

VEGETATED GEOGRIDS

Vegetated geogrids are the covering of soil with erosion control fabric (geotextile) on the slope of the bank. The erosion control fabric is secured by tucking it into the slope. Live cuttings are placed between the geogrids, and a root structure is established to bind the soil within and behind the geogrids. The toe of the bank is stabilized by layers of rock on top of the same geotextile fabric.

Advantages and Disadvantages

- Vegetated geogrids can be used where the bank cannot be pulled back to a gentle slope.
- Vegetated geogrids can be used where a bank has severely eroded.
- A large amount of soil and rock must be available to fill against the bank.
- Rapid vegetation growth is allowed from the live cuttings, which slows water during high water stages.

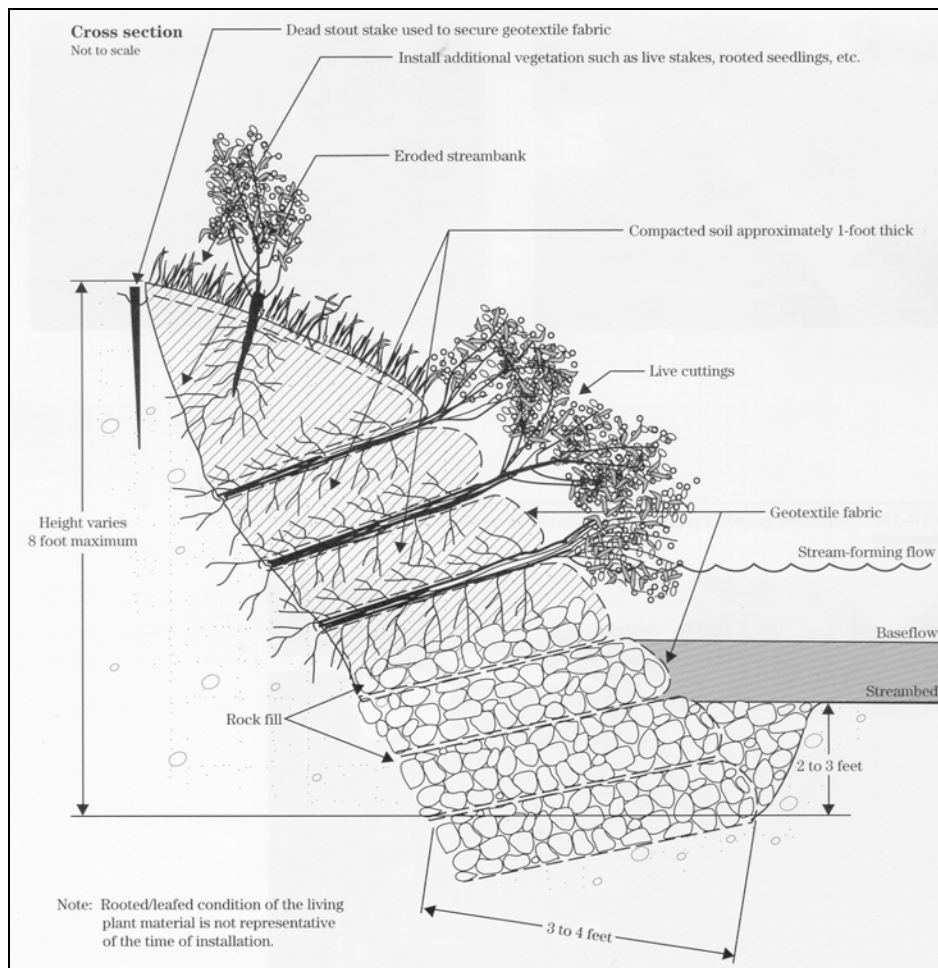


Figure 27. Vegetated geogrid details



Figure 28. Completed geogrid installation



Figure 29. Vegetated geogrid two years after installation

Materials

- Branches 0.5 to 2.5 inches in diameter to reach to the existing bank.
- Rock fill with a diameter of 4 to 9 inches.
- Geotextile fabric/erosion control fabric.

Preparation

- The use of special excavation equipment to prepare the trench at the bank toe is required.
- Multiple personnel are required to layout the geotextile fabric layers and riprap.
- Prepare the live cuttings.

Installation

- Dig a trench 2 to 3 feet below the streambed.
- Fill the trench with rock and geogrid-wrapped rock up to the stream level.
- At the stream level, wrap a layer of rock and soil and then place the first layer of live cuttings between this and the next wrapped geogrid of soil.
- Each layer should become slightly shorter than the previous one to ensure the layers are not hanging over stream but are in contact with the original bank.
- Place topsoil on the top of the fabric on the last layer, plant with grasses, and stake the fabric to the original bank.