



Pond-Less Falls Elite Spillway, Pump Canyon & Matrix Installation Guide

For use with

Elite Spillway: #PB2866, #PB16ES

Pump Canyons: #PB1366, #PB1168, #PB1175

Matrix Boxes: #WMSM17, #WMLG34



Blue Thumb

THE BLUE THUMB POND-LESS SYSTEM

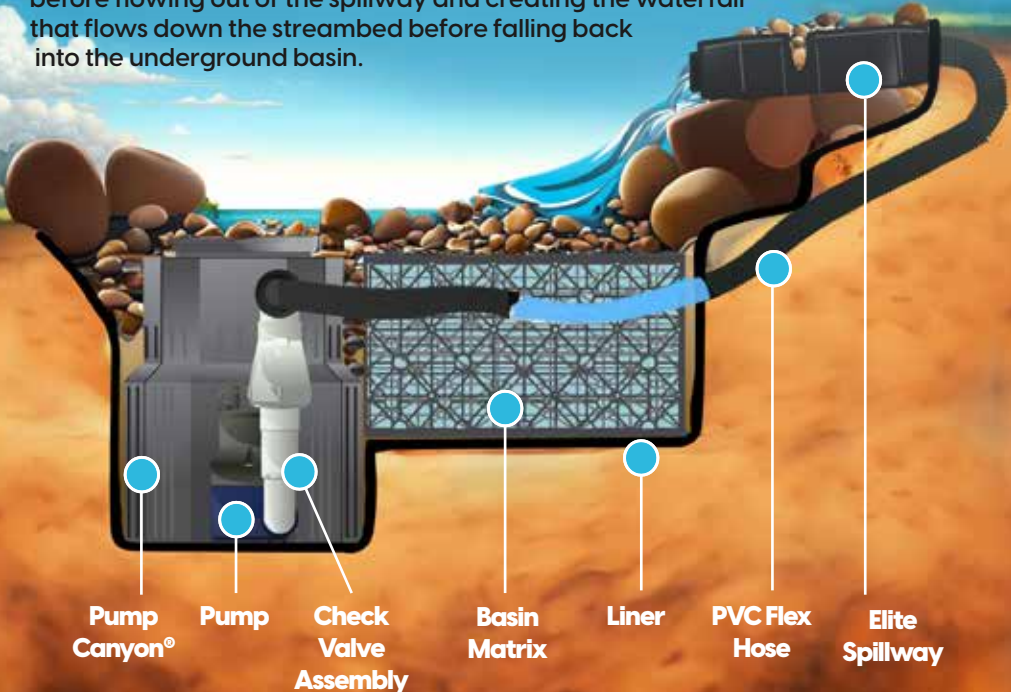
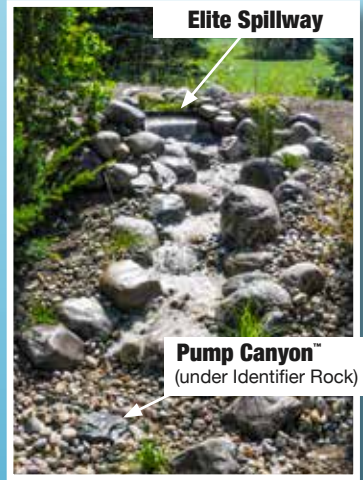
A Pond-Less Cascading Waterfall is a type of waterfall that functions similar to a pond waterfall, except that the "pond" is created underground in a closed reservoir system. Water is pumped through the **Elite Spillway** creating a waterfall that spills over rockwork and then disappears through a rock bed back into the underground basin.

Creating a Blue Thumb Basin

We recommend completing the reservoir/basin before adding the Elite Spillway to the top of the stream. A hole is dug to the size, depth, and orientation of the Pump Canyon and Basin Matrix boxes. The hole is then lined with a flexible Liner to hold the water. The Pump Canyon and matrix boxes are added to keep space open for the reservoir water. After it is formed to the basin and the stream, the liner will be secured to the Elite Spillway at the top of the stream. Rockwork and plants will disguise the system so it looks natural.

How it Works

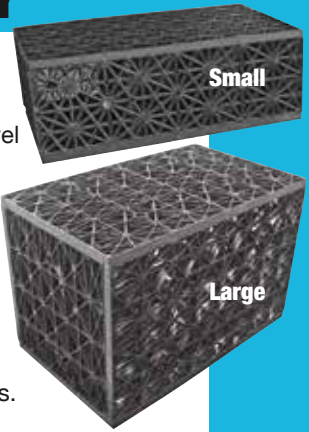
When the waterfall is turned on, water is circulated from beneath rocks and gravel by a submerged Pump located inside the protective Pump Canyon on the basin bottom. The water is pumped up through a PVC Flex Hose, around the Basin Matrix boxes, and up to the Elite Spillway. The water passes through the Elite Spillway, where it is filtered before flowing out of the spillway and creating the waterfall that flows down the streambed before falling back into the underground basin.



