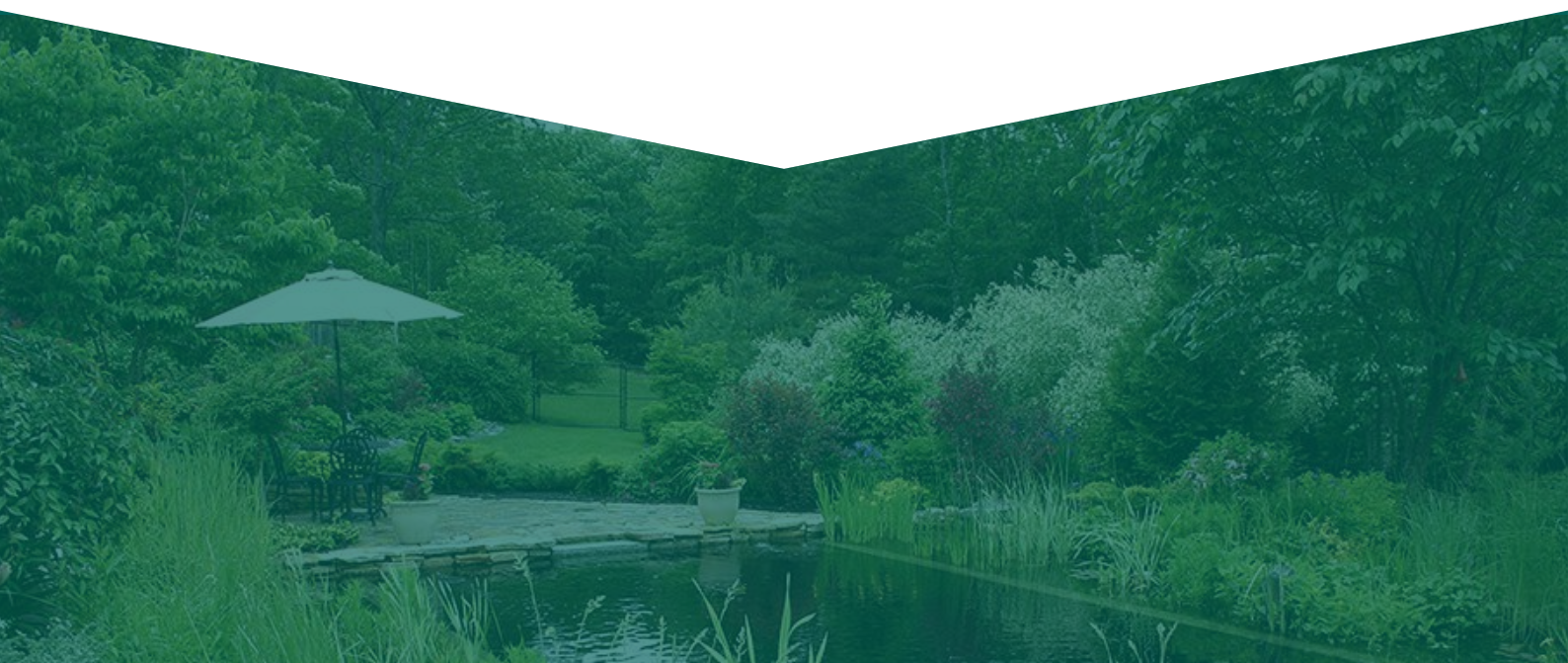




# Garden Swim Ponds

**A basic guide to installing and maintaining a chemical free  
swimming environment**





## What is a Garden Swim Pond?

A Garden Swim Pond is defined as a swimming pool that is supported naturally without the use or need for harmful chemicals. It is designed so that organic matter in your pool is consumed by the plants in the bio-filter areas, creating lush beautiful plants and naturally cleaning water.



A garden swim pond, as seen above, differs from a natural swimming pool (left photo) in that it does not require a swim zone wall. This drastically reduces the cost of this type of pool and, although beautiful, tends to look more natural.

