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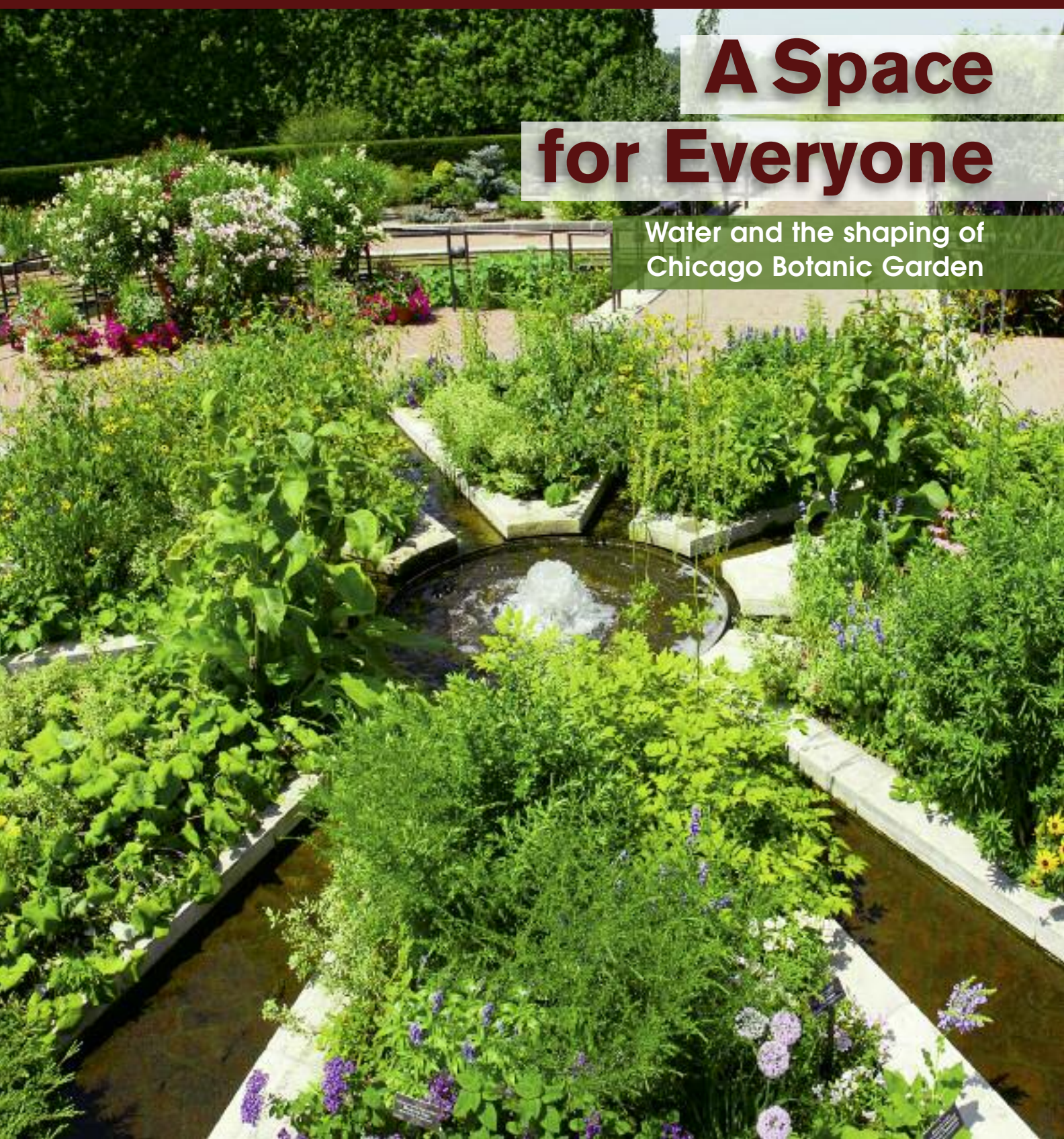

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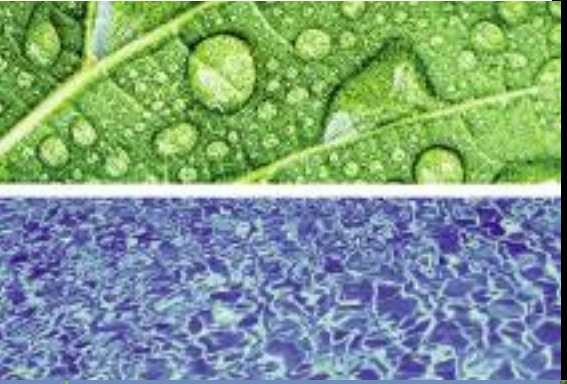

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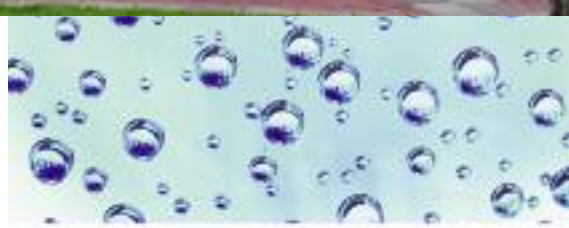

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On the Cover: Photo courtesy Suzanne & Ron Dirsmith, The Dirsmith Group, Highland Park, Ill.

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A Sense of Place

By Eric Herman

Before attending the American Society of Landscape Architects' Expo in Chicago last fall, I arrived in town a couple days early to spend some quality time with my great friends and long-time *WaterShapes* contributors Suzanne and Ron Dirsmith, who live and work in Highland Park, a suburb famous for a number of Prairie-style homes designed by Frank Lloyd Wright.

The Dirsmiths, of course, are accomplished artists in their own right, having distinguished themselves with their work on Playboy Mansion West as well as a number of other wonderful interior and exterior spaces. They graciously offered to put me up in their studio, a beautiful structure located in the garden behind their home and let me have the run of the place while I was there.

I had seen pictures of both the studio and the gardens, but I wasn't prepared for the dynamism packed into the composition. Their use of stone, wood, concrete, glass, plants and wonderful open spaces impressed me greatly – a stimulating, persuasive environment and the perfect place to let an eager visitor bask in the gorgeous surroundings.

While we were together, they treated me to a very personal tour of the city, which cooperated by serving up spectacular fall weather. We worked our way through the Art Institute of Chicago and Millennium Park as well as a number of Suzanne's and Ron's favorite neighborhoods and buildings, and I have to say that my respect and admiration for the place grew with every stop. Through their eyes, I could see how the "City of Big Shoulders" earned its high-flying reputation.

On our last day together before the conference, we paused for lunch and then an all-too-brief tour of the Chicago Botanic Garden. I already knew a fair bit about the place, having covered a renovation of its Grand Basin in *WaterShapes* several years back and enjoyed accounts and photos the Dirsmiths have shared with me through the years. Still, I was not prepared for the totality of my experience there.

In rapid order, we moved through gardens of various styles, all unified by means of water and the lakes, ponds and basins woven through the space. At just about every turn, we encountered a new and beautiful view – a true laboratory for the arts and crafts of landscape architecture, horticulture, environmental design and watershaping.

Being an opportunistic magazine editor, I asked Ron if he and Suzanne would consider compiling an article about the facility and how it has influenced their lives and work. They agreed and now, a year later, we're pleased to present the result: "Everyone's Garden," beginning on page 28 of this issue. Without stealing any of their thunder, suffice it to say that this is a story of just how great landscape and watershape design can be and how much it can mean to people who make such places parts of their lives.

For my part, I can't wait to pay another visit to Chicago to see my friends and their favorite garden complex once again. Here's hoping you find their discussion every bit as inspiring as I do!

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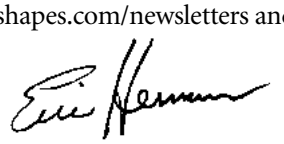

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In This Issue

September/October Writers

Ron Dirsmith is principal architect and co-founder of The Dirsmith Group, an architecture firm based in Highland Park, Ill., with operations worldwide. He and wife Suzanne established the firm in 1971 following employment with the prestigious firms Perkins and Will and Ed Dart, Inc. He has a BS in Architectural Engineering and a Masters in Architecture and Design from the University of Illinois. He is also a Fellow in Architecture of the American Academy in Rome, which for more than 100 years has been a research and study center for America's most promising artists and scholars. Dirsmith is one of only 172 architects to have been granted this honor. **Suzanne Roe Dirsmith**, president of the firm, holds a BS in Education from the University of Illinois and a Masters in Education from National-Louis University. She heads the education division of The Dirsmith Group, an effort dedicated to forwarding design and architecture education within the architectural community and to foster new thinking and raise awareness of architecture and landscape design as a blended whole.

William Drakeley is owner of Drakeley Industries, a design and structural-shotcrete consulting firm for swimming pools, water tanks, tunneling, mining and other infrastructural shotcrete applications; and of Drakeley Pools, a specialty watershape design, construction and service firm – both located in Woodbury, Conn. Drakeley holds the distinction of being the first and, so far, the only American Concrete Institute (ACI) Certified Examiner for Shotcrete Placement from the pool industry. He is also an approved trainer for ACI-Certified Nozzlemen on behalf of the American Shotcrete Association (ASA), an ASA Technical Adviser, a Genesis 3 Platinum member and a member of the Society of Watershape Designers and its advisory board. He has taught numerous courses on shotcrete application at the Genesis 3 construction schools and is a contributor to

Shotcrete magazine. **Jeffrey Boucher** is vice president and managing partner of Drakeley Pool Co. and Drakeley Industries. A 17-year industry veteran with expertise in all forms of pool design, construction and service, Boucher is an expert in green technology and alternative sanitizers and has contributed to industry articles on these topics. He also has a background in design and photography, and his work with Drakeley Pool Co. has been featured in national magazines including *Cottages and Gardens*, *Fairfield Country Home* and *Luxury Pools*. He is a participant in the Genesis 3 schools and is pursuing membership in its Society of Watershape Designers; he is also a member of the Nikon School of Photography and the American Shotcrete Association.

Anthony Archer-Wills is a landscape artist, master watergardener and author based in Copake Falls, N.Y. Growing up close to a lake on his parents' farm in southern England, he was raised with a deep appreciation for water and nature – a respect he developed further at Summerfield's School, a campus abundant in springs, streams and ponds. He began his own aquatic nursery and pond-construction business in the early 1960s, work that resulted in the development of new approaches to the construction of ponds and streams using concrete and flexible liners. The Agricultural Training Board and British Association of Landscape Industries subsequently invited him to train landscape companies in techniques that are now included in textbooks and used throughout the world. Archer-Wills tackles projects worldwide and has taught regularly at Chelsea Physic Garden, Inchbald School of Design, Plumpton College and Kew Gardens. He has also lectured at the New York Botanical Garden and at the universities of Miami, Cambridge, York and Durham as well as for the Association of Professional Landscape Designers and the Philosophical Society. He is a 2008 recipient of The Joseph McCloskey Prize for Outstanding Achievement in the Art & Craft of Watershaping.

