

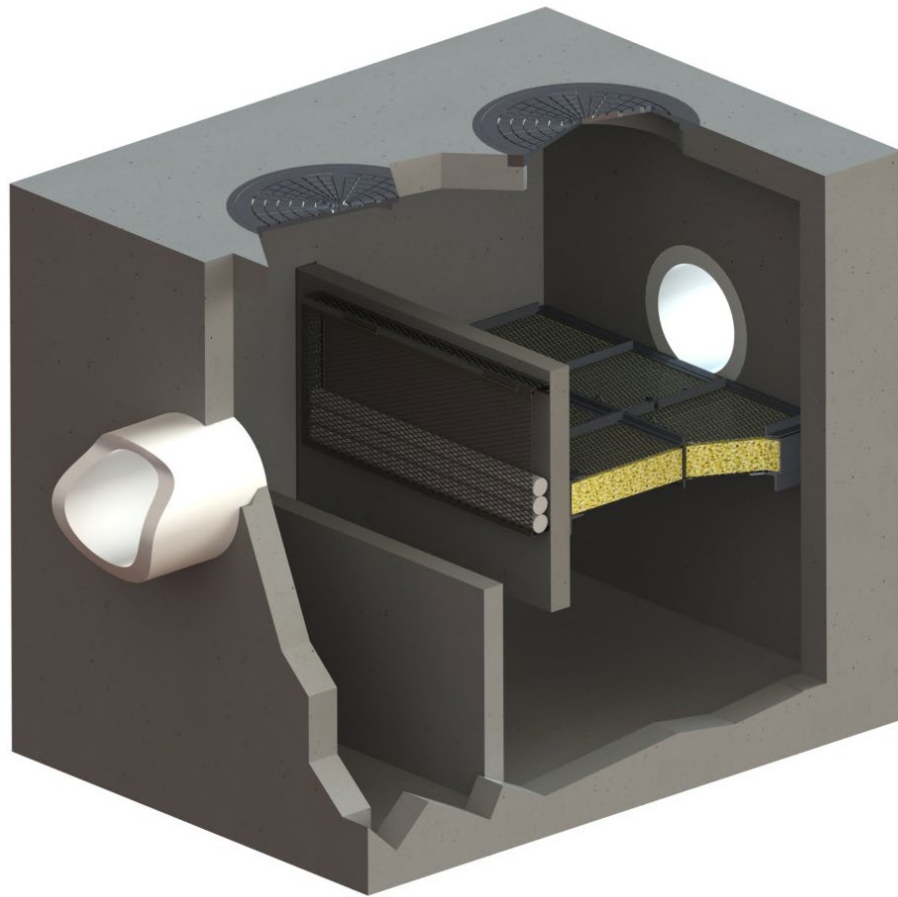
AN UP FLOW MEDIA FILTER

# Water Polisher (WP)

PROVEN STORMWATER TREATMENT TECHNOLOGY



## OPERATION & MAINTENANCE



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# OPERATION & MAINTENANCE

## Maintenance Summary –

- Clean separation chambers as needed based on local loading conditions.
- Evaluate and replace hydrocarbon media booms (BioSorb) as needed.
- Evaluate and replace up flow filter media (BioMediaGREEN) as needed.

## Notes:

- Loading varies at every location due to variations in pollutant and flow volumes.
- Maintenance typically occurs before and after the rainy season.
- Filter media and replacement parts can be provided by Bio Clean Environmental Services, Inc.

## Operation –

A. Maintenance can be provided by the Supplier, or a Supplier approved contractor. The cost of this service varies among providers.

B. The Bio Clean Water Polisher is a multi-stage, self-contained treatment train. Each stage protects subsequent stages from clogging. These stages include: separation and upflow filtration. It is recommended that the system be inspected every 6 months to evaluate its condition. The first year of inspection and maintenance can be used to predict maintenance requirements for subsequent years.

