

BIO CLEAN ENVIRONMENTAL SERVICES, INC.

MAINTENANCE AND CLEANING MANUAL FOR:

CURB INLET BASKET
GRATE INLET SKIMMER BOX
NUTRIENT SEPARATING BAFFLE BOX
TRENCH FILTER
FLUME FILTER
GOLF FILTER
DOWNSPOUT FILTER

FOR MORE INFORMATION AND QUOTES:

BIO CLEAN
ENVIRONMENTAL SERVICES, INC.



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Cleaning and Maintenance Manual Procedures

Your project/development has been designed with a Bio Clean Environmental Services, Inc. stormwater treatment filtration system. These devices were installed to comply with the State Water Quality Resources Board for Nonpoint Source Pollution Control and Watershed Programs implemented in 2000.

The Operation and Maintenance (O&M) Plan that was submitted with the original Water Quality Management Plan, detailed how the systems were to be maintained. If you no longer have access to the original O & M Plan and would like more information on maintenance requirements, please feel free to contact our office for details.

Unless otherwise noted in the O&M, it is the responsibility of the Property Owner, Homeowners Association or Property Manager to maintain and clean these systems and keep documentation on file. Documentation should include, but is not limited to, date of cleaning, type of debris and trash, organics, sediments and hydrocarbons by-products that were removed. These records must be readily available to be viewed by a city inspector or Water Control Board person.

These filters come with a 5 year warranty which is the best in the industry. However, if the devices are not properly maintained, the warranty may become void. We are very pleased that your project has included our stormwater treatment systems, which are the most cost effective in the industry, and we look forward to providing service to you in the future. If you need information on our Cleaning and Maintenance Services, which include all of Southern California, please contact our office at (760) 433-7640.

STORMWATER FILTRATION SYSTEM TYPE: _____

PROJECT NAME: _____

PROJECT LOCATION: _____

GENERAL CONTRACTOR: _____

Cleaning and Maintenance Procedures for our Complete Line of Stormwater Treatment Systems:

CURB INLET BASKET

Maintenance: The filter is designed to allow for the use of vacuum removal of captured materials in the filter basket, serviceable by centrifugal compressor vacuum units without causing damage to the filter or any part of the mounting and attachment hardware during normal cleaning and maintenance. Filters can be cleaned and vacuumed from the manhole opening. Entering the catch basin to clean the filters is not necessary.

Maintenance Notes:

1. Bio Clean Environmental Services, Inc. recommends cleaning and maintenance of the Curb Inlet Basket a minimum of two to four times per year or following a significant rain event that would potentially accumulate a large amount of debris to the system. The hydrocarbon boom should be replaced a minimum of twice per year or at each service as needed.
2. Any person performing maintenance activities that require entering the catch basin or handling of a toxic substance have completed the proper training as required by OSHA.
3. Remove manhole lid to gain access to inlet filter insert. The filter basket should be located directly under the manhole lid. Under normal conditions, cleaning and maintenance of the Curb Inlet Basket will be performed from above ground surface.
4. Special Note: entry into an underground manhole, catch basin or stormwater vault requires training in an approved Confined Space Entry Program.
5. Remove all trash, debris, organics, and sediments collected by the inlet filter insert. Removal of the trash and debris can be done manually or with the use of a vactor truck. Manual removal of debris may be done by lifting the basket from the shelf, pulling the basket from the catch basin and dumping out the collected debris.
6. Any debris located on the shelf system can be either removed manually from the shelf or can be pushed into the basket and retrieved.
7. Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils it should be replaced. Remove boom by cutting plastic ties and lifting out. Attach new boom to basket with plastic ties through pre-drilled holes in basket.
8. Place manhole lid back on manhole opening.
9. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
10. The hydrocarbon boom with absorbed hydrocarbons is considered hazardous waste and needs to be handled and disposed of as hazardous material. Please refer to state and local regulations for the proper disposal of used motor oil/filters.
11. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of filter.
12. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.
13. Any toxic substance or item found in the filter is considered as hazardous material and can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

GRATE INLET SKIMMER BOX

Maintenance: The filter is designed to allow for the use of vacuum removal of captured materials in the filter basket, serviceable by centrifugal compressor vacuum units without causing damage to the filter or any part of the mounting and attachment hardware during normal cleaning and maintenance. Filters can be cleaned and vacuumed from the grate inlet.

Maintenance Notes:

1. Bio Clean Environmental Services Inc. recommends cleaning and debris removal maintenance a minimum of two to four times per year or following a significant rain event that would potentially accumulate a large amount of debris to the system. The hydrocarbon boom should be replaced a minimum of twice per year or at each service as needed.

