UltraPond™

Installation & Maintenance Instructions

- **Step by Step Installation Instructions for the UltraFalls™ and UltraSkim™**

UltraSkim™

UltraFalls™ Filter

Made in U.S.A. for:
Aquascape, Inc.
St. Charles, IL 60174 • Brampton, ON, L6T 5V7
www.aquascapeinc.com

UltraPond™

Featuring the UltraFalls™ & UltraSkim™

Installation & Maintenance Instructions

Congratulations on the purchase of the UltraSkim™ and UltraFalls™ pond filtration system.

As all good systems do, the UltraFalls™ and UltraSkim™ work in harmony with Mother Nature, and never against her.

This means that 'low maintenance' will characterize your water gardening experience because Mother Nature will be doing 98% of the maintenance work for you. And it's low maintenance that's at the very heart of the relaxed water gardening lifestyle, which is specifically designed to counteract the stress filled, high-tech world in which most of us live today.

Follow the step-by-step instructions in the order they are listed. Skipping steps or changing the order will create extra work in the long run. We want to make this experience as easy as possible, allowing you to concentrate on the creativity needed to design your pond and waterfalls. In other words ... Stick to the plan and your water garden project will turn out to be a beautiful addition to your landscape!

UltraSkim™

UltraFalls™ Filter

STEP 1

Locate & Mark Out Your Pond Area

- We suggest that you use a plain, old garden hose to define the shape of your new pond. The hose is flexible, and can be pushed and pulled in various shapes. Step back, evaluate and modify your design until you have something that you really like.
- Double check to make sure the length and width of your layout does not exceed the amount of liner required for the pond.

Note: The UltraPond™ sizes are based on a 2 foot depth.

- Be sure to locate your new pond close to a patio, deck, porch, or other hardscape, so you can sit and relax close to your pond. Also, keep in mind viewpoints of the pond and waterfalls from inside. Try to make it visible from the kitchen, family room, or bedroom for year-round enjoyment. **(See fig. 1)**
- Once you have the pond shaped and defined with your hose, take a can of brightly-colored, highly-visible spray paint and outline the shape (inside the hose) on the grass.

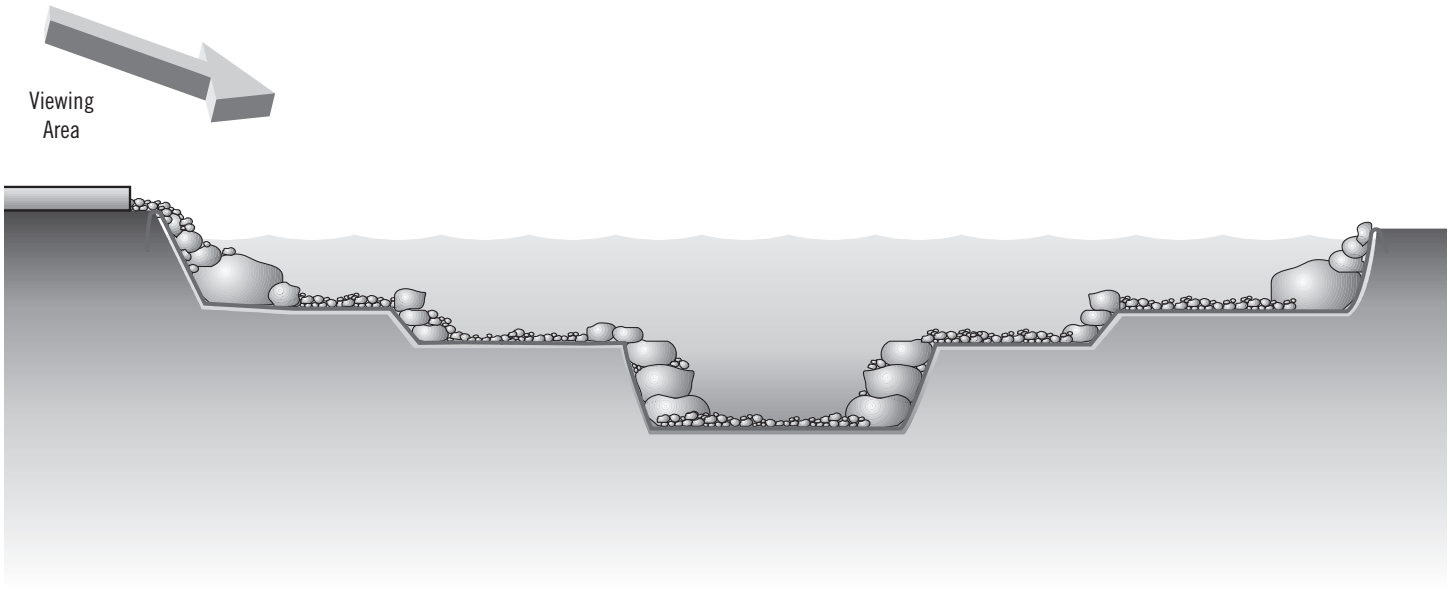

Fig. 1 Try to make your pond visible for year-round enjoyment.

