



BIOMOD®

MODULAR BIORETENTION SYSTEM

Maintenance Specifications



Scope

Federal, State and Local Clean Water Act regulations and those of insurance carriers require that post-construction stormwater Best Management Practices (BMPs) be performed on a recurring basis. The intent of the regulations is to ensure that the BMPs, on a continuing basis, efficiently remove pollutants from stormwater runoff, thereby preventing pollution of the nation's water resources. These requirements apply to the BioMod Modular Bioretention System.

Recommended Frequency of Service

Properly designed and installed bioretention cells require some regular maintenance, most frequently during the first year or two of establishment. Oldcastle Infrastructure recommends that installed BioMod units be inspected and serviced on a recurring basis for sediment buildup, trash removal, erosion, and to evaluate the health of the vegetation. Ultimately, the frequency depends on the amount of runoff, pollutant loading and interference from debris and litter; however, it is recommended that each installation be serviced at least two times per year. Drainage Protection Systems (DPS), a division of Oldcastle Infrastructure, is available to do an onsite evaluation upon request.

Recommended Timing of Service

Guidelines for the timing of service are as follows:

1. For areas with a definitive rainy season: Prior to and following the rainy season.
2. For areas subject to year-round rainfall: On a recurring basis (at least two times per year).
3. For areas with winter snow and summer rain: Prior to and after the snow season.
4. For installed devices not subject to the elements (wash racks, parking garages, etc.):
On a recurring basis (no less than two times per year).

Service Procedures

1. Bioretention cells will require supplemental irrigation during the first 2-3 years after planting. Drought tolerant species may need little additional water after this period, except during prolonged drought, when supplemental irrigation may become necessary for plant survival. Verify that the maintenance plan includes a watering schedule for the establishment period and in times of extreme drought after plants have been established.
2. Inspect the inlet surface adjacent to the BioMod unit and the inlet opening for trash and debris accumulation. Remove and dispose as required.
3. For units with pre-filtration, open the access cover of the pre-filtration chamber and inspect for collected pollutants. Remove and dispose of all materials. (Pre-filtration chamber allows for the use of industrial vacuum equipment if available). Close pre-filter access cover.
4. For units with internal bypass overflow screens, check for any blockage or obstructions to the flow path and remove as necessary. Check for any potential future blockage or obstruction beneath and around the overflow screens. Remove and dispose of all materials.
5. Inspect the area beneath the tree grate (when applicable), and if necessary, remove the tree grate and dispose of any collected trash or debris.
6. For units without pre-filtration, remove and replace the mulch layer as necessary, taking care to disturb the plant's roots as little as possible. Units without pre-filtration may see more sediment enter the system. If sediment buildup reaches 25% of the ponding depth, it should be removed, taking care to minimize soil disturbance.

7. Inspect for standing water. If present, or if soil media is appreciably moist more than 72 hours following a rain event, carefully remove and replace the top 4-6 inches of soil media (as well as the mulch layer) taking care to disturb the plant's roots as little as possible. Mulch should be re-applied when erosion is evident. In areas expected to have low metal loads in the runoff, mulch is needed to maintain a 2-3 inch depth. In areas with relatively high metal loads, replace the mulch once per year.
8. While vegetation is being established, remove weeds by hand (weeding frequency should decrease over time, as the vegetation grows). Inspect and prune the plants as needed to maintain adequate shape and health. If vegetation appears to be in poor health with no obvious cause, a landscape specialist should be consulted. Although occasional pruning or trimming might be needed, bioretention cells should generally not be mowed on a regular basis. In some instances where it is desired to maintain fast-growing, annual herbaceous plant cover, annual mowing may be appropriate.
9. Replace dead plants. If a particular species proves to be prone to mortality, it may need to be replaced with a different species that is more likely to succeed on the particular site.

Disposal of Collected Debris, Hydrocarbons and Sediment

The collected debris, hydrocarbons and sediment shall be disposed of in accordance with local, state and federal agency requirements. Where hazardous materials are encountered, these standard maintenance procedures will be ceased immediately and the property owner notified for further work authorization.

DPS also has the capability of servicing all manner of catch basin inserts and catch basins with or without inserts, underground oil/water separators, stormwater interceptors and other such devices. All DPS personnel are highly qualified technicians and are confined-space trained and certified. Call us at (888) 950-8826 for further information and assistance.

BIOMOD[®]

MODULAR BIORETENTION SYSTEM

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