### Garden Swim Ponds:

- Enhance habitat
- Are Easy to Maintain
- Are Energy Efficient
- Use No Harsh Chemicals
- Can Be Almost any Size
- Swim ponds can be Used to Irrigate

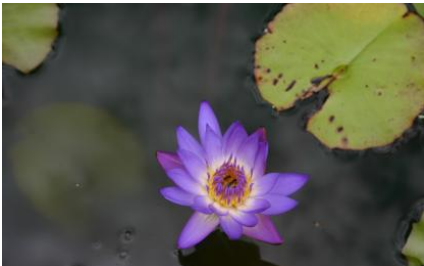


Our swim ponds are designed with no defined swim zone with its outside perimeter offering varying widths and depths of planting area creating a “natural biological filter.”



You may liken this area around the perimeter of the garden swim pond to a large hydroponics plant growing system where the pool water is drawn through a soilless medium (crushed stone), trapping nutrients (organic matter) in it's bed, feeding water plants which use their root systems to consume nutrients, thus cleaning and filtering the water. All while adding natural beauty, balance, and fragrance to your swimming experience.

Unlike conventional pools that use one oversized pump with some sort of mechanical sand or cartridge filter, our system offers the use of a very energy efficient (V.S.D) variable speed drive pump. This allows us to run the filters (planted areas) as well as added on brooks, streams waterfalls and or fountains, without the need for additional pumps.



Aesthetically, our garden swim pond system melds into the habitat that already exists. By using a rubber membrane, our system allows for total flexibility in the shape and design of your pool, enabling you to think and dream “outside of the box”.

Another great feature of a garden swim pond is the ability to use it to irrigate your lawn and/or gardens, without using any tap water. By running downspout water from your roof, through a pre-filter, to the pond, you can keep your ponds water level topped off without adding any tap water from your house plumbing! This feature not only will save money, but conserves water.



Overall, the goal of our Garden Swim Ponds is to create an ecologically healthy swimming habitat using natural, native materials, while offering clear, chemical free water, beauty, relaxation, and exercise for your family. By doing so, you are helping the environment by not adding more chemicals to our fresh water, and by offering your local wildlife an oasis to drink, bathe, and live. Together, we are actually replacing habitat usually lost with every new home built.



## Enhanced Habitat

Birds, reptiles, amphibians, are just a few of the critters you'll see, and hear, in and around your swim pond. The plants in your pond support dragonflies, damselflies, and other beneficial insects. Bees need water and are our best pollinators in the garden, vegetable or perennial.

No matter what wildlife you want to see in your yard, water is sure to increase the odds of a successful ecological habitat.

From small to the rather large, you never know what may show up at the pond.



## Easy to Maintain, No Harsh Chemicals



Once installed the garden swim pond takes 2-3 years to mature or come into its own. This can be likened to a perennial flower garden. During the first two years, a mild algaecide may be required while the plants and their root systems mature. This is very minimal, and you can swim in your pond minutes after putting it in. Once planted, your swim pond becomes more beautiful to be in and around year after year.



Aside from occasional cleaning via a vacuum, (done during the spring primarily), the only maintenance product you'll use is beneficial bacteria and enzymes. These are used during the summer months, and are simply thrown into your swim pond every week or two.

When fall arrives you'll want to cut back your plants to remove potential organic matter in your swim pond. You may also want to add a net over your swim pond if you have leaves from deciduous trees falling into it. Remember to remove your net before the water freezes so that it does not get ruined and you have it for next year.

## Energy Efficient

Using a 3 horsepower variable speed pump allows a lot of flexibility without compromising on energy costs.



Because your garden swim pond can be any shape and vary greatly in size, we feel that by offering this flexibility in pump technology, we insure your success without costing a lot in monthly electric bills. This pump also allows you to set differing levels of flow based on activity. When not home, your pump can be running on very low speed. Having a pool party? Set the flow up high to increase filtering and show off your waterfalls or stream.