STEP 2

Place UltraFalls™ & UltraSkim™ into position

- Since the UltraFalls™ filter is typically the main waterfall, it should be positioned so it's facing the main viewing areas.
- Make sure it is placed close to the edge of the pond so you can use the pond liner to connect up to the UltraFalls™ filter - unless you're adding a stream. Adding a stream will require the UltraFalls™ to be set further away from the pond and will require an extra section of stream liner.
- In order to maximize circulation, the UltraFalls™ and UltraSkim™ are ideally placed on opposite ends of the pond, directly across from each other. **(See fig. 2)**

STEP 3

Lay plumbing

- To eliminate the need for trenching, lay the pipe in place around the perimeter of the pond. This should be completed before you begin your excavation, so the soil you remove from the pond can cover the pipe. **(See fig. 2)**

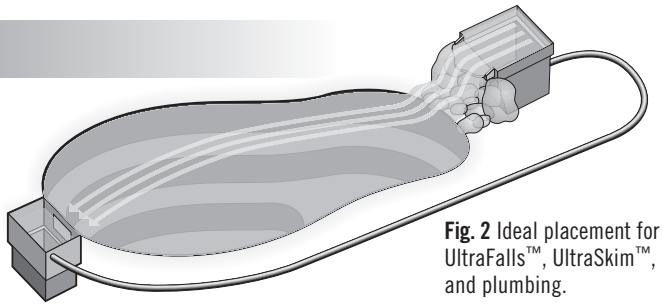

Fig. 2 Ideal placement for UltraFalls™, UltraSkim™, and plumbing.

STEP 4

Hook up and level UtraFalls™

- The first step is to install the bulkhead fitting in the hole provided in the back of the UltraFalls™. The rubber washer should be located on the inside of the UltraFalls™. Tighten the nut on the outside until the rubber washer begins to bulge. This should only be one or two turns past hand-tight. Be careful not to over-tighten the nut, which could possibly crack the bulkhead. Please note that the bulkhead fitting is reverse threaded. So, in other words, turn the nut counter-clockwise to tighten! **(See figs. 3, 4 & 5)**
- Now install the PVC fitting included with your kit into the bulkhead fitting. Use some of the silicone sealant to coat the threads of the fitting, in order to help provide a watertight seal.
- Now it's time to position the UltraFalls™ in the desired location.
- The UltraFalls™ should be set at, or slightly below, the grade of the yard. Simply remove a section of sod, or a few inches of soil, in order to create a firm foundation for the UltraFalls™ to sit. Design tip - Keep the waterfall to the scale of the yard! The goal should be to create the perception that Mother Nature herself has constructed the waterfall. Avoid creating a "volcanic look" by trying to raise the UltraFalls™ in a flat backyard.
- Be sure to compact the area beneath the UltraFalls™ box, using a hand tamper or some other heavy flat object that can be pounded onto the soil.
- Use a 2' bubble level in order to make sure your UltraFalls™ is properly set into position. Your UltraFalls™ should be level from side to side, with a slight tilt forward @1/4 of a bubble on a 2' level **(See fig. 6).** This will make sure the water comes over the front of the UltraFalls and cover the entire spillway.

Attaching Flexible PVC Pipe

- The filter is now ready for the flexible PVC to be glued into place using PVC cement (not included) specified for use with flexible piping.
- Prime the inside of the PVC fitting and the outside of the pipe where the flexible PVC cement will be applied.
- After priming, apply the cement to the fitting and the PVC pipe and fit the two pieces together.
- Hold the pipe into the fitting **(See Fig. 4)** for at least 60 seconds to allow the glue to slightly set.
- Wait 10 - 15 minutes to let the glue completely set before you begin to bury the filter.
- Before you start to backfill around the filter, install the support racks. Otherwise, you may not be able to get it in place.
- We also recommend having someone stand inside the filter to keep it in place and level while it's being backfilled.
- The excavated soil from the pond can be backfilled around the sides and back of the UltraFalls™ filter, creating a berm. Tamp the soil while backfilling in order to reduce settling. Any additional soil can be spread around the far side of the pond in order to create a planting bed for perennials and annuals.
- Double check to make sure the UltraFalls™ filter is still level after installing the plumbing.

