

## Filter Fences

### Use:

Use to control sheet flow only (not concentrated flow). Use adjacent to critical areas, wetlands and watercourses and at the base of slopes. Slopes should be no steeper than 2:1. Drainage should be 1/2 acre per 100 feet of fence.

Do not use in live streams, ditches or swales.

### Specifications:

The fabric should be non-woven and composed of at least 95% propylene or ester polymers. It should be certified by the manufacturer or supplier as conforming to the specifications below. Because of the potential for clogging, non-woven materials are not to be used.

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The following criteria will meet the requirements of Michigan Department of Transportation 1990 Standard Specifications, Section 8.09.06, and should be used as guidance in selecting geotextile filter fencing.

### Physical Characteristics

Typical fence length:	100 ft.
Fabric width	24" minimum
Post length	36" minimum
Post size	1 1/8" x 1 3/8" finished
Post pointing	Rotary (pencil style)
Post composition	No. 1 common hardwood
Geotextile/post connection	Stapled or pocketed

### Mechanical/hydraulic Characteristics:

### Testing Procedure

Grab tensile strength	100 lbs.	ASTM D-4632
Trapezoid Tear Strength	45 lbs.	ASTM D-4533
Mullen Burst Strength	280 psi	ASTM D-3786
U.V. Resistance	70%	ASTM D-4355
Water Flow Rate	30 gpm/sf	ASTM D-4491
AOS	0.6 mm minimum	ASTM D-4751

Source: Price and Company, Inc., Grand Rapids, Michigan.

### Installation:

In most situations, pre-fabricated materials (i.e. those with posts already attached) can be used. However, on rolling terrain, pre-fabricated fences are difficult to install. On rolling terrain, fences should be assembled in the field.

Install along a contour line of equal elevation.

1. Dig a 6-inch trench along the area in which the fence is to be located.
2. Place 6 inches of the bottom of the fabric into the trench. Some manufacturer's include lines on the bottom of the fabric to indicate the approximate 6-inch line. Make sure the fence is taught.

(Con't.)

### Exhibit 8 (Con't.)

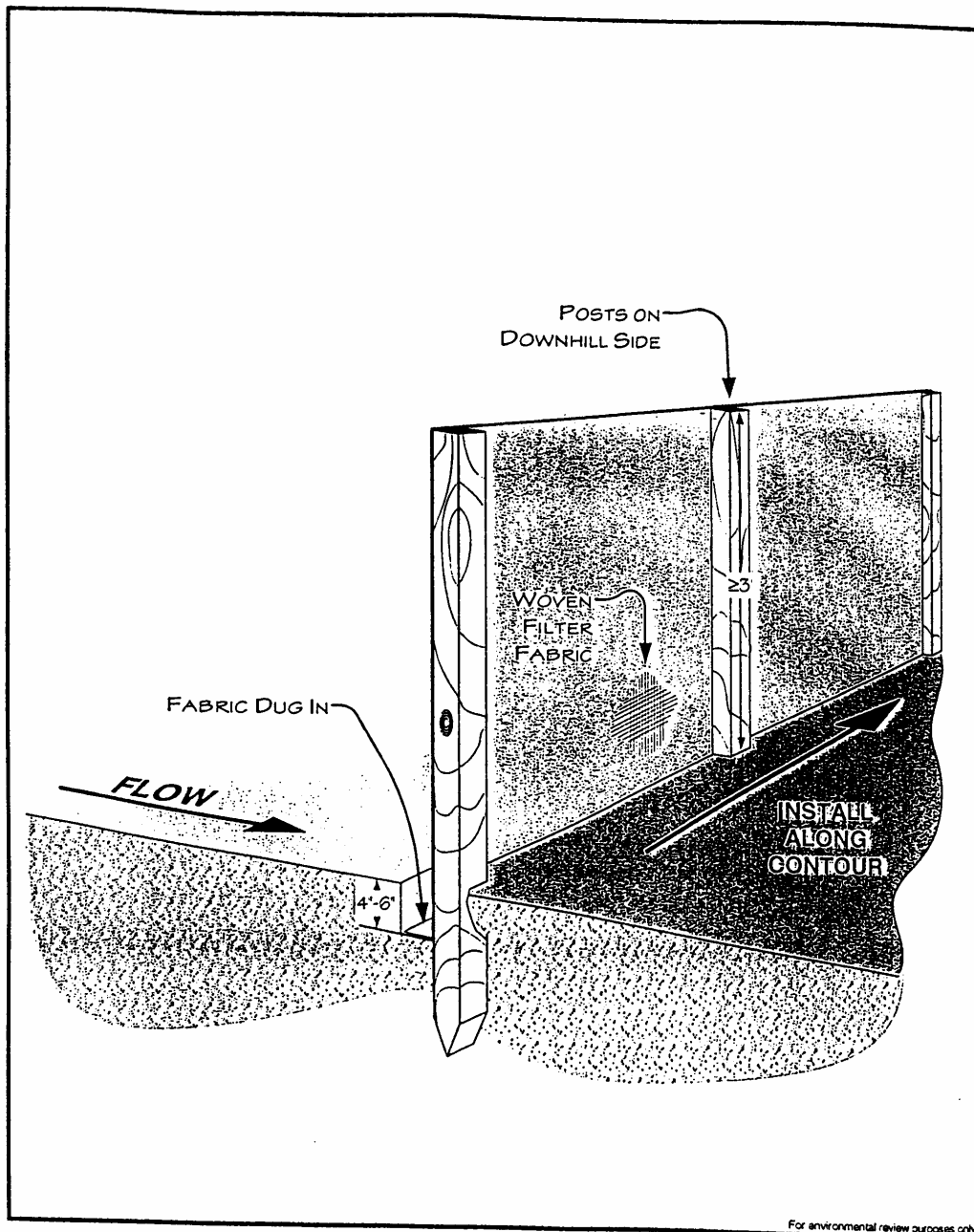
3. Backfill the trench and compact the soil on both sides. Make a small ridge on the up-slope side. (See the Exhibit).
4. Place wooden stakes or metal re-rod a maximum of 7'8" apart. The stakes' re-rod should be pounded into the ground, on the down-slope side, a minimum of 8 inches.
5. Staple the geotextile material onto the wooden stakes using metal staples recommended by the manufacturer (minimum 1/2-inch long). Tie metal posts to the fence with wire.
6. Stabilize the area down-slope of the site with grass and/or sod.

#### For Reinforcement:

Filter fences can be reinforced with 1/2"-inch mesh wire placed on the down-slope side and supported with 2 X 4s. Use a minimum 14 gage wire and a maximum mesh spacing of 6 inches.

#### Maintenance

1. Silt fences should be inspected immediately after each rainfall and several times during prolonged rainfalls.
2. If the fence is sagging or the soil has reached one half the height of the fabric, the soil behind the fabric must be removed and disposed of in a stable upland site. The soil can be added to the spoil pile.
3. If the fabric is being undercut (i.e. if water is seeping under the fence), the fence should be removed and reinstalled following the procedures given above.
4. Fabric which decomposes or otherwise becomes ineffective should be removed and replaced with new filter fabric immediately.
5. Filter fences should be removed once vegetation is well established and the up-slope area is fully stabilized.



For environmental review purposes only



Silt fence installed correctly



Silt fence in need of repair