

AquaBlox[®] (D-Raintank[®])*

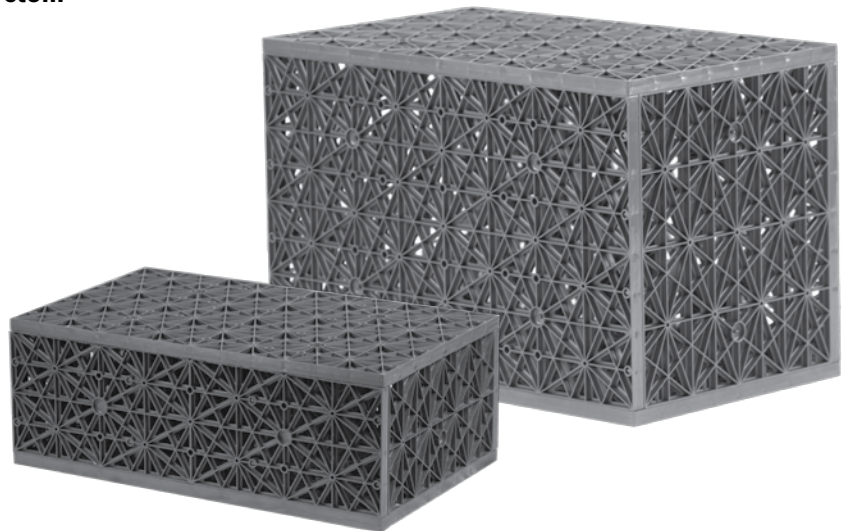
Installation Instructions & Owner's Manual

The AquaBlox[®] modular systems, also known as the D-Raintank[®] by Atlantis[®], use underground storage and infiltration techniques, resulting in clean water that can be reused or allowed to re-enter the natural water system. The light-weight modular design of the AquaBlox[®] make installation quicker, safer, and cheaper than traditional options.

- Step-by-step installation

Instructions for the following AquaBlox[®] Applications:

- Pondless[®] Waterfalls
- RainXchange[®] Rainwater Harvest System
- Constructed Wetland System
- Pump Wet Wells



Made in U.S.A. for:
Aquascape, Inc.
St. Charles, IL 60174 • Brampton, ON, L6T 5V7
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AquaBlox[®]

Table of Contents

1. Tank Assembly – Page 3
 - a. Single Module Assembly Diagram
 - b. Double Module Assembly Diagram
 - c. Triple Module Assembly Diagram
2. Water Storage Basin Excavation and Tank Installation – Page 4-9
3. Diagrams – Page 10-16
 - a. Pondless[®] Waterfall Diagrams – Page 10-11
 - Pondless[®] Waterfall Large
 - Pondless[®] Waterfall Micro
 - b. RainXchange[®] Diagrams – Page 12-15
 - RainXchange[®] Decorative Fountain
 - RainXchange[®] Permeable Paver
 - RainXchange[®] Pondless[®] Waterfall
 - Water Storage Kits
 - 500 Gallon
 - 1000 Gallon
 - 1500 Gallon
 - 2000 Gallon
 - 2500 Gallon
 - 3000 Gallon
 - c. Constructed Wetland Diagram – Page 16
 - d. Wet Well Diagram – Page 16

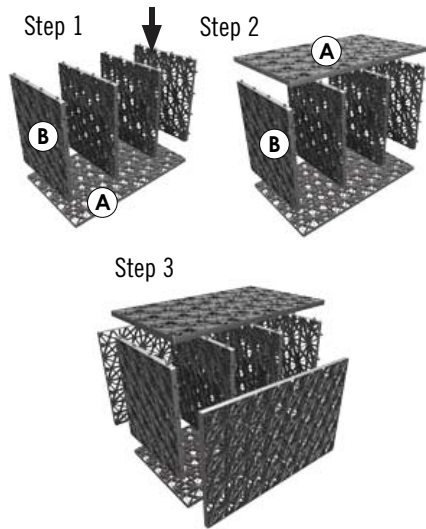
AquaBlox® Assembly Instructions

- Step 1: Evenly distribute and connect the small panels to one large panel.
- Step 2: Next, working from one end to the other, attach a second large panel on the opposite side of the first.
- Step 3: Once the top and bottom large panels are attached, complete the sides of the tank module. This is a "single" AquaBlox®.

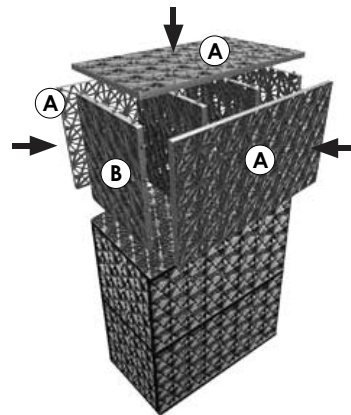
To build a double unit (or larger), follow the directions above, connecting the small panels to large panel on the top of a built AquaBlox®. Proceed with the remaining panels to complete the stacked tank.

Completed AquaBlox® modules should be staged as close to the installation area as possible.

