

INFILTRATION INSPECTION & MAINTENANCE CHECKLIST

INTRODUCTION

Section 4 VAC 50-60-124 of the regulations specifies the circumstances under which a maintenance agreement must be executed between the owner and the local program. This section sets forth inspection requirements, compliance procedures if maintenance is neglected, notification of the local program upon transfer of ownership, and right-of-entry for local program personnel.

If a Dry Swale is located on a residential lot, the existence and purpose of the Dry Swale must be noted on the deed of record. Homeowners will need to be provided a simple document that explains their purpose and routine maintenance needs. A deed restriction, drainage easement or other mechanism enforceable by the qualifying local program must be in place to help ensure that dry swales are maintained. The mechanism should, if possible, grant authority for local agencies to access the property for inspection or corrective action. In addition, the GPS coordinates should be logged for all Dry Swales, upon facility acceptance, and submitted for entry into the local BMP maintenance tracking database.

Annual inspections are used to trigger maintenance operations such as sediment removal, spot revegetation and inlet stabilization. The following is a list of several key maintenance inspection points:

- Add reinforcement planting to maintain 95% turf cover or vegetation density. Reseed any salt-killed vegetation.
- Remove any accumulated sand or sediment deposits on the filter bed surface or in pretreatment cells.
- Inspect upstream and downstream of check dams for evidence of undercutting or erosion, and remove trash or blockages at weep holes.
- Examine filter beds for evidence of braiding, erosion, excessive ponding or dead grass
- Check inflow points for clogging, and remove any sediment.
- Inspect side slopes and grass filter strips for evidence of any rill or gully erosion, and repair as needed.
- Look for any bare soil or sediment sources in the contributing drainage area, and stabilize immediately.

Ideally, inspections should be conducted in the spring of each year.

INFILTRATION PRACTICES: O&M CHECKLIST

Inspection Date _____

Inspector _____

Project _____

Location _____

Date BMP Placed in Service _____

Date of Last Inspection _____

Owner/Owner's Representative _____

Town Project Number _____

As-Built Plans available: Y / N

Facility Type: Level 1 _____ Level 2 _____

Facility Location:

- Surface
- Underground

Filtration Media:

- No Filtration (e.g dry well, permeable pavement, infiltration facility, etc.)
- Sand
- Bioretention Soil per Virginia Stormwater Management Handbook First Edition,1999
- Peat
- Other: _____

Hydraulic Configuration:

- On-line facility
- Off-line facility

Type of Pre-Treatment Facility:

- Sediment forebay (above ground)
- Sedimentation chamber
- Plunge pool
- Stone diaphragm
- Grass filter strip
- Grass channel
- Other: _____

Ideally, infiltration facilities should be inspected annually. Spill Prevention measures should be used around infiltration facilities when handling substances that contaminate storm water. Releases of pollutants should be corrected as soon as identified.

