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Slam Dunk!

Aquatic artists team up to build
Shaq-sized pond p.34

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FEATURES



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When **Brad Steyskal & Jim Lewis** were summoned to the top of a Pacific Northwest mountain for a consultation, they knew they had a tall order ahead of them. To their credit, the end result surpassed all customer expectations.

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We openly welcome these little friends into and around our ponds and lakes. But could they be contributing to increased antibiotic resistance — and even transferring it to algae? **Patrick Simmsgeiger** explains.

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Are you chasing that elusive 'perfect' waterfall or stream? According to **Benjamin Timmermans**, the key is to strike the right balance between manipulating the water's path and allowing Mother Nature to do her thing.

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It's been an unusually stressful year for most of us. Have you thought about the stress level of your pond? **Mark Gibson** takes a look at some common water-quality stressors and provides tips on how to foster a happier aquatic environment.

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What could lure a group of elite pond builders from all over the country to Atlanta in the middle of a pandemic? A Shaq-sized pond build, of course. **Jordan Morris** tells the story of Aquascape's one-of-a-kind collaboration for an NBA legend.

44 In the Ozone

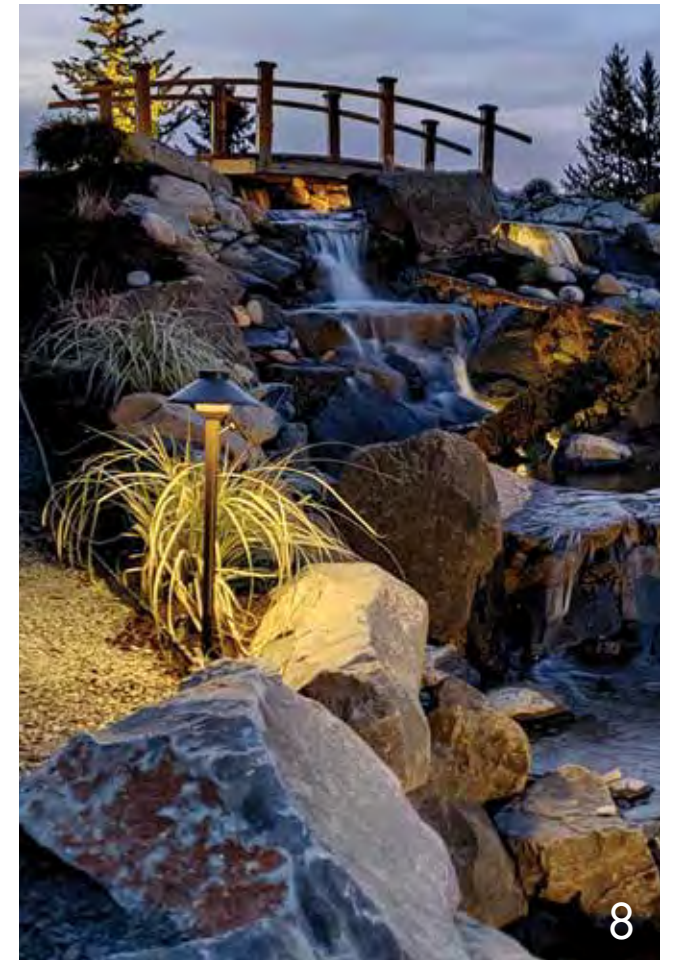
Whether you're a seasoned pond contractor on the hunt for crystal-clear water, or a novice enthusiast curious about high-tech, safe ways to treat a pond, **Larry Carnes'** thorough discussion of the pros and cons of ozone systems will likely pique your interest.

52 Islands in the Stream

That is what we are, after all. **Kent Wallace** shares his structural secrets of building islands in various styles of ponds. How can he be wrong? Sail away with him to another world, with advice you can rely on. (ah ha)

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| **Pond Construction** |

PANORAMIC *Perfection*

Mountaintop waterfall and pond overlook
Pacific Northwest

by **Brad Steyskal & Jim Lewis,**
Lewis Landscape Services

When we first met our client at his new home at the summit of a mountain in rural Hillsboro, Oregon, two things stood out — the size of his property and the prominence of the man who stood before us.