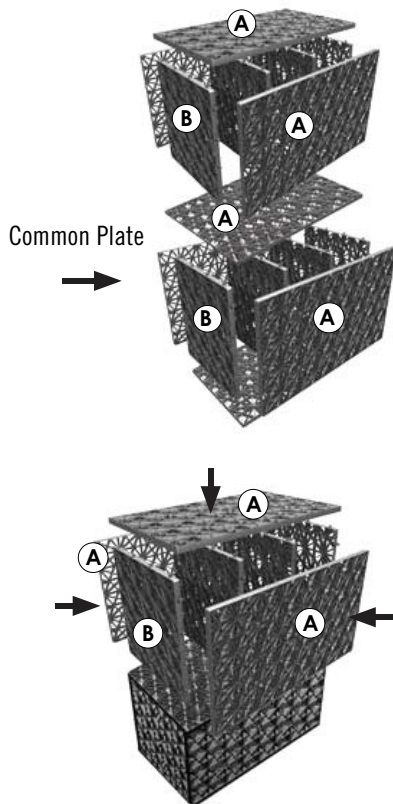
Single Module Assembly



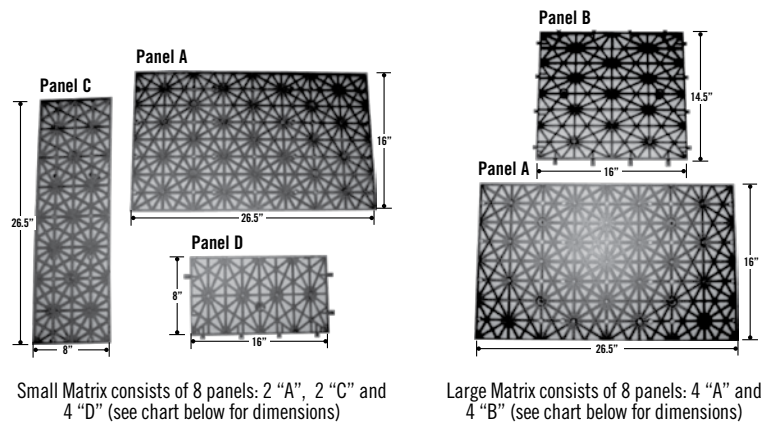
Triple Module Assembly



Double Module Assembly



AquaBlox® Components



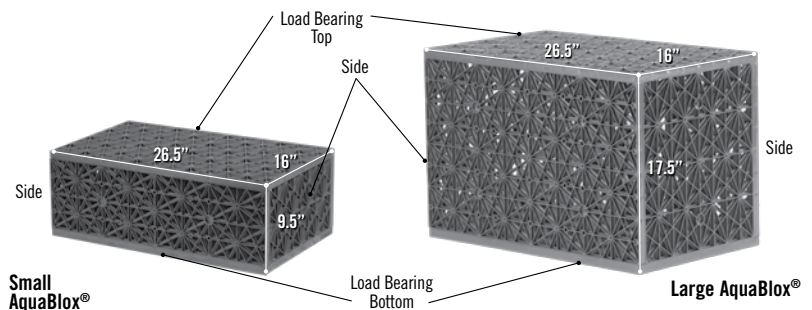
Be sure to check all pieces upon arrival for any damages that may have occurred during shipping

Small AquaBlox®

The Small AquaBlox® is recommended in use with Pondless® Waterfalls using the MicroSnorkel™ and MicroCentipede™ and also when constructing an upflow Wetland using the Large Snorkel™ and Centipede™.

Large AquaBlox®

The Large AquaBlox® is recommended in use with Pondless® Waterfalls and RainXchange® System using the Large Snorkel™ and ½ or full Centipede™.



Tank Installation Instructions

Step 1: Excavate Storage Basin

It is recommended to lay out the position of the Pondless® Waterfall Vault/Snorkel™ and AquaBlox® prior to excavation in order to determine actual excavation dimensions. Please note an additional 6" of excavation is recommended per side of the basin to allow for: AquaBlox® dimensions, sufficient backfill material and compaction required during backfilling. See the diagrams below for examples of Pondless® Waterfall storage basin configurations. Larger storage basins can be constructed by increasing the quantity of Small AquaBlox® and/or using the optional Vault Extension in combination with the Large AquaBlox®. Liner and geotextile dimensions will vary according to the quantity and size of AquaBlox® used.

Note: Check for presence of high water table in the excavation, which must be kept at levels a minimum of 3 feet below the bottom of the AquaBlox® structure at all times.



Step 2: Excavate Location of Pondless® Waterfall Vault/Snorkel™ and Centipede™ Filters

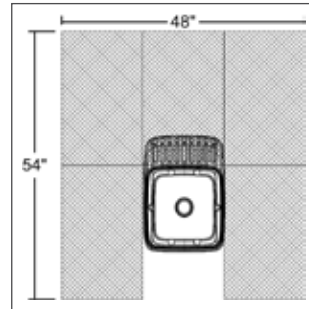
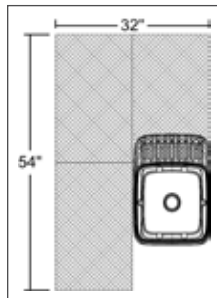
Excavate a recessed area for the Pondless® Waterfall Vault/Snorkel™. This positions the vault at the lowest point in the storage basin allowing maximum water availability for the pump system.

For RainXchange® Water Storage Kits please refer to diagram section for Snorkel™ and Centipede™ locations.

Pondless® Waterfall Vault

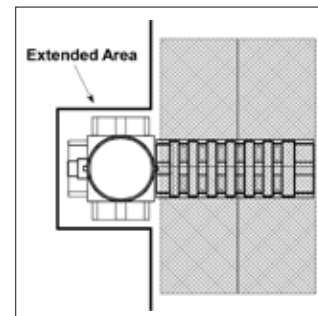
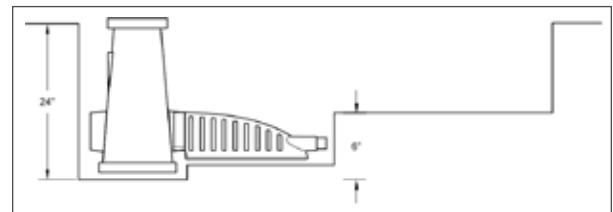
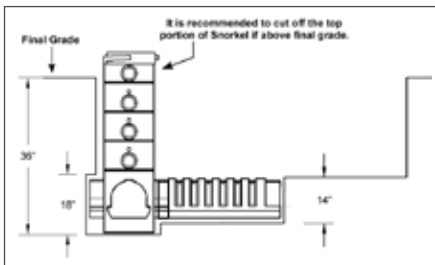
Note: An additional 6" of excavation is recommended per side.

Pondless® Waterfall Vault location when using 3 AquaBlox®



For maximum structural strength on larger storage basins locate Pondless® Waterfall Vault between AquaBlox®

Snorkel™ Vault and Centipede™



Step 3: Prepare Base

The base of the excavation should be smooth soil, flat and free of lumps and debris. Check the size and depth of the excavation by placing the AquaBlox® into the excavated area. There should be approximately 6" between the AquaBlox® and the soil. Add compactable material such as sand, if existing soil conditions do not meet requirements listed above. The compactable material should be spread to a 4" minimum depth and compacted.



Step 4: Install Outer Geotextile

Lay the geotextile into the excavation covering the bottom and sides. Multiple sections of geotextile can be overlapped to accomplish complete coverage.



Step 5: Install Liner

Lay the liner into the excavation and position to cover entire storage basin. Do not trim the excess liner material until later in the project.



Step 6: Install Optional Inner Geotextile

It is recommended using a second layer of geotextile within the lined storage basin to wrap around the bottom and sides of the AquaBlox®. This is a precautionary step that helps protect the liner. Note: All RainXchange® Water Storage Kits include enough geotextile for both the inner and outer geotextile installation. Lay the geotextile into the lined basin before installing the AquaBlox®. The geotextile does not need to be wrapped over the top of the AquaBlox®, just the bottom and sides.



Step 7: Install Pondless® Waterfall Vault or Snorkel™/Centipede™

Place the filter into their proper location.