## Irrigation using your Garden Swim Pond

A properly built garden swim pond does not require much make up water, but because it is chemical free, we have designed a method by which you can capture roof run-off from your house or other building, run it through a pre-filter, and store it in your swim pond for use later to irrigate your vegetables or other gardens. You can also use it to irrigate your lawn. Using a valve, pressure regulator, and new or existing irrigation system, your swim pond pump will water those thirsty plants.

## Garden swim Pond Size Flexibility

Because your swim pond liner is made of flexible rubber the size and shape are very flexible: The large kit comes with a 50 by 100 foot liner, the small kit includes a 50 by 50 foot liner. Once you have determined your depth, you can then determine the size swim pond you want to build. The shape of your swim pond is flexible also. Any shape you desire can be built so long as you don't create corners that can trap debris. You should also know that two or more pieces of liner can be seamed together, making your garden swim pond as much as 80 by 150 feet in size with a 9 foot deep end. Should you decide to build this large, plans should be made for additional skimmers and plumbing.



# Planning and Locating Your Swim Pond

Before you begin construction of your swim pond there are many things to consider.

- Budget
- Existing Soil Type(s)
- What Activities will the swim pond be used for?
- Bigger is Better!
- Sun Exposure
- Utilities, i.e. power and water supply
- Surrounding Landscape

## Budget

The costs involved in building a garden swim pond are not necessarily obvious. While standard swimming pools have fairly straight forward costs associated with them, garden swim ponds are more unique for a few reasons.

Plants are much more of a requirement rather than a luxury when designing your garden swim pond. Both in and around your swim pond, plants play an important role in water quality. In and out of the pond, they help provide shade for you swim pond. They also provide habitat for a host of animals, and, of course, filter you swim pond.

Stone is usually a factor in the construction of your garden swim pond. While some stone is ornamental, your pond will require other types of stone to filter and support it.

For estimate purposes, the cost of our kits are usually between one half and a quarter of the finished cost of building your swim pond.

## Activities

What you want to do in your garden swim pond can dictate the size, depth, and shape of it.

A typical swim pond, much like a standard swimming pool, has a deep end and a shallow end. Because your swim pond uses a heavy rubber liner, you have a lot of flexibility in where the deep or shallow ends are.

It's very important to insure egress from the pond in the form of ladders or steps.



If you plan to have lots of kids playing games in and around the pond, it's important to consider plant locations. You will want all or part of your shallow area flat so small children can play and be handled by adults.

Many people want to swim laps in their swim pond, so it's important to make sure the shallow end is at least three feet deep. An area at both ends should be fairly vertical and allow for turning around.

In our experience it's also a very good idea to plan seating near your swim pond in the form of a patio or deck/dock. A dock allows for a ladder into and out of the pond.

## Sun Exposure

The amount of sun a pond should get has been an issue of debate for many years. We can only tell you of our experience over the years of building hundreds of ponds, fountains, and other water features.



**"Nothing is cast in stone".**

We have water in almost every environment and sun exposure, from full sun to part shade. When ponds have a deep end of six foot or more that covers at least thirty percent of the total pond area, we see very little correlation between the amount of sun a body of water gets and water quality issues, particularly of note, algae.

Here are some of our observations on this subject:

The primary issue to consider is plant light requirements. Most aquatic plants require part shade to full sun.



Edge treatment and depth are important factors. The typical pond has shallow edges designed for marginal aquatic plants. This is a quandary for the designer as the plants need shallow water, but algae grows abundant in warm, shallow water, especially on rocks and plants. We have solved this by creating the “perimeter filter area”. This is basically a swale around the perimeter of the pond, having a “push” pipe, covered with crushed rock. Water is drawn from the bottom of the pond through the pump and is pushed through this pipe, delivering cooler bottom water to the edges of the pond. This solves other issues also, such as stagnant water and debris accumulation.

We also feel that this edge design does one other very important function, oxidation. It appears that by moving water slowly over stone at a shallow depth allows the sun to oxidize the water. Oxidation is what chlorine does to kill things.

