Installation Guidelines: Aquabox with StormTech Isolator Row Plus

Overview

Aquabox modules & StormTech chambers are both high-end stormwater retention products with dynamic installation configurations. This document outlines the necessary procedures to safely & effectively install a StormTech Isolator Row Plus within the envelope of an Aquabox stormwater management system.

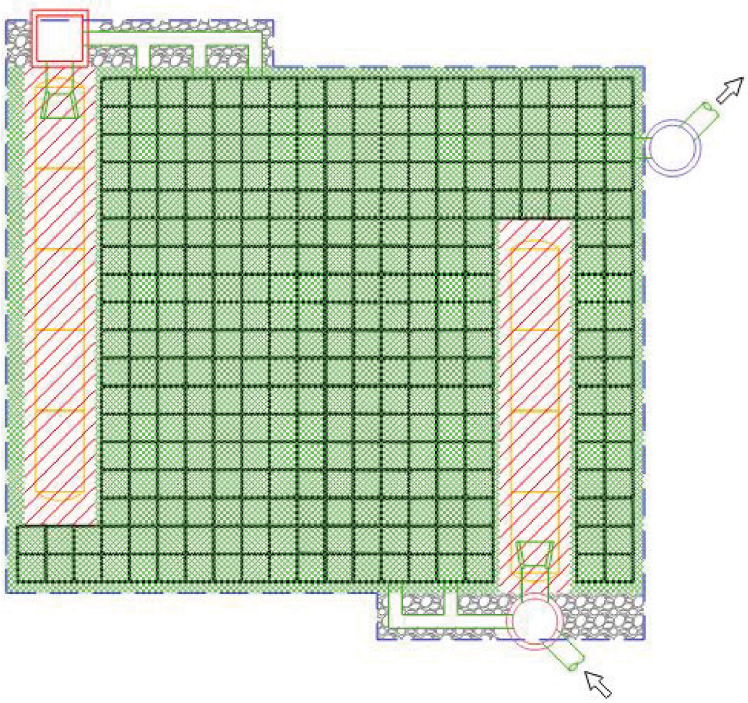
Installation Guidelines

Installation procedures vary based on site-specific constraints, however methods described below are recommended for safety & adequacy of installation.

Prior to installation of the Aquabox modules & StormTech chambers, establishing a stable base for the system is paramount. Begin by preparing the subgrade and base stone as detailed in the *Aquabox Installation Guide* and further within this document.

This document first covers standard base stone preparation before identifying two methods for product installation. These two installation methods are specific to the example system shown below.

Figure 1: Example Aquabox system with StormTech Isolator Row Plus.



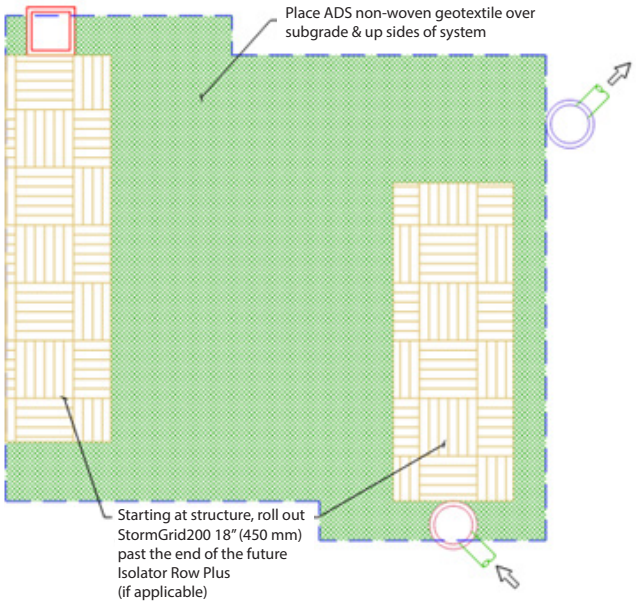
Preliminary Installation Steps

Proper preparation of the subgrade & base stone layer is an integral component of a functional system installation.

1. After preparing the subgrade, install the nonwoven geotextile (and liner, if applicable) around the excavation limits.