Pondless® Waterfall Vault



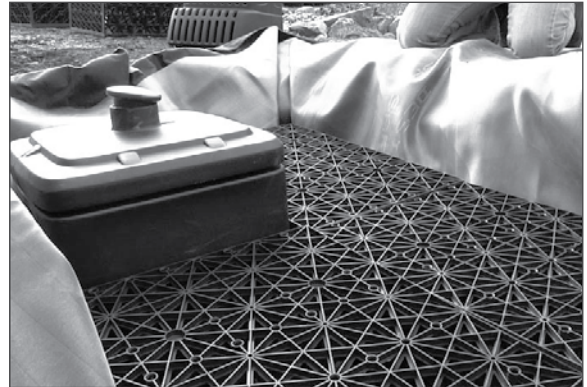
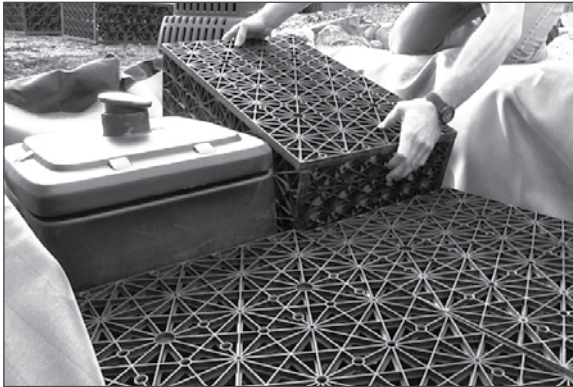
Snorkel™ Vault and Centipede™

Note: If using the Snorkel™/Centipede™ small cobbles will need to be backfilled around the excess excavated perimeter of the filter in order to provide a sufficient base for the AquaBlox® to sit on.



Step 8: Install AquaBlox®

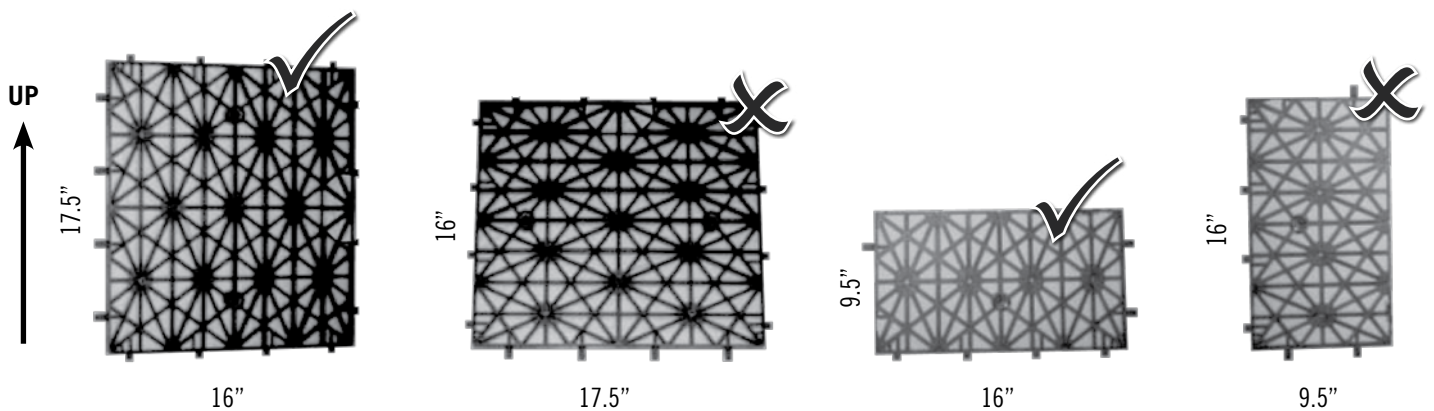
Install AquaBlox® in the storage basin, butting them tightly against each other. After placement of the tanks, bring the inner geotextile (if using) up the sides of the tanks. For the RainXchange® Water Storage Kits please refer to the RainXchange® Water Storage Kits diagram that is being installed for the proper tank configuration.



Note: When stacking AquaBlox® only one panel "A" is required between the two joined AquaBlox®. See tank assembly instructions for more detail.

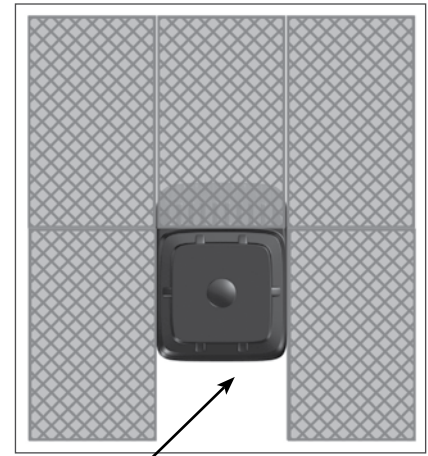
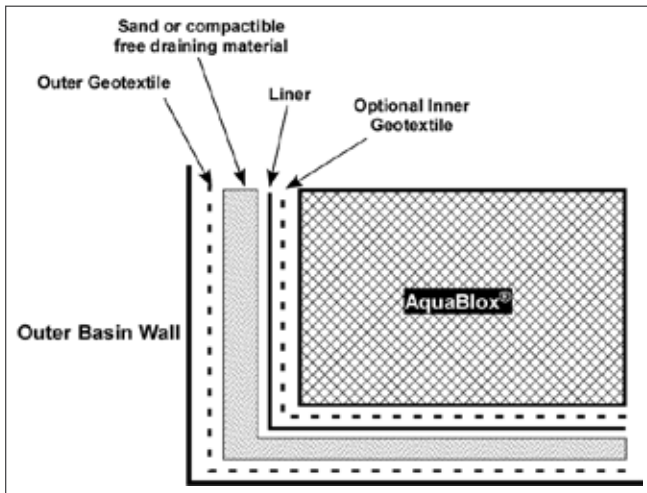
Tank Module Orientation

Proper Orientation: The AquaBlox® must be installed with the correct orientation to ensure maximum load bearing capacity. See images below.



Step 9: Backfill Sides

The excess excavation along the outside perimeter of the storage basin can be backfilled once all of the AquaBlox® are installed. Use sand or compactible free draining material to backfill evenly on all sides to secure the AquaBlox® into position. **Note: Make sure to evenly distribute backfill material around the perimeter of the basin, working your way up to final grade. This will prevent AquaBlox® from shifting while backfilling.** When backfilling be sure to add the material between outer layer of geotextile and liner. This will help with holding the AquaBlox® in place and drainage. Backfill materials containing clay should not be used.



Backfill gravel here

Step 10: Install Overflow (RainXchange® Systems)

The RainXchange® Water Storage system requires an overflow to be installed in order to manage any excess water entering the basin. The overflow should be located as high as possible in the storage basin in order to maximize the amount of water storage. The overflow is installed by cutting a hole in the liner to the diameter of the male threads on the bulkhead adaptor included in the overflow kit. The bulkhead can be installed into the liner with the rubber gasket located inside the storage basin and the plastic gasket located on the outside of the storage basin liner. A small bead of silicone can be spread around the rubber gasket where it meets the liner to help ensure a water tight seal. Tighten down the large bulkhead nut being careful not to over-tighten and crack the bulkhead. An adjustable overflow elbow is included with the overflow kit. Add Teflon tape or silicone around the threads of the elbow and install into the bulkhead on the inside of the storage basin. This will allow fine adjustment of the overflow height. Add Teflon tape or silicone around the threads of the PVC male pipe adaptor and install into the bulkhead on the outside of the storage basin. PVC pipe can then be primed and glued into the overflow and run to the overflow location making sure to maintain a decrease in elevation of 1 inch for every 10 feet in run of overflow pipe for proper water flow by gravity.