Fig. 3 Attach bulkhead fitting.

Fig. 4 Finished bulkhead assembly.

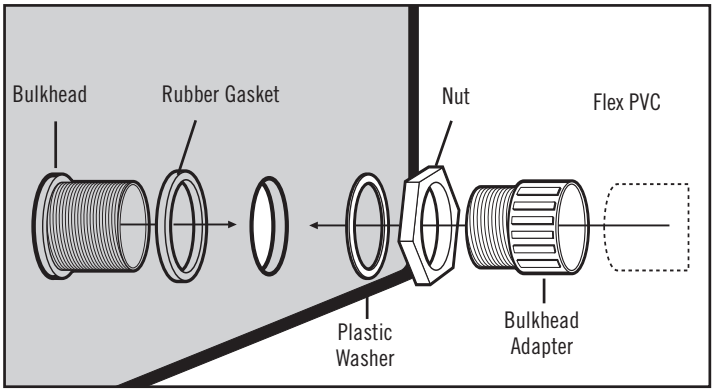

Fig. 5 Bulkhead assembly.

Fig. 6 Level the UltraFalls™ filter side to side as well as front to back.

STEP 5

Excavate your pond

The shape and depth

Digging is very labor intensive, so pace yourself and get some friends and family to help you.

- We suggest excavating the pond no more than 18-24" deep. This depth provides the proper water levels required for aquatic plants and is deep enough to keep fish alive during winter.
- The excavation should be dug with a series of shelves. The shelves will add stability to the walls of the pond and also create planting beds for different types of aquatic plants.
- The first shelf should be about 8-10" down **(See fig. 7)** or the height of a standard shovel blade.
- The second is typically down another 8-10". **(See fig. 8)**
- The third shelf (if desired) will be excavated down another 6" **(See fig. 9)**, reaching a final excavation of 24".
- All of the soil removed from the excavation can be spread and compacted around the Ultra-Falls™, creating a berm. The filter should be completely surrounded by soil at the end of the project. **(See fig. 10)**

Design spaces for plants

- Design your shelves wider in areas where you wish to place aquatic plants. **(See fig. 11)**
- Marginal and bog plants require a water depth up to about 10", so the top shelf is a perfect location for these plants. **(See fig. 11)**
- Water lilies will vary according to species, but a depth of 12-24" at the crown works best, so the second shelf or bottom of the pond will work great for the lilies. **(See fig. 11)**
- To make planting lilies easier, add a few 'lily pockets'. These pockets are simply depressions or bowls cut into the soil 6-8" deep and 10-16" in diameter. The goal is to create a natural looking pond, and this is possible only if plant pots are eliminated or completely hidden.

Leveling the edges

- One of the most important parts of the excavation is getting the perimeter of the pond level and setting the level of the water. An excellent tool for this is a 2x4 set across the pond. Set a 4-foot bubble level on the 2x4 to make sure the perimeter of the pond is level. We recommend using a transit or sight level on larger projects. Check your progress several times while digging.
- It is typical to set the water level 2- 3" below the main viewing area (patio, deck, etc.). This will bring the water level of the pond up close to the edge of the pond without going over the sides. **(See fig. 12)**

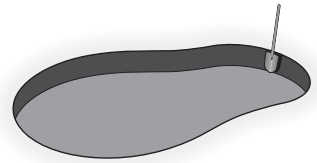

Fig. 7 First, dig entire pond one shovel depth.

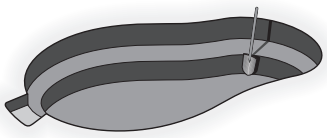

Fig. 8 Dig second shelf one shovel depth and start excavation of skimmer hole.

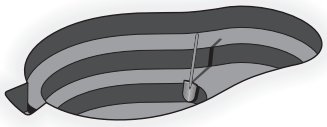

Fig. 9 Dig the pond to its max depth and finish excavation of the skimmer hole.

Fig. 10 Soil backfilled around the UltraFalls™ helps hide the filter and creates a planting berm.

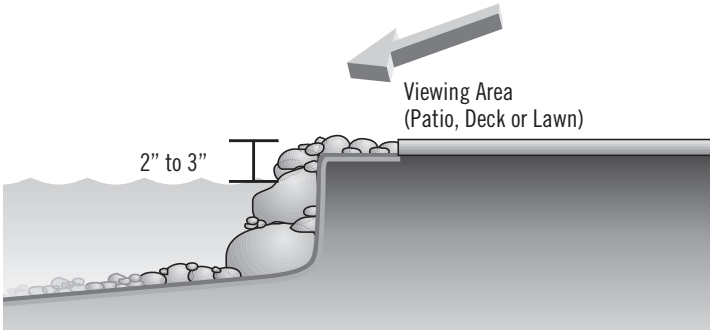

Fig. 12 Set water level 2" - 3" below viewing area.

