1. INTRODUCTION

Aquamod systems are structural modules that are assembled and installed underground to provide stormwater storage. This manual provides guidance for procedures and best practices to inspect and maintain the Aquamod system to ensure functionality.

The site owner is responsible for creating, recording, and retaining inspection and maintenance records in accordance with their site requirements and applicable regulations. An example inspection and maintenance log is provided at the end of this manual. Proper maintenance is required for warranty coverage.

Visit www.xerxes.com for the latest version of this manual and other resources.

Contact your sales representative or Xerxes for support.

North America: stormwater.support@mattr.com

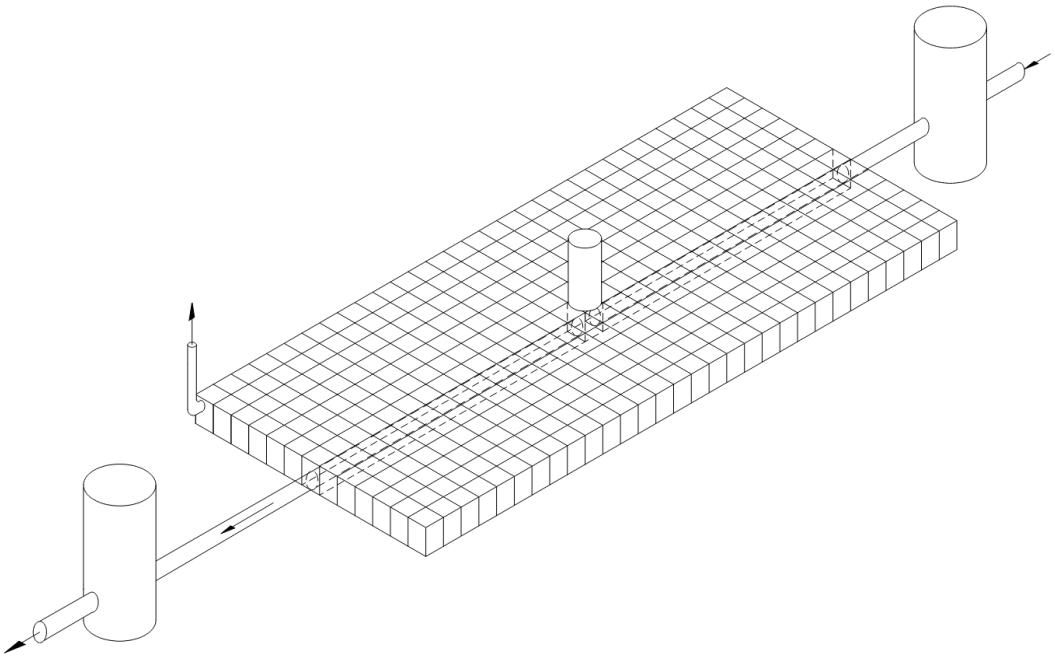

Figure 1: A typical Aquamod system with inlet and outlet catch basins, and an inspection port in the middle of the system.

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Aquamod systems include Inspection Modules that allow for visual and physical inspection of the storage system from ground level. Primary Inspection Modules only allow for inspection, while Channel Inspection Modules allow for inspection and maintenance of the connected Sediment Channel. Figures 2 and 3 depicts the two components.

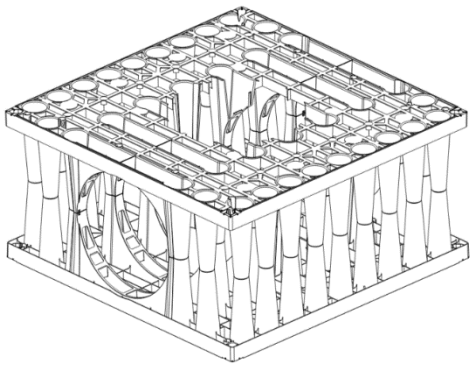

Figure 2: A Channel Inspection Module with a sediment screen. Inspection port allows for physical and visual access to the sediment channel for inspection and cleaning.

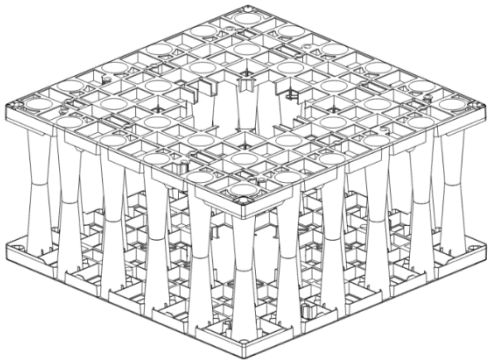

Figure 3: A Primary Inspection Module. Inspection port allows for visual access to the system for inspection.