Managing the overflow will be determined by the conditions on the site. One easy method of managing the overflow is to create an infiltration area using the AquaBlox® wrapped in geotextile material. The quantity of AquaBlox® required will be based on the site's soil percolation characteristics. See diagrams for example of overflow configuration using AquaBlox®. There may be other options based on the site characteristics, such as discharging the overflow to a drainage location on the property or directly back into the stormwater drain. Choose the best solution based on the site's characteristics.



Step 11: Backfill Top and Finish Edges

The AquaBlox® can be covered with a layer of 1 ½" or larger decorative gravel. Boulders can be placed around the perimeter of the water storage basin to complete the edges of the basin. The liner edges can be trimmed to at least 3" above the maximum water level in the basin and backfilled behind the boulders.



Permeable paver applications installed on top of the water storage basin require a woven geotextile (Item #30219). The geotextile is laid directly on top of the exposed AquaBlox®. This will provide a base for the paver screening to be spread.

Note: Do not use the inner and outer non-woven geotextile (underlayment) on top of the AquaBlox® as it will potentially clog.



The built-in water level inspection port on the Pondless® Waterfall Vault allows the lid of the Pondless® Waterfall Vault to be buried.



Application Diagrams

Pondless® Waterfall Vault application using:

- Pondless® Waterfall Vault using 3 AquaBlox®
- For maximum structural strength on larger storage basins locate Pondless® Waterfall Vault between AquaBlox®

Diagram A

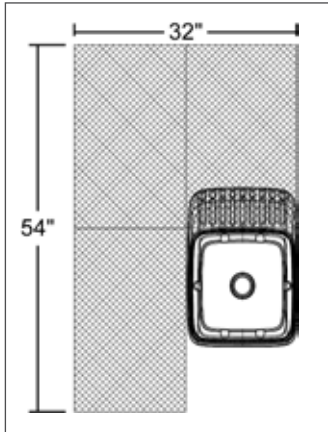


Diagram B

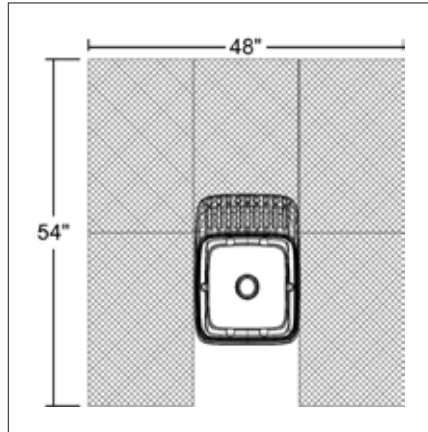
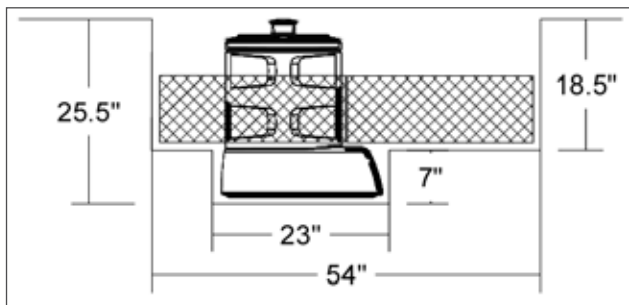
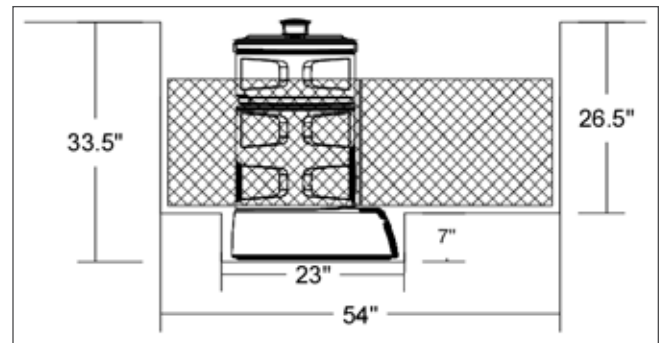


Diagram C



Pondless® Waterfall Vault

Diagram D



Pondless® Waterfall Vault with Extension

Pondless® Waterfall application using:

- Large Snorkel™ and ½ Centipede™ Filters
- Large AquaBlox® (additional AquaBlox® can be used to create larger storage capacity)

Diagram A

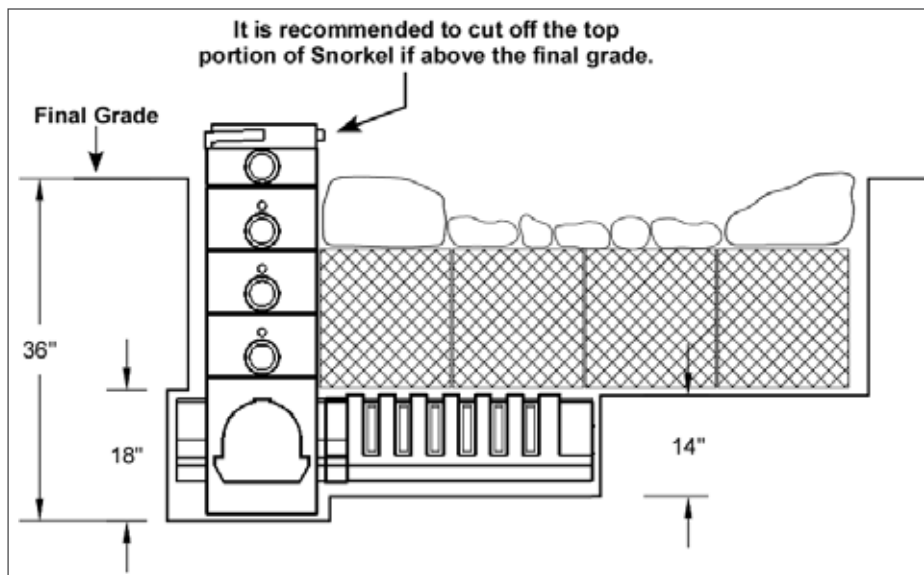
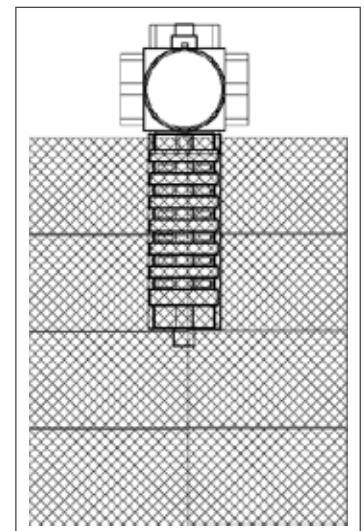