At 7 feet 1 inch tall, the former NBA player was just as striking as his new 6-acre property. With sweeping views in several directions, it was absolutely stunning. Our client and his wife wanted a landscape with features that matched that scale of the home and property. Chief among those features was the desire for a massive water-scape element. At 45 feet long and about 20 feet wide, it would be the largest water feature project our company had taken on to date.

Naturalistic Design

We worked with our client to create an alpine water feature concept — something that might remind you of the Pacific Northwest, where waterfalls naturally cascade down the mountainsides. It would need plenty of native grasses

(fescues, carex) as well as dwarf evergreen conifer trees native to the mountains in Oregon, such as mountain hemlocks and sub-alpine firs. The small and slow-growing nature of these trees helped to ensure they wouldn't outgrow the water feature over time.

Our first challenge was designing a waterfall that didn't look like it had been designed. Water would need to flow naturally and unpredictably. While we would have to generally direct and channel the water, we still let the water flow where it wanted to in order to achieve the natural look we were after.

There were originally only eight planned waterfalls. The additional waterfalls came about only after we had completed much of the construction and turned on the water for the first time. We allowed the water to flow naturally before we began to mortar in certain areas to direct the flow, keeping the water somewhat contained and maximizing the flow to the desired areas.

Allowing the water to dictate the look was key. If you look carefully at the feature, there are numerous spillways, falls and streams that naturally formed between the main waterfalls that we originally planned. After the feature had



Snow covers the area surrounding the original excavation of shelves (top, left) and pond area. From there, we placed the pond liner and boulders (top, right). The finished product (bottom) features waterfalls that glimmer in the night lighting.



From the perspective of the outdoor sitting area, the client has a full view of the pond and waterfalls.

been installed for a few weeks, our client commented that every time he walked around and examined the feature, he noticed something new that he hadn't recognized before.

Once the natural flow of water was identified, it was fairly easy to tweak certain elements and still achieve the natural mountainside waterfall look we were after.

Another other key design consideration was the fact that the client's grandchildren would likely interact with the water feature. Though it wasn't specifically designed with special filters or a UV filtration system for recreation, the waterscape would probably be irresistible to any little ones tempted to play in and around the water feature. Special care was taken to minimize pond depth and ease off access to the pond.

As an example, the main entrance to the pond is gently sloped — the way you might find the pool at a resort, with a sandy beach that slowly spills into the water. The feature was designed with special boulder placement and added stabilization measures (i.e., many were

mortared into place) to ensure that children could play in and around the water feature and really enjoy it from many different vantage points. Splashing around in the 2-foot-deep, river-rock-lined pond, playing around the spillways and retention pond, and climbing

We had to custom order a 30-by-60-foot, 45-mil EPDM pond liner, which is ridiculously heavy if you've never tried to move such a monster. Thankfully, a large excavator and several hardworking crew members helped us move it into place.

on the boulders around the perimeter and within the waterfalls are all made possible, with relative safety.

Construction Challenges

This was not your typical water feature. After a lot of calculation, we realized we would need a very large pump. We ended up using a pump that was a full 1 Horsepower and rated at 183 gallons per minute (at 8 feet of head) with a 4-inch feed. It has a constant 11-amp draw, so

the usual 15-amp circuit wouldn't cut it. We had the electrician run a 20-amp dedicated circuit out into the landscape to an area near where the pump is located.

Another challenge was the pond liner. We had to custom order a 30-by-60-foot, 45-mil EPDM pond liner, which is

ridiculously heavy if you've never tried to move such a monster. Thankfully, a large excavator and several hardworking crew members helped us move it into place.

Boulder placement was also a challenge. In the past, we hadn't always needed big equipment to place boulders, but these were massive and certainly needed an excavator. Fortunately, we have a good friend who owns an excavation company and helped us with this oversized task. The large excavators ended



These mossy logs, a custom bridge and several planting areas nicely fill out the waterfall feature.

up really saving the day. Still, we did not want to rush this key part of the process. We spent two full days with our excavator, carefully trying out boulders in different areas and positions until we achieved exactly the look we had envisioned.

