



1720 Brierley Way, Sparks, Nevada 89434  
(775) 355-1551 FAX (775) 355-8659  
EMAIL: [justin@railcitygarden.net](mailto:justin@railcitygarden.net)

## PONDLESS WATERFALL OWNERS MANUAL

**Pondless Waterfalls?** Okay what's a "pondless waterfall" you ask? As simple as it seems and exactly what it sounds like, a waterfall minus the pond. Who'd a thunk it! We've been submerged in pond and waterfall construction so heavily; the thought never crossed our minds. The endless possibilities imagine a waterfall in every front yard, school, business and park!

A beautiful natural looking waterfall, cascading over natural rock and boulders, meandering down a small stream over natural gravel, making it's final descent over a flat stone that creates a wonderful sheet of water, disappearing into a bed of ornamental gravel. Now that's what I'm talking about.

Now that you know what a **pondless waterfall** is, the big question is clear. *Why are pondless waterfalls becoming so popular?* Similarly to the sound of music that soothes the mighty King Kong, there is something about the sound of water that transcends people into serenity that just can't be matched by any other feature in your landscaping.

The sound alone is not the sole reason for the disappearing pondless waterfall increasing popularity. The pondless waterfall is not only more cost effective than a pond, but it eliminates liability, so put one in your front yard! The disappearing pondless waterfall is easier to install than a pond, and most importantly, it means less maintenance than, an waterscapes ecosystem pond or lawn.

Lower maintenance than a waterscapes ecosystem pond is certainly saying something since, a properly constructed ecosystem pond that includes the 5 essential elements will be easier to maintain than a similarly size plot in lawn, using less water!

While we are on the subject for those of you that don't know, the 5 essential elements that are needed to create low maintenance water waterscapes for fish and plants, but more importantly people are: A biological filter, a skimmer, rocks/gravel, fish and aquatic plants.

### **Pondless waterfalls are perfect for people who travel a lot!**

If you have a vacation home seasonally, like in Palm Spring California or the Mountain communities, and don't want to worry about fish while you are away traveling, but would still love to have the look and sound of a waterfall, then look no further.

We've noticed landscape architects are sketching dry creek beds into many of their landscape designs more and more. Now the once dry creek bed can be made into live creek beds with this awesome new concept. This new waterscapes design has enabled homeowners wishing to add curb appeal to their homes with waterscapes minus the liability, with a disappearing pondless waterfall.

Bob Gaunt a Redlands local, pool contractor says, "I struggled with my front yard until I stumbled across the new disappearing pondless waterfall concept. I wasn't sure what I wanted out of my front yard, I just new I didn't want something out of the ordinary."

"My once plain front yard is now an amazing attraction that people slow down and stare at, I just love it." You'll often times find Bob, his wife and kids hanging out in the front yard with friends and neighbors.

## PONDLESS WATERFALL FAQ'S

Can we still have aquatic plants in a pondless waterfall?

**Answer:** Absolutely, however water lilies are out of the question. Marginal aquatic plants do wonders at softening the edges of streams and in waterfalls. If you want to keep your maintenance to a minimum, we suggest choosing only from the wide variety of shallow rooted aquatic plants that are easy to thin and remove. 99% of the aquatic plants that are readily available can be aggressive so stick to the manageable species like; bacopa, micro-sword, golden buttons, acorus, Japanese arrowhead, dwarf papyrus, and other dwarf varieties. Stay away from large varieties of iris, umbrella palms, and defiantly stay away from anything labeled GIANT, like Giant Papyrus for example! It can grow up to 12 feet tall!

Can I put any fish in my disappearing pondless waterscape?

**Answer:** Yes and No! Yes you can but the fish in your disappearing waterscapes, but they will likely not live very long, so we suggest the latter, NO! The mystic about these pondless waterscapes is that you have this wonderful waterfall, sometimes even coupled with a meandering stream that magically disappears into a bed of ornamental gravel. While there are many designs that actually call for a small catch basin that pools up six to ten inches of water for aquatic plants, it is not suggested to put any type of fish in these style waterscapes. While there are always exceptions to the rule, typically fish tend to wander down stream and when your fish decide to wander down stream in these waterscapes, they will be met with an unfortunate and uncomfortable demise. This is one of the reasons The Pond Diggers are not fond of the Skim Bog Style of Pond Construction.

Does my pondless waterfall need to run 24 hours a day?

**Answer:** NO! One of the most compelling reasons the pondless waterfall has become so popular in today's landscape is because you can turn the waterfall off whenever you want. With an ecosystem pond it is mandatory that you run your waterfall filtration 24 hours a day in order to maintain life in your ecosystem. With these style waterscapes you can shut the system off and on as you desire. If you run the pump on your pondless waterscapes only 12 hours a day, it will cost you half the price, in electricity, of a similar sided pond. Leaving town for a couple of weeks? NO PROBLEM, just turn you pondless waterscapes off and when you get home turn it back on! Just another reason the pondless waterfall has reached such stature in such a short span of time.

