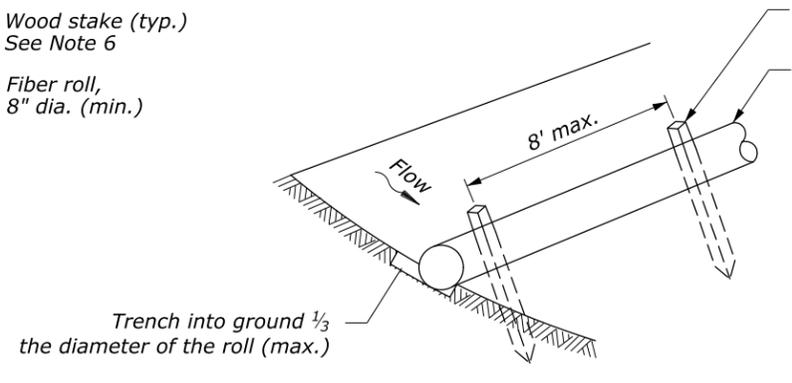


UNTRENCHED INSTALLATION

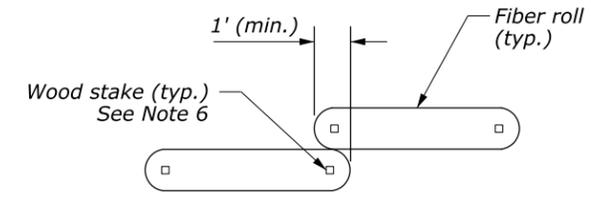


ENTRENCHED INSTALLATION

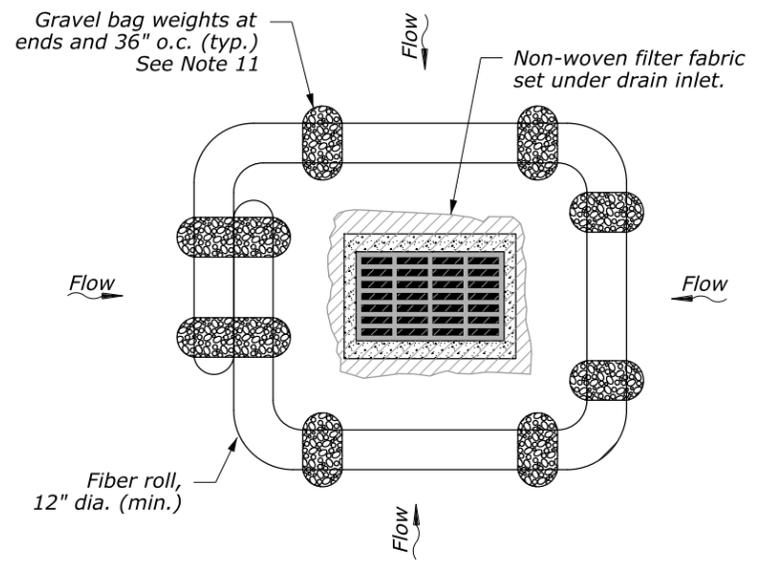
MAXIMUM ALLOWABLE SLOPE LENGTH ABOVE FIBER ROLLS

SLOPE	MAX INTERVAL
1V:4H or Flatter	20 ft
1V:4H - 1V:2H	15 ft
1V:2H or Steeper	10 ft