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Contributing Drainage Area	There is excessive trash and debris				Remove immediately	Owner or professional	
	There is evidence of erosion and / or exposed soil				Stabilize immediately	Owner or professional	
	Vegetative cover is adequate				Supplement as needed	Owner or professional	
	There are excessive landscape waste or yard clippings				Remove immediately and recycle or compost	Owner or professional	
Pre-Treatment Facility	There is adequate access to the pre-treatment facility				Establish adequate access	Professional and, perhaps, the locality	
	There is excessive trash, debris, or sediment.				Remove immediately	Owner or professional	
Pre-Treatment Facility (continued)	There is evidence of erosion and/or exposed soil				Stabilize immediately	Owner or professional	
	There is evidence of clogging (standing water, noticeable odors, water stains, algae or floating aquatic vegetation)				Identify and eliminate the source of the problem. If necessary, remove and clean or replace the clogged material.	Professional	
	There is dead vegetation or exposed soil in the grass filter				Restabilize and revegetate as necessary	Owner or professional	
Inlets	Inlets provide a stable conveyance into facility				Stabilize immediately, as needed.	Owner or professional	
	There is excessive trash/debris/sediment.				Remove immediately	Owner or professional	
	There is evidence of erosion at or around the inlet				Repair erosion damage and reseed or otherwise restabilize with vegetation	Owner or professional	
Embankment, Flow Diversion Structures (e.g., Dikes, Berms, etc.) and Side Slopes	There is evidence of erosion or bare soil				Identify the source of erosion damage and prevent it from recurring. Repair erosion damage and reseed or otherwise restabilize with vegetation	Owner or professional	
	There is excess sediment accumulation				Remove immediately	Owner or professional	
	Water is not detained in the infiltration basin				Check for a breach in the containment structure and repair immediately.	Professional	
	Side slopes support nuisance animals.				Animal burrows must be backfilled and compacted. Burrowing animals should be humanely removed frm area.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Maintaining Facility Capacity and Proper Drainage	Look for weedy growth on the stone surface indicating sediment accumulation and potential clogging				Identify and control sources of sediment and debris. Remove sediment and debris in excess of 4" in depth every 2-5 years (or sooner if performance is affected).	Professional	
	Measure the draw-down rate of the observation well for three days following a storm event in excess of 1/2 inches in depth. If standing water is still observed after three days, this is a clear sign that clogging is a problem.				Immediately clear debris from the underdrain. Replace the underdrain if necessary. If needed, regrade and till to restore infiltration capacity (the need for this can be prevented by preventing upstream erosion and subsequent sediment transport to the facility).	Professional	
	There is excessive trash/debris				Remove immediately	Owner or professional	
Vegetation	Grass within the practice is overgrown				Grass must be mowed to a height of 4"-9" and grass clippings removed (ideally recycled or composted).	Owner or professional	
	Pioneer trees are sprouting in the base of the facility				Remove trees to prevent roots from puncturing the filter fabric, allowing sediment to enter		
	Vegetation forms an overhead canopy that may drop leaf litter, fruit and other vegetative materials that may cause clogging.				Prune or remove vegetation as necessary	Owner or professional	
Observation Well	Is each observation well still capped?				Repair, as necessary.	Professional	
Outlet	Outlets are obstructed or erosion and soil exposure is evident below the outlet.				Remove obstructions and stabilize eroded or exposed areas.	Owner or Professional	
	Evidence of flow bypassing facility				Repair immediately	Professional	
	There is excessive trash, debris, or sediment at the outlet				Remove immediately	Owner or professional	
Overflow or Emergency Spillway	The pipe or spillway is not effectively conveying excess water to an adequate receiving system				Clear sediment and debris whenever 25% or more of the conveyance capacity is blocked. When damaged pipe is discovered, it must be repaired or replaced immediately. Identify and control sources of erosion damage. Replace or reinforce stone armament whenever only one layer of stone remains.	Professional	

Element of BMP	Potential Problem	Problem? Y / N	Investigate? Y / N	Repaired? Y / N	How to Fix Problem	Who Will Address Problem	Comments
Structural Components	Evidence of structural deterioration				Repair as necessary	Professional	
	Evidence of spalling or cracking of structural components				Repair or replace, as necessary	Professional	
	Grates are in good condition				Repair or replace, as necessary	Owner or professional	
Overall	Access to the Infiltration facility or its components is adequate				Establish adequate access. Remove woody vegetation and debris that may block access. Ensure that manholes, valves and/or locks can be opened and operated.	Professional and, perhaps, the locality	
	There is evidence of standing water				Fill in low spots and stabilize; correct flow problems causing ponding	Owner or professional	
	Mosquito proliferation				Eliminate standing water and establish vegetation; treat for mosquitoes as needed. If sprays are considered, then a mosquito larvicide, such as Bacillus thurendensis or Altoside formulations can be applied <i>only if absolutely necessary</i> .	Owner or professional	
	Complaints from local residents				Correct real problems	Owner or professional	
	Encroachment on the infiltration area or easement by buildings or other structures				Inform involved property owners of BMPs status ; clearly mark the boundaries of the receiving pervious area, as needed	Owner or professional (and perhaps the locality)	