2. Remove grate to gain access to inlet filter insert. Remove the Deflector Shield with the hydrocarbon boom attached. Where possible the maintenance should be performed from the ground surface. Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.
3. Remove all trash, debris, organics, and sediments collected by the inlet filter insert. Removal of the trash and debris can be done manually or with the use of a vactor truck. The hose of the vactor truck will not damage the screen of the filter.
4. Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils it should be replaced. Attach new boom to basket with plastic ties through pre-drilled holes in basket.
5. Place the Deflector Shield back into the filter.
6. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
7. The hydrocarbon boom with absorbed hydrocarbons is considered hazardous waste and needs to be handled and disposed of as hazardous material. Please refer to state and local regulations for the proper disposal of used motor oil/filters.
8. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of filter.
9. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.
10. Any toxic substance or item found in the filter is considered as hazardous material and can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

NUTRIENT SEPARATING BAFFLE BOX

Maintenance: The Nutrient Separating Baffle Box is designed to allow for the use of vacuum removal of captured materials in the filter screens and sediment chambers, serviceable by centrifugal compressor vacuum units without causing damage to the filter or during normal cleaning and maintenance. Filters can be cleaned and vacuumed from the standard manhole access.

Maintenance Notes:

1. Bio Clean Environmental Services, Inc. recommends the Nutrient Separating Baffle Box be inspected a minimum of once every six months. The cleaning and debris removal maintenance a minimum of once year and replacement of hydrocarbon booms once a year. The procedure is easily done with the use of any standard vacuum truck.
2. Any person performing maintenance activities that require entering the catch basin or handling of a toxic substance have completed the proper training as required by OSHA.
3. Remove access manholes lid to gain access to filter screens and sediment chambers. Where possible the maintenance should be performed from the ground surface.
4. Special Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.
5. Remove all trash, debris, and organics from the Nutrient Separating Screen with the vacuum hose.
6. The Nutrient Separating Screen has 3 hinged panels which will open into an upright position. This will expose the baffles. Using a vacuum hose, remove the sediment in the baffle chambers.
7. Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils it should be replaced. Place new booms properly in media cage.
8. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
9. The hydrocarbon boom with absorbed hydrocarbons is considered hazardous waste and needs to be handled and disposed of as hazardous material. Please refer to state and local regulations for the proper disposal of used motor oil/filters.
10. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of filter.
11. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.
12. Any toxic substance or item found in the filter is considered as hazardous material and can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

TRENCH FILTER

Maintenance: The filter is designed to allow for the use of manual or vacuum removal of captured materials in the filter structure. The filter is serviceable manually or by centrifugal compressor vacuum units without causing damage to the filter during normal cleaning and maintenance. Filters can be cleaned easily by simply removing the grate to expose access to the filter. The hydrocarbon booms then are removed and the trash and debris can be removed from the structure. At each cleaning, new hydrocarbon booms should be installed by placing them in the filter.

Maintenance Notes:

1. Bio Clean Environmental Services Inc. recommends cleaning and debris removal maintenance a minimum of two to four times per year, and replacement of hydrocarbon booms a minimum of twice per year.
2. For maintenance and cleaning remove grate to gain access to inlet filter insert. Where possible the maintenance should be performed from the ground surface. Note: entry into an underground stormwater vault such as an inlet vault requires certification in confined space training.
3. Remove all trash, debris, organics, and sediments collected by the inlet filter insert.
4. Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils it should be replaced.
5. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
6. The hydrocarbon boom with absorbed hydrocarbons is considered hazardous waste and needs to be handled and disposed of as hazardous material. Please refer to state and local regulations for the proper disposal of used motor oil/filters.
7. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of filter.
8. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.
9. Any toxic substance or item found in the filter is considered as hazardous material and can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

FLUME FILTER

Maintenance: The Flume filter is readily serviceable without removing. Debris accumulated in front of the filter should be swept up and disposed of appropriately. The filter's front screen should be inspected and cleaned if necessary to maintain proper flow through the filter. This screen can easily be cleaned by brushing off its surface with a broom. To service the media booms, open the top hatch, clean and inspect and/or replace hydrocarbon booms.