Correction

A mishap with our filing system led us to print the wrong image on page 32 of our July/August 2010 issue. The photograph should have been the one seen here, which was taken by Cristian Costea; the image we published instead was taken by David Tisherman.

We regret both our error and the resulting confusion.

Photo by Cristian Costea, Costea Photography, Santa Ana, Calif.


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A fresh look at world trends and innovation

Knowing the Risks

By Brian Van Bower

I have the sense that lots of us are still burrowing deeper into our shells instead of peeking out and recognizing once again that most good things in business and in life come from taking our chances.

These days, it seems natural for people to be reluctant to take risks. We are, after all, still feeling the effects of a severe recession, and lots of folks are hunkered down, saving their pennies and waiting for something good to happen.

I completely understand this conservative impulse, especially on the business front, but it's also obvious to me that if we're going to take the necessary steps to return to more prosperous times, then we as individuals, as an industry and even as a society will at some point need to start taking risks again.

I bring this up because I have the sense that lots of us have been so stunned by what's happened in the past two years that we're still burrowing deeper into our shells instead of peeking out and recognizing once again that most good things in business and in life come from taking our chances.

You simply cannot succeed without risking failure. Yes, you might *feel* safe in your shell, but you will not move ahead by hiding in there and are indeed assuming the even *greater* risk of falling irreparably behind by missing opportunities you might otherwise be pursuing.

going for it

Risk is a huge concept, of course, and exists as many different types on many different levels. Personally, I like to think in terms of *calculated* risks, where I can evaluate and understand the potential upside relative to the possible downside and how my abilities, history and temperament influence my odds with respect to success or failure.

Sometimes the downsides are small, sometimes they're big, but either way I want to know what they are. I'm aware, for example, that in pursuing a new business activity I run the risk of losing my investment or even doing so much damage that I might go completely out of business. Or perhaps the risks are to my reputation or self-esteem or self-worth rather than to my balance sheet.

If I am honest with myself, these negative portions of the risk/benefit calculation are usually fairly easy to assess. Indeed, most people are fairly good at evaluating downside potential and seem to have little trouble thinking their way through a typical "worst-case scenario."

What's often more difficult is fully grasping the potential upside, especially if it unfolds over a long time. Why? Well, it's because it's often impossible to know in advance what additional, unexpected doors might open as a result of taking a given chance. In fact, some of the greatest benefits I've enjoyed because of my own risk-taking have come in ways that I could not reasonably have anticipated.

Early in my career, for example, I joined Associated Swimming Pool Industries of Florida (ASPI), a trade group that's still around to this day. Shortly thereafter, I was put in charge of membership development. When I'd signed up 10 new members, I was told by John Girvan, a chemical supplier and industry legend, that I'd have to give a report on my progress.

This *terrified* me: I'd never spoken in public before, and I clearly remember the sweaty palms and vague nausea that accompanied my first presentation. I had no idea at the time that taking this small risk of seeming foolish in front of my industry colleagues was the start of something much bigger for me.

In the ensuing years, in fact, I completely overcame my stage fright and rose through the ranks first at ASPI and then with the National Spa & Pool Institute. I also went on to host live radio shows – "All About Pools and Spas" and, later, "The Good Life" (about food and wine) and to teach innumerable classes and

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seminars in a variety of settings. I even do keynote addresses that put me up in front of hundreds of people.

When I think about where my public speaking has led me, I recognize that the payback for taking a relatively small risk early in my working life has been boundless. Now, as I look back over the course of my career, I recognize that just about *everything* good that's happened to me has come as the direct result of taking chances. Some have been small, some quite large – and all, even the failures, have been worthwhile.

stepping up

When I hung out my shingle as Aquatic Consultants in 1989, it was at a time when the vast majority of swimming pool companies gave away their designs for free. Those who were with me in the aquatic design business mostly dealt with commercial and institutional projects, and residential design consultants were few and far between.

I knew going in that there was a strong chance that my venture wouldn't fly, but I saw a need and determined that the consequences of failure were negligible compared to the potential gain.

Frankly, it's worked out well for me. As a result of taking that risk, I now travel the world consulting on significant projects, meeting fascinating clients and colleagues and working out of a comfortable office attached to my home. Best of all, I've been allowed to express myself creatively in ways I never would have dreamed possible.

Yet another case: Back in 1998, when David Tisherman, Skip Phillips and I started Genesis 3, we knew we were tackling various personal and professional risks and faced the possibility that the entire concept would flop. But we shared a passion for the goal of upgrading education in our industry and decided to move ahead regardless.

As it turns out, Genesis 3 succeeded beyond our wildest hopes, and we've seen it blossom into a community of like-minded professionals who share our passion for learning. It's been good for lots of people, and it all happened because we decided that starting it was a risk worth taking.

In all of the instances I've touched on thus far – public speaking, starting a company, starting an educational enterprise – taking risk has usually meant stepping outside my comfort zone and putting myself in situations that diverge in some way from past habits or behaviors. For any of us, that takes nerve and even courage, because none of us knows what will happen or, even more so, how we'll respond. But I believe this is the only way we truly grow in our abilities and reach positions where we cultivate the experiences that lead to wisdom and real satisfaction in life.

In watershaping, for example, this sort of professional stretching might involve a pool/spa specialist getting involved with landscape design – or a landscape architect or designer getting into pool design or construction. (These days, of course, those two "sides" are so intertwined that this might not seem like much of a leap; it wasn't so long ago that the two disciplines were about as foreign from one another as could be.)

If getting directly involved in other (but related) fields is not possible, then maybe the move involves affiliating with or hiring people from those fields. So if you're a watershaper whose work doesn't reach beyond the edge of the deck (or a landscape artist who cuts things off in the other direction), this would mean collaborating with another company that specializes in skills you lack – or hiring people to fill those gaps in your own operation.

wisdom gained

I would suggest that the risks in taking these steps beyond your comfort zone are relatively small – and that the benefits can be tremendous. These days, it can't hurt for a pool person or a landscape person to cross lines, nor will it hurt to have access to skills in designing and building outdoor kitchens, waterfalls or fountains. But you'll never know how good it can be until you try.

When I moved into pool design, for example, I did so with hubris on the one hand and ignorance on the other and soon talked my way into some projects that were well beyond the cookie-cutter level. In those early cases, I was probably incurring levels of risk that were well beyond my understanding, but despite collecting some bruises along the way, I worked hard and figured things out.

That process of discovering capabilities and limits is unlikely to be either pretty or fun, but as I see it, avoiding failure by refusing to take risks and never stepping out of your comfort zone is the easy way to miss opportunities. And you can generally be sure that, if you find yourself competing with someone who's less risk-averse than you are, chances are better than good that the other guy has more to offer than you do.

By staying in your comfort zone, in other words, you may well find yourself being passed by others in your field. You may stumble from time to time when you muster your ambition and take risky steps, but it's been my observation that these are learning experiences of great value. In fact, the most successful people I know are those who have experienced varying levels of failure on their pathways to success.

Learning from miscues can be painful, but if you take a chance and are not successful, you should always take a good, long look at the reasons why. Almost without exception, you will pick up something new and valuable, even if it's as simple as "I won't try that again," or "That was harder than it looked." And in most cases, I'd wager that you'd learn far more than that.

In this sense, even setbacks have their benefits: If you learn from missteps in your business or personal life, you can get to a point where you'll see that it's almost impossible to lose by taking risks.

I'm not talking here about unnecessary or silly risks where the odds of success are so remote (or the costs of coming up short are so dear) that it really doesn't make sense to jump in. Flying a motorcycle over a row of recreational vehicles might seem a good and even lucrative idea to some, but it makes no sense to me: Broken bones are expensive, painful and debilitating, so I prefer to find my adrenaline highs elsewhere.

Such extreme propositions aside, however, there are very few situations in which you cannot benefit even from failure.

give it a try

In studying risk takers, I have long enjoyed watching those who hang out on

the leading edge of whatever is going on in a given field of endeavor. These folks really put it on the line, grab risk by the horns and are perfectly willing to pay what I call "the frontrunner fee." Simply put, when you try things that haven't been done before (or done before in quite the same way), you often pay a price. But that's exactly what it takes to gain the benefits that come from being ahead of the curve.

I do what I can to learn from these frontrunners by way of understanding the balance of rashness and courage it takes to jump ahead. I've also been something of a frontrunner myself at various stages of my career, and as a teacher, I try to take the insights I've gathered from my own errors and share them with others so they can bypass some of the costs while still reaping the benefits.

This is why I see education as such a wonderful thing: If you're smart and pay the right sort of attention, you can bypass the frontrunner fee. As the saying goes, "A smart man learns from his mistakes; a wise man learns from the mistakes of others."

I always advise my students to educate themselves continuously, so they'll always be placing themselves in a position to benefit from those who have gone before and paid the price of learning something for the first time. As I see it, education is a process of building on chances others have taken with no great risk to yourself – except maybe the loss of time and money invested if you ultimately find the information to be unimportant.

Personally, I've come to accept that there are risks in everything – in driving down the road, making friends, hiring new employees, getting out of bed in the morning, trying a new restaurant or visiting a place I haven't been before. There's even risk in getting a haircut because I'm never quite sure how I'll look when I walk out of the shop!

Given that risk is part of (if not the essence of) life, I say embrace it, learn to use it to your advantage, even celebrate it. No, I'm not suggesting everyone go out and start a new business or take up skydiving, but I do strongly recommend pushing your head out of your shell and finding appropriate risks that make sense.

There's a great deal to be said for trying something that has the potential to lead to greater happiness, greater income, greater knowledge or all three. If you make these wagers smartly, you stand a good chance of coming out on the winning end, and your life will be the better for it.

After all, what do you have to lose? WS

Brian Van Bower runs Aquatic Consultants, a design firm based in Miami, Fla., and is a co-founder of the Genesis 3 Design Group; dedicated to top-of-the-line performance in aquatic design and construction, this organization conducts schools for like-minded pool designers and builders. He can be reached at bvanbower@aol.com.

On the Level

On the Ground

By Bruce Zaretsky

Every time I open a landscape trade magazine, I'm bombarded by ads from just about every paver manufacturer on the planet. From the newest faux-stone concrete pavers and ADA-compliant bricks to granite, flagstone, mica and other slab species, we have more choices than ever before for our projects.