Diagram B



Pondless® Waterfall application using:

- MicroSnorkel™ Vault and MicroCentipede™ Filter
- Small AquaBlox® (additional AquaBlox® can be used to create larger storage capacity)

Diagram C

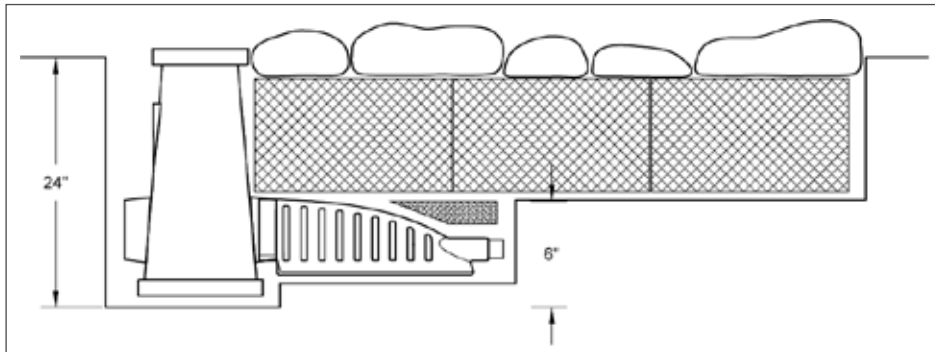
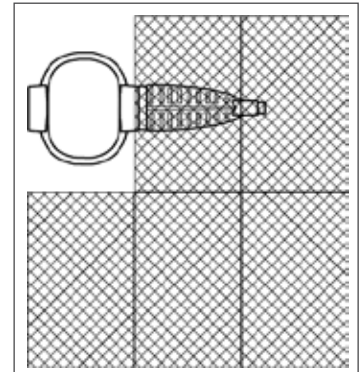


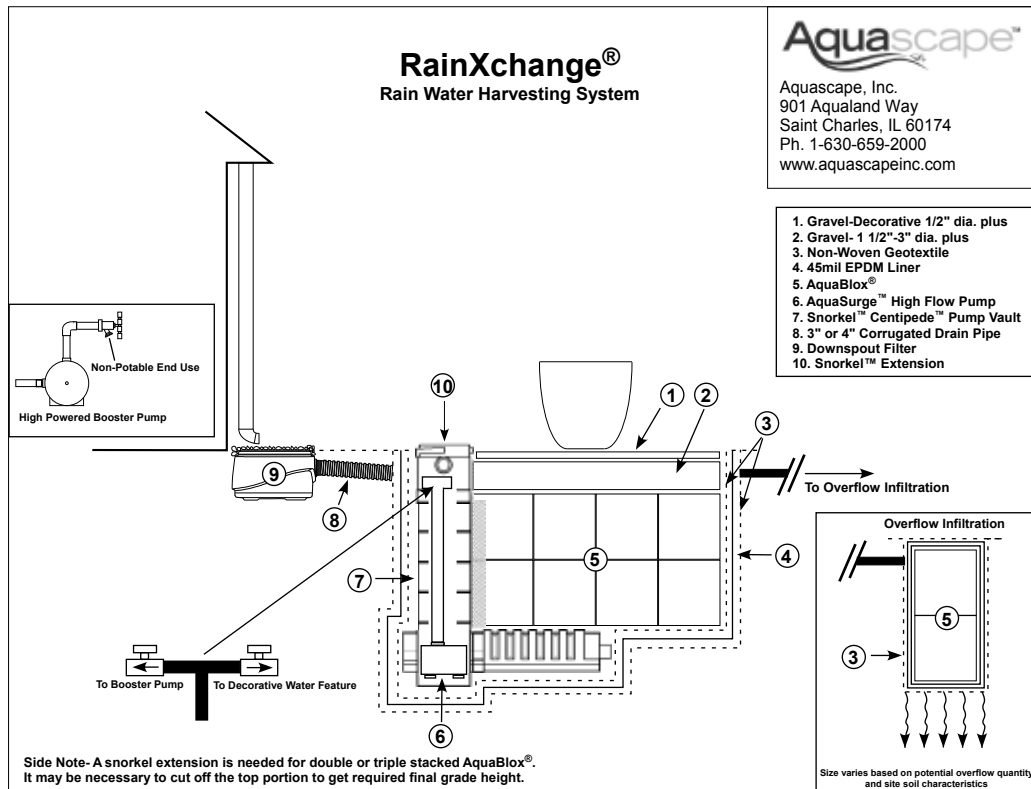
Diagram D



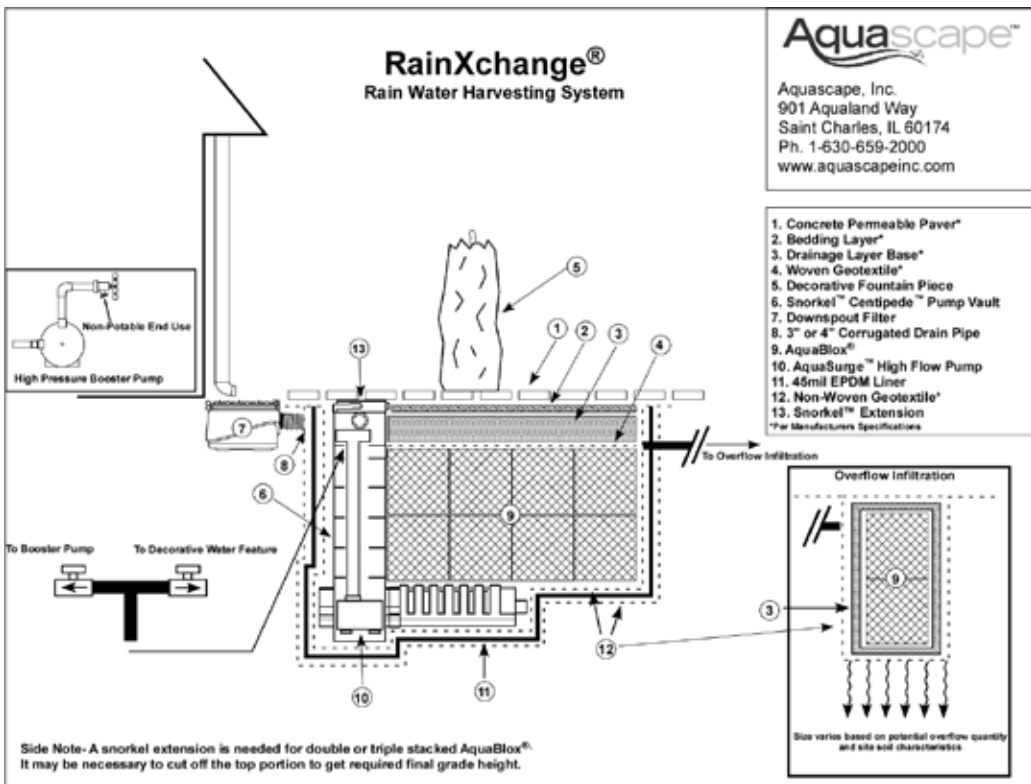
RainXchange® Applications

The following diagrams include examples of options associated with the RainXchange® System.

