to add stability.
- Check with the DNR prior to any flood plain disposal of spoil material resulting from the streambank grading.

Installation

- Place logs or timber layers in alternating directions (at right angles to the previous layer) to form a box shape.
- Fasten the layers of logs or timbers together using rebar (rebar will need to be inspected periodically to ensure it is not exposed) or nails at each crossing point.
- Each layer of logs should be placed to make a box-like structure.
- Place rock fill in the bottom of the crib structure, up to the level of the streambed, and in front of the structure for added toe support, especially if the structure is used on the outside bend of the stream.
- Place the branches with the growing tips towards the stream and the basal ends in contact with the back of the trench.
- After each layer of branches, place a layer of compacted soil.
- To ensure success, the upstream and downstream sections should be well-secured to the bank to prevent undercutting.

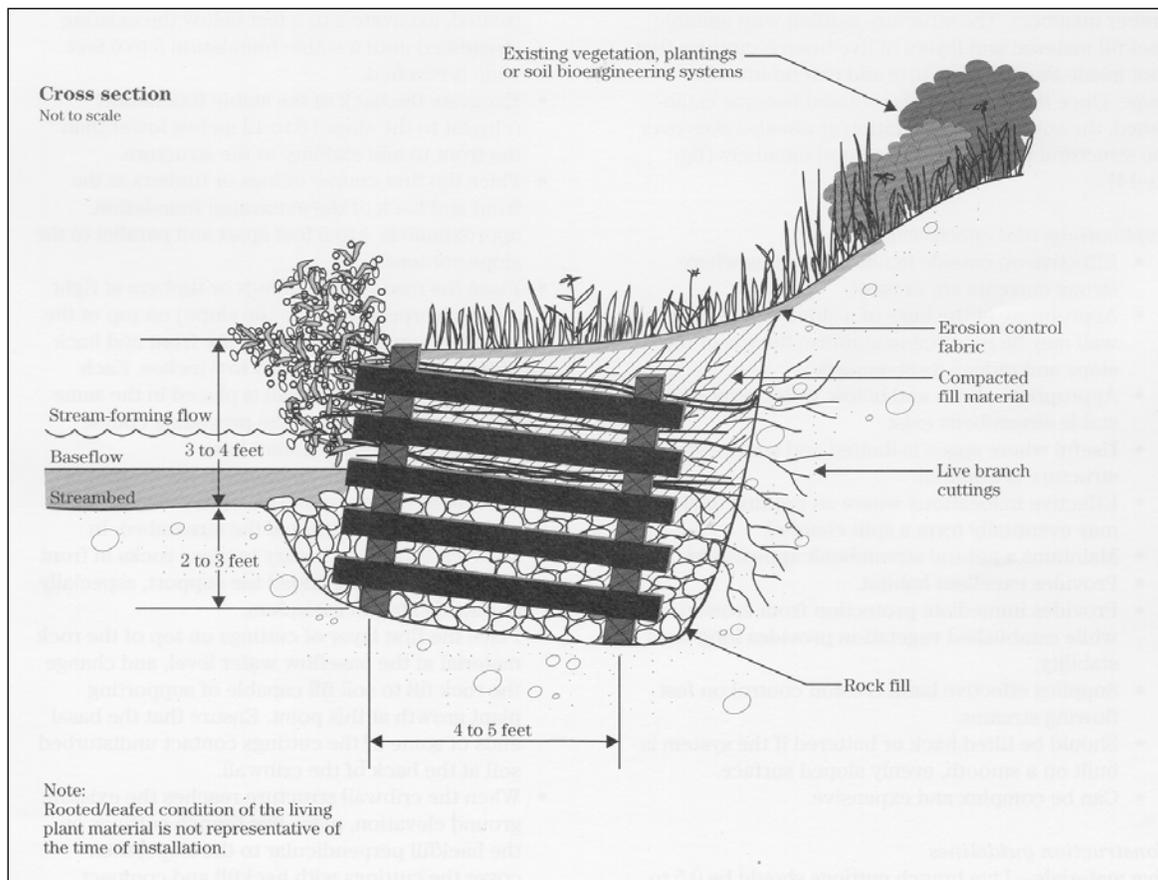


Figure 12. Live cribwall details