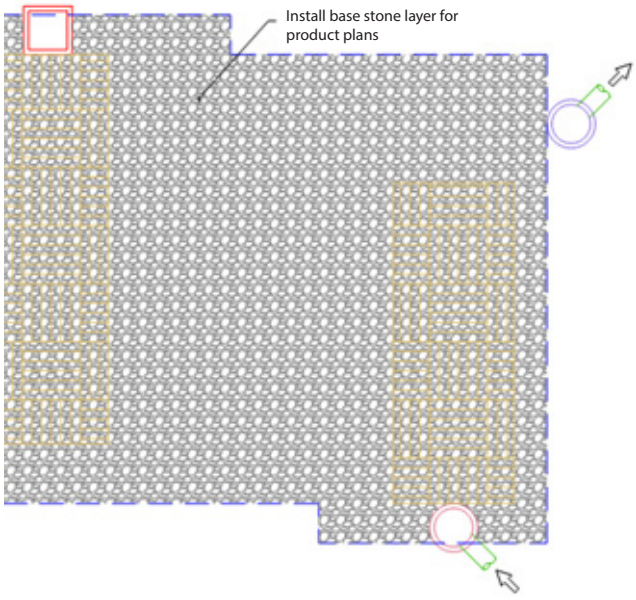
    a. **DC-780 only**: Before installation of the base stone layer, identify locations where an Isolator Row Plus will be placed. Staring at the structure, roll out StormGrid200 to the end of the row, plus an additional 18" (450 mm). *This step is not required of systems using SC-310 chambers.*

Figure 2.1: Placement of non-woven and StormGrid geotextile.



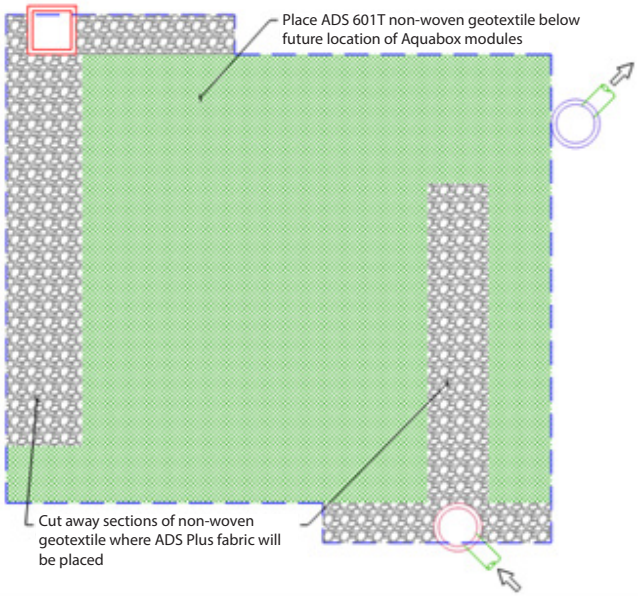
2. Install the base stone layer in accordance with the project plans & Aquabox Installation Guide.

Figure 2.2: Installation of base stone layer.



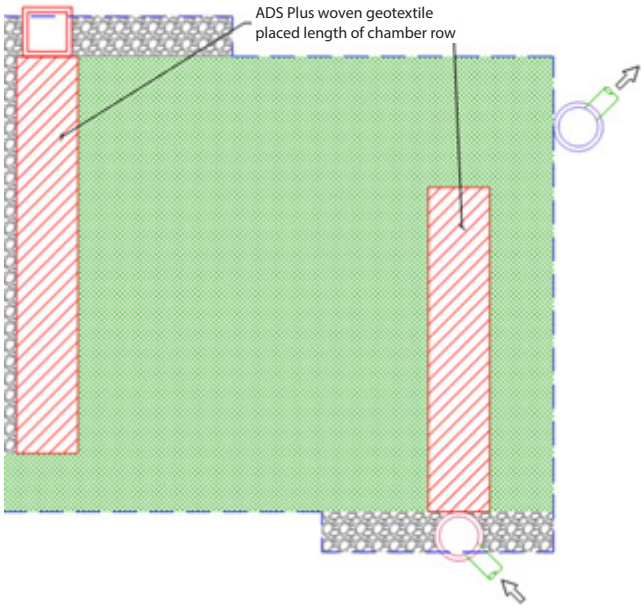
3. Following installation of base stone, place ADS 601T non-woven geotextile over the base stone layer, in locations where Aquabox modules will be placed.
    a. Identify locations where an Isolator Row Plus will be placed, and cut & remove the non-woven geotextile from these areas.
    b. Non-woven geotextile directly below the Isolator Row will hinder hydraulic performance.

Figure 2.3: Placement of non-woven below modules. Non-woven is removed where ADS Plus will be installed.



4. In future Isolator Row Plus locations, roll out ADS Plus geotextile the length of the chamber row.

Figure 2.4: Placement of ADS Plus geotextile where StormTech Isolator Row Plus will be installed.