Can I put my waterfall on a timer or remote control?

**Answer:** Positively! Your pondless water features can be put on a time that turns your waterscapes on and off just like your pool or nightscape lighting. Many people have this landscape water feature run early morning while preparations for the day are underway depending on location of the waterfall. For example, if your pondless feature is located as a focal point to your kitchen, it is nice to be greeted by the sound and look of your waterfall when you are making coffee, reading the paper, making breakfast & lunch for the day. If you wake up at 6am and leave for work at 8am, you could have your waterfall actuate just before 6am and turn off just

after 8am and then turn back on just before you get home while saving electrical costs all day long.

You can also get a little remote control for your pondless waterscapes that you can use from inside the house to turn your waterfall on and off! The bonus to this feature, as opposed to the timer, is on a Saturday morning when you ordinarily have a large breakfast; your waterfall won't suddenly turn off just after 8am. Most timers won't know you planned on sticking around longer in your kitchen on a Saturday morning. I'm sure you get the point.

### Will my pondless waterfall still attract wildlife without the pond?

**Answer:** Without a doubt these pondless waterscapes will still attract wildlife. The sound of water is very attractive to your local fauna. Within moments of turning on a pondless waterscape waterfall for the very first time we have had dragonflies and birds show up to properties where the homeowners had never experienced them before! The sound of your waterfall will attract birds to your property that you would normally never see. Believe it or not, Bird Watching is an extremely popular past time! We have designed and built many a waterfalls for bird watching enthusiasts with the primary goal to attract local and migratory birds to their very own backyard. In these specialty pondless waterscape designs for bird enthusiasts, we take great care to create the waterscape with the birds in mind.

### What kind of maintenance can I expect with this kind of waterscape?

**Answer: The pondless waterfall is quite possibly the easiest waterscape to maintain.** Algae can be maintained by the addition of an algae control product or beneficial bacteria and enzymes on a monthly basis and with the proper installation of an automatic water fill valve you should never have to add water to your waterscape to compensate for evaporation. These pondless waterscapes can be turned off and a blower can be used to remove leaf debris in a now dry creek bed each fall.

### How much money does it cost to run a pondless waterfall each month?

**Answer:** You could spend up to 15 bucks a month in algae control products and in most ornamental pond applications up to 11' x 16' x 2' the cost to run the waterfall pump 24 hours a day is approximately one dollar a day. So with that being said, depending on how many hours a day you plan on circulating your waterfall system will determine your cost. 24 hours a day at a buck a day plus the 15 bucks a month in algae control products should set you back just under 50 bucks. Or save yourself 15 bucks a month and run your pondless waterscapes only 12 hours a day. One thing I do want to be very clear on is, "What are your expectations of your waterfall? Often times people request waterfalls that are BIG, LOUD, RAGING and with lots of volume. You can count on paying more for electrical on more elaborate applications.

### What kind of water consumption should I expect from this waterscape?

**Answer:** The amount of water that you use due to evaporation in your pondless waterscape should be minimal. Everyday backyard sized pondless waterscapes typically holds less than 300 gallons of water. In the winter you will experience little to no loss of water due to evaporation and in the summer months you should expect to lose a reasonable amount of water. If you have a properly installed automatic water fill valve and you still need to add water to your pondless waterscapes it is very likely that you have a leak. Consult with your installer ASAP. Some things you may consider during the design of your pondless waterfall are; summer temperatures and the overall height of your waterfall. Also take into consideration, the taller the waterfall is, the more splash you will receive, creating greater evaporation rates and larger water bills.

### Will a pondless waterfall attract mosquitoes?

**Answer:** Mosquitoes are attracted to stagnant water so the answer is NO, so you can breathe easy. With a pondless waterscape you are dealing with a waterfall and usually a small stream with chaotic moving water that is less than appealing to the pesky mosquitoes. What your pondless water feature will attract is dragonflies and birds, which both prey upon mosquitoes. So it could be debated that a pondless waterfall may even decrease the amount of mosquitoes on your property! I wonder if we should start marketing the pondless waterfall that way? Just kidding.....

### Can I run my Pondless Waterfall in the winter?

**Answer:** Running your water feature in the winter is a great idea. Some preventative things will need to be done differently compared to summer use. Ice can and will build up, so you will want to monitor the amounts because as the ice forms it's essentially removing the water from your pondless reservoir. Some important things to look for... Make sure the ice doesn't divert the water out of the stream area and if it does carefully remove the ice. Do not use any sharp tools to remove ice as they have potential to damage the rubber liner. Hot water and rubber mallets have worked well for us. You will also need to periodically top off your feature because automatic fill valves have to be shut off for the winter months. Keep a garden hose in your garage, so that you can easily connect it and add water to the feature as needed. If you choose to shut your feature down for the winter, you need to remove your pump and store it in the garage. The pump(s) should be removed from the pond and thoroughly cleaned. Oil filled pumps need to be stored in a bucket of pond or distilled water to prevent the seals and gaskets from drying out. Magnetic and epoxy sealed pumps can be stored dry. With all this in mind enjoy your water feature all year long!