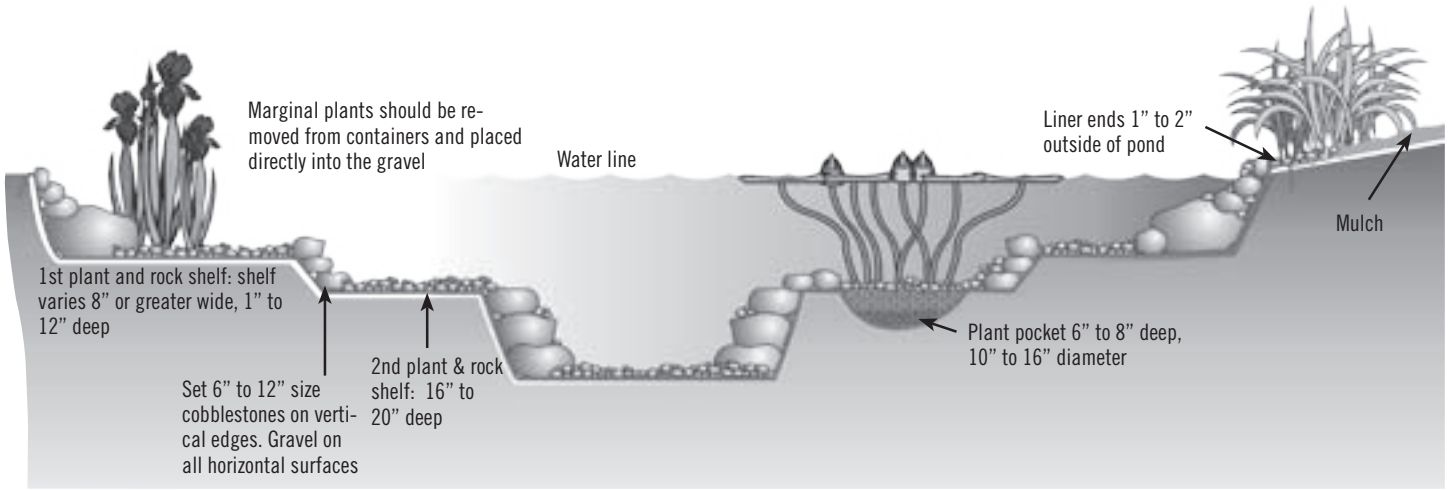

Fig. 11 Pond excavation - side view of plant pockets.

Step 5: Excavate your pond continues from page 5

- Dig a hole along side the pond to house the skimmer filter **(See fig. 9).**
- The skimmer should be excavated down to a depth so that the proposed water level in the pond is approximately 3/4" below the top of the opening of the skimmer. **(See fig. 15)**
- Re-check all your measurements, including length and width of pond, plant shelf depth, and overall pond depth.

STEP 6

Install Underlayment and Liner

- Remove any sharp objects from the excavated hole that may damage the liner.
- Unfold the underlayment fabric and place it into your excavated pond. Starting from the bottom of the pond, remove the slack from the underlayment, making sure it conforms into all of the shelves and plant pockets. Proceed one shelf at a time until you've reached the top shelf **(See fig. 13).**
- Now place the EPDM Fish-Safe liner on top of the underlayment **(See fig. 14)**.
- The liner installation process is the same as the underlayment, starting at the bottom and contouring the liner up and out of the pond.
- Try to get the large folds out, but the main goal is to make sure that it's lying flat and going into all corners. Don't try to get it perfect—you will hide the liner with rocks and gravel later.
- Make sure the liner is high enough around the edges of the pond basin. This should not be a problem if you measured out the pond and excavated it correctly. Problems can be fixed by readjusting the liner into the excavation, backfilling (making the pond basin smaller) in areas where there is not enough liner, or simply buying a larger liner.

Fig. 13 Lay the underlayment and the liner into the excavated pond and conform to the contours and the pockets.

Fig. 14 Place the liner on top of the underlayment, following the same installation procedures. Make sure liner is positioned in such a way that allows it to extend, and completely cover, the opening on the UltraFalls™.