WATER MATRIX BOX ASSEMBLY

Included with Matrix Boxes

- **8 Matrix Panels** designed to replace up to 90% of the gravel stone traditionally used in the reservoir of Cascading Falls applications with over 3 times more water storage capacity than the gravel.
- **Small** - 26.5"L x 16"W x 9.5"H; Water Volume 17 Gallons; 2 large top/bottom panels, 2 short side panels, and 4 small end/center support panels
- **Large** - 26.5"L x 16"W x 17.5"H; Water Volume 32 Gallons; 4 large top/bottom/side panels and 4 small end/center panels.



Matrix Box assembly is quick and easy.

Simply pop the pieces together and you've created a sturdy basin and a lot of water volume for your waterfall and stream.

This kit shows assembly of a large matrix box.

STEP 1

Start with a long panel as a base. Lay one large side panel flat on a solid surface. The ground works well because it will allow you to utilize a greater downward force when performing the following steps.



STEP 2

Add short panels. There are seven(7) rows of holes for setting the support panels. Push the four(4) end/center panels into place utilizing the two(2) end positions and the two(2) rows located on either side of the center position.



STEP 3

Secure with matching base panel. Place the second large side panel on top of the four(4) support panels. Start at one end and work one complete row at a time into place making sure to keep everything aligned.



STEP 4

Finish with side panels. Finally, press the two(2) small side panels into place in the same way by starting at one end and working your way across one row at a time.



ELITE SPILLWAY BOX INSTALL



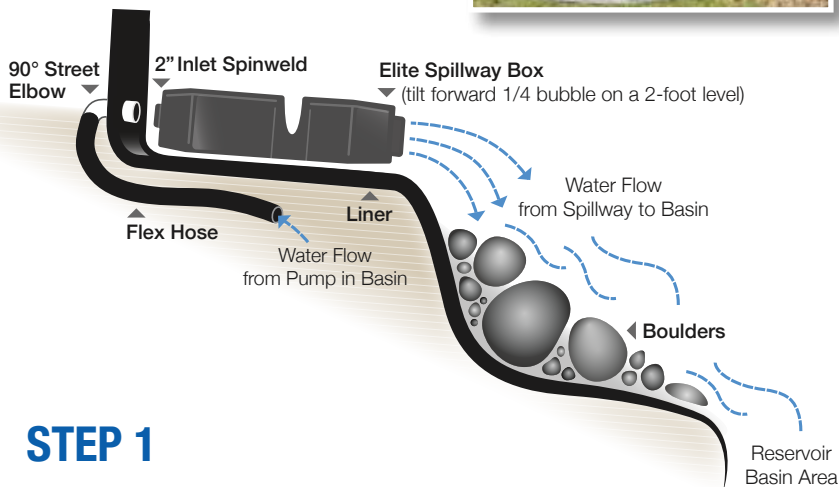
Included with Elite Spillway Series Spillway Widths: 16" & 28"

- One Factory-Installed 2" Spinweld Inlet
- One 2" 90° Street Elbow
- Internal Baffles for even Waterflow Distribution
- Strong, Durable Construction
- Compact and Easy to Hide
- Lifetime Manufacturer Warranty

Waterfall Build Prep

Build waterfall and stream bed providing enough liner at the top of the waterfall to wrap over the top of the Elite Spillway. The water hose will extend from the pump in the basin up to the Elite Spillway passing through the liner into the spinweld at the back of the Elite Spillway Box.

(Refer to Elite Spillway Falls Pond-Less Kit instruction manual.)



STEP 1

Place Elite Spillway and Level

Set the Waterfall Spillway into desired location. Adjust the height of the Waterfall Spillway to match the starting point of the waterfall. A bed of gravel can be placed on top of the liner, beneath the Waterfall Spillway to raise the height of the spillway to the desired level.

The gravel will also provide a suitable base for leveling the Waterfall Spillway. The Waterfall Spillway should be level from side to side and tilt forward a 1/4 bubble on a 2 foot level.

STEP 2

Mark Location of Spinweld Inlet

Fold liner over top of Waterfall Spillway. It is recommended to provide some slack in the liner in case the position of the Waterfall Spillway needs minor adjustment during installation.

Using a screw driver or awl, puncture a small hole in the liner through the center of the Waterfall Spillway fitting. This will be your reference point for the location of the liner connection.



STEP 3

Cut 1" Hole in Liner

Unfold the liner back off the Waterfall Spillway. Use a pen, marker, or sharp tool, such as an awl or screwdriver to draw a 1" circle around the puncture point. Using a knife, cut out the 1" circle. Insert the threaded end of the 2-inch 90° elbow through the hole in the liner.



STEP 4

Thread into Spinweld

Take the 2-inch 90° elbow and thread into the back of the Waterfall Spillway until tight. Use Teflon tape on the threads of the fitting, in order to provide a water tight seal. If desired, use silicone sealant (not included) around the fitting further seal the liner.



Finish

The joints around the face of the Waterfall Spillway and surrounding waterfall stones can now be filled with Black Waterfall Foam.

Product Suggestion Use Pond Build'n Foam to fill in the gaps of the rockwork leading up to the waterfall box. The foam will force the water on top of the rockwork rather than around and behind it where it can't be seen. This will give you a much more dramatic waterfall display! Item #PB1380



ELITE SPILLWAY BASIN INSTALL



Included with Pump Canyon®

One-piece molded vault with detachable lid for easy pump access, hose connection hole, and a spinweld for installation of optional autofill (Item #PB1342).

- **Mini** - 12.25" x 14" X 16"H; Flow rate 2,500 gph
- **Small** - 15.5" x 18" X 22.5"H; Flow rate 7,500 gph
- **Large** - 24" x 27.75" X 31.5"H; Flow rate 20,000 gph

STEP 1

Choose Pump Canyon Location

The **Pump Canyon** should be located at the bottom of a streambed where a waterfall or stream ends. This will be the ending point for your stream/waterfall and is where your pump will be located for recirculation of the water. Your Pump Canyon should be used within a basin area along with another water storage system, like Water Matrix Boxes.

STEP 2

Excavation of Basin Area

2a Excavate your basin area to the necessary size based on the length & width of the stream/waterfall you will be creating.

2b The depth of the basin will be determined by the size of Pump Canyon you are installing. The Mini Pump Canyon requires a depth of 19". The Small Pump Canyon requires a depth of 25". The Large Pump Canyon requires a depth of 34".

STEP 3

Underlayment & Rubber Liner

3a Once you've completed the excavation you can lay the protective Underliner in the basin. Spread the Underliner evenly.

3b Next, lay Rubber Liner in the basin on top of the protective Underliner.

3c After the Underliner and Liner are installed you can add another layer of Underliner on top of the Liner for additional puncture resistance.



Using Pump Canyon & Assembled Water Matrix Boxes

STEP 4

Position Pump Canyon

Position the Pump Canyon within the basin in the desired position. It is recommended that you position the Pump Canyon so that it can be easily accessed for future maintenance of your pump.



STEP 5

Fill Basin Area With Matrix Boxes

Fill the basin area around the Pump Canyon with Water Matrix Boxes. These will allow you to maximize the volume of water kept in the basin and help to support the weight of the rockwork above.



STEP 6

Add a Submersible Pump (not included)

The Mini Pump Canyon® can handle pumps with volumes up to 2,500gph (gallons per hour).

The Small Pump Canyon® can handle pumps with volumes up to 7,500gph.

The Large Pump Canyon® can handle pumps with volumes up to 20,000gph.

6a Place appropriately sized pump into the Pump Canyon®

6b Connect Flex Hose to the Pump and run the hose up to the Cascade Box. (See *kit Instructions*.)



STEP 7

Finish off the tops of the matrix boxes with decorative gravel large enough that it won't fall through the openings of the matrix box.



STEP 8

Mark Canyon Location

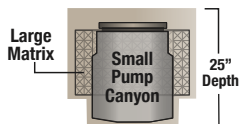
Place a flat rock over the lid of the Pump Canyon as an identifier so you can easily find where it is located for maintenance.



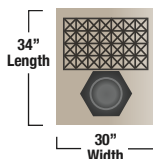
Basin Layout Recommendations

Elite Small Spillway Falls Kit #PB16KIT

16" Elite Spillway, Small Pump Canyon®
Matrix Boxes: 1 Large



Side View
of Basin Area



Top View
of Basin Area

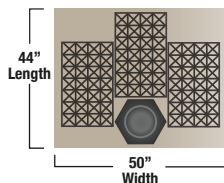


Elite Medium Spillway Falls Kit #PB28KIT

28" Elite Spillway, Small Pump Canyon®
Matrix Boxes: 3 Large



Side View of Basin Area



Top View of Basin Area

Recommended Routine Water Treatments

Water treatment use depends on product, time of season, and condition of the water feature. Use as directed. Safe for wildlife, birds, and pets.



Muck Buster® Dissolving Tablets - Muck Reducer

Accelerates the decomposition of organic matter caused by rotting leaves and algae. Muck Buster's multi-purpose cleaning action cleans ponds with an unprecedented combination of activated barley, natural bacteria, enzymes, and a powerful secret ingredient. Item# PB2682

Pond Fix® Dry - Pond Cleaner

Use to simply "lift" debris from waterfalls, streams, rocks and anywhere debris occurs. This granular product works on contact, adding oxygen to the pond and removing odor.

Apply on a schedule opposite of Muck Buster, so it won't interfere with its beneficial bacteria maintenance processes.

Item# PB2057