2. OPERATION

The Aquamod system must only receive stormwater runoff in accordance with the systems permit, applicable regulations, and manufacturer's specifications.

Prevent loads over the system greater than the allowable specified in the construction plans.

Perform regular maintenance of the area that drains to the Aquamod system such as pavement sweeping to reduce the amount of sediment, waste, and other contaminants being deposited into the system.

An inspection and maintenance schedule should be created based on the following factors:

- System size
- Site and environmental conditions
- Drainage area
- Annual rainfall
- Volume of stormwater runoff
- Volume of sediment, dirt, debris, and trash entering the system

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Following installation, perform inspections at a minimum of every 6 months. To ensure that the system is functioning as designed, inspect the system immediately after the first major rainfall or storm event after installation. Inspection frequency may be increased or decreased based on the site conditions and regulatory requirements after the first year of operation. There are several appropriate procedures required to properly maintain the Aquamod system. Following the procedures outlined in this document at the recommended time intervals will ensure functionality.

3. INSPECTION PROCEDURE

Inspect the Aquamod system by its inspection points: inspection ports, inlet structures, and outlet structures. Inspection ports are located over the system. Inlet and outlet structures are commonly located next to the system. Inspection locations have removable covers at the surface.

NOTE: Entry into the Aquamod system and adjacent manholes is NOT required for inspection and is typically not recommended. Consult local and national regulations with regard to confined space entry before entering any underground structure.

Visually inspect the system at each inspection point.

To determine the level of standing water and accumulated sediment, you may follow this stadia rod measurement procedure:

- Measure the distance between the top of the access riser to the top of the water level. This is measurement #1.
- Measure the distance between the top of the access riser to the top of the sediment. This is measurement #2.
- Measure the distance between the top of the access riser and the bottom of the system. This is the measurement #3.

NOTE: One method to determine measurements #2 and #3 is to lower a stadia rod towards the bottom of the manhole or vault until resistance is encountered. If sediment has collected, this is the top of the collected sediment (#2). Push the stadia rod through the sediment to the bottom (#3).

Subtract measurement #1 from measurement #3. This is the depth of water within the system. Consult the site permit and local regulations for acceptable water depth to determine if maintenance is required.

NOTE: Aquamod systems should typically drain dry within 72 hours of the most recent rainfall. Review the site stormwater permit, rules, and regulations to determine what amount of standing water requires maintenance.

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Subtract measurement #2 from #3. If the value is greater than 3-inches, then sediment has accumulated and maintenance should be performed.

Record recommended or required maintenance on the inspection and maintenance log provided by the system owner.

4. MAINTENANCE PROCEDURES

NOTE: It is recommended to use a pump-out vehicle equipped with suction and flushing capabilities, or a submersible sediment (sludge) pump with hoses, such as a hydrovac truck. A truck with sufficient storage capacity is necessary to remove floating waste, standing water and sediment.

Before beginning maintenance and cleaning, review the inspection record for notes on the sediment amount and maintenance recommendations.

If the Aquamod system includes Primary Inspection Modules, maintenance is performed at adjacent inlet and outlet structures. If the Aquamod system includes Channel Inspection Modules, maintenance can be performed at the Inspection port and adjacent inlet and outlet structures. Review construction plans to determine the type of Inspection Module present.

To begin maintenance and cleaning, remove the access cover. Remove standing water, sediment, and debris with a vacuum truck.

For Chanel Inspection Modules, follow the procedure below to remove water, sediment, and debris from the sediment channel:

- Insert a nozzle with a 12-inch spray width and pressure of 1000-2000 psi through the access to the opposite end of the sediment channel. With the nozzle sprayer on, slowly pull it back out to flush the sediment to the access point. At the same time, remove water and sediment.
- Systems that have inspection ports at two ends of a sediment channel may be flushed with clean water from one end, with sediment and flush water removed from the other end.
- Repeat the flushing process for each sediment channel until all sediment is removed.

Dispose of all removed water and waste material in accordance with applicable regulations.

Record details of maintenance performed in the inspection, maintenance and cleaning log provided by the site owner. Report Inspection and Maintenance results as necessary per applicable regulations.

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Site Data

Owner	
Address	
System ID	
Installation Date	

Inspection and Maintenance Log

Date of inspection or maintenance	
Name company and persons performing activity	
System observations	
Depth of water	
Depth of sediment	
Depth of system	
Description of inspection and maintenance actions	
Recommendations	
Notes	

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