




Oak Park Conservancy District Stormwater Best Management Practices (BMPs) Sediment Management Practices (SMPs)		SMP-05	
Activity: Brush or Rock Filters and Continuous Berms			
PLANNING CONSIDERATIONS: Design Life: Life Acreage Needed: None Estimated Unit Cost: Avg: Range: Monthly Maintenance: None			
			
	Target Pollutants		
	Significant ◆ Partial ◆ Low or Unknown ◇		
Sediment ◆ Heavy Metals ◇ Nutrients ◇ Oxygen Demanding Substances ◇ Toxic Materials ◇ Oil & Grease ◇ Bacteria & Viruses ◇ Floatable Materials ◇ Construction Waste ◇			
Description	<p>Filters, brushes and berms are used to dissipate sediment in construction runoff by anchoring rock deposits, rolls of fabric and/or brush barriers. These barriers are constructed of rocks ¾ to 5 inches in diameter which make up a berm to be placed along a contour. Brush wrapped in filter cloth and anchored to the toe of the slope creates a brush barrier which acts as another trapping method. Additionally, a continuous roll of fabric that captures sand, rock or native soil is an example of one more method to capture sediment. This BMP is used for sediment trapping and velocity reduction that will aid in significantly reducing sediment.</p>		
Suitable Applications	<ul style="list-style-type: none"> ➤ Rock filters should be applied near the toe of the slope, along the site perimeter, stream channels, spoil areas, small cleared areas, sediment traps ➤ Rock filters may also be used as check dams and with temporary roads 		
Installation Procedures	<ul style="list-style-type: none"> ➤ A rock filter consists of open graded rock installed at the toe of a slope, along the perimeter of a developing or disturbed area, and as a check dam across construction roads. Their purpose is to intercept sediment-laden runoff from disturbed areas of the site, allow the runoff to pond, promote sedimentation behind the filter, and slowly release the water as sheet flow. ➤ Rock filters are less costly than other temporary barriers, and are relatively efficient at sediment removal when installed and maintained properly. ➤ Brush filters trap and filter sediments in a manner similar to other barriers in this handbook (e.g., silt fence, straw bale barrier, rock filter), but have the advantage of being constructed from brush cleared from the site and usually disposed off-site at a cost. 		

Activity: Brush or Rock Filters and Continuous Berms**Installation Procedures (Continued)**

- Use principally in areas where sheet or rill flow occurs.
- For rock filter, use larger rock and place in a staked, woven wire sheathing if placed where concentrated flows occur.
- Rock filters should be placed along a level contour to intercept sheet flow. Allow ample room for ponding, sedimentation, and access by sediment removal equipment between the berm and the toes of slopes.
- Flow through the filter should occur as sheet flow into an undisturbed or stabilized area.
- Leave area behind berm where runoff can pond and sediment can settle.
- Brush shall consist of site-cleared brush.
- Stakes: 1.5 in. x 1.5 in. (38 mm x 38 mm) wooden stake, or metal stake with equal holding capabilities.
- Rock: open-graded rock, 1- to 3-in. (2.5- to 7.6-cm) stone reinforced with 8- to 12-in. (20.3- to 30.5-cm) stone as illustrated in Figure TCP-16-1 for concentrated flow applications.
- Woven wire sheathing: 1-in. (25-mm) diameter, hexagonal mesh, galvanized 20 gauge (used with rock filters in areas of concentrated flow).

Maintenance

- Daily Inspection is required when installing in stream beds
- After each heavy rainfall inspect berms
- Maintain berms to guarantee proper utilization
- Inspect for sediment accumulation removing when depth reaches $\frac{1}{4}$ of berm height or 12 inches
- Remove berms upon completion of the project

Inspection Checklist

- Sufficient space for ponded water.
- Brush filters are performing.
- Drainage to structure does not exceed 5 acres.