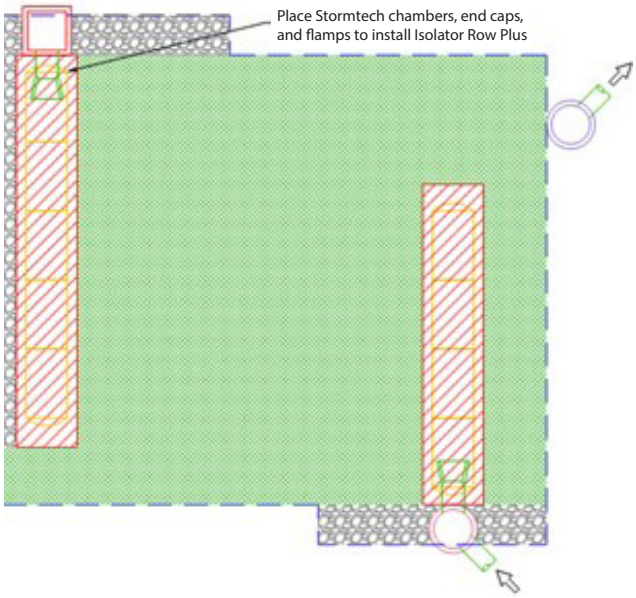


Option 1: Starting with Isolator Row Plus (Recommended)

Assembly of subsurface retention systems often begins with placement of inlet & outlet structures, establishing landmarks to be used during construction. For this reason, installation starting at a structure can be desirable. For installations starting at inlet structures, StormTech chambers are installed first.

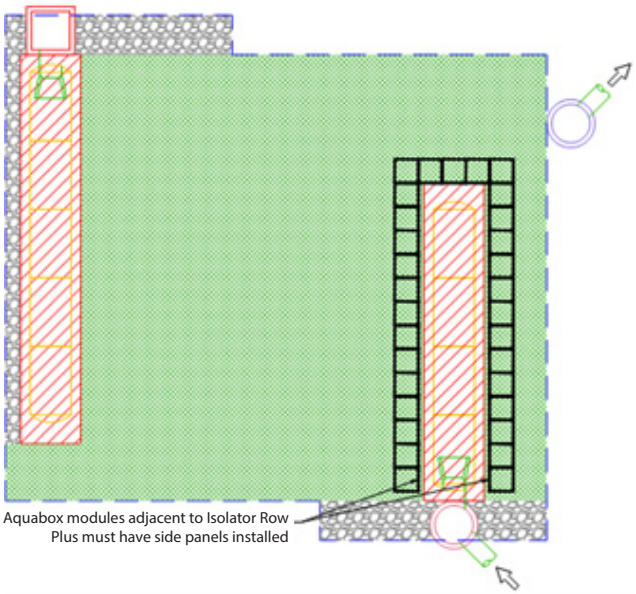
1. Place entire row of chambers, terminating with end caps once completed. Ensure the geotextile is extending beyond the feet of the chamber on both sides, and past both end caps at either end of the row.

Figure 3.1: Installation of Isolator Row Plus.



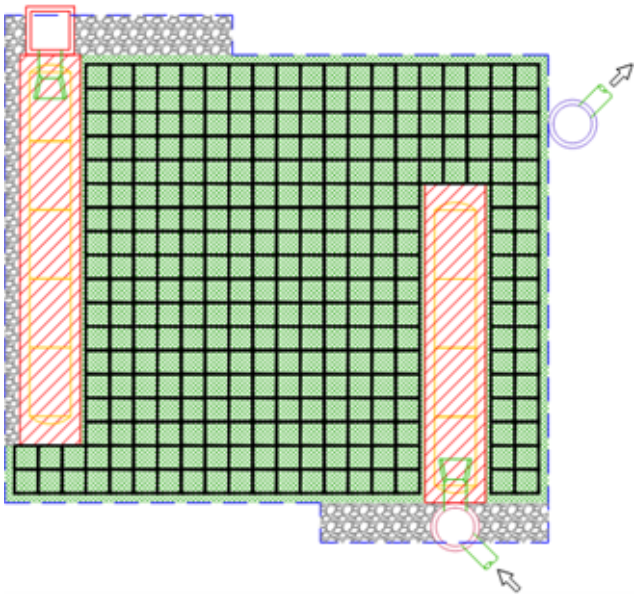
2. Once Isolator Row Plus components are installed, begin placement of Aquabox modules. Adequate spacing is required between the Aquabox modules & StormTech chambers.
    a. Spacing must be ≥12" (300 mm) between the StormTech chamber/end cap and Aquabox module.
    b. Remember that modules adjacent to the Isolator Row Plus must have side panels installed. It is recommended to assemble each module with its side panel and then shift into place next to the Isolator Row Plus.

Figure 3.2: Installation of adjacent Aquabox modules with side panels.



3. Complete installation by assembling remaining Aquabox modules & system components in accordance with the Aquabox Installation Guide.

Figure 3.3: Installation of remaining Aquabox modules.

