

one or the other first so it will be compatible with the total landscape in mind. In new construction the pond is usually built first so the decking, bridge, or gazebo can be added to span or overlap the pond. As often as not, though, the pond is an afterthought long after the other structures, particularly decks and gazebos have been installed. In that case don't hesitate to rebuild those structures to accommodate your pond interests. Arched bridges are perhaps the most attractive and are available in hundreds of contemporary, Japanese or other styles to fit different budgets and landscapes. Japanese bridges are often purposely make steeper than expected to simulate the challenges of life.

When these bridges are reflected in the water their reflection completes a circle adding to their appeal in the landscape.

Flat bridges are usually easier to traverse and to build and are often used as connections between adjacent decks. If heavy loads are expected be sure to use appropriate size lumber or use a metal bridge with a veneer of wood to add the desired warmth. Concrete bridges can also be quite strong but you'll want to retain the design assistance of a concrete specialist. Most prefabricated bridges should have manufacturer's specifications for the end supports and footers. The typical foot bridge for a decorative pond will simply need a buried support stone or block to keep the ends level and anchored. These supports should be on undisturbed earth, so if there is fill material required for leveling either side, it should be well-compacted or excavated down to better soil for the rock base. Where freezing is likely the supports may need to be anchored below the frost line.

More complicated bridges with longer spans or seating and roof structures may need additional support for a secure and safe installation. Here are some approximate guidelines if building your own bridge. Well-compacted soil will easily 1000 pounds per square foot of bearing surface. Therefore a 600-pound bridge with 400 pounds of traffic, could easily be supported by most soils if each end of the bridge used a bearing surface of one-half of a square foot. On small bridges less than say 6 feet in length and weighing less than 500 pounds, virgin soil might be adequate, but sunken concrete blocks would be even better. Poured concrete footers would be advisable on heavy bridges and anchors set into the concrete to simplify bridge attachment. Local building codes can also serve as a guide when considering how to design the footers for your bridge or a gazebo. Shop your local deck and lumber yards for hardware supplies such as anchors for the bridge and other fastening devices.

Rocks used as stepping stones should be partially buried in the ground that is contoured to the exact dimensions of the stone, prior to laying down the

liner. Don't expect to just add shims of small stones to prevent the stepping stone from rocking on top of the liner. Pick stones that are fairly large and flat to improve the footing and make sure they are thick enough to be partially buried and still leave a large surface above the water line. A word of caution: Keep any stepping stones away from splashing water. If the stepping stones stay wet or damp, they will quickly grow algae or moss, which would be dangerously slippery.

Longer bridges can be supported on bearing plates laid on top of the liner. If you're concerned about possible damage to the liner, add another piece of scrap liner on top of the main liner. On bridges for vehicular traffic, the liner can be penetrated to reach the support footers sealed around the penetration using specialized liner seaming and adhesive materials. Your liner supplier can provide the specialized tools and techniques to assure your success.

Not every pond has to have a bridge. Smaller ponds can look very contrived when bisected by a bridge and the bridge could actually hamper view of the pond's inhabitants. On the other hand if the pond is large enough to justify a bridge, the bridge offers not only a better vantage point for seeing the fish, but a fish shelter from sun or from predators.

Try to position the bridge or secondary structure so it fits into the landscape well. It should have a path leading to it, a good view of the pond and a place to go to when using the bridge. A gazebo or garden bench on the far side of the pond, for example, is a very common use for the bridge. I have extended ponds on one end already, to create a reason for a bridge. When doing that consider adding a skimmer or pump to the extension so water flow prevents accumulation of debris from stagnant water.

Article courtesy of Gary G. Wittstock, P.E., Pond Sweep Manufacturing, Company

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If you've ever wondered exactly how winter effects your koi check out the article "Winter's Effect on Koi"

If you would like to see certain topics covered in the newsletter let me know.

Submitted by Gail Hopkins