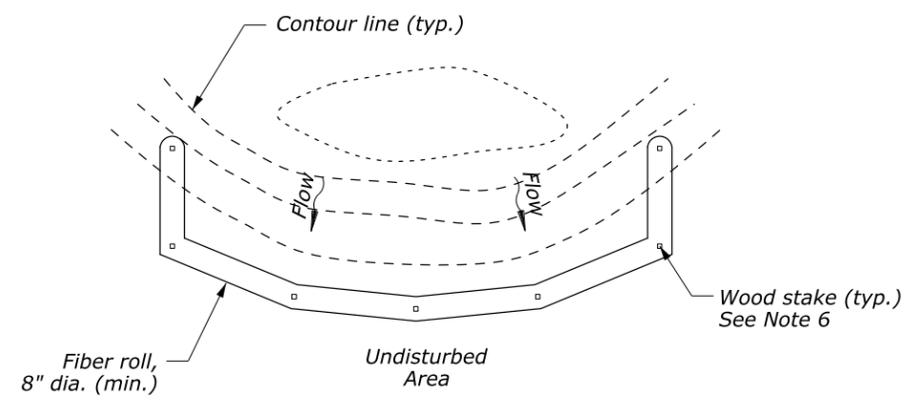
FIBER ROLL ISOMETRIC VIEW



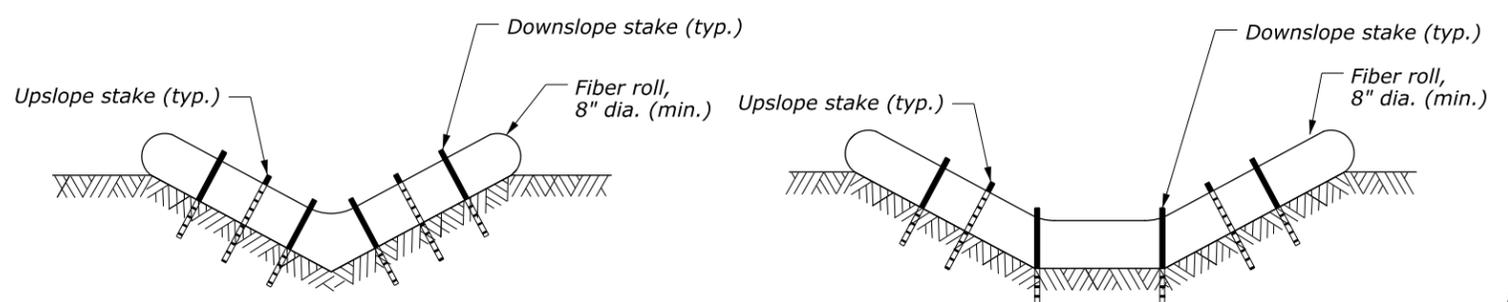
FIBER ROLL OVERLAP



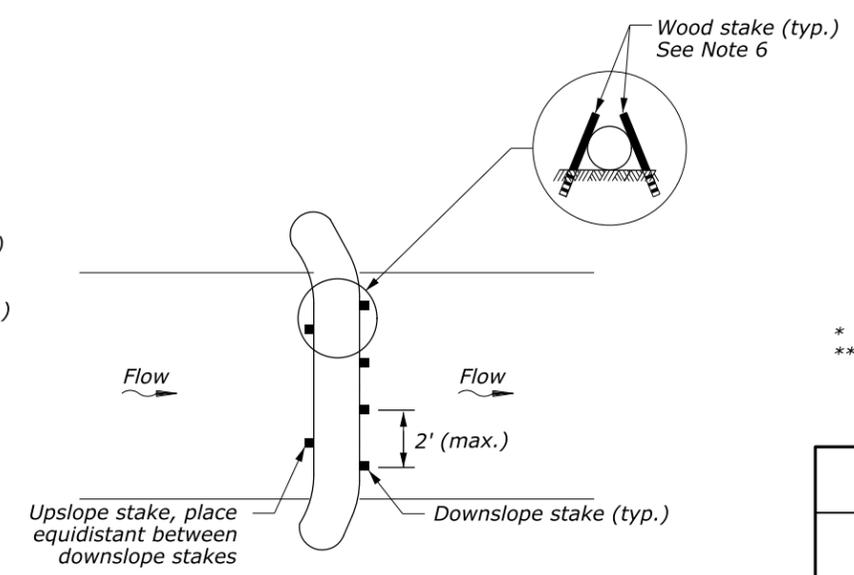
INLET PROTECTION



PLAN VIEW



FIBER ROLL CHECK DAM CROSS SECTIONS



FIBER ROLL CHECK DAM PLAN VIEW

NOTES:

1. Provide fiber rolls meeting the requirements of Subsection 713.12.
2. Use fiber rolls with a minimum 8-inch diameter. For drain inlet protection, use fiber rolls with a minimum 12-inch diameter.
3. Prior to installation, clear all obstructions including rocks, clods, and debris greater than 1-inch that may interfere with proper function of the fiber roll.
4. For untrenched installation, blow or hand place mulch or compost on uphill side of the slope along the fiber roll.
5. Place fiber rolls on level grade and parallel to contours. Extend both ends of the fiber roll at least 8 feet upslope at 45 degrees to the main alignment.
6. Use wood stakes with a minimum nominal cross section of 2-inch x 2-inch and of sufficient length to attain a minimum of 12 inches into the ground and 3 inches protruding above the roll. Furnish wood stakes meeting the requirements of Subsection 713.08(a).
7. When more than one fiber roll is needed, overlap ends 12 inches minimum and stake.
8. Remove sediment deposits when accumulation is one-half the height of the exposed fiber roll.
9. Replace biodegradable fiber rolls 6 months after installation and photodegradable fiber rolls 12 months after installation.
10. When fiber rolls are required on paved surfaces, use gravel bags to support them as shown on the inlet protection detail.
11. Provide gravel bag weights meeting the requirements of Subsection 713.13.

FIBER ROLL CHECK DAM SPACING TABLE

DITCH GRADE *	CHECK DAM SPACING (S)**	
	8" HIGH	12" HIGH
2%	33'	50'
3%	22'	33'
4%	16'	25'
5%	13'	20'

* Do not install check dams on grades below 2%
** Adjust spacing as approved based on site conditions

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

FIBER ROLL

DETAIL APPROVED FOR USE
APPROVED: MAY 2016
REVISED: SEPTEMBER 2020

DETAIL
E157-04

NO SCALE



NOTES TO THE DESIGNER

March 19, 2018

General Information

1. *Appropriate Applications.* Fiber rolls are slope dissipaters that reduce velocity of runoff as sheet flow and catch sediment on steep slopes. Fiber rolls may be placed:

- Along the toe, top, face and at grade breaks on exposed and erodible slopes to shorten slope length and spread runoff as sheet flow;
- At the end of a downward slope where it transitions to a steeper slope;
- As inlet protection;
- As check dam in inclined ditches
- Around temporary stockpiles; and
- Along the perimeter of a project to contain sediments within project limits.

2. *Limitations.*

- Fiber rolls are not effective unless trenched.
- Fiber rolls can be difficult to move once saturated.
- To be effective, fiber rolls at the toe of slopes greater than 5:1 must be at least 20 inches in diameter. An equivalent installation, such as stacked smaller-diameter fiber rolls, can be used to achieve a similar level of protection.
- If not properly staked and entrenched, fiber rolls can be transported by high flows.
- Fiber rolls have a very limited sediment capture zone.
- Fiber rolls should not be used on slopes subject to creep, slumping, or landslide.

3. *Layout Guidance.*

- Determine the vertical spacing for slope installations on the basis of the slope gradient and soil type. A good rule of thumb is:
 - 1:1 slopes=10 feet apart
 - 2:1 slopes=20 feet apart
 - 3:1 slopes=30 feet apart
 - 4:1 slopes=40 feet apart
- Stake fiber rolls securely into the ground and orient them perpendicular to the slope.

4. *Typical language for the Erosion & Sediment Control Narrative.*

- Add maintenance requirements to the Erosion Control & Sediment Narrative sheet under the maintenance section. Add something like:

Inspect fiber rolls daily during prolonged rain events. Repair or replace split, torn, unraveled, or slumping fiber rolls. Ensure that the rolls remain firmly anchored in place and are not crushed or damaged by equipment traffic. Remove sediment deposits when accumulation is one-half the height of the exposed fiber roll. Fill and compact holes, trenches, depressions, or any other ground disturbance to blend with the surrounding landscape.

Applicable SCRs

Typical Pay Item Used

- 15705-1400 Soil Erosion Control, Fiber Roll [LNFT]

Updates

Created Notes to the Designers, 3/19/2019