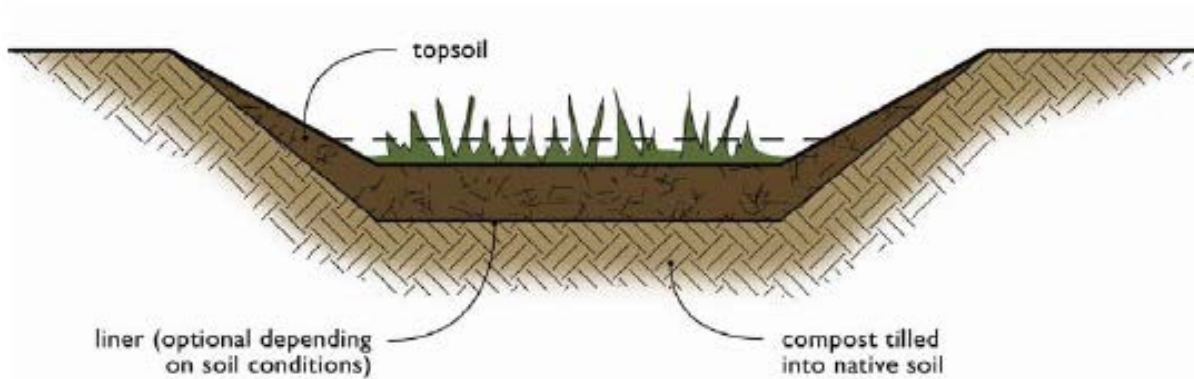


PRIVATE STORMWATER FACILITY MAINTENANCE

Biofiltration Swale

Biofiltration swales are engineered grass-lined open channels with moderate centerline slope similar in appearance to typical ditches. Biofiltration uses vegetation in conjunction with slow and shallow-depth flow for runoff treatment. As runoff passes through the vegetation, pollutants are removed through the combined effects of filtration, infiltration, and settling. These effects are aided by the reduction of the velocity of stormwater as it passes through the biofilter. Biofiltration swales provide stormwater quality control (treatment), but do not provide stormwater quantity control (detention/retention).



Biofiltration Swale Design Example



Please visit our website for more photos, resources and videos about stormwater management on private property. www.stormwaterpartners.com

BIOFILTRATION SWALE MAINTENANCE CHECKLIST

Maintenance Required	Inspection Notes	Done
<p>Sediment, Trash & Debris - If sediment depth exceeds 2 inches, remove sediment deposits on grass treatment area of the bio-swale. When finished, swale should be level from side to side and drain freely toward outlet. There should be no areas of standing water once inflow has ceased. Remove all trash & debris. Keep inlet and outlet clear.</p>		



<p>Flow Spreader - If the flow spreader is uneven or clogged so that flows are not uniformly distributed through entire swale width, level the spreader and clean so that flows are spread evenly over entire swale width.</p>		
<p>Vegetation - If grass is sparse or bare or eroded patches occur in more than 10% of the swale bottom, determine why grass growth is poor and correct that condition. If grass growth is poor because sunlight does not reach swale, trim back over-hanging limbs and remove brushy vegetation on adjacent slopes. Re-plant with plugs of grass from the upper slope: plant in the swale bottom at 8-inch intervals. Or re-seed into loosened, fertile soil.</p> <p>When the grass becomes excessively tall (greater than 10-inches) or nuisance weeds and other vegetation starts to take over, mow vegetation or remove nuisance vegetation so that flow not impeded. Grass should be mowed to a height of 3 to 4 inches. Remove grass clippings.</p>		
<p>Poisonous Vegetation & Noxious Weeds - Remove any poisonous or nuisance vegetation which may constitute a hazard to maintenance personnel or the public. Contact Clark County Vegetation Management (360) 397-6140 for information. Do not apply pesticides to water. Contact Washington State Dept of Agriculture for pesticide application requirements (360) 902-2040.</p>		
<p>Standing Water - When water stands in the swale between storms and does not drain freely, any of the following may apply: remove sediment or trash blockages, improve grade from head to foot of swale, remove clogged check dams, add underdrains or convert to a wet biofiltration swale.</p>		
<p>Constant Baseflow - When small quantities of water continually flow through the swale, even when it has been dry for weeks, and an eroded, muddy channel has formed in the swale bottom, add a low-flow pea-gravel drain the length of the swale or by-pass the baseflow around the swale.</p>		
<p>Erosion or Scouring - For ruts or bare areas less than 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large, generally greater than 12 inches wide, the swale should be re-graded and re-seeded. For smaller bare areas, overseed when bare spots are evident, or take plugs of grass from the upper slope and plant in the swale bottom at 8-inch intervals.</p>		

Inspected by: _____

Date: _____

Site Name: _____