STEP 7

Installing the UltraSkim™

Set up and level the skimmer

- You've already roughed out a hole during the excavation phase. Use a 2' bubble level in order to make sure your UltraSkim™ is properly set into position. Your UltraSkim™ should be level from side to side and front to back.
- Make sure the skimmer is set so the desired water level in the pond is approximately 3/4" below top of skimmer opening. **(See fig. 15)**

Attaching the UltraSkim™ Faceplate

- Position the liner against the UltraSkim™ opening, making sure there is slack below the opening. This will help reduce tension on the faceplate when placing boulders in front of the unit.
- Mark the outer perimeter of the UltraSkim™ opening on the liner, then mark a second box 1.5" inside of it. This insures that you don't cut too much of the liner, which would result in a possible leak. **(See fig. 16)**
- Cut the inner box using a pair of scissors, and insert the skimmer faceplate into the hole. **(See fig. 17)**
- Temporarily install the faceplate and liner to the skimmer using two screws in the upper corners. Using an awl or nail, poke the first hole in the liner all the way through to the inside of the filter box. **Be careful not to damage the threads on the nut inserts when punching the holes with the awl!** Remove the awl or nail while holding the faceplate and liner in place and begin thread-

ing one of the screws into the filter. Repeat this process for the other screw. **(See fig. 18)**

- Now remove the faceplate from the skimmer, keeping the screws installed through the faceplate and liner.
- Apply a bead of fish-safe silicone sealant around the skimmer opening, over the nut inserts. Pre-installing the two screws in the earlier steps will make it easy to line up the skimmer face plate after the silicone is applied and will keep the silicone in as thick of a bead as possible. **(See fig. 19)**
- Replace the skimmer faceplate and the two corner screws, and then proceed with the bottom two corners **(See fig. 20)**. Make sure the holes in the faceplate that the weir flap clicks into are on the bottom.
- With the 4 corners secured, you may now punch the remaining 8 holes with your awl and thread in all the screws. Again, be careful not to damage the threads on the nut inserts.
- Let dry for at least one hour before introducing water!

Note: Power tools are not recommended for installing the screws and may strip the nut inserts.

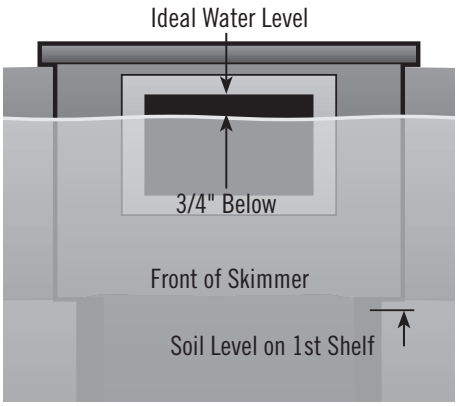

Fig. 15 Cross section of ideal water level viewed from front of skimmer.

Fig. 16 Mark the skimmer opening on the liner and cut an area 1.5" inside that mark.

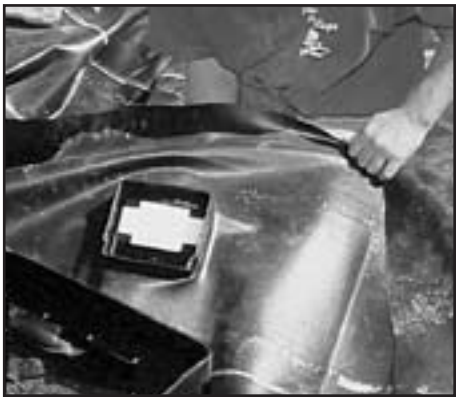

Fig. 17 Place skimmer faceplate through liner and place into skimmer for alignment.

Fig. 18 Using an awl, poke holes through the liner at screw holes; temporarily screw top corners into place.

Fig. 19 After alignment, remove faceplate and apply silicone sealant.

Fig. 20 Carefully replace the skimmer faceplate into the silicone-lined opening.

STEP 8

Add rock and gravel to your pond

Rocking in the Pond

- Start from the bottom and set the largest character boulders first against the vertical walls, then stack the smaller boulders on top. **(See fig. 21)**
- Be careful when placing any large boulders so you don't damage the liner.
- The opening on the front of the UltraSkim™ can be hidden by placing boulders on either side and bridging a stone across, creating a cave effect.

Note: *Make sure the boulders do not block the waterflow into the skimmer.*

- Cover all remaining flat surfaces with a couple inches of decorative gravel. This will help lock the boulders in place, as well as cover the remaining liner, protecting it

Fig. 21 Starting at the bottom, set the largest character boulders first, then fill in with the smaller ones.

Step 8: Add rock and gravel continues from page 7

from ultraviolet rays, and giving bacteria a place to colonize, not to mention it just looks better.

