

Regular Inspection and Maintenance Guidance for Bioretention Systems / Tree Filters

Maintenance of bioretention systems and tree filters can typically be performed as part of standard landscaping. Regular inspection and maintenance is critical to the effective operation of bioretention systems and tree filters to insure they remain clear of leaves and debris and free draining. This page provides guidance on maintenance activities that are typically required for these systems, along with the suggested frequency for each activity. Individual systems may have more, or less frequent maintenance needs depending on a variety of factors including but not limited to: the occurrence of large storm events, overly wet or dry periods, regional hydrologic conditions, and the upstream land use.

ACTIVITIES

The most common maintenance activity is the removal of sediment and organic debris from the system and bypass structures. Visual inspections are routine for system maintenance. This includes looking for standing water, accumulated leaves, holes in the soil media, signs of plant distress, and debris and sediment accumulation in the system. Vegetation coverage is integral to the performance of the system, including infiltration rate and nutrient uptake. Vegetation care is important to system productivity and health.

ACTIVITY

FREQUENCY

CLOGGING AND SYSTEM PERFORMANCE

A record should be kept of the time to drain for the system completely after a storm event. The system should drain completely within 72 hours.

Check to insure the filter surface remains well draining after storm events.

Remedy: If filter bed is clogged, draining poorly, or standing water covers more than 50% of the surface 48 hours after a precipitation event, then remove top few inches of discolored material. Till, or rake remaining material as needed.

After every major storm in the first few months, then annually at minimum.

Check inlets and outlets for leaves and debris.

Remedy: Rake in and around the system to clear it of debris. Also, clear the inlet and overflow if obstructed.

Check for animal burrows and short-circuiting in the system.

Remedy: Soil erosion from short circuiting or animal borrows should be repaired when they occur. The holes should be filled and lightly compacted

Inspect inlets and outlets to ensure good condition and no evidence of deterioration. Check to see if high-flow bypass is functioning.

Remedy: Repair or replace any damaged structural parts, inlets, outlets, sidewalls.

Quarterly initially, annually as a minimum thereafter.

VEGETATION

Check for robust vegetation coverage throughout the system and dead or dying plants.

Remedy: Vegetation should cover > 75% of the system and should be cared for as needed.

Annually or as needed

CHECKLIST FOR INSPECTION OF BIORETENTION SYSTEM / TREE FILTERS

Location:
 Inspector:
 Date:
 Time:
 Site Conditions:
 Days Since Last Rain Event:

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
1. Initial Inspection After Planting and Mulching		
Plants are stable, roots not exposed	S U	
Surface is at design level, no evidence of preferential flow/shoving	S U	
Inlet and outlet/bypass are functional	S U	
2. Debris Cleanup (1 time/year minimum, Spring/Fall)		
Litter, leaves, and dead vegetation removed from the system	S U	
Prune/mow vegetation	S U	
3. Standing Water (1 time/year and/or after large storm events)		
No evidence of standing water after 24-48 hours since rainfall	S U	
4. Vegetation Condition and Coverage		
Vegetation condition good with good coverage (typically > 75%)	S U	
5. Other Issues		
Note any additional issues not previously covered.	S U	
Corrective Action Needed		Due Date
1.		
2.		
3.		
Inspector Signature		Date