1. **Separation** - is provided by a settling chamber and oil skimmer (with sorbent booms). This chamber has a capacity of several cubic yards depending on the model number. This chamber targets sediments, debris, particulate metals and particulate nutrients. This chamber protects the subsequent upflow filtration stage from premature clogging. It is recommended that maintenance is performed when sediment in the first chamber is 75% full and the secondary sediment chamber has accumulation of 1 foot. This procedure can be performed with a standard

vacuum truck. *This procedure takes approximately 20-60 minutes depending on size of the system.*

2. **Upflow Filtration** - is provided by an up flow filter utilizing BioMediaGREEN. The surface area varies depending on the model number. This upflow filter and the revolutionary BioMediaGREEN media targets fine TSS, dissolved metals, nutrients, and bacteria. **It is recommended that the upflow filter and its media has become 75% clogged.** Media life depends on local loading conditions and can easily be replaced and disposed of without any equipment. *Replacement of media takes approximately 30-90 minutes depending on the size of the system.*

The Bio Clean Water Polisher's separation chamber and up flow filter are designed to allow for the use of vacuum removal of captured materials in the sediment chamber. The chamber is 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 or at grade. Filter cartridges do not need to be removed to replace media. Top of up flow filter cages is hinged. Cage can be opened by hand by retracting slide locks and pulling up doors to gain access to the media.

#### **Maintenance Procedures:**

1. Bio Clean Environmental Services, Inc. recommends the **separation chamber and oil skimmer** be inspected annually and cleaned when needed depending on loading. The procedure is easily done with the use of any standard vacuum truck.
  - Remove all manhole covers (or open hatches) to gain access to the separation chamber.
  - Use a vacuum truck hose and insert into the manhole or hatch opening. Lower the vacuum hose into the sediment chamber. Begin vacuuming out accumulated sediments and standing water until the chamber is empty. A pressure washer may be needed to assist with removing sediments that are compacted or stuck to the walls and floor of the separation chamber.
  - Remove hydrocarbon booms from oil skimmer and replace if needed.

- Once the chamber is cleaned remove vacuum hose.
- Remove vacuum hose and replace manhole covers or hatch doors.
- 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 of confined space training.
- Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.

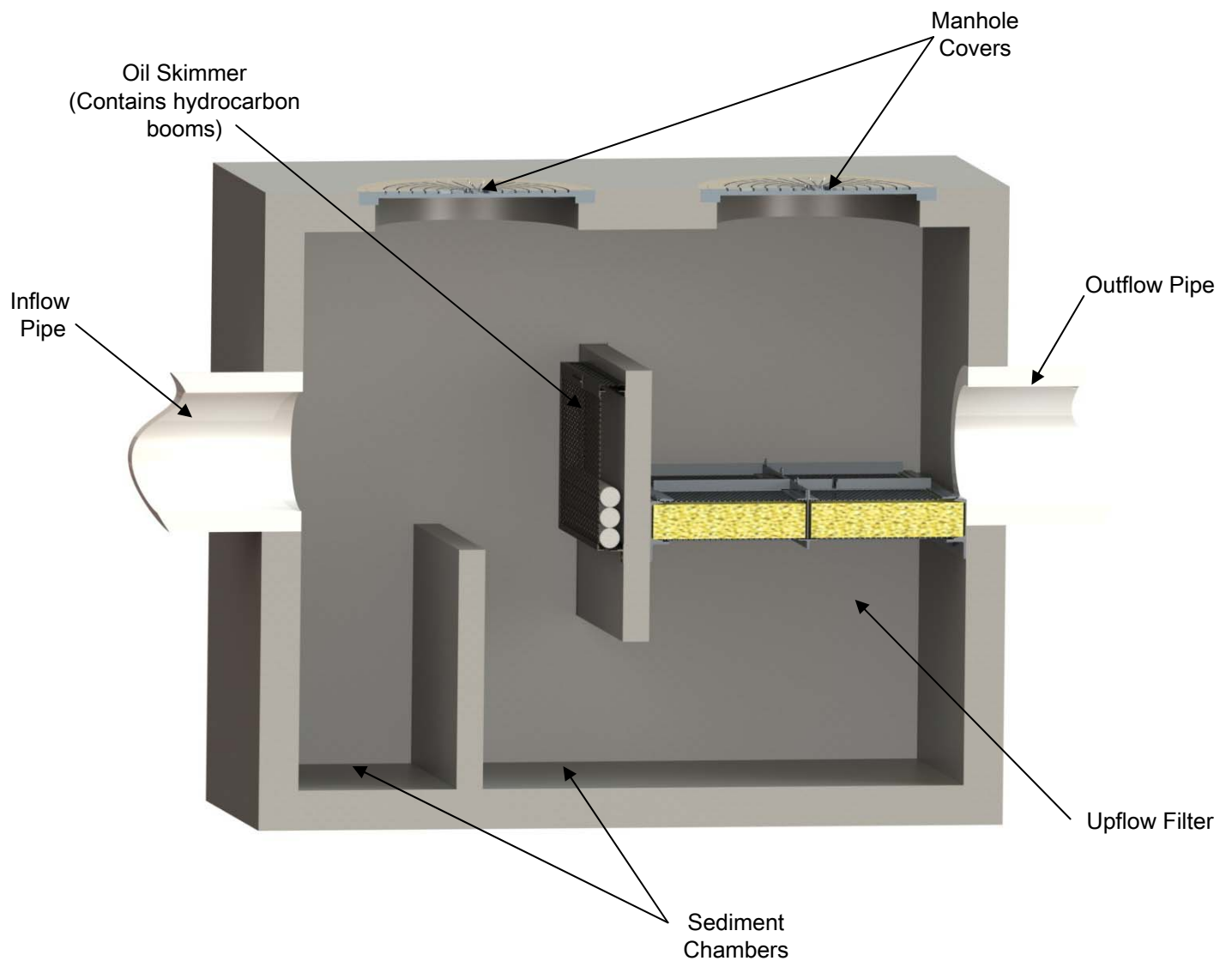
2. Bio Clean Environmental Services, Inc. recommends the **upflow filter** media be inspected annually and cleaned when needed depending on loading. The procedure will require prior maintenance of separation chambers and screening basket.