Some professionals approach this wealth of possibilities and play it safe – not caring so much about what's the latest and greatest but focusing instead on what's most familiar and time-tested and being interested in little more than providing clients with surfaces that can safely be walked on.

Fortunately, however, there are lots of us who take a different view, putting care and thought into the materials we select for our walkways, patios and terraces and working closely with our clients to make certain the resulting surfaces meet their needs. In other words, there's much more to what we do as designers than enabling people to move from point A to point B without tripping, slipping or catching a heel.

I'm the guy who looks down at the paving and notices how smooth it is, how the cuts were done and how it all comes together in the small details.

We take risks in being more creative, of course, and it goes without saying that we need to get things right the first time, especially on commercial and institutional projects where missteps can easily result in injuries and lawsuits. To minimize chances of anything going wrong, we always focus a lot of our attention on base preparation – the subject of this column.

making the grade

I'm one of those pain-in-the-neck people who is constantly evaluating a site's engineering. When called in for something else entirely, for example, I've been known to tell a hotel's facility manager that a retaining wall is about to fail; that the irrigation system is spraying all over the road and that a fountain is losing excessive amounts of water.

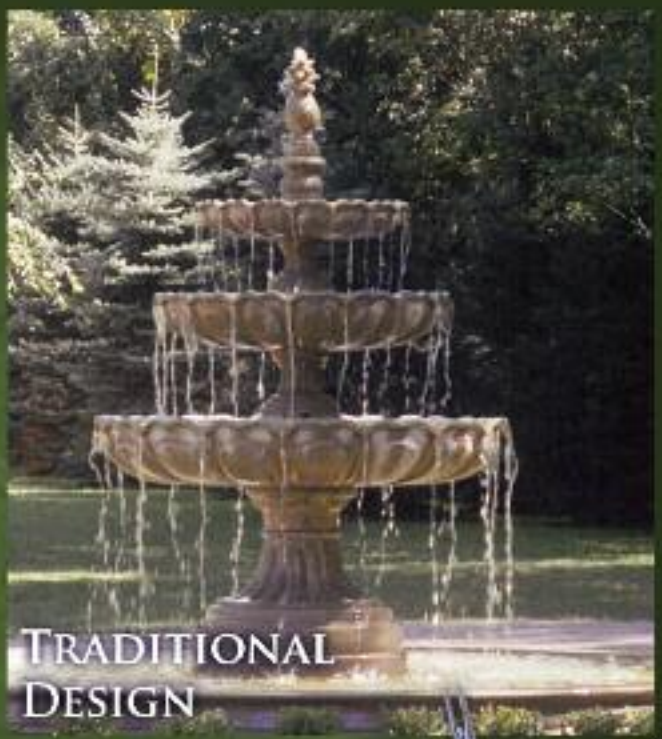
And as I walk up to the door, I'm the guy who looks down at the paving and notices how smooth it is, how the cuts were done and how it all comes together in the small details. I will say to whoever's in earshot (usually my long-suffering wife and business partner Sharon), "Look at those ugly cuts!" or "I can't *believe* they left it this way!" or "Look out! Don't trip!"

Encountering these poor performances with things that can be *seen* always makes me suspect that similarly slapdash methods were at work in what is *unseen*. No matter whether it's unevenness akin to riding a roller coaster or large gaps between pavers or poor or missing cuts, it's apparent to me that work has been done with little or no thought being given to long-term performance.

When I see installations of this nature, I feel compelled to apologize to whoever owns or manages the site. Honestly, I've actually said, "On behalf of the entire construction industry, I apologize for this shoddy work."

I do so because this work is an embarrassment – and we all should know better, despite the fact that it is obvious some people just don't care. Whether it's poor training, poor attitude or some sort of get-it-done-and-move-on mentality, it's all unacceptable.

My point here is that doing these things the right way is not terribly difficult. Yes, it takes a bit longer than doing it the wrong



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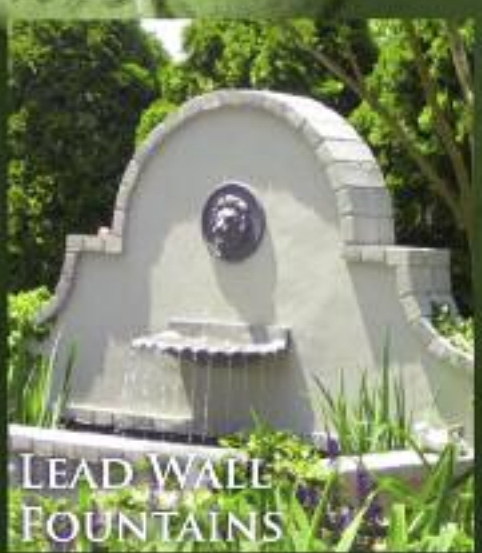

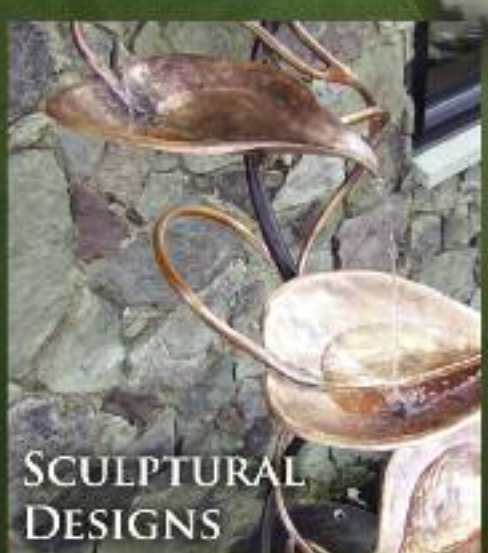

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way does, but as I see it, I spend a lot less time on site doing it right just once than the other company that does it wrong and then has to come back and repeat the exercise to get it right.

In all of this, the single most important aspect of paving installation is *base preparation*. This is the surest way to achieve a final surface that is as smooth as possible with no dips, rolls or toe-catchers. And it doesn't matter what paving units you use: Bricks, concrete pavers or slabs all require the same basic sub-base preparation, although the materials that will suffer most from installation of a sub-standard base are the smaller units – that is, bricks and pavers.

At my company, we have strict, detailed procedures we follow throughout the paver-installation process, but we take particular care in base preparation. For purposes of this discussion, we'll stick with formed units such as bricks and pavers and avoid slab materials, basically because individual pieces come in a variety of thicknesses and base preparation gets a bit more complicated.

With manufactured materials, by contrast, the thicknesses are uniform, typically in the two-to-three-inch range. The obvious advantage here is that once the sub-base is prepared and the bedding course has been set and screeded, setting the actual paving units is simple.

sensible steps

There's an important caution here: While screeding a bedding course made up of sand is fairly routine, the smoothness of this bedding layer will *never* make up for a poorly prepared sub-base.

So let's start from the beginning: Where I work, the typical excavation for a brick, paver or stone walkway or terrace reaches down about eight inches below grade. Ultimately, however, the final depth of any excavation is determined by two factors, namely, the quality of the soil and its degree of compaction. If we encounter recent fill, for example, we will either re-

Once we've screeded and compacted the base stone, we place screed bars on top and then cover them in concrete sand. This surface will be compacted by flooding it with water and then it will be screeded again before brick placement. Once that step is completed, we remove the bars and fill the trenches.

move and replace it or will mechanically compact it to meet the American Society of Testing & Materials' (ASTM) standard of 95 percent.

Ultimately, we'll excavate a minimum of six inches wider than the final paving dimensions in all directions: This helps prevent the paver edges from sloughing off down the line.

Let's assume for purposes of this discussion that we're working in stable, undisturbed soil and that we need do no more than remove the required eight-or-so inches. If that's the case, our next step involves installing the sub-base stone. In our area, we call this material *crusher run*, which is a mix of stone dust and stone crushed to one- or two-inch pieces.

(Note: If we observe before stone insertion that the subsoil is wet or even just a bit soupy, we will install a layer of landscape fabric atop the soil and beneath the crusher run. The fabric stabilizes the area and, under wet conditions, can spell all the difference between project success and failure.)

The single most important aspect of paving installation is base preparation. This is the surest way to achieve a final surface that is as smooth as possible.

When added and compacted, the crusher run sets up like a dry concrete – extremely stable and able to shed excess water while allowing some percolation into the soil.

We fill the excavated area with four to five inches of this material in at least two stages. First, we insert three to four inches of material and then compact it as thoroughly as possible using a walk-behind plate tamper. (We don't try to do it all as one round, because most common plate tampers are only effective with three or four inches of material.)

Once the first layer (or *lift*) is in place and has been compacted to the 95-percent level mandated by ASTM, we add more crusher run and compact it as well. And if we need to go deeper than usual with the crusher run, we work in a series of three-inch lifts, taking great care because we know that correct installation of this stone base is critical to the long-term viability of the installation.

As tamping moves along, we level the crusher as best we can, our goal being to come to within one inch of what will be the crusher run's final height. At this point, we place angle irons that reach about a half-inch *above* the crusher run's final height before screeding the surface and tamping it again. These pieces will serve as a guide in applying the bedding sand.

Continued on page 20

Our aim in all of this is to create an absolutely smooth surface with a variation of no more than an eighth-inch at any point when we've completed our tamping. That's the tolerance we need to ensure a quality finish, with the sand-bedding course leveling things out and enabling us to achieve a perfectly even surface.

good foundations

We know in pursuing this program that no matter how great the finished surface looks like upon completion, the paving level will always take on the shape of the sub-base over time. Where the sand of the bedding course can temporarily compensate for imperfections below, it is essentially a "liquid" layer that will eventually flow to match the contours of the sub-base – and ultimately will take the pavers with it.

This is why we strive so hard to achieve zero fluctuations in the final sub-base surface – plus the fact that a smooth sub-base speeds the process of laying and screeding the sand-bedding (using the angle irons as a guide) and ultimately makes for easier installation of the paving units.

As suggested above, the procedures we follow with slab materials of varying thicknesses are different: The precision of the sub-base leveling is less critical and the sand layer can be used to help bridge any minor variances resulting either from the sub-base level or the stone thickness. But the emphasis here is on the word *minor*: We always strive for no more than an eighth-inch tolerance here because we don't want the slabs to settle and create toe-catchers.

As is true of all built structures, the foundation on which they sit determines their longevity. I'm constantly explaining that fact to our clients: When they ask why we go so much further with our installation procedures than do other companies that have bid on the job, I simply ask them to imagine living in a house without a foundation: It might look good for the first few days, weeks or months, but eventually its walls will sag, its floors will collapse and its roof will cave in.