- This is also a good time to add lilies to the plant pockets. Remove the lily from the pot and place it into the lily pocket. Top-dress the lily with a layer of gravel to hold the soil into place. Lilies, if not on hand at this time, can be added after the pond is filled. **(See fig. 22)**

Installing underwater lights

- If you have purchased any optional underwater lights, now is the time to put them in. **(See fig. 23)**
- After boulders are in position, set your under water lights in between your boulders so they are hidden from view. For the greatest effect, underwater lights should face away from the main viewing area.
- Light cable can be buried out of sight, beneath the gravel and boulders.
- Leave a 2 - 3' coil of extra cable behind each light, allowing you to change bulbs without having to drain the entire pond.

Fig. 22 Loose gravel should be placed around the lily to keep the soil from being stirred up in the pond after the water is added.

Fig. 23 Set underwater lights between boulders so they are hidden from view.

STEP 9

Wash rocks and gravel

- Wash the rock/gravel down in order to remove the dirt and debris. **(See fig. 24)**
- Pump the dirty water from the pond using the pump for the pond and a scrap section of pipe. This will help the pond clear as quickly as possible.

Fig. 24 Wash down rocks with a garden hose. Be sure to pump out the dirty water!

STEP 10

Hook Up The Plumbing

- Connect the 2" check valve assembly (not included) to the pump and glue all fittings before lowering it into the skimmer. The 2" check valve assembly includes a rubber coupling that will allow you to remove your pump if needed.
- The UltraSkim™ has two holes on either side of the unit for the plumbing to travel to the UltraFalls™. Choose the plumbing hole that is most convenient. The pipe simply passes through the opening on either side of the UltraSkim™. **(See fig. 25)**
- The hole located in the back of the UltraSkim™ is for the overflow. The overflow will help maintain the maximum water level in the pond after rainfall, ensuring that your skimmer works properly and water does not travel over the edges of the liner, causing problems with hydrostatic pressure.
- Install the bulkhead fitting into the overflow hole. Refer, if needed, back to the steps under Hook up & Level UltraFalls™ section, for details on installing the bulkhead fitting.

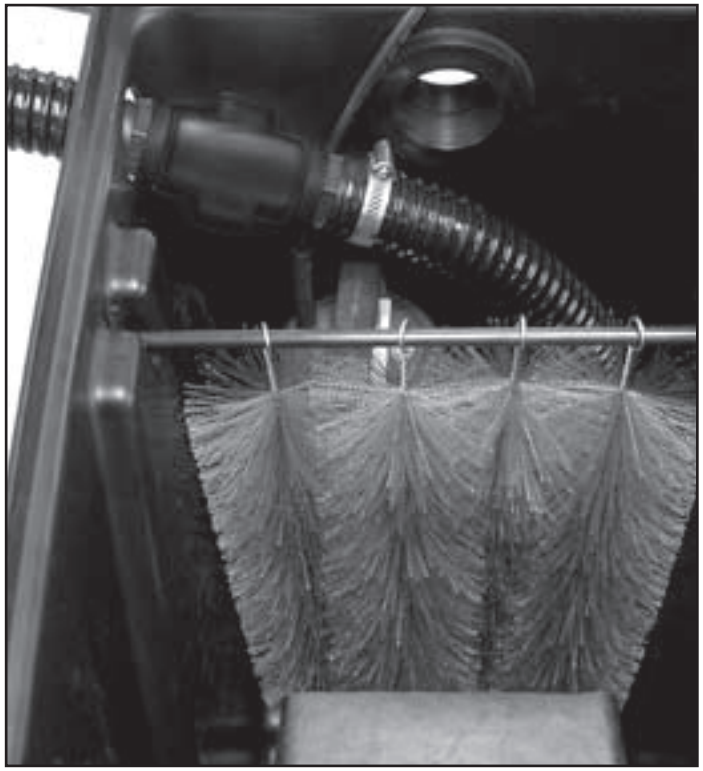

Fig. 25 UltraSkim™ Interior.

Overflow Installation

- Now install the PVC slip fitting included with your UltraSkim™ into the bulkhead fitting. Use some of the silicone sealant to coat the threads of the fitting, in order to help provide a water-tight seal.
- Attach and trench a section of PVC flex pipe into place (3' minimum). Create a drainage area at the end of the pipe by excavating a small pit, roughly 16" in diameter and at least 12" deep. Fill the pit with excess gravel. This will allow water in an overflow situation to flow through the pipe and drain away from the pond. **(See fig. 26)**
- A layer of scrap underlayment fabric, soil or sod can be added to cover the drainage area.