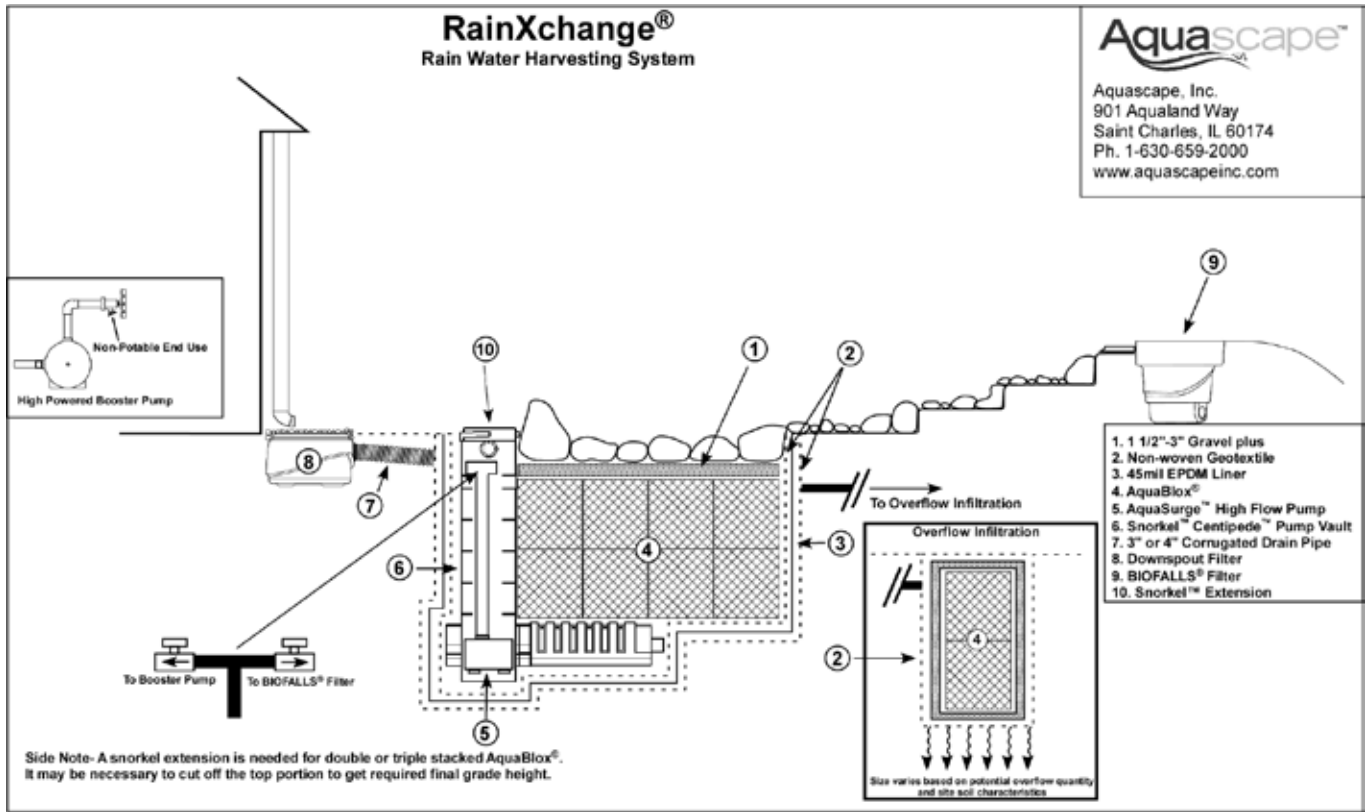
Decorative Fountain



Decorative Fountain with Permeable Paver



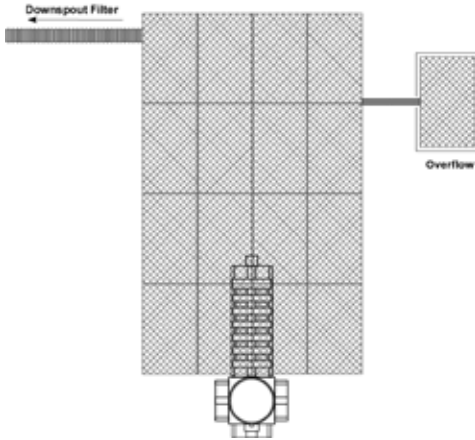
Pondless® Waterfall



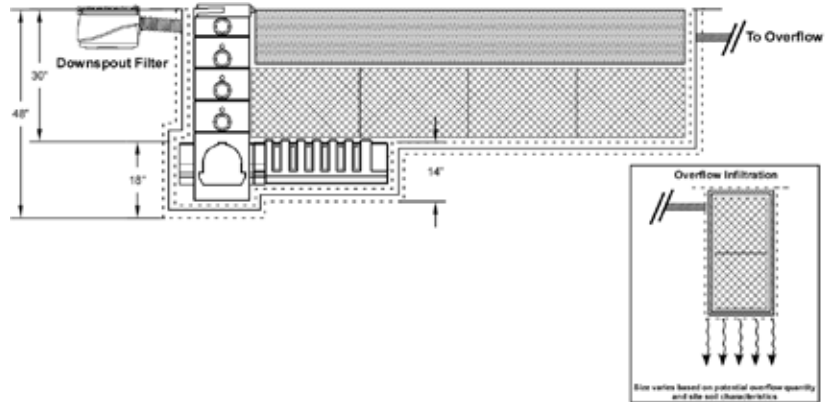
RainXchange® Water Storage Kits

The following diagrams include the storage basin dimensions, AquaBlox® configuration and location of the Snorkel™ and Centipede™ Filters. **Note: Overflow location and design are dependent on the site characteristics.** See install overflow RainXchange® section of instructions for more information. Basin sizes listed for each storage kits are approximations. It is recommended to lay out AquaBlox® and position of Snorkel™ prior to excavation in order to determine actual excavation dimensions. Please note an additional 6" is recommended per side for free-draining backfill.