The same holds true of our much more modest installations. As I tell them: No matter whether it's a pool shell, a retaining wall, a fence or a paved surface, we simply do our best at all times, giving our work the best possible shot at a long and useful life. WS

Bruce Zaretsky is president of Zaretsky and Associates, a landscape design/construction/consultation company in Rochester, N.Y. Nationally recognized for creative and inspiring residential landscapes, he also works with healthcare facilities, nursing homes and local municipalities in conceiving and installing healing and meditation gardens. You can reach him at bruce@zaretskyassociates.com.



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It's all about challenging ourselves, looking for opportunities, forging alliances and finding willing, capable collaborators.

Finding Ways

By Mark Holden

Looking beyond standard modes of operation is nothing new for watershapers: It's how many of us grow professionally.

In my case, for example, I've moved in a variety of different directions in my career, and I've found that each of these endeavors has added substance and insight to both my business and professional acumen. Some experiences are more valuable than others, of course, but I've always found something positive and a few times have watched my business transform and grow before my eyes.

Looking back, it's been quite a journey. I began my career more than 20 years ago with a degree in landscape architecture. I proceeded to become a licensed professional, but then I took the unusual step of getting another license as a landscape contractor then another as a pool builder, with each step expanding my opportunities and horizons.

But even that was not enough. I also felt that teaching was important, and I wanted to write as well. Both offered me avenues for communicating with colleagues and like-minded professionals and positioned me to help myself and others profit by our exchanges. Capping it all off, I've recently become a part-time inventor and a participant in the development and distribution of some exceptional products.

It all keeps me very busy – and remarkably engaged by what I do for a living.

eye to eye

Along this 20-year path, I've collaborated and partnered with lots of other professionals and have almost always found that two heads are better than one. When a working relationship takes off and I come to share a vision with someone else, I find that our differences – in thought processes, skill sets and overall approaches to problem-solving – become significant assets rather than obstacles.

Through the years, I've been lucky enough to capture lightning in a bottle on more than one occasion, working with and playing off a spectrum of diverse minds in fun and productive ways.

One current collaboration flowed from exchanges I had with a student in one of my Genesis 3 "History of Water in Architecture" classes. For those who aren't familiar with them, these are intense, 20-hour short courses in art and architecture history that throw small groups of professionals into close contact for three days. Along the way, many of the students develop strong working relationships they carry beyond the classroom into their business and personal lives.

The instance I'm about to describe was and is exceptional.

A few years back, Ray Morrow (of Ray Morrow Design Group, Orange, Calif.) was the source of an endless stream of questions in my classroom – reminiscent of the Horshack character from the old *Welcome Back, Kotter* television show. I learn from and therefore love questions, and Ray was absolutely full of them. (He also explained at great length how he should work by himself because he was no good in groups, but I let him know he wouldn't get a passing grade otherwise, so he gave in and joined a team.)

His loner spirit struck a chord with me and we became friends – professional birds of a feather. It wasn't too long before we came together again and started discussing ways we could collaborate and help each other professionally. It took some doing, but we eventually found an opening and went for it.

What was unusual in all of this was that, by training and experience, Morrow was no ordinary watershaper. Instead, his

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I was immediately impressed by what I saw of Ray Morrow's landscape features, including a variety of distinctive lighting fixtures he'd tailored to the very specific desires of his clients and the looks and needs of the projects for which they'd been fabricated.

background was in *haute couture*, vintage menswear and antique jewelry, and it was interesting to see how his history expressed itself in his landscape designs: There's an ornamental quality that looks very much as though it extends from the worlds of textiles, vintage clothing and quality jewelry, and I must say he's been tremendously successful in transferring design principles from one field to another.

Moreover, he has an outsider's perspective when it comes to the ways he brings his clients together with exterior environments. In his case, it strikes me that he has something of an advantage over most of us in that, lacking in formal landscape education, he works from a set of design *principles* rather than from the constraints of self-imposed design *rules*.

His projects look vaguely classical and somewhat ornate, but I can't pin them down to any design school or period. It's clear that he bases his work instead on his own aesthetic sense – and that in his case it clearly works.

beautiful dreams

Morrow and I finally started working together, and after a brief period in which we collaborated on a few projects I began to learn all about his extreme knack for designing and fabricating beautiful fixtures he'd work into his landscapes, including various gates, lighting fixtures and waterfeature spouts.

Morrow's creations reflect both his artistic background and his appreciation for the history of watershaping. His energy led me to suggest a collaborative endeavor that fits in perfectly with my career's trajectory and reflects my ongoing desire to keep broadening my professional horizons.

He started from the same place lots of talented, innovative, inventive watershapers do – that is, by being completely dissatisfied with the look of products generally available in the marketplace. But where most of us hold our noses and compromise, Morrow's past experience gave him the fabrication skills he needed to do something about the situation. And often his solutions were gem-like and, in a word, *brilliant*.

What triggered his creativity was a fateful trip to a major-chain lighting store, where he was told that the selection of exterior-grade fixtures was static – no upgrades or customizing possible. This upset him to a point where he began making fixtures on his own, working with clients who were willing to pay many thousands of dollars for just one of his fixtures, each was a work of art never to be duplicated. It's just the thing for clients looking for and willing to foot the bill for something completely unique.

After seeing his portfolio, I recognized immediately that Morrow's talent should be made available to a broader audience and suggested as much to him. By thinking in terms of production rather than single pieces, I said, he could keep the quality materials, keep his unique finishes and bring the cost within reach of many more clients.

In genuine *artiste* mode, Morrow was disturbed by the suggestion and saw my idea as an attack on his substantial artistic accomplishments. I persisted just the same, secure in my knowledge that the lighting industry's selection of landscape fixtures tends to be both unexciting and unimaginative. As I saw it, he could fill a void in the marketplace and truly shake things up in a positive way.

I gradually wore him down: We began to take the discussions about our possible collaboration more seriously and the result was a new company devoted to presenting a variety of unique hardware. And it all extended from my willingness to keep an eye open for unique opportunities and find colleagues who are willing to share a vision.

As expressed above, I see good collaborations as having a possible value far greater than the sum of the parts. The synergies Morrow and I have developed are indeed far more powerful than either of us expected.

Was I pushed to this by the current economic climate? Certainly, this has pressed many of us in watershaping businesses to delve into areas that we would have avoided just a few years ago. In fact, I know of many designers and builders who have taken on service routes, started selling chemicals or partnered with other professionals to pick up new revenue streams. It's a time when lots of us are thinking outside the box – and that's just what I did in seizing this opportunity to work with a talented colleague.

mastering the future

My point is simple: I started with a fresh degree in landscape architecture and have now reached the point where the list of my professional pursuits is too long for just one business card or company.

I like not being able to describe what I do in a single word or sentence. Yes, I have lots of irons in the fire and there are elements of chaos in my life, but I see that as strongly positive in an environment where it takes all of whatever skills we have to keep things rolling. As I see it, being engaged in multiple endeavors in multiple industries is a good thing – pathways that lead me in new directions and constantly keep me on my professional toes.

For many years, I've written and spoken fondly of the bygone concept of the "Master Builder," a single individual who sculpts projects on multiple levels. It's an idea that fell to the wayside early in the last century – basically about the time we started developing big, multi-story buildings and distinctions started growing among architects, engineers, contractors and various artisans who now moved into self-contained professional categories.

Before then, there was a time when whole projects were controlled by one mind – and I'm among those who, in my own career, have tried to recapture that tradition in my own work to whatever extent I can. My pursuits with Ray Morrow have taken me several steps in this direction and follow after numerous other steps I've trodden to take control of my professional life, broaden my horizons and make my projects and my career uniquely my own.

I believe there's a need for more of this spirit in the watershaping industry. We need more people who won't compromise and who will stand up for quality, excellence and service to others. We need fewer people who simply pick things from catalogs and more people who want to be uniquely creative.

It's all about challenging ourselves, looking for opportunities, forging alliances and finding willing, capable collaborators. And if I find that combination in a guy who used to work with clothing and jewelry, so much the better and more interesting. WS

Mark Holden is a landscape architect and a landscape and pool contractor specializing in watershapes and their environments. He has been designing and building watershapes for nearly two decades, and his firm, Holdenwater of Fullerton, Calif., assists other professionals with their projects. He is also an instructor for the Genesis 3 schools and at California State Polytechnic University in Pomona. He can be contacted at mark@waterarchitecture.com.

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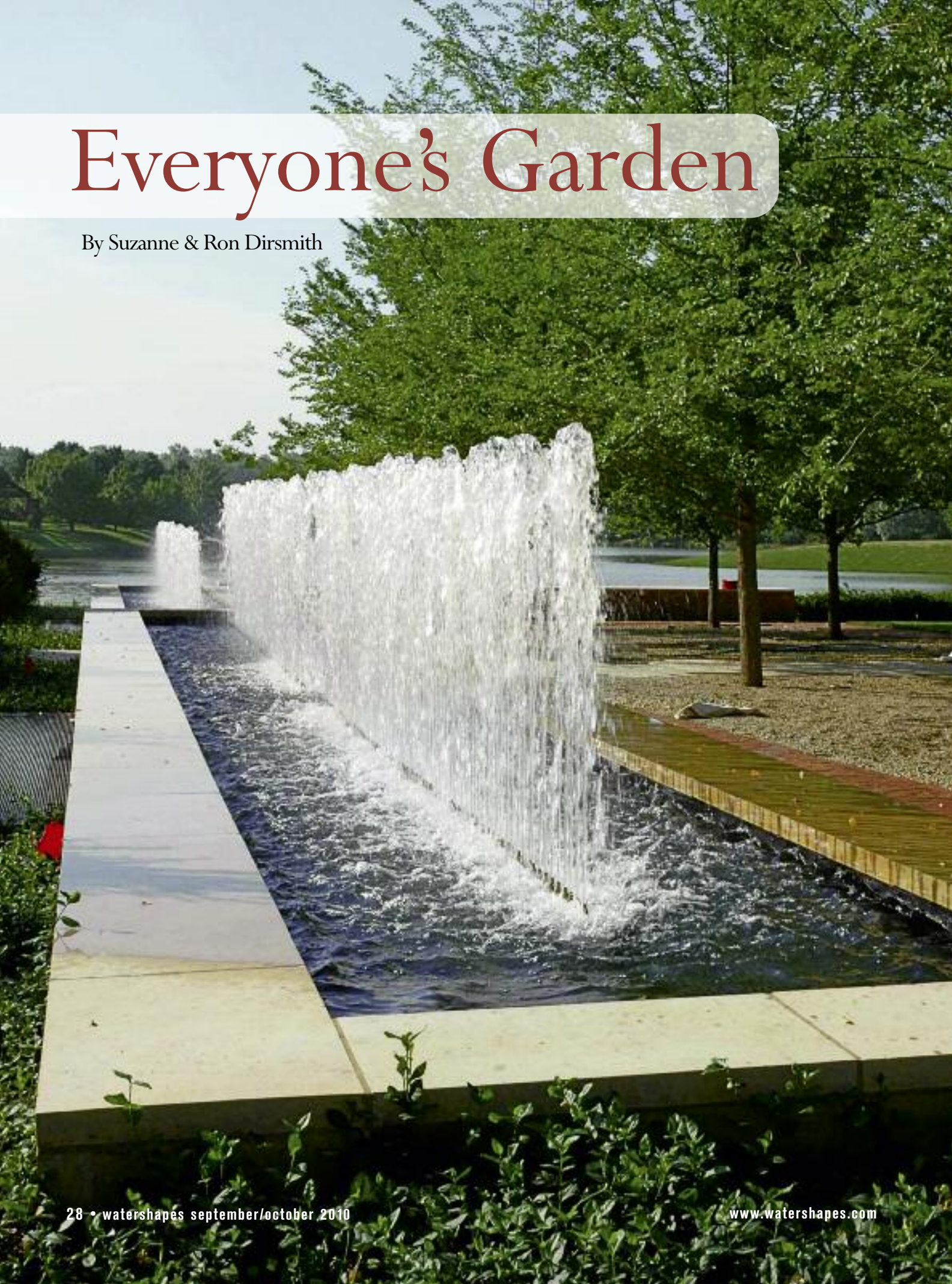
Everyone's Garden