Maintenance Notes:

1. Bio Clean Environmental Services, Inc. recommends cleaning and debris removal maintenance a minimum of two to four times per year, and replacement of hydrocarbon booms a minimum of twice per year.
2. Remove all trash, debris, organics, and sediments collected in front of the filter, then open the lid and remove trash and debris within the filter.
3. Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils it should be replaced. Remove hydrocarbon booms and replace.
4. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
5. The hydrocarbon boom with absorbed hydrocarbons is considered hazardous waste and needs to be handled and disposed of as hazardous material. Please refer to state and local regulations for the proper disposal of used motor oil/filters.
6. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of filter.
7. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.
8. Any toxic substance or item found in the filter is considered as hazardous material and can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

GOLF FILTER

Maintenance: The filter is designed to allow for the use of manual or vacuum removal of captured materials in the Filtration Box Structure and Filtration Box Screen. Filters can be cleaned and vacuumed from access hatch. The interior of the Filtration Box Structure is accessed by removing the 2" stainless hex head bolts and lifting the hatch. The media booms should be inspected and removed if they need replacing. They need to be replaced at least once a year. The media booms should be removed by cutting the plastic ties and removing the booms. The captured pollutants can be removed by manually removing the trash and debris, sediment and foliage. The captured pollutants can be removed by vacuuming the filter with any standard vacuum truck. They are serviceable by centrifugal compressor vacuum units without causing damage to the filter or any part of the mounting and attachment hardware during normal cleaning and maintenance. Replace the media booms by installing and securing with plastic ties. Close and bolt the hatch.

Maintenance Notes:

1. Bio Clean Environmental Services, Inc. recommends cleaning and debris removal maintenance a minimum of two to four times per year, and replacement of media booms a minimum of twice a year.
2. Remove all trash, debris, organics, and sediments collected by the filter.
3. Evaluation of the hydrocarbon boom shall be performed at each cleaning. If the boom is filled with hydrocarbons and oils, or other targeted pollutants, it should be replaced. If not sure of condition of media booms, replacement should be done as not to allow targeted pollutants to escape the filter. Attach new boom to filter with plastic ties.
4. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.
5. The hydrocarbon boom with absorbed hydrocarbons is considered hazardous waste and needs to be handled and disposed of as hazardous material. Please refer to state and local regulations for the proper disposal of used motor oil/filters.
6. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of media filter.
7. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.
8. Any toxic substance or item found in the filter is considered as hazardous material and can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

DOWNSPOUT FILTER

Maintenance: The filter is designed to allow for the use of manual or vacuum removal of captured materials in the filter structure. Filters can be cleaned easily by simply loosening the metal clamps and removing the filter. The hydrocarbon adsorbent media then is removed and the trash and debris can be removed from the structure. At each cleaning, new hydrocarbon adsorbent media should be reinstalled.

Maintenance Notes:

1. Bio Clean Environmental Services, Inc. recommends cleaning and debris removal maintenance a minimum of two to four times per year, and replacement of media booms a minimum of twice a year.
2. The Downspout Filter can be cleaned by loosening the metal clamps at bottom and top of rubber boots. Remove the filter by grasping the handles, slide down the bottom boot over the outflow pipe and slide up the top boot over inflow pipe. Place the filter on the ground. Dispose of any trash and sediments collected in filter.
3. Once the filter is free, remove the interior insert. Remove the hydrocarbon adsorbent media by unwrapping it from the interior insert and replacing with a new media, wrapping it the same way.
4. Place the interior insert back into the filter.
5. Place the filter back in line with the pipe and slide back the top and bottom boots in place and tighten the metal clamps securely.
6. Evaluation of the hydrocarbon media shall be performed at each cleaning. If the media is filled with hydrocarbons and oils it should be replaced.
7. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.

8. The hydrocarbon media with absorbed hydrocarbons is considered hazardous waste and needs to be handled and disposed of as hazardous material. Please refer to state and local regulations for the proper disposal of used motor oil/filters.
9. Following maintenance and/or inspection, the maintenance operator shall prepare a maintenance/inspection record. The record shall include any maintenance activities performed, amount and description of debris collected, and condition of filter.
10. The owner shall retain the maintenance/inspection record for a minimum of five years from the date of maintenance. These records shall be made available to the governing municipality for inspection upon request at any time.
11. Any toxic substance or item found in the filter is considered as hazardous material and can only be handled by a certified hazardous waste trained person (minimum 24-hour hazwoper).

LIMITED WARRANTY

BIO CLEAN ENVIRONMENTAL SERVICES products are warranted against defects of material and workmanship for a period of 5 years from the original date of purchase. This Limited Warranty covers installations performed by Bio Clean Environmental Services for a period of 3 years. Bio Clean Environmental Services Limited Warranty covers only those defects and workmanship which arise out of normal use of the product. This warranty does not apply to products or installations if improper or inadequately maintained or if modifications are performed by other than Bio Clean Environmental Services.

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