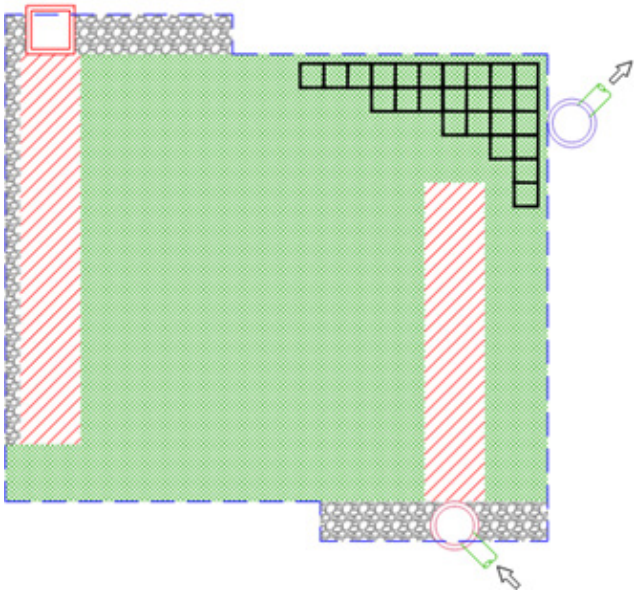


Option 2: Starting with Aquabox

An alternate installation method can be starting in one section of a system & building toward the inlet structures. This method includes near-complete installation of all Aquabox modules, followed by installation of the StormTech chambers in the spaces left behind.

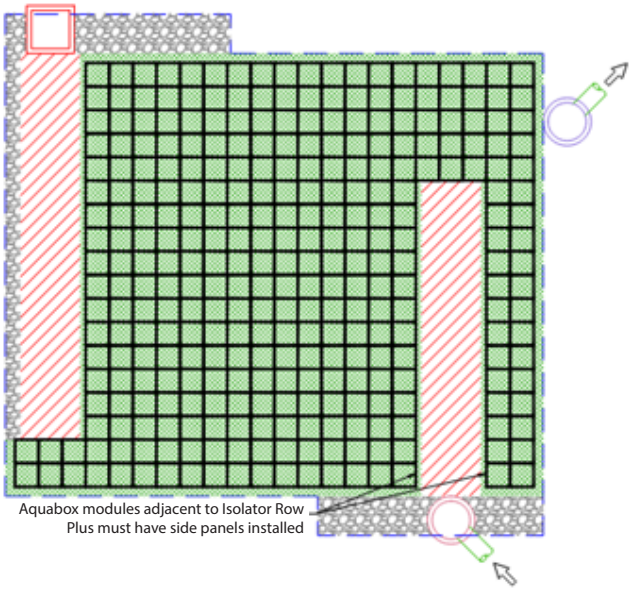
1. Begin installation of Aquabox modules at the perimeter of the system, filling in per the project drawings until all modules are installed.
    a. Note: This installation method requires precision to ensure adequate space is left for the StormTech chambers.

Figure 4.1: Installation of Aquabox modules starting at perimeter.



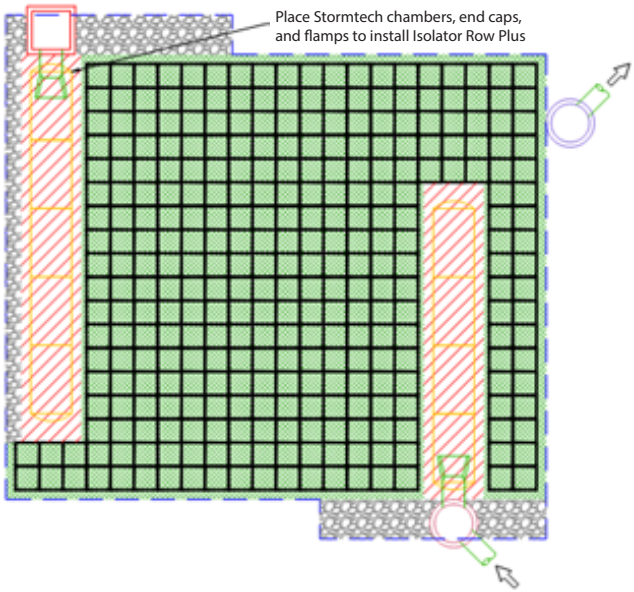
2. Complete Aquabox installation, ensuring ample space remains for StormTech Isolator Row Plus.
    a. Ensure that Aquabox modules adjacent to the Isolator Row Plus have side panels installed.

Figure 4.2: Completed Aquabox module installation, leaving room for Isolator Row Plus chambers.



3. Install Isolator Row Plus chambers on ADSPLUS geotextile.
    a. Install chambers starting with farthest from structure. Also install farthest end cap at this time.
    b. Spacing must be ≥12" (300 mm) between the StormTech chamber/end cap and Aquabox module.
    c. Continue installing toward inlet structure until Isolator Row Plus is installed.

Figure 4.3: Installation of the Isolator Row Plus.



4. Complete installation of system components in accordance with the *Aquabox Installation Guide.*