By Suzanne & Ron Dirsmith



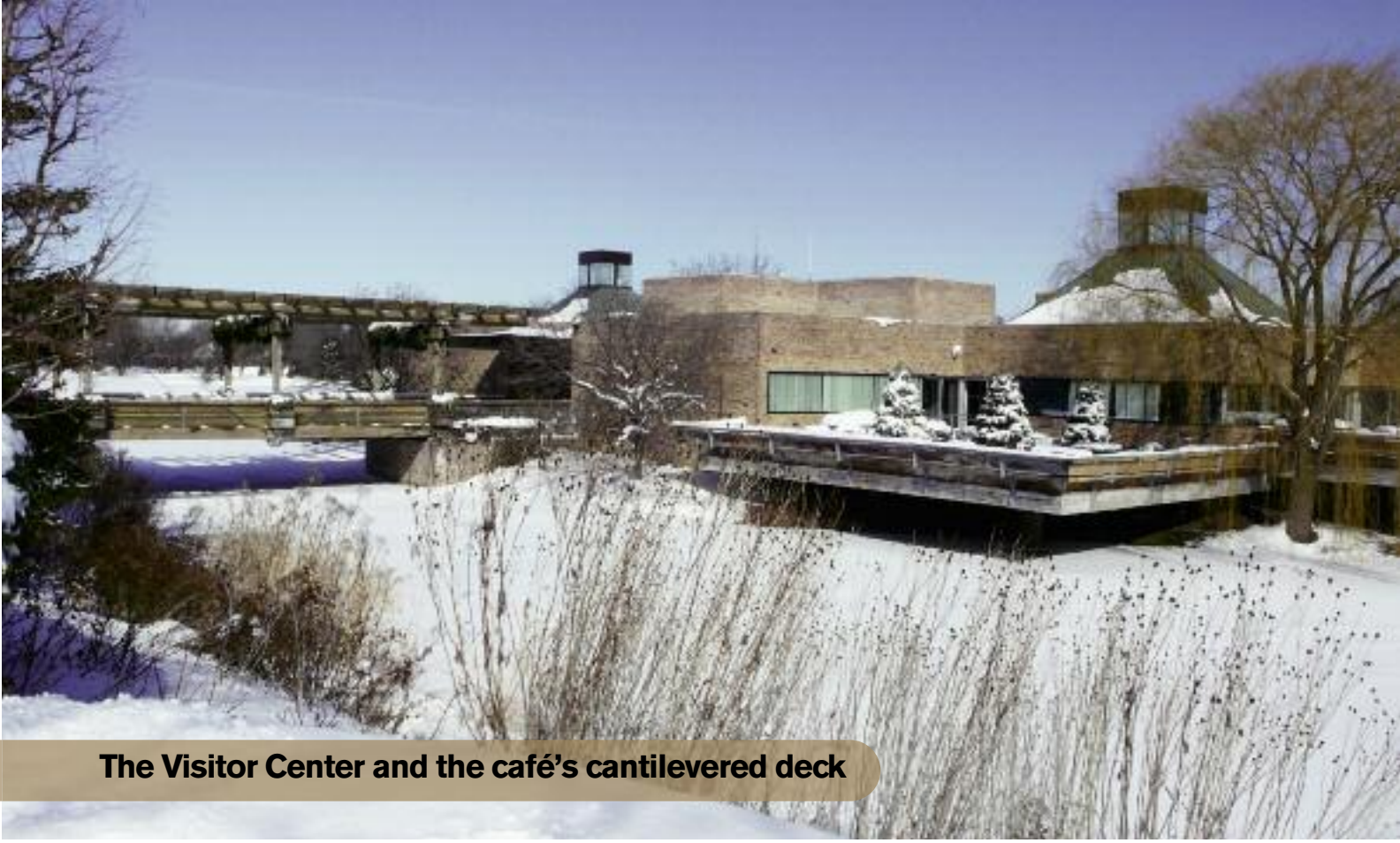
The Chicago Botanic Garden stands among the most beautiful of all outdoor spaces in the United States. Famous for its design diversity, stunning watershapes and flawless execution, it has long inspired environmental artists Ron and Suzanne Dirsmith, who have been regular visitors since the facility opened nearly 40 years ago. Here, they discuss the garden's long-term influence on their work and on their interest in water as a design medium.

When Chicago Botanic Garden first opened its gates in 1972, those on hand faced the same situation as those who come today: They will never see nor experience the garden the same way on any two occasions.

For decades, we have personally and carefully watched this remarkable property grow. Along the way, we've shared some of the most profound experiences we've ever had in our lives: Both the water elements and the gardens constantly *conspire* (in the literal sense of the word), breathing as one to create spaces of remarkable beauty, tranquility and diversity. It is truly our slice of heaven on earth.

For years now, we have visited the Garden almost every week to refuel our bodies and refresh our minds. We'll generally start with a light lunch at the Garden Café, sometimes in the company of a client or with work materials we enjoy discussing in this stimulating environment.

Part of the joy we experience comes from leaving behind our workaday world and its urbanized grid of concrete streets and buildings. In fact, simply *being* here invigorates our thinking and sorts out our emotions, and the upshot is that some of our very best ideas have come while dining in the café or strolling the grounds. From the moment we enter the property, our moods brighten and the constraints we carry with us are instantly set aside.



The Visitor Center and the café's cantilevered deck

A Graceful Escape

As we sit in the café beside a favorite west-facing window or on the adjacent outdoor deck cantilevered out over the pond below, the scene is one of pure bliss: Waterfowl glide gracefully by, and the far shoreline is always a wash of seasonal plants rising gradually to a closely planted stand of majestic Bald Cypresses whose cinnamon-colored bark embraces the Heritage Garden beyond.

This succession of glorious spaces is what the garden has always been about for delighted visitors who move freely from one spectacular environment into another. The pathways guide you through these transitions without fanfare or complication, although the flow from one waterfeature to the next garden display conjures its share of "a-ha!" moments – new discoveries even if you've moved along the same paths innumerable times before.

Periodically, we'll step off a path and move over to the water's edge to observe birds flying overhead or to revel in the natural sounds that emerge all around us. Thoughts of great artworks come to mind as we wander through the Heritage Garden after our lunch, with visions of Claude Monet's brilliant water lilies dancing through our minds.

In the center of this particular space are three pools separated by brick walkways, each watershape containing wonderful water lilies, sacred lotuses and a variety of other tropical aquatic plants. Water cascades over shallow steps that surround each pool, and a fountain spouting up in the center of the composition increases a therapeutic sense of serenity – truly a blissful place worthy of being seen over and over again.

And this is only the beginning.

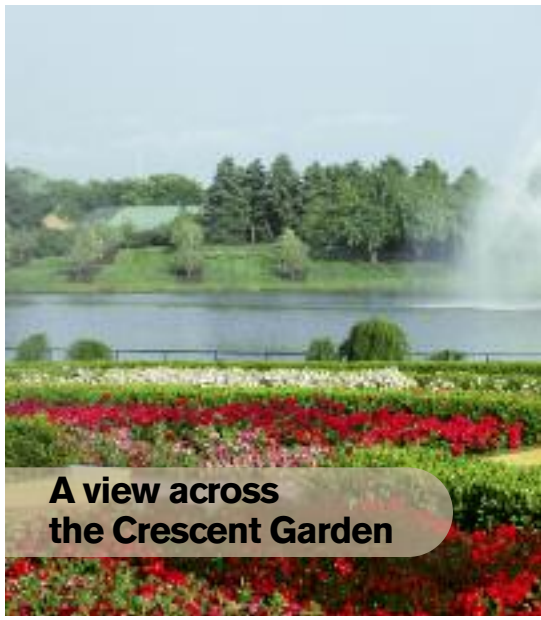
Indeed, there's a great deal of space at the visitor's disposal, as the garden covers 385 acres in all – 81 graced by lakes and rivers and nearly six miles of shoreline, and the other 304 acres festooned by 2,300,000 plants. It's both a haven and a resource for anyone working in exterior design, particularly those interested in the creative use of water in the landscape in both aesthetic and hydrological terms.

Lake levels are maintained by runoff collected in a 167-acre "watershed" area, backed up by occasional pumping from deep groundwater aquifers during extended dry spells. The waterways are expressions of the nearby Skokie River and draw on an upstream watershed that covers approximately 20 square miles.

The gardens contain ten unique watershape compositions consisting of 30 fountains, waterfalls, streams, ponds and pools itemized on the Garden map. That number actually surprised us as we did research for this article: To us, it had always seemed that the entire space simply teemed with waterfeatures too numerous to count.

That impression is largely due to the site's ingenious master plan, in which 23 display gardens are all contained on nine islands surrounded by various lakes and rivers. The water appears all-encompassing, in other words, because it literally is almost always in view wherever one happens to be. With every few steps, the view changes and the visitor is impressed anew by the way the land and water gracefully embrace each other in a meandering dance of visual harmony.