Among other construction challenges were the installation of a drip tube inside the pockets of planting within the waterfalls and the installation of outdoor lighting wire and fixtures in those same areas. For the lighting, we specifically chose Integrated LED fixtures from Kichler due to their extreme water resistance. These

Among other construction challenges were the installation of a drip tube inside the pockets of planting within the waterfalls and the installation of outdoor lighting wire and fixtures in those same areas.

fixtures are fully potted so that water and moisture cannot reach the light array or the electronic components. This avoids the fatal flaw of many outdoor light fixtures sited around water.

In perhaps the biggest challenge of them all, this project was completed over the winter months. Thankfully, in the Portland, Oregon area, we can generally work year-round, as it doesn't snow or freeze much in the valley. However, as this project was on a mountaintop in the country, we actually did encounter snow, ice and a lot of rain. At one point in January,



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We tried to integrate into the feature as many natural elements as possible from the property and surrounding landscape. Little touches like this make a huge difference.



The custom-built foot bridge is both a functional and attractive accent to the top of the water feature.

Brad went to check on the project and sunk into mud past his knees due to all the rain we had been getting.

Finishing Touches

Once the main construction was completed, we brought in some additional elements you might expect to see in a natural mountainside waterfall. Fortunately, part of our client's property was a forest, so we were able to bring in some fallen mossy branches and boulders to help us out. This was a trick we learned from previous water feature builds. We tried to integrate into the feature as many natural elements as possible from the property and surrounding landscape. Little touches like this make a huge difference.

In addition to the natural elements we brought in, we also wanted to create areas close by that would allow people to enjoy it from every angle. The elevated deck above the water feature provides a full panoramic view of the feature from top to bottom. We also built a lower paver patio that blends into the side of the water feature. The compact gravel area at the front of the pond allows people to sit at the bottom to take in its entirety, all while congregating around a campfire or enjoying the sounds of nature in the swinging chair and fire ring that our client installed after we were done with construction.

One of the most prominent elements of this project is a wooden foot bridge that spans the very top of the waterfalls. We've

built similar structures like this in the past, and as is often the case, it was a big hit. It's as functional as it is beautiful.

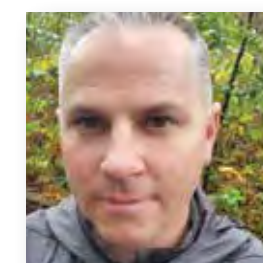
When you're taking on a project of a larger scale than ever before, one of the biggest pitfalls can be failing to consider every single thing you might need to finish the job. Without enough experience, it can be easy to overlook materials, labor and other costs (like electrical). Fortunately, we spent a lot of time carefully thinking through all the necessary steps to build this water feature. To help make sure we had accounted for everything, we made sure to

meet with our excavator before we gave the client our quote. We also worked with our water feature expert at Ewing to make sure we had sized the right pump and selected all the right materials. We budgeted enough money for labor so that we could take our time and do it right. In the end, it was both a beautiful water feature and a profitable endeavor for our company — which is always the goal, right?

Both of us enjoyed the challenge of creating this natural alpine water feature, and our clients were absolutely thrilled with it. ☺

About the Authors

Jim Lewis has been the owner of Lewis Landscape Services in Hillsboro, Oregon, for 24 years. His company is the largest residential landscaping company in the southwest Portland area, with more than 40 employees. They specialize in custom residential landscapes, hardscapes and water features. Jim grew up working in the family nursery and went to Oregon State University for business administration. He started his company two years later, after deciding that working in a cubicle at a bank wasn't his cup of tea. Today, he spends much of his time managing the business, but he remains personally involved in many of the company's larger projects.



Brad Steyskal has worked at Lewis Landscape Services for 10 years. He grew up in California and moved to the Portland area more than 20 years ago. He has been captivated by the beauty of the Pacific Northwest ever since. As the senior construction project manager, he spends much of his time designing, estimating and managing construction of many of the company's largest projects. He enjoys the journey and challenge of taking an ordinary yard and turning it into a sanctuary for his clients to enjoy.