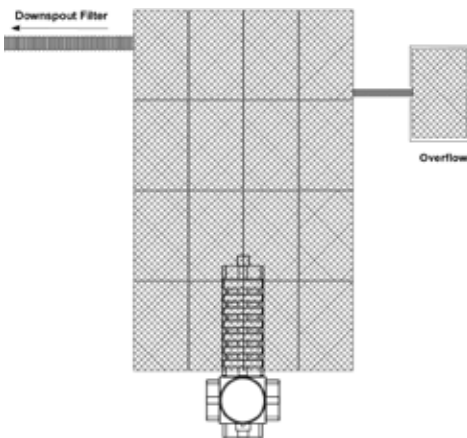
500 Gallon System, 6'x9'x4' Finished Basin,
16 AquaBlox®, 4x4 configuration



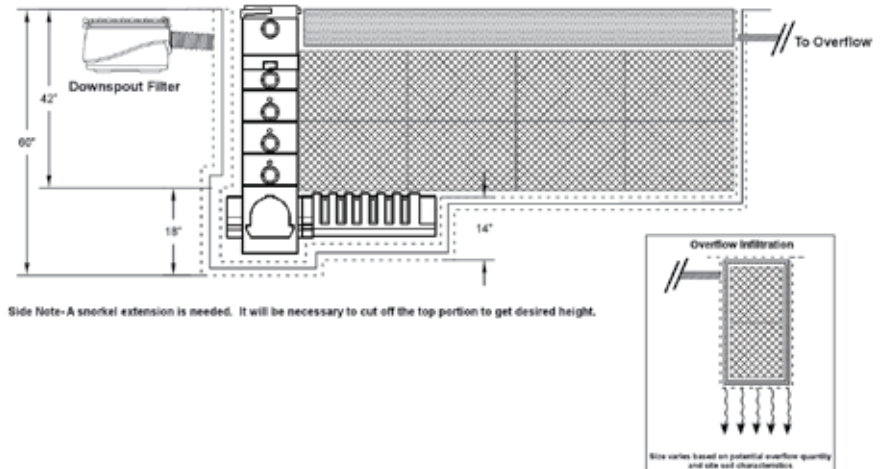
Side View of 500 Gallon System, 4' Deep



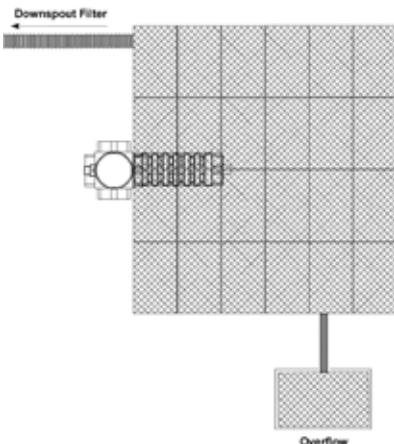
1000 Gallon System, 6'x9'x5' Finished Basin,
32 AquaBlox®, 4x4 Configuration, 2 Layers



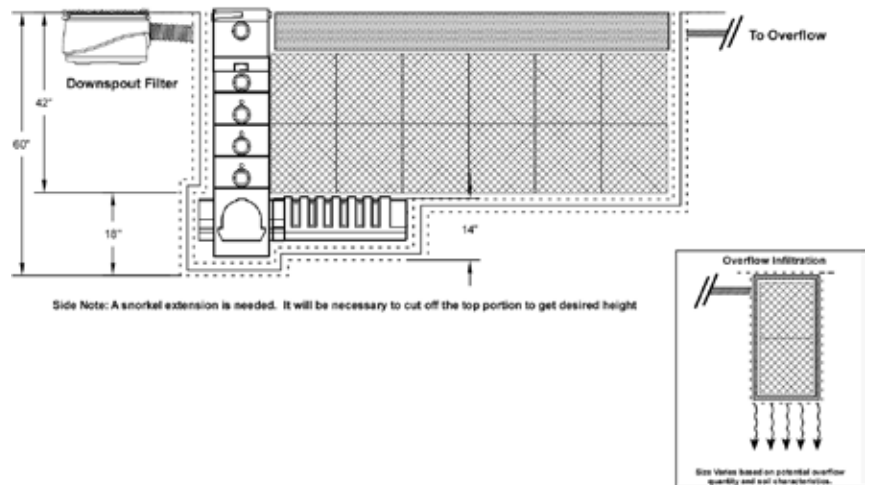
Side View of 1000 Gallon System, 5' Deep



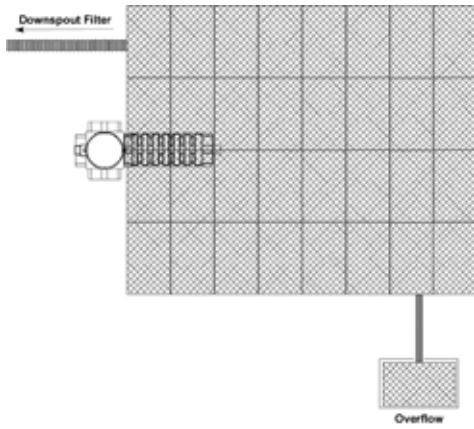
1500 Gallon System, 8'x9'x5' Finished Basin,
48 AquaBlox®, 4x6 Configuration, 2 Layers



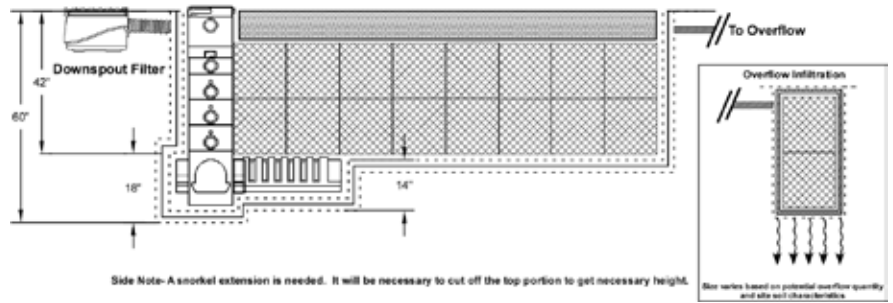
Side View of 1500 Gallon System



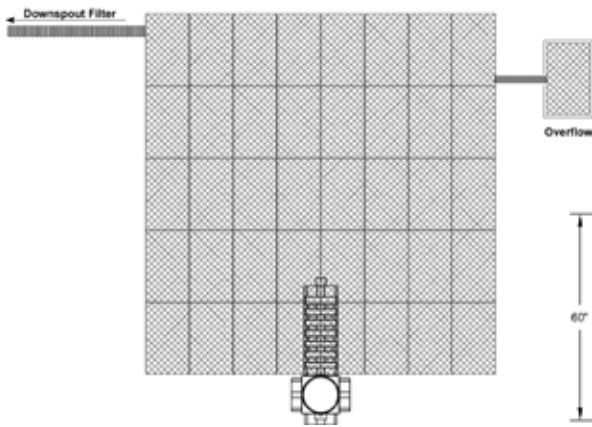
2000 Gallon System. 11'x9'x5' Finished Basin,
64 AquaBlox®, 4x8 Configuration, 2 Layers