The Smith Fountain



A view across the Crescent Garden

Intimate Statements

Within this sweep of amazing settings, you'll see a number of intimate watershapes that serve to blend landscapes, plants and water in clear but subtle ways. From our first visit forward, we've come to see these features as treasured resources unfolding like a three-dimensional idea book. They include:

- **The Buehler Enabling Garden**, which includes a pair of cascading waterwalls and several elevated pools.
- **The Outdoor Classroom**, with its solar-powered fountain and small pool.
- **The Circle Garden**, which features a magnificent fountain with 32 cascading plumes of water as well as four "water ropes" – eight-foot-high jets that shoot from the outside corners of the fountain to create graceful water arches.
- **The English Walled Garden**, with an octagonal pool surrounded by a seating area and two wall fountains as well as a lead cistern manufactured in 1716.
- **The Esplanade**, which offers views of the Smith Fountain in North Lake and fountains on the west side of The Green.
- **The Fruit and Vegetable Garden** and its small pool and patio adjacent to the herb garden.
- **The Heritage Garden**, which boasts the fountain and three pools mentioned at the start of this article.
- **The Landscape Garden**, with its serene waterfall and stream surrounded by a soothing variety of perennials in silver, blue, purple and white.
- **The Rose Garden** and its lovely **Rose Petal Fountain**, cast in the shape of a Tudor rose with water shooting up in varying shapes and heights.
- **The Waterfall Garden**, which includes a 45-foot-tall cascade with a flow of 1,000 gallons per minute.

There are a few more watershapes not listed in the guidebook, including the pools atop which the Garden's distinguished collection of 50 premier bonsai specimens seem to float within the recently remodeled Regenstein Center. This structure's Gallery also has a long reflecting pool on axis with McGinley Pavilion, the Tropical Greenhouses, Exposition Hall, the Esplanade and a viewing terrace overlooking the Great Display Fountain in North Lake.

As part of the Garden's evolution,

Landmark Status

Owned by the Cook County Forest Preserve and managed by the Chicago Horticultural Society, the Chicago Botanic Garden has a membership of 50,000 – the largest of any public garden in the United States – and now welcomes almost a million visitors a year, making it the second-most-visited public garden in the country.

But it's not just a numbers game: Indeed, the Chicago Botanic Garden is now recognized around the world as a leader in plant-conservation science and serves as one of the nation's leading teaching gardens.

It's also a vital part of its community, continuing to break new ground in encouraging urban horticulture and providing jobs training through its Windy City Harvest and Green Youth Farm programs.

The community returns the favor with contributions both financial and personal: On the latter score, almost 2,000 volunteers assist with all aspects of the Garden's mission, from planting and propagating natural areas to staffing public programs, educational opportunities and exhibitions – a treasured well of talent and commitment.

– S. & R. D.

some watershapes have been modified, remodeled and even removed since original installation. We especially recall one of the original fountains that stood in the west courtyard of the old Regenstein Center: It had a series of 36 pulsating plumes of frothing water that rose from a granite-paved plaza surrounded by low evergreen plants. We appreciated its calm, cool, meditative qualities but know as well that children were drawn like a magnet to its pulsating spouts.

Although some of these changes have been distressing to us, we recognize that it's all part of the ever-changing nature of Chicago Botanic Garden – and that our losses tend to be more than compensated for by the fact that the true beauty of the place endures and expands through thick and thin.

Product of the '60s

The organic, evolutionary nature of the Garden can be traced to its inception and development – a wonderful example of civic leaders and ordinary citizens working toward a common and lofty goal.

It all started in 1962, when a small, visionary group of leaders of the venerable Chicago Horticultural Society (founded in 1890) gathered together and articulated a dream: They aimed to create a world-class botanic facility for the citizens of the metropolitan Chicago area, but they also wanted it to appeal to garden lovers throughout the country and, indeed,

The Esplanade Fountain at night

around the whole world.

On its own, the Society had limited financial resources, but its leaders were distinctly well connected in philanthropic and political circles. In those days, of course, almost nothing happened in Chicago or Cook County without the assent of Mayor Richard J. Daley and his well-oiled political machine, but members of the Chicago Horticultural Society were determined and somehow defied the odds.

Behind countless closed doors and in numerous back rooms; in their homes across dinner tables and in restaurants during business meetings; at parties and social events; and through what must have been hundreds of phone calls and arm-twisting encounters, the deal was made and the wheels started turning with remarkable speed.

By 1963, in fact, the trustees of the Cook County Forest Preserve District announced it was leasing 300 acres of its land to the Chicago Horticultural Society for purposes of developing the Chicago Botanic Garden. With the motto *Urbs*

Multiple Disciplines

As environmental designers, we've always seen the Chicago Botanic Garden as one of our most valued resources – a place to study, conduct research and take advantage of the facility's primacy as a center for plant science.

Among all of its available resources, we particularly love the Lenhardt Plant Science Library, which houses one of the world's most outstanding collections of botanical books and serves as the foundation for the library's renowned Plant Information Service. The goal here is for librarians here to be "go-to guys" when it comes to answering any plant-science question. Last year, in fact, the Plant Information Service handled some 38,000 questions online and in person.

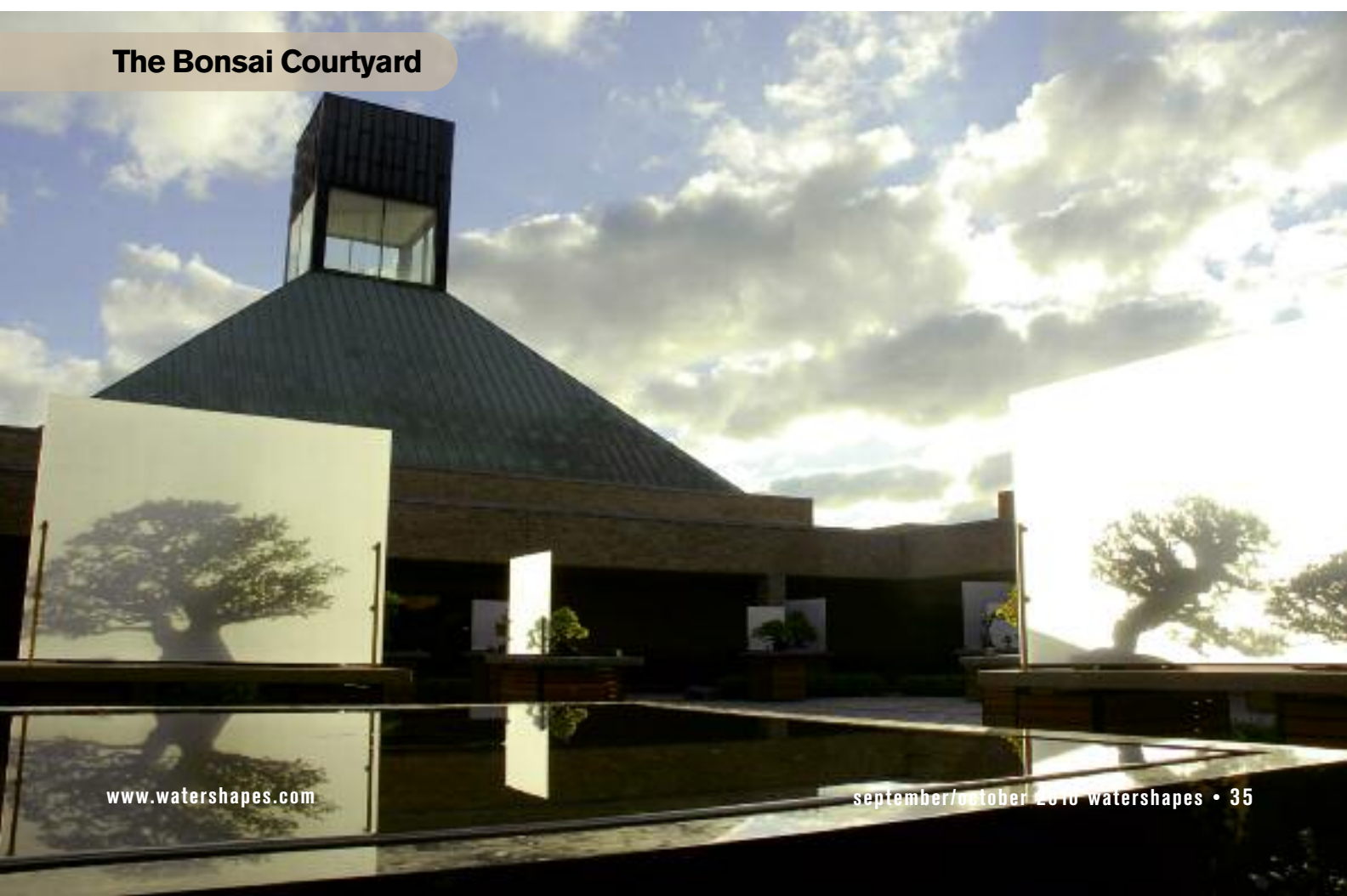
Supporting this unparalleled level of service is the Daniel F. and Ada L. Rice Plant Science Center, which recently opened within the Garden. With its Gold Level LEED certification, it is an example of all that's being done these days with respect to sustainable design.

The new structure includes two green-roof gardens, seven research labs, an expansive herbarium, a new-seed bank, classrooms and seminar halls, offices for research scientists and a public gallery that offers visitors behind-the-scenes glimpses at the processes of conservation science.

The Grainger Gallery stands at the heart of the building. This space features interactive exhibits as well as windows into working labs, with everything dedicated to a simple yet essential message: "There is a deep connection between people and plants that can enrich the life of every human being."

– S. & R.D.

The Rose Garden Fountain



The Bonsai Courtyard

in Horto (Latin for "city in a garden") inscribed in its charter, what had only been a dream a few months previously began to swing into reality.

Just two years later, the master plan was complete and groundbreaking ceremonies were held in September 1965.

Seven years of intense site work followed. The nine islands were shaped and sculpted – then surrounded by 81 acres of lakes, ponds and rivers. Water elevations and natural drainage swales were set, with everything designed to be self-sustaining based on average annual rainfall and predictable runoff – yet also capable of withstanding a hundred-year storm without flooding. At this time, the course of the Skokie River was reconfigured so that it would flow gently through the Garden's lakes and waterways.