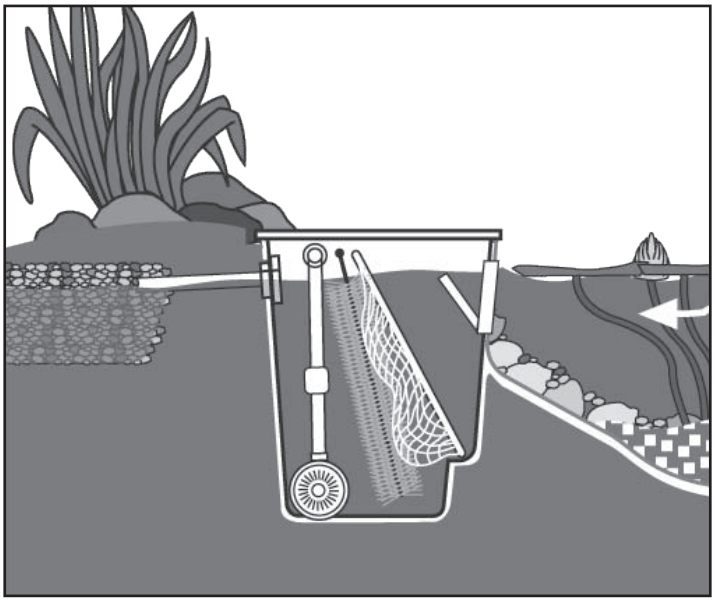

Fig. 26 Overflow Detail.

STEP 11

Add Water

Fill up the pond basin with water. The pond should be filled just below the level of the overflow in the skimmer. The pond is typically filled to a point just below the gravel.

Note: *We recommend adding EcoSystems® EcoStarter™ to dechlorinate and properly condition city water prior to introducing fish to your pond. See owner's manual section for tips on adding fish to the pond.*

STEP 12

Build the waterfall

Hook Up The UltraFalls®

- Prior to installing the waterfall lip, make sure the face of the filter and liner are clean and free of dust and debris.
- Have someone hold the liner against the UltraFalls™ while you line up the waterfall snout over the liner. Make sure there are no wrinkles and the liner comes up above the sides of the UltraFalls™. Be sure that you have a few inches of slack liner along the front base of your UltraFalls™. This will help reduce tension on the waterfall lip when placing boulders in front of the unit. **(See fig. 27)**
- Temporarily install the waterfall lip and liner to the UltraFalls™ using the two outermost screws. Using an awl or nail, poke the first hole in the liner all the way through to the inside of the UltraFalls™. **(See fig. 28 & 29) Be careful not to damage the threads on the nut inserts when punching the holes with the awl!** Remove the awl or nail while holding waterfall snout and liner in place and begin threading one of the screws into the filter. Repeat this process for the other screw. ***Note:*** *Power tools are not recommended for installing the screws and may strip the nut inserts.*
- Now remove the waterfall lip from the UltraFalls™, keeping the screws installed through the waterfall lip and liner.
- Place a thick bead of silicone across the insert nuts on the front of the UltraFalls™ **(See fig. 30 & 31)**. Pre-installing the two screws in the earlier steps will make it easy to line up the waterfall snout after the silicone is applied and will keep the silicone in as thick of a bead as possible.
- Reattach the waterfall lip and liner using the two pre-installed screws. **(See fig. 32)**
- Using an awl or nail, poke the remaining holes in the waterfall lip and install the rest of the screws. **(See fig. 33)**
- Let dry for at least one hour before introducing water!
- Install the two filter pads into the UltraFalls™.
- Add approximately 10 lbs of lava stone or Aquascape BioBalls™ (not included) into the media net. Set the media bag on top of the filter mats **(see picture on page 14 for an example)**.

Fig. 27 Make sure you have a few inches of slack liner along the front base of your biofilter box

Fig. 28 Poke holes in the liner all the way through to the inside of the filter box.

Fig. 29 Thread screws into the filter.

Fig. 30 Place a thick bead of silicone across the insert nuts.

Fig. 31 Line up the waterfall lip.

Fig. 32 Reattach the waterfall lip and liner.

Fig. 33 Install the rest of the screws and remove extra liner, using the waterfall lip as a guide.

Creating the Waterfall

- Place two larger boulders on either side of the waterfalls you are creating in order to "frame" the waterfalls. The water will be running between the two larger boulders you've set in place. **(See fig. 34)**
- You can now begin to stack the rocks between the two larger boulders. These are the rocks that the water will be running over, so take your time and be creative. Start with the larger rocks on the bottom and work your way up to the smaller ones on top.
- Small stones and gravel can be used to fill in the gaps between the larger waterfalls stones.

