



## “Just-A-Falls” Waterfall Kit Installation Instructions

**“Just-A-Falls” kits include everything you need to build a beautiful waterfall including:**

- |                        |                         |
|------------------------|-------------------------|
| 1. 45 mil rubber liner | 5. Check valve assembly |
| 2. Felt underlayment   | 6. Waterfall Spillway   |
| 3. EasyPro pond vault  | 7. Flexible PVC pipe    |
| 4. Submersible pump    | 8. Installation kit     |

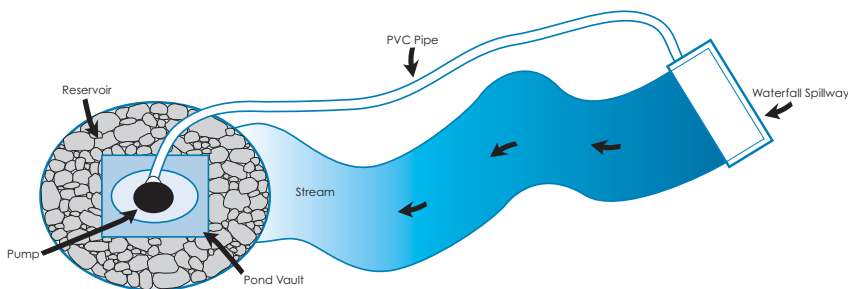
“Just-A-Falls” kits are easy to install. Unlike a pond where plant ledges and shape are a concern, a “Just-A-Falls” pond area is simply a large hole in the ground which, after the underlayment and liner are installed, gets filled with rock. Use larger rock (6" - 12") to fill area within 6" - 8" of top, then use small stone (1" - 2") to fill the remainder. The small rocks keep sticks, leaves and other debris from getting down into the large rock area.



*Photo courtesy of Splashy Designs, Novi, MI*

### Excavating the Reservoir & Stream ...

The first step in building your “Just-A-Falls” kit is to determine the shape and layout of the reservoir and stream. Often times spray paint is used to mark the outline of the area once the final shape is chosen. Digging the hole for



the reservoir is much easier than digging a pond since you are not concerned with the shape or creating ledges around the perimeter. The reservoir hole can be dug straight off on all sides. The dirt from the reservoir can be used to build up a berm

around the top of the waterfall if needed. If the waterfall area is already elevated (on a hillside) the dirt will not be needed and can be discarded.

The surface size of the reservoir is determined by what size and length the waterfall/stream is going to be. A long stream will require a larger reservoir since more water will be needed to fill the stream. The depth of the hole is determined by which of the pond vaults you are using. Excavate the hole to the following depths: JAFM mini pond vault — excavate hole 24" deep; JAFV





large pond vault — excavate hole 36" deep.

The vaults are a couple inches shorter than the depth shown above to allow for 1-2" of stone over the covers of the vaults to conceal them from view.

The stream and waterfall area is sculpted next. Be sure your stream has some character to it! Streams that twist and turn and get wider in some areas and narrower in others are much more realistic than simple straight streams. If you are planning on using some large rocks in the stream to add dimension you may want to dig out under where these large rocks will go so they nest into the ground. This will keep them from moving and also will make them look more natural. The waterfall spillway box will sit inside the liner at the beginning of the stream. Be sure the area where the box will sit is compacted and level!

*Sculpt dirt in stream area before installing liner*

Once you have sculpted the reservoir, stream and waterfall area carefully check for any rocks, roots or sharp objects in the soil. After ensuring the area is free from objects you can install the underlayment thru the reservoir and stream area. After installing the underlayment you can install the liner as well. Do not be concerned with a few wrinkles in the liner since the whole area will be filled in with rock and covered. Be sure to pull any extra liner towards the waterfall area.



*The liner covers the stream bed and goes thru the area where the spillway will set.*

## Installing Waterfall Spillway ...



If the waterfall spillway in your kit is 50" wide or less it will come assembled. Spillways over 50" will need to be assembled on site due to shipping and handling concerns. Follow the directions included with the spillway if assembly is needed.

Before installing spillway, double check that the soil under the spillway is compacted and level from side to side (this ensures an even flow of water over the lip). Lay the liner from the stream over the soil where the spillway will sit.



