

Inspection and Maintenance Requirements for Typical Biofiltration



Swale

Maintenance Checklist

Maintenance Component	Defect	Conditions When Maintenance is Needed	Results Expected When Maintenance Is Performed	Satisfactory	Unsatisfactory	Comments
General	Sediment accumulation on grass	<ul style="list-style-type: none"> Sediment depth exceeds 2 inches. 	<ul style="list-style-type: none"> Remove sediment deposits on grass treatment area of the bioswale. <p><i>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.</i></p>			
	Standing water	<ul style="list-style-type: none"> When water stands in the swale between storms and does not drain freely. 	<p>Any of the following may apply:</p> <ul style="list-style-type: none"> 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. 			
	Uneven or clogged flow spreader	<ul style="list-style-type: none"> Flow spreader uneven or clogged so that flows are not uniformly distributed through entire swale width. 	<ul style="list-style-type: none"> Level the spreader and clean so that flows are spread evenly over entire swale width. 			
	Constant baseflow	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Add a low-flow pea-gravel drain the length of the swale or bypass the baseflow around the swale. 			

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General (cont.)	Poor vegetation coverage	<ul style="list-style-type: none"> When grass is sparse or bare or eroded patches occur in more than 10% of the swale bottom. 	<ul style="list-style-type: none"> Determine why grass growth is poor and correct that condition. Replant with plugs of grass from the upper slope (plant in the swale bottom at 8-inch intervals) or re-seed into loosened soil. 			
	Excessive vegetation	<ul style="list-style-type: none"> When the grass becomes excessively tall (greater than 10-inches); when nuisance weeds and other vegetation starts to take over. 	<ul style="list-style-type: none"> 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. 			
	Excessive shading	<ul style="list-style-type: none"> Grass growth is poor because sunlight does not reach swale. 	<ul style="list-style-type: none"> If possible, trim back over-hanging limbs and remove brushy vegetation on adjacent slopes. 			
	Clogged inlet/outlet	<ul style="list-style-type: none"> Inlet/outlet areas clogged with sediment and/or debris. 	<ul style="list-style-type: none"> Remove material so that there is no clogging or blockage in the inlet and outlet area. 			
	Trash and debris	<ul style="list-style-type: none"> Trash and debris accumulated in the bioswale. 	<ul style="list-style-type: none"> Remove trash and debris from bioswale. 			
	Erosion/scouring	<ul style="list-style-type: none"> Eroded or scoured swale bottom due to flow channelization or high flows. 	<ul style="list-style-type: none"> For ruts or bare areas < 12 inches wide, repair the damaged area by filling with crushed gravel. If bare areas are large (> 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. 			