

# Attachment 1

## Proprietary Best Management Practice (BMP) Registration Statement

Complete this form and submit it along with supporting documents to the Virginia Department of Environmental Quality (Department) at [BMPClearinghouse@deq.virginia.gov](mailto:BMPClearinghouse@deq.virginia.gov). If approved by the Department, the device will be assigned a total phosphorus (TP) removal efficiency and listed on the Virginia Stormwater BMP Clearinghouse.

**1. Proprietary BMP / Manufactured Treatment Device (MTD) Name (as it is to appear on the Virginia Stormwater BMP Clearinghouse):**

Aqua-Swirl<sup>®</sup> XCELERATOR<sup>™</sup> Stormwater Treatment System

**2. Company Name:** AquaShield<sup>™</sup>, Inc.

**Mailing Address:** 2733 Kanasita Drive, Suite 111

**City:** Chattanooga

**State:** TN **Zip:** 37343

**3. Contact Name** (of person to be listed on the Virginia Stormwater BMP Clearinghouse):

Mark B. Miller

**Mailing Address:** 2733 Kanasita Drive, Suite 111

**City:** Chattanooga

**State:** TN **Zip:** 37343

**Phone number:** (423) 870-8888

**Fax number:** (423) 826-2112

**E-mail address:** [mmiller@aquashieldinc.com](mailto:mmiller@aquashieldinc.com)

**Web address:** [www.aquashieldinc.com](http://www.aquashieldinc.com)

**4. Treatment Type**

Hydrodynamic Structure

Filtering Structure

Manufactured Bioretention System

Provide Infiltration Rate (in/hr):

Other (describe):

**5. Certification** (check all that apply and submit all certification letters from TAPE and/or NJDEP):

**TAPE**

TP (include Technical Evaluation Report if applying for greater than 50% TP removal efficiency)

TSS

**NJDEP (TSS)**

The NJDEP Certification Letter dated January 21, 2020 is attached (includes Inspection & Maintenance Manual). The Aqua-Swirl<sup>®</sup> XCELERATOR<sup>™</sup> has been certified for 50% TSS removal according to the NJDEP 2013 laboratory testing protocol for hydrodynamic sedimentation MTDs.

**6. Proprietary BMP History:**

**How long has this specific model/design been on the market?**

Since April 2019.

**7. Maintenance:**

**What is the generic inspection and maintenance plan/procedure? (Attach necessary documents):**

Inspection & Maintenance Manual attached.

The Aqua-Swirl<sup>®</sup> XCELERATOR<sup>™</sup> (XCELERATOR<sup>™</sup>) can be inspected from the surface, eliminating the need to enter the system to determine when cleanout should be performed. In most cases, AquaShield<sup>™</sup> recommends a quarterly inspection during construction and for the first year of operation to develop an appropriate schedule of maintenance. The XCELERATOR<sup>™</sup> should be inspected and cleaned at the end of construction regardless of whether it has reached its sediment storage capacity and/or other captured materials. Based on experience of the system's first year in operation, we recommend that the inspection schedule be revised to reflect the site-specific conditions encountered. Typically, the inspection schedule for subsequent years is once per year.

AquaShield<sup>™</sup> provides a customized manhole cover with our distinctive logo to make it easy for maintenance crews to locate the system in the field. We also provide a permanent metal information plate affixed inside the access riser which provides our contact information, the XCELERATOR<sup>™</sup> model size, and serial number.

The only tools needed to inspect the XCELERATOR<sup>™</sup> system are a flashlight and a measuring device such as a stadia rod or pole. Given the easy and direct accessibility provided, floating trash and debris can be observed directly from the surface. Sediment depths can easily be determined by lowering a measuring device to the top of the sediment pile and to the surface of the water. AquaShield<sup>™</sup> recommends that the units be cleaned when sediment depth reaches 6 inches, representing 50% sediment storage capacity. The full sediment storage depth in the XCELERATOR<sup>™</sup> is 12 inches.

It should be noted that in order to avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the *top* of the sediment pile. Keep in mind that the finer sediment at the top of the pile may offer less resistance to the measuring device than the larger particles which typically occur deeper within the sediment pile.

Cleaning the XCELERATOR<sup>™</sup> is simple and quick. Floatable trash debris can be observed and removed directly through the 30-inch service access riser provided. A vacuum truck is typically used to remove the accumulated sediment and debris. An advantage of the XCELERATOR<sup>™</sup> design

is that the entire sediment storage area can be reached with a vacuum hose from the surface reaching all the sides. Since there are no multiple or limited (blind) access chambers in the XCelerator™ there are no restrictions to impede on-site maintenance tasks.

**Is the maintenance procedure and/or are materials/components proprietary?**

**Yes, proprietary**

**No, not proprietary**

The internal components of the XCelerator™ do not move and are not removeable. There are no proprietary procedures, materials and/or components needed to conduct inspection and maintenance events.

**8. Comments**

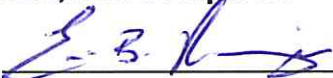
**Include any additional explanations or comments:**

The NJCAT Verification Report dated June 2019 and Revised January 2020 is available at <http://www.njcat.org/uploads/newDocs/AquaSwirlXC2NJCATReportFinalJanuary2020.pdf>. This application seeks approval for 20% Total Phosphorus (TP) Removal according to Table 1 in DEQ Guidance Memo No. GM21-2006, effective date December 29, 2021.

**9. Certification**

**Signed by the company president or responsible officer of the organization:**

**"I certify that all information submitted is to the best of my knowledge and belief true, accurate, and complete."**

Signature: 

Name: Eric B. Rominger

Title: General Manager

Date: 3/25/22

**NOTE: All information submitted to the Virginia Department of Environmental Quality will be made publicly accessible to all interested parties. If the device is approved by the Department, this Proprietary BMP registration form will be posted on the Virginia Stormwater BMP Clearinghouse.**