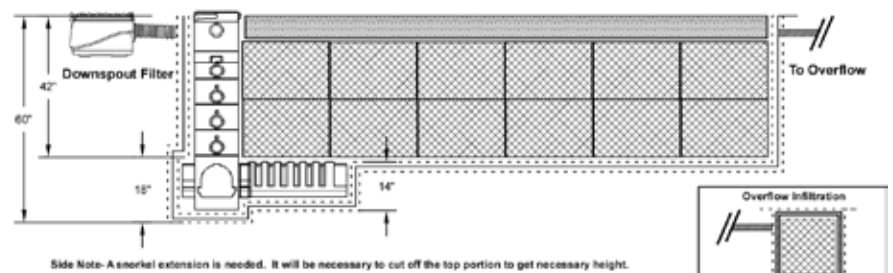
Side View of 2000 Gallon System, 5' Deep



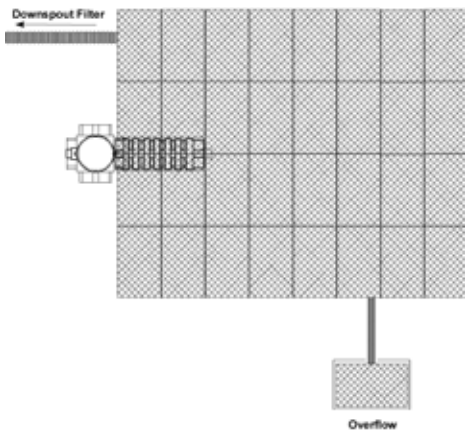
2500 Gallon System. 11'x12'x5' Finished Basin,
80 AquaBlox®, 5x8 Configuration, 2 Layers



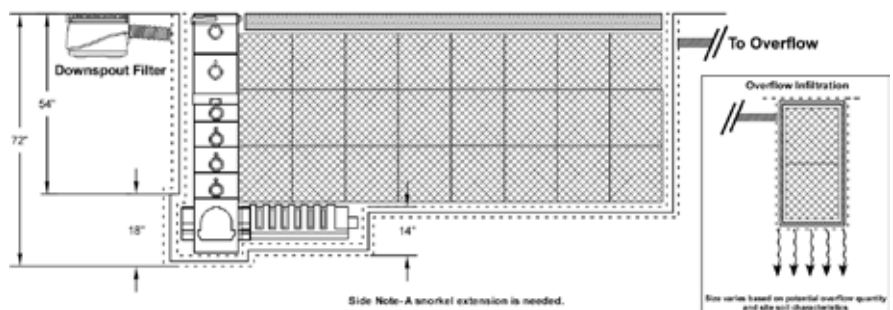
Side View of 2500 Gallon System, 5' Deep



3000 Gallon System. 11'x9'x6' Finished Basin,
96 AquaBlox®, 4x8 Configuration, 3 Layers

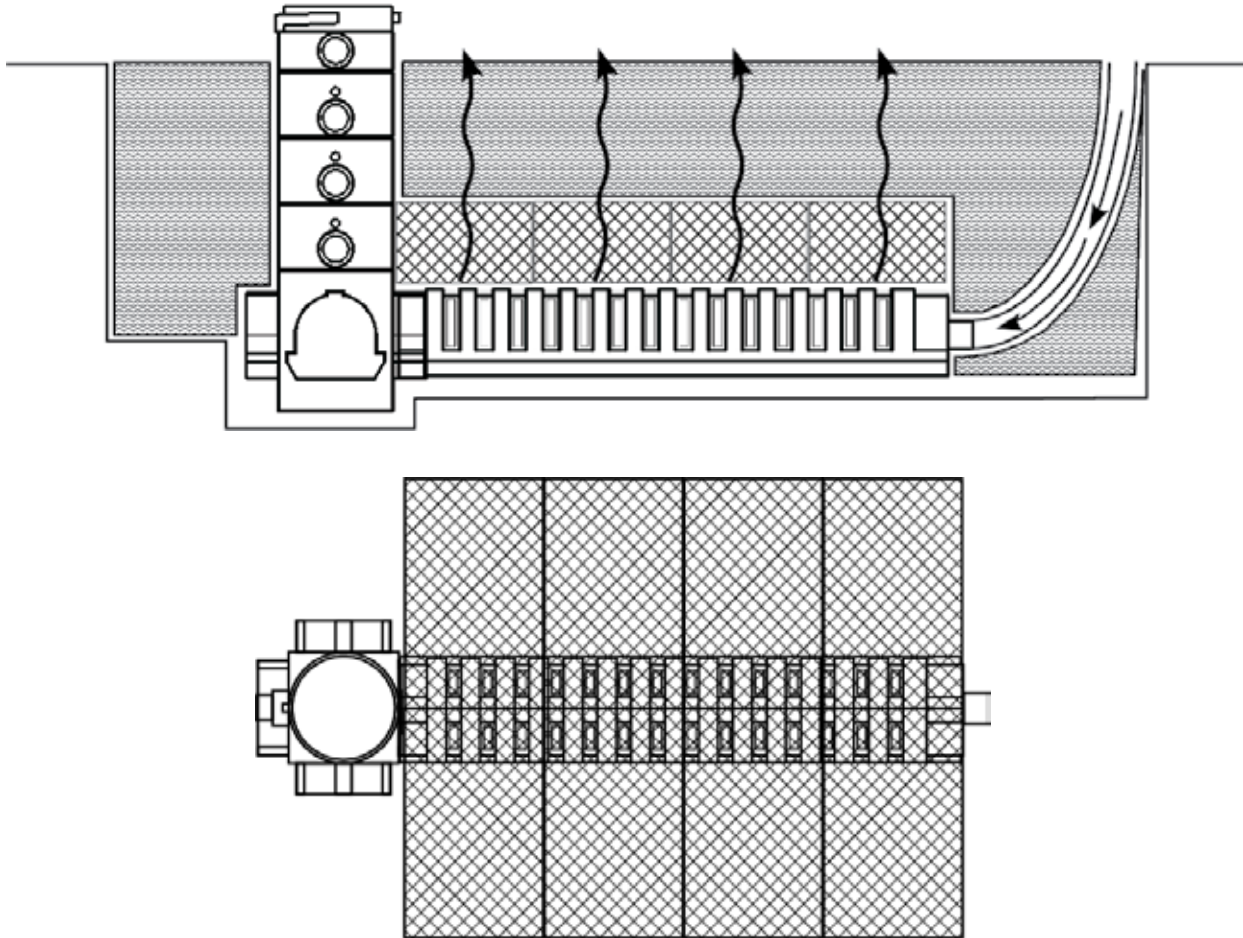


Side View of 3000 Gallon System, 6' Deep



Constructed Wetland application using:

- Large Snorkel™ Vault and Centipede™ Filter
- Small AquaBlox® - single layer along the bottom of wetland to promote good water circulation throughout the filter and maximize the sediment storage and clean out efficiency.



Pump Wet Well application using:

- Large Snorkel™ Vault and Centipede™ Filter
- Small AquaBlox® - single layer along the top of the centipede to provide good water inflow for the pumps