## Landscape

Because we typically want our garden swim ponds to look natural, it's more important to consider plants around and beyond your pond. Trees and shrubs offer shade for your pond. They can also contribute to debris in your pond. Deciduous trees and shrubs, having leaves that fall off in the fall and winter, are the biggest contributor to organic matter in your pond. Because of this, location of these trees should be at least ½ their mature height away from the pond. This will minimize debris, but you will need to put a net on your pond in the fall to catch the leaves, or plan on a few hours of leaf removal in the spring.

Also, keep in mind the predominant wind direction and try to locate trees down - wind from your pond. This way, most of the fallen leaves will be blown beyond your pond.

Evergreen trees, the ones that don't lose their leaves in the fall or winter, are a good choice for around your pond. This does not mean they don't contribute to water quality issues in your pond. While they can be located closer to the pond, bear in mind that they do, in fact, lose their leaves, just not all at once. They are also typically acidic, lowering pond water pH.

Other factors to consider in landscaping around your pond are the reflectivity of the water, access, and wind protection.





Plants in and around your pond especially lit up at night, offer drama in their reflection of your pond. Consider shape and color. Using an eye towards view and light allows us to install plants and other garden components that can have very dramatic effect. Having water in your garden is akin to having a huge mirror on the ground in your garden. Use this perspective to create very original and beautiful effects in your garden.

Access into and around your pond should be relatively easy for safety and maintenance.

Wind protection minimizes water loss through evaporation. This can be accomplished using low growing trees and shrubs. Fences, tastefully done, can be an asset also.



## Existing Soil Type(s)

Knowing the soil composition is very important to a successful project. The most important factor is where the existing water table is. If you have clay soil and/or you are in the water table, then provisions need to be made for relieving the water from under the rubber liner. There is nothing more disappointing than seeing a liner floating above the pond level. This is remedied by installing sub-drainage under the liner so that water under it will be drained off somewhere beyond and below the pond. Any additional pressure will be relieved through valves installed in the liner and come in through them and into the pond instead of pushing up on the liner.

Rocky soil is acceptable so long as you take the time to remove the stones prior to padding and lining your swim pond.

Sandy soils are the best when it comes to preventing liner punctures and easily shaping your swim pond, but creates its own problems during construction. If it rains before you are done shaping the pond, you may have to redo or even start over with the process of shaping.



Also, if it doesn't rain but you get lots of sun on your pond during shaping, the sand may not hold the shape you want. This is remedied by using Elmer's glue and water to hold the sand in place until you get your swim pond protected and lined.

## **Bigger is Better**

It's important during estimating that you consider size and the fact that the bigger your swim pond the easier it is to care for. The increased water volume means that outside influences like organic matter, such as leaves, dust, pollen, and animal waste, have a lessened effect on water quality. Depth is important also, as the deeper volume of water means cooler water to mix with the shallow areas in the heat of the summer.



Another factor to bear in mind is that once you plant your perimeter filter and add some lilies to the pond it tends to look smaller because our eye goes to the edge of the water when we first look at a pond, and the plants fill in for 3 to 5 feet all the way around the pond in the perimeter plants filter.

## Utilities

### Electricity

The utilities required for your pond are, at a minimum, 240 volt power for your pump. This pump requires a dedicated, ground fault protected 240 Volt, 20 Amp. circuit from your power panel. A one inch pipe is usually run from your house or wherever the panel is, to the far back side of your bio - filter.

A 120 volt circuit is also required if you plan to have low voltage lighting in and around your swim pond. Even if you don't think you'll use lighting, it's a good idea to have a 120 volt circuit for service, and other things you may not think of now, near your pump power. It is the best time to add a circuit while the 240 volt power is being run from an economy standpoint.

### Water

It's a good idea to have an auto-fill line going to one of your skimmers to keep the pond full. This is usually done by adding a dual valve spigot to your existing garden hose bib on your house. The auto-fill line uses a float valve at a very small trickle to keep the pond full during the dry heat of summer. If you are going to harvest rainwater into your swim pond, you will use very little water from your house.