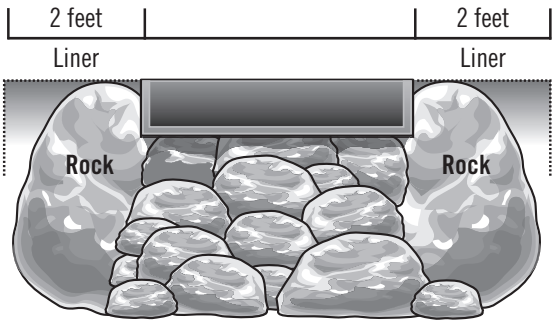

Fig. 34 The water will be running between the two larger boulders.

- The UltraFalls™ is designed with a plastic lip for the water to cascade off. You can use the plastic lip or hide the lip using the UltraFalls™ plastic waterfall stone (sold separately) or even piece(s) of thin (no more than 3/4" thick) natural slate. **(See figs. 35 & 36)** This stone can be attached to the UltraFalls™ using Aquascape black waterfall foam (sold separately). The black waterfalls foam can be purchased from your local Aquascape supplier and will come in handy when filling other gaps between the stones that water is flowing over. The foam keeps the water flowing over the top of the waterfall stones. Without the black waterfall foam, you may lose some of the impact of your waterfall as water travels beneath the rocks.
- Place smaller rocks on the rock ledge inside the UltraFalls™ to help hide it in the landscape. **(See fig. 37)**

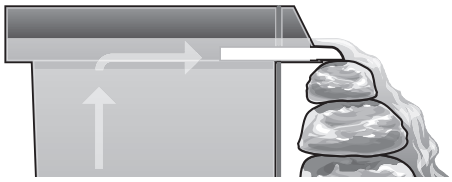

Fig. 35 If using a natural rock for your waterfall weir, make sure that it is fairly thin. (no more than 3/4")

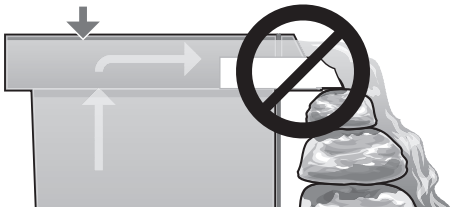

Fig. 36 If a thick rock along with a larger flow pump is used, the water flow may be so great that it will flow over the sides of the UltraFalls™.

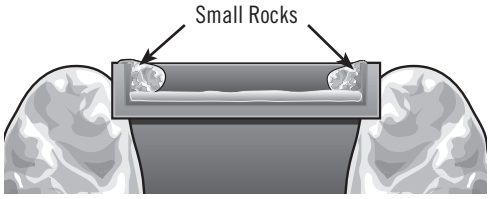

Fig. 37 Place smaller rocks on rock ledge in the UltraFalls™.

STEP 13

Bring in the topsoil

- Add topsoil to the berm and surrounding area in order to provide a good substrate for future landscape plantings.

STEP 14

Build the retaining wall

- Finish off the berm where the UltraFalls™ is buried by building a small retaining wall out of boulders.

STEP 15

Plug in and Tweak the waterfall

- As soon as the pond is filled to its proper level (3/4" below the top opening of the UltraSkim™) and all the foam (if used on the project) is dry, you may test the pump and waterfall
- You can "tweak" the waterfall by placing smaller stones and gravel on the waterfall cascades. This will change the appearance and sound of the water. Have fun playing with the water coming over the falls until you achieve the desired effect.

STEP 16

Trim the liner

- With everything running, go around the perimeter of the pond with a pair of scissors and trim off any excess liner, always leaving several inches above the water level as a precaution. The remaining liner edges can be covered with gravel.

Note: *Do not trim the liner until the waterfall is running and the pond is filled to the desired level. Prematurely trimming the liner may cause leaks!*

STEP 17

Mulch the berm

- The entire area surrounding the pond can now be mulched and any surrounding plants added.

STEP 18

Clean up

- You're at the final stages of the project! All that is needed now is to clean up the mess you've made around the yard.

STEP 19

Owner's Manual and Bacteria

- Refer to the following pages in this instruction booklet for care and maintenance of your new water feature.
- We have supplied you with several packets of EcoSystems® EcoStarter™ beneficial bacteria and dechlorinator (not included). Simply add one of the packets into the pond. The packet will dissolve and the bacteria will be dispersed into the pond. This should be repeated in several days. Contact you local Aquascape supplier for more information on routine maintenance using EcoSystems®, as well as other water treatment products designed to help balance the ecosystem of the pond.

STEP 20

ENJOY!

The installation is now complete!