## Troubleshooting Pond/Liner Leaks

**Note:** *Pond Leaks - "Anytime you are troubleshooting for pond leaks in extreme heat it is mandatory that you provide aeration to your pond when you have your pump shut down for any period of time!"*

### Step 1: Does Your Pond Actually Have A Leak?

It's hard to imagine how much water can evaporate from a pond during the dog days of summer.

1. It's been our experience here in **Northern Nevada** that you can typically lose 1" to 1 ½" inches of water each week.
2. Pond owners in the hot, arid climates of the upper and lower deserts, Southern California, have reported evaporation levels in excess of 3" a week.

Remember, these are averages. Some ponds may not experience evaporation levels this high, while other ponds with large pumps pushing high volumes of water, and /or ponds designed with multiple waterfalls with a lot of cascades and splashing, may have evaporation rates much greater than these.

### Step 2: Look For Low Edges

1. Here's a little secret. 99% of all "pond leaks" are not due to a hole in the liner, but rather water making its way over the edges of the pond, stream, or waterfall, and a lot of the time this is due to an overgrowth of aquatic plants.
2. Look for any low edges. Settling at your pond's edge is the most common cause of a pond leak in a new pond.

3. Typically, the low edges are found around the stream and waterfall where settling may have occurred after a few rainfalls. These areas are usually built up during the construction of the pond using the soil from the excavation, and are prone to some settling.
4. Low edge signs
  - a. Wet mulch along the edge of the pond or stream
  - b. Wet gravel along the edge of the pond or stream
5. You may need to move back the gravel in certain areas to find the low edge.

### How to Fix a Low Edge

Low edges can be built back up by simply backfilling and compacting soil beneath the liner in order to raise the edge of the liner above the water level.

### Step 3: Look For Obstructions in the Stream and Waterfalls

Check to make sure nothing is causing the pond leaks by restricting the flow of water down the "waterfall or stream". Any adjustment of the rocks in the **waterfall** may have inadvertently caused some of the water to be diverted over the liner.

Water can also make its way over the edge due to excessive aquatic plant or algae growth in the stream or biological waterfall filter. The water simply gets backed up from all of the aquatic plant growth. Plants and algae should be maintained by trimming them back in order to let the water pass freely.

### Step 4: Shut Down the Pump

You have spent 15 minutes or so following the suggestions listed above and you still can't find the leak. Well, we now have to go one step further and try to narrow things down a little more.

1. Turn off the pump and leave the pond for a period of 12 hours or more (If your pond is heavily stocked with fish, provisions for supplemental oxygen may be necessary).
2. After 12 hours, look to see if the water level has dropped in the pond.

### What Does This Determine?

1. If the water level has dropped then you know the leak is in your pond.
2. If the water level remains the same in your pond then it is assumed that the pond leak is in the stream or plumbing.

### If the Leak Is In Your Pond or Reservoir

1. If you are concentrating on looking for the pond leaks in your pond or reservoir, then completely ignore the waterfalls/stream area.
2. When the water level has stopped dropping, then concentrate your search around the perimeter of your pond at the level that the water has stopped dropping.
3. If the water level stopped below the bottom of the skimmer faceplate or snorkel vault you can rule out the skimmer/vault and concentrate elsewhere.

4. If the water level is above the bottom of the faceplate you should investigate the skimmer/vault. It may not have sealed correctly, but don't tear apart the skimmer faceplate.

## Algae Control and Preventative Maintenance

### Some Causes of Excess Algae:

*There are about 3 basic causes of excess algae or an algae bloom.*

1. For survival, algae needs nutrition (nitrogen & phosphorus) and sunlight. This can be in the form of fish waste (too many fish), over feeding fish, decaying organic matter (leaves & plants), lawn fertilizers and decomposed fish. A build up of sludge on the bottom of the pond will feed the algae also.
2. New ponds are very likely to have an algae bloom. This is not necessarily a bad thing. The algae are actually consuming the excess nutrients in the water, helping with odors and clarity.
3. Because there is a constant supply of nutrients, string algae flourishes in waterfalls and shallow streams. The sunlight is usually unobstructed and the water is warmer. There may also be a higher concentration of algae around the shallow edges of the pond where the water is warmer and there may not be enough water circulation there.

### Natural Algae Treatment:

There are several things you can do to lessen or eliminate a mild or moderate algae bloom without the use of chemicals.

1. Manually rake or pull out all the large, physical algae you can reach. Use a soft brush and net if necessary.
2. Use GreenClean granular algaecide to clean up all the rest. GreenClean is basically a fish, plant, animal, and pond friendly round-up for your pond. First, turn off your pump. Then apply the GreenClean to the affected areas (just like you were to dust powdered sugar on your French toast). Let the algaecide sit for approximately 15-30 minutes. Turn your pump back on and boom, there goes the algae. Any large pieces of dead algae should be removed, as any left over dead algae remaining will eventually re-circulated back through the system and end up re-growing.