- Remove all manhole covers (or open hatches) to gain access to the separation chambers.
- Enter the manhole closest to the outflow pipe. Always use appropriate safety gear and procedures and follow local regulations.
- Open top doors of the up flow media filter cage. The latches slide back to open doors and gain access to media (BioMediaGREEN).
- Remove media either by hand or lift them into vertical position and use a vacuum truck hose to remove the media. No heavy equipment is necessary to remove or install new media.
- Once all the media is removed use a pressure sprayer to wash of any accumulated debris on the screen of the media cage.
- Install BioMediaGREEN and compact.
- Close doors of media filter cage and slide latches into place.
- Exit the vault.
- Note: entry into an underground stormwater vault such as an inlet vault requires certification of confined space training.
- Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.

3. 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 the system and its various filter mechanism.

4. 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.
5. Transport all debris, trash, organics and sediments to approved facility for disposal in accordance with local and state requirements.



## Maintenance Sequence



Remove Access Hatches and Inspect Sediment Accumulation in the First Chamber.



Insert Vacuum Hose in the Sediment Chamber on the Influent End of the System and Vacuum at all Sediment and Standing Water.



Assess the Condition of the Media in the Up Flow Filter. Remove Old Media When Necessary.



To Replace Media Top of Cage Hinges Open for Unimpeded Access. Vac Truck Can Be Used.



Close Lids of Media Cage. Maintenance of the System is Now Complete.

**For Maintenance Services or  
Replacement Media Please  
Contact Us At:**

**760-433-7640**

**[info@biocleanenvironmental.com](mailto:info@biocleanenvironmental.com)**



# Inspection and Maintenance Report

## Bio Clean Water Polisher

Project Name \_\_\_\_\_

Project Address \_\_\_\_\_ (city) (Zip Code)

Owner / Management Company \_\_\_\_\_

Contact \_\_\_\_\_ Phone ( ) -

Inspector Name \_\_\_\_\_ Date \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Time \_\_\_\_\_ AM / PM

Type of Inspection  Routine  Follow Up  Complaint Storm Storm Event in Last 72-hours?  No  Yes

Weather Condition \_\_\_\_\_ Additional Notes \_\_\_\_\_

For Office Use Only

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(Reviewed By)

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(Date)  
Office personnel to complete section to the left.

Site Map #	GPS Coordinates of Vault	Model #	Sediment Accumulation - Chamber 1 (lbs)	Condition of Upflow Media 25/50/75/100 (will be changed @ 75%)	Structural Notes	Operational Per Manufactures' Specifications (If not, why?)
	Lat: <hr/> Long:					
	Lat: <hr/> Long:					
	Lat: <hr/> Long:					

Comments:

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