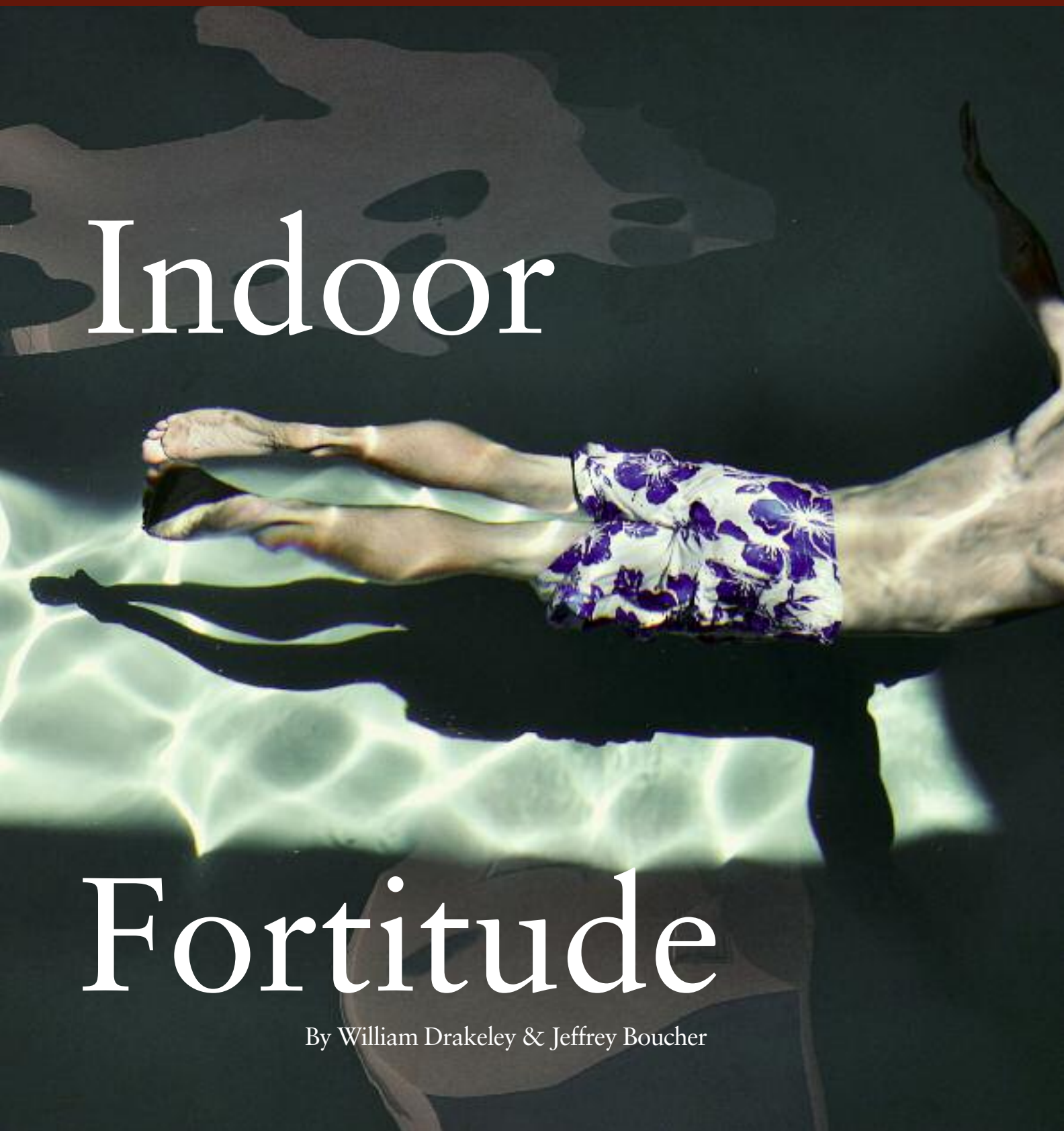
With these major site features established, installing the infrastructure of utilities, roads, paths and parking areas began moving forward – all in such a way that there's no significant intrusion on the space and everything seems to have been there forever. Special attention was paid to conserving and protecting the extant trees, woodlands and native habitats.

By the spring of 1972, the Chicago Botanic Garden was ready for its close-up. Ever since the gates were opened on that first glorious day, a continuing sequence of garden displays, buildings, waterfeatures, programs, lectures, exhibits, expositions, demonstrations and educational events have been worked into the mix in a never-ending crescendo of delightful surprises.

It is this anticipation of arriving each day, each season, each new year, to see and experience what is fresh, what has changed, what has been added and augmented and how nature in all its physical magnificence has blossomed and matured that make this the sort of place that has engaged us on every conceivable level for nearly four decades.

Indeed, the Chicago Botanic Garden is a wonderland of enduring beauty, always changing with the seasons, year-by-year and now through the generations: No two visits are (or ever will be) the same – just as we like it.

For anyone interested in the design of naturalistic watershapes and how they can be gracefully integrated with architectural features, the Waterfall Garden is something to behold. Moving beyond the pathways and ponds and into the space's recesses leads to encounters with the dynamic, dramatic flows of a tall, beautifully crafted cascade.



Indoor Fortitude

By William Drakeley & Jeffrey Boucher

Photos by Jeffrey Boucher

The rectangular form of this elegant indoor pool masks the complexities of its engineering and the challenges of its installation. And as watershapers William Drakeley and Jeffrey Boucher note in the second of two articles on this project, all the details of preparing the shell, hiding the automatic cover's leading edge and devising a suitable chemical treatment system only augmented the intricacies of working for truly discerning clients.

For professionals who tirelessly commit themselves to excellence in all aspects of their work, challenging projects are the butter on the bread.

At Drakeley Swimming Pool Co. of Bethlehem, Conn., we truly enjoy jobs with higher-than-usual degrees of difficulty because they generally involve us with clients who have strong ideas about what they want, force us to develop solutions to unique and interesting problems and see us perform on a level that invariably makes us proud. As we see it, these jobs are the reward we get for years of focusing on doing our absolute best.

True, these projects can be tough, but we've found that by sticking to our "quality without compromise" philosophy, we've managed to thrive through tough times and have always earned our share of interesting commissions. It's proof of the old adage that good things follow hard work, even in a soft economy.

That was certainly the case for the job discussed here and in the July/August edition of *WaterShapes*, where, in "Inside Maneuvers" (page 42), our colleague Kevin Ruddy described the design work he and his company did in what turned out to be a three-and-a-half-year construction project for our firm. Here, in this follow-up article, we'll describe an installation process that forced us to perform at the absolute top of our game.

A Grand Setting

The residence in question is decidedly upscale, situated in a rural, forested area of Connecticut known for beautiful homes inspired by the great turn-of-the-20th-Century architect Ehrick Kensett Rossiter. As part of an elaborate renovation, the homeowners had retained Kevin Ruddy of Omega Pool Structures (Toms River, N.J.) to design a new indoor pool.

We had worked previously with the general contractor on a few high-end homes in the area and ultimately were brought in as one of two bidders to install a pool that was to form the home's new wing. We knew Ruddy's reputation and that he was a member of Genesis 3, but we'd never worked with him before. His plans really told us all we needed to know: We were immediately impressed by both the precision and level of detail in his design.

That was significant, because as a rule we're not generally thrilled to work with "swimming pool consultants." Far too often, we've found them to be less than fully competent when it comes to developing anything more than a vision we're then challenged to execute more or less on our own – basically in

To ensure the shell's long-term reliability in its indoor setting, we made it with 12-inch-thick walls on a double curtain of #4 reinforcing bars on six-inch centers – more than adequate to carry the watershape through any future remodelings of the surrounding structure that might come along. For further durability, we shot the shell as a monolith with no expansion or cold joints, aiming for a compression strength of 5,000 to 6,000 pounds per square inch.

high-wire acts without nets!

In this case, however, we were enthusiastic about Ruddy's contribution from beginning to end – pleased by his depth of knowledge of indoor pool design and engineering and especially happy with his approach to writing specifications, which were all about defining performance rather than pushing us to work with specific pieces of equipment noted by make and model.

As we see it, we know enough about completing elaborate residential and commercial pool systems that we don't need that kind of help, so his approach and ours were a perfect fit.

Indeed, by leaving equipment selection up to us, Ruddy gave our team the freedom to choose components that we've used and know inside out. We're not only familiar with performance characteristics, but also know all about where to get what we need; the availability of technical support; and what it takes to troubleshoot incidental issues that might arise. In essence, this assures us that the system will operate per specifications from the outset – and will continue to perform as designed because we know the equipment is reliable, durable and serviceable.

We also had the huge plus of having worked on indoor pool systems in the past. Even though this was a residential project, it wasn't significantly different (other than in scale) from the numerous indoor pools we've built for high schools and universities. Basically, it boils down to building a pool inside a big box made of concrete masonry units – a process that brings an unusual set of challenges with it.

Tricky Placement

A big component of these sorts of projects has to do with working around other trades.

We knew this going in, so we weren't in any way surprised that the process involved a number of starts and stops as well as some unusual overlappings of responsibility. The general contractor, for example, was the one who did the rough excavation for the pool before preparing the foundations for the walls of the enclosure.

Only when he was finished did we come on site, lugging or craning in equipment and materials required to build the under-drain system. Then we stopped and waited for our next turn on site, moving onto our other projects in the meantime.

That staccato process is all fine so long as everyone involved understands the nature of the work and how the project will unfold. In this case, that unfolding was actually quite smooth, with very few scheduling problems or conflicts. And that was true despite the fact that a num-

One of the clients' strong aesthetic desires was that they did not want to see the leading-edge bar of the retracted automatic cover – an unusual challenge because of the distinctive patterning of the stone deck. To ensure stability of the walking surface above the cover box, we custom-fabricated brackets onto which the individual stones were bolted and ultimately managed to hide the cover completely in a long, narrow slot.

ber of project elements were quite challenging and brought their own levels of stress to the process.

Consider the building site, for example: Although the soil was generally sound, the pool was being installed into a slope. As a result, the shallow end was to be buried three feet below grade, while the deep end would hang about six feet above grade. The subsurface material included pockets of sedimentary ledge, meaning there was a high probability that intermittent subsurface water movement would be a factor.

While it's important with *any* pool being built under such conditions to provide for some means of relieving hydrostatic pressure, it's even more critical with indoor pools because any movement will tend to damage not only the pool but also surrounding deck, the enclosure and sometimes even the foundation of the house itself.

In fact, all it takes is a plumbing leak of some kind nearby (with irrigation systems being the most common offender) to create serious problems. So we take no chances and enter into construction of these pools with the understanding that water will need to be collected from around the base of the pool structure and safely removed.

