5.4.2 Non-Vegetated BMPs

Infiltration trenches and other non-vegetated BMPs have no living components. These BMPs are similar to traditional stormwater
maintenance as vegetated BMPs. However, their stormwater capacity will be the best on the first day, whereas vegetated BMPs have the potential to become more efficient systems with time. The use of pretreatment BMPs will significantly reduce maintenance requirements of non-vegetated BMPs (Barr Engineering, 2001). Non-vegetated BMPs can be put into service right after construction (assuming tributary drainage area is stabilized) because no time is needed to establish BMP vegetation.

For practical purposes, non-vegetated maintenance tasks are broken down into two main phases similar to vegetated BMPs: (1) short-term maintenance and (2) long-term maintenance. Both phases are equally important for the long-term success and function of a BMP.

5.4.2.1 Short-term

These tasks are to be completed during construction of the area surrounding the BMP, during construction of the BMP itself, and approximately the first three months after the BMP is brought online. Short-term maintenance tasks are listed on Table 5-4.

Prior to and During Installation of BMP

During construction of the areas surrounding the BMP site, take preventative action to limit disturbances such as compacting, land exposure, or pollution. This may be achieved through phased construction, which limits the amount of bare soil exposed to erosion. Prior to BMP construction, all tributary area must be stabilized. This is to reduce potential for sediment influx to BMP and consequent clogging. For infiltration BMPs such as infiltration trenches, it is critical that the excess sediment load be eliminated.

During Three Months Post-Installation

Once the BMP has gone online, inspections should occur within 24 of every storm event which results in precipitation of 0.5 inches or greater to ensure proper stabilization and function. Water levels in observation wells should be checked at these times to ensure infiltration through the BMP matrix profile. Ponding within the trench or high levels of water in the observation well may indicate clogging in the trench bottom. Failure in infiltration trenches is most often caused by clogging in the BMP surface and is indicated by visible ponded water. When ponding occurs at the surface or in the trench, corrective maintenance is required immediately. Structures should be checked for stability and any trash and debris removed.

This three month time frame is an oppo
they will see the evolution of the BMP.
community groups to help maintain BMP with weeding and trash removal.

Table 5-4 Short-Term Maintenance Tasks for Non-Vegetated BMP

Short Term Non-Vegetated BMP Maintenance	
Prior to and During Installation of BMP	
Task	**Explanation**
Encourage phased construction of development surrounding BMP	Utilize staged construction to limit erosion potential of land exposed
Provide site stabilization	Utilize erosion control during construction and until facility is established
Encourage infiltration through BMP bottom into surrounding soil	Roto-till the bottom soil to increase potential for deep percolation
Protection from foot traffic and BMP education through signage	Use fencing and signage to prevent damage from animal and human foot traffic and to initiate public interest and education
During 3 Months Post-Installation	
Post wet-weather event (Precipitation > 0.5”)	Ensure erosion stabilizing mechanisms are intact and check inlet/outlet structures and surrounding area for signs of erosion or instability
Prevent surface clogging	Remove surface debris (grass clippings, sediment, etc.) and monitor ponding
Monitor internal clogging	Check levels of well to ensure proper infiltration from BMP to surrounding soil
Check areas surrounding BMPs	Check for signs of erosion or instability and make sure that aesthetics are maintained throughout the BMP footprint
Protection from foot traffic and BMP education through signage	Use fencing and signage to prevent damage from animal and human foot traffic and to encourage BMP education and interest
Establish "Green Teams" or other community groups	Encourage community involvement and establish maintenance crews to perform routine clean out of trash and debris and to maintain appearance of BMP

5.4.2.2 Long-Term

For non-vegetated BMPs the long-term maintenance schedule should follow the same schedule as for vegetated BMPs. Tasks to be carried out during these bi-annual inspections will be routine for each year of the BMPs life. The main purpose of these inspections is to assess the BMP condition and remedy functional issues. Functional issues are typically caused by clogging. Long-term maintenance tasks are listed on Table 5-5.

Fall Inspection - End of Growing Season (August-September)

A professional inspection should occur to assess the condition of the BMP. The inspector should check for standing water, slope stability, sediment accumulation, trash and debris, and signs of erosion. Sediment should be removed from the surface of the BMP when the surrounding ground surface is completely dry. Removing sediment when the BMP is wet may cause compaction.

At this time, check for signs of clogging. Internal clogging can be observed via an observation well. Ponding of surface water 24 hours after a rain event could indicate surface clogging. If the clogging appears to be only at the surface, it may be necessary to remove surface material and replace filter material. Clogging inside the trench (water in observation well for longer than 24 hours) may require complete excavation and replacement of bed material. Remove sediment accumulated at the bottom of BMP, repair base as necessary, and then replace filter material.

Check areas surrounding the BMP for signs of erosion or instability. Also make sure that aesthetics are maintained throughout the BMP footprint. Trees and other large vegetation should be removed to prevent lateral damages caused by roots. At this time it may be necessary to establish erosion prevention practices to maintain the BMP when soils become frozen and surface materials may freeze

Spring Inspection-Beginning of Growing Season (March-April)

A professional inspection should be completed during the spring maintenance period if the annual professional inspection was not fulfilled during the fall maintenance period. Winter weather will warrant a general clean up of the BMP and surrounding areas to maintain aesthetics. Clean out trash and debris and clean up educational signs. This would be an optimum time fo
members to help tidy the BMP site.

Check areas surrounding the BMP for signs of erosion or instability. Also make sure that aesthetics are maintained throughout the BMP footprint. Trees and other large vegetation should be removed to prevent lateral damages.

Table 5-5 Long-Term Maintenance Tasks for Non-Vegetated BMP

Long Term Non-Vegetated BMP Maintenance	
End of Growing Season (August - September)	
Task	**Explanation**
General Inspection	Check for standing water, slope stability, sediment accumulation, trash and debris, presence of burrows and erosion, and integrity of inlet/outlet, dam, and other engineered structures
Clean out sediments and debris	Clean out sediments and debris from surface and check for signs of ponding or clogging
Check areas surrounding BMPs	Check for signs of erosion or instability and make sure that aesthetics are maintained throughout the BMP footprint
Maintain BMP Signage	Repairs should be made to signage, walkways, picnic tables, or any other public recreation equipment as necessary
Winter stabilization	May be necessary to establish erosion prevention practices to maintain BMP when soils become frozen and surface materials may freeze
Continue to support and educate "Green Teams" or other community groups	It is important to maintain community involvement and provide education and opportunities for service
Beginning of Growing Season (March-April)	
General Inspection	Check for standing water, slope stability, sediment accumulation, trash and debris, presence of burrows and erosion, and integrity of inlet/outlet, dam, and other engineered structures
Prevent surface clogging	Remove surface debris (grass clippings, sediment, etc.) and monitor ponding
Monitor internal clogging	Check levels of well to ensure proper infiltration from BMP to surrounding soil
Clean out sediments and debris	Clean out sediments and debris from surface and check for signs of ponding or clogging
Provide site stabilization	Ensure that BMP media and other erosion stabilizing mechanisms are intact
Maintain aesthetics	General clean up of the BMP and surrounding areas to maintain aesthetics
Check areas surrounding BMPs	Check for signs of erosion or instability and make sure that aesthetics are maintained throughout the BMP footprint,
Continue to support and educate "Green Teams" or other community groups	It is important to maintain community involvement and provide education and opportunities for service