*Photo shows bulkhead fitting and plug installed in the end of the spillway.*



*Hold bulkhead to spillway and cut hole in liner just smaller than bulkhead.*

Remove the channel grating from the top of the spillway. There are openings on both ends of the spillway for water to enter. You will need to decide which end is more convenient for your application. First you need to plug the opening you will not be using. Install the bulkhead fitting with the body and the rubber gasket on the inside of the tub. Tighten the plastic washer and the nut from the outside. Install pvc plug on the inside of the tub and tighten. If you are using a large spillway often times water will come in from both ends in which case you would not use the plug but rather install a pvc male adapter on the outside of the bulkhead.



*Stretch liner over bulkhead then tighten washer and nut onto bulkhead*





*Bulkhead is thru liner, washer and nut are tightened and PVC adapter is installed.*

On the incoming side you will need to hold the liner up to the end of the tub and mark where the bulkhead hole is. Cut a hole in the liner slightly smaller than the opening. Set the spillway tub in place and push the body of the bulkhead thru from the inside (be sure rubber gasket is in place inside the tub). Stretch the liner over the bulkhead and then install the washer and the nut. Tighten the nut snugly but do not overtighten. This will create a waterproof seal thru the liner.



*The liner goes under the spillway and wraps up the back and ends.*

Apply a small amount of silicone to the threads of the pvc male adapter and install the fitting into the outside of the bulkhead.

The above instructions provide you with a water tight penetration through the liner. There is also a way to connect the water pipe to the spillway without penetrating the



liner. To do this you would install the bulkhead in the spillway and turn the male adapter into the bulkhead. Next install 90° elbow onto the male adapter. Glue your flex PVC pipe into the elbow. The liner then wraps up around the pipe and elbow up against the spillway box. The flexible PVC pipe then runs down the stream on the inside of the liner back to the pond. The hose will be hidden by the rocks used in the stream bed. Keep the hose tight along the edge of the stream where larger rocks are used, not in the middle where small gravel is used.

After completing the plumbing you can secure the liner around the spillway by back filling with dirt around the back and ends of the tub. The liner simply goes up the sides and back of the tub. When you backfill with dirt the liner will be held tight up against the tub. Stones can be set on the channel grating in the tub. This will help hide the tub from view and make your waterfall natural looking.

## Installing Vault ...



After the liner and underlayment have been installed you can install the vault. The slots in the sidewalls will allow the water into the vault where the pump is located.

Place the vault in the reservoir with the outlet hole facing towards the waterfall. Use 6" - 12" rock to fill the reservoir around the vault to within 3" - 4" of the top of the vault. Run your flexible PVC



pipe into the discharge hole before filling with rock.

**If your pump requirement is over the maximum capacity of the vault, an optional 36" intake pipe is available for increased flow. Simply cut the recessed plug on either end of the vault out. Slide one end of the 36" pipe into the opening on the vault, cap the other end of the vault with the cap (supplied). This will allow additional water into the vault. Intake pipes can be hooked to each other for extra large requirements.**

Install check valve assembly into discharge of pump — be careful not to over tighten! Place pump in vault. Glue PVC pipe into outlet of check valve assembly. Your vault is now installed, you can place lid on vault and fill in remaining space with 1" - 2" stone.



## Building the Waterfall/Stream ...



You should have the general shape of your stream already determined from the shaping and sculpting done before placing the liner. Be sure to make the stream twist and turn as well as widen and narrow in spots. This will make a much more natural looking water feature than one that is straight and consistent width throughout.

Once large rocks are placed and any foam work is done, sprinkle 1" - 2" stone over stream rocks to fill in voids and cracks.

There are many different types of rock that can be used in streams. Be sure to use a mixture of sizes throughout your stream. Once you have placed all the large rocks, you can use black expanding foam to fill in any voids between the

rocks. This will keep the water from going under or in between the rocks and make it go over the rocks so you can see it! You do not need to foam every rock in the stream, but rather every 4' - 5' in the stream do a section. Also any areas where the water makes a vertical drop should be foamed.

## Finishing Up ...

Your "Just-A-Falls" is now complete and landscaping around the feature can be done as desired. With a little creativity in rock work and plantings, you can completely hide spillway.

You can install an optional auto fill valve in the vault to automatically replace water lost to evaporation or small leaks. The auto fill can be installed in the flat spot in the side wall of the vault and connected to a garden hose or underground sprinkling system.

Since your "Just-A-Falls" is a water feature and not an ecosystem like a pond (with fish and plants) maintenance is easy. You can treat it like a swimming pool and treat the water that way or you can use any water garden product like Algaefix or GreenClean. Also, unlike ponds where the pumps typically run 24 hours a day, your Just-A-Falls can be shut off at night for electrical savings.



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