In this case, once the excavation was

complete and we gained site access, we placed an under-drain system consisting of four-inch perforated pipes in the floor to collect water, send it to a trunk line and move it along to a drop-off point well away from the pool in the nearby forest, where the water can percolate harmlessly into the ground.

Our next challenge came in the forming stage. Working indoors – especially in a relatively small space – is always something of an issue, because we maintain such extremely high standards when it comes to achieving dimensions and elevations with solid, non-vibrating forms.

Straight and Sturdy

In this case, the forms reach all the way to the stone sub-base we placed around and atop the drainage system, and we had to be fairly creative in how we deployed our vertical and horizontal two-by-fours to support the plywood structure. There was lots of outstanding carpentry involved, and it also took our practiced ability to improvise and support everything adequately in confined spaces.

As mentioned above in the context of dewatering, the importance of a sturdy, immovable pool structure cannot be overstated – but it's of even greater significance in indoor settings, where even the slightest movement can spell disaster for surrounding structures. Moreover, addressing any form of cracking or any other structural deficiencies in the shell is much more difficult when a pool is situated indoors.

With that in mind, our goal with indoor projects is always to set them up in such a way that they will perform reliably and in perpetuity.

That's why we built this shell with 12-inch thick walls featuring dual curtains of #4, grade-60 rebar on six-inch centers. While that may seem over-engineered, we've found in other projects that,

The clients made it clear that everything had to be just right, so precision was our watchword in this project from the start. This extended to every detail, from the smooth, custom aluminum light rings to the stone skimmer lid and the beautiful waterline tile.

somewhere down the road, it's likely an indoor pool's walls will be surcharged in some unexpected way as part of a future remodeling.

In addition, we don't build the surrounding structures, so we can't be completely assured that all of the stresses on the walls have been calculated and accommodated. And despite the possibility that a pool isn't intended to serve as a load-bearing footing, the builder nonetheless can be held accountable if there's a subsequent failure because of added forces. In addition to all of those factors, we also knew in this particular case that these were clients who were known to alter the scope, shape and extent of the project with no notice.

To avoid any problems, we made certain that the pool could function as a structural footing come what may, thereby relieving ourselves of any concern about the future. It's not that we had specific reason to question the engineering of the work going on around us – far from it. All we wanted to do was assure ourselves that, for most imaginable situations, the shell would be ready to function as part of some larger future structure.

One more point: At the clients' request, the pool was designed with 90-degree transitions between the walls and the floor – no coves at all. There's strength in those curving shapes, however, and the thicker-than-usual walls gave us complete confidence that we'd have adequate strength at all floor-to-wall transitions.

We shot the entire shell as a monolith with no expansion or cold joints, aiming for a compression strength of 5,000 to 6,000 pounds per square inch. (At this point, five years after the shoot, we're confident based on compression tests on past projects that the level is now in the 8,000 psi range.)

This approach extends from the fact that our company is less a pool-construction firm than it is a structural-concrete specialist: We never compromise just because a project is residential rather than commercial or because we don't anticipate that there will ever be additional stresses placed on the structure. We sometimes lose jobs because our performance standards are unusually high, but we never need to worry about structural failures, either. For us, that's a worthwhile trade-off.

Working with the Clients

Beyond the broad, structural issues highlighted above, this project also engaged us with a number of issues that flowed from the clients' ideas and aesthetic sensibilities.

One of the trickiest of these arose from the clients' desire not to be able to see the leading-edge bar of the automatic cover when it was stored in its vault. Normally, that bar is visible, so hiding it left us with

The selection of the plaster color became a major conversation (yet to be fully resolved), but we had more practical issues in mind when it came time to apply the interior finish: We had to protect the already-completed interiors from any damage. So even though the pool was indoors, we tented it during the plastering stage and kept the dome in place until the pool was filled.

the need to engineer a way for it to retract under the coping by several inches and leave nothing for the clients to see other than a long, very narrow slot along one side of the pool.

This wasn't a huge problem by itself, but it was made somewhat more difficult by the fact that we had to accommodate the deck's stone pattern without interruption while also making it safe and sturdy enough to walk on as well as easily removable for servicing.

The pattern includes stones that are six and 18 inches wide, so part of the challenge was to figure out a way to keep the six-inch stones from tipping up when anyone stepped on their edges.

After a great deal of discussion and plenty of head scratching, we fabricated a system of angle-iron brackets that directly support the stones. The brackets include vertical strips with holes paired with matching holes we drilled into the stones. This enabled us to bolt all of the short stones in place.

At each decision point, we contacted the cover's manufacturer, Coverstar of Lindon, Utah, to be certain nothing we were proposing would interfere with the cover's functioning. As it turns out, our use of the brackets in no way impinged on the cover system or influenced its performance in any way. So now, when we look at the deck over the cover vault, we see zero disruption in the deck's appearance – just as the clients wished.

The pool may be a simple rectangle, but the project was uniquely challenging on a number of levels. There's a great deal of pride that comes from facing and overcoming such hurdles, and there's also great joy that comes from being part of a grand collaboration, interacting with other professionals on the job site and producing such beautiful results.

Another aesthetic issue had to do with the lights – and more specifically the light rings we usually use. For years, we've recommended and used a light that features a ring with what we consider a timeless Greek T pattern and a highly polished finish. The clients just weren't happy on either score, and when we found a product that had just the satin finish they preferred, it turned out that the rings were made with such a poor grade of stainless steel that we couldn't recommend their use.

After numerous tries, we selected lights supplied by Pentair Water Pool & Spa (Sanford, N.C.) and fitted them with custom light rings made of billeted aluminum. We went with aluminum for two reasons: It had the look the clients wanted and also had the ability to with-

Redundant Safety

The pool described in the accompanying text was designed and built before the emergence of the Virginia Graeme Baker Pool & Spa Safety Act. Even so, our extensive experience in commercial pool construction had already led us to develop systems that effectively eliminate suction entrapment as an issue.

We were pleased to have the basic support of system designer Kevin Ruddy (Omega Pool Structures, Toms River, N.J.), whose plans called for four-inch return plumbing. This enabled us to meet the desired four-hour turnover rate with a downsized pump – and to keep the line velocity well below the six foot per second threshold at which entrapment becomes an issue. Ruddy also called for a split main drain, thereby further minimizing entrapment risks.

The clients had heard of and were quite concerned about the suction entrapment issue, so even the measures we took were not quite sufficient. Thus, in addition to taking advantage of the suction vacuum release system (SVRS) that's built into the IntelliFlo pumps we used (Pentair Pool Products, Sanford, N.C.) for the circulation system, we also installed a separate SVRS device – just in case.

As icing on the cake, the system is plumbed so that the main drains can be shut off completely when the pool is in use. This completes a broad-spectrum approach that makes us confident this pool will *never* be the site of a suction-entrapment incident.

– W.D. & J.B.

stand the specific water conditions found in the pool.

In the Water

That concern over water conditions was not insignificant: In fact, the clients were adamant that no prepackaged chemicals were to be used in treating the water – which, of course, had to be absolutely perfect in every possible way when the pool was in use, which would be no more than about a half dozen times a year.

To accommodate this mandate, Ruddy had designed the system with a combined saltwater chlorination/ozone treatment system.

Given the use of the automatic cover and the extremely light bather load, there's almost no demand placed on the sanitizing/oxidizing systems. Indeed, even with one of the systems turned off and the other running only a few hours a day, the ORP is always sky high, resulting in water that is extremely corrosive.

(Returning to the light rings for a moment: Most stainless steel products would be eaten up by the aggressive water, where the high-grade aluminum we used is one of the few available materials that can withstand such conditions.)

Basically, what this left us with was the challenge of dialing things back to a point where we weren't perpetually over-treating the water and making it more aggressive than we wanted it to be. With some trial and error, we now have a routine where we leave the saltwater chlorination system off completely and run the ozone alone at an extremely low output level. (Given this special situation, we're not concerned about maintaining the residual sanitizer level typically required with ozone systems.)

Those unique circumstances also led us away from installing pH-control or ORP systems. Instead, we monitor water conditions with hand-held devices when we come to the property for maintenance visits and make whatever slight adjustments the system might need.

Most of the circulation equipment was supplied by Pentair, including the cartridge filters and the variable-frequency drive pumps. Heating of the water to the client-specified temperature is handled by a heat-exchange system that runs off of a boiler used to drive a snowmelt system for the property's terraces and driveway.

The clients have made it abundantly clear to us that they wanted absolutely perfect water quality any time they decided to roll back the cover and jump in. To make that happen, we stop by weekly to make sure everything is running to specifications, even though this pool is about as self-sustaining as can be.

So far, they've been more than happy with the results.

Despite their obvious pleasure, however, there are some pending issues we're certain will involve some changes as we move forward. For one thing, the pool's interior surface was a major source of back and forth among the clients and various design-team members. They wanted white – but they had a shade in mind as well as a material issues that was never fully resolved.

Mostly, they were concerned with reflections and how they'd work with the paint selected for the ceiling as well as the teak architectural woodwork. Discussions became so complex that we struck an agreement with the clients and the general contractor that we would plaster only with the understanding that whatever we applied would likely be replaced at some future date at an agreed-upon price.

So we installed ColorQuartz Classic White finish from 3M (St. Paul, Minn.). It has a great look and is somewhat less susceptible to damage related to water chemistry than is standard plaster. So far, the clients have stuck with it – but on this project, we've learned time and again that nothing related to aesthetics is ever truly settled.

The Same Page

The swimming pool we've covered here may be a simple rectangle and doesn't even include a spa, so there will be some who will see it and leap to the conclusion that the project was a walk in the park.

Nothing could be further from the truth. Not only did we face down some interesting technical issues, but we also were working with clients who were actively involved in every decision – and often changed their minds midstream not only about what was being done but also about who was doing it.

Along the way, some of the major team players came and went, but for whatever reason we always maintained and enjoyed a good rapport with them. It didn't hurt that they maintained steady respect for Kevin Ruddy's design work or that he was always there to back us up and help us navigate our way through the more difficult passages.

Had we been stuck with a pool designer who just didn't understand hydraulics, construction, water treatment or any of the other myriad issues that came up for question along the way, our lives on this project may have become intolerably difficult. As it was, we trusted Ruddy's design, he trusted our execution of the program and the clients let us work things out without compromising our standards.

For us, this strongly reinforces the notion that quality results require quality people working together toward a common goal. In this case, what could have been a nightmare project evolved to become a sterling point of pride.

The Art of Finishing

No matter the scale or scope of the watershape or landscape environment, notes master watershaper Anthony Archer Wills, the finishing touches are generally those that matter most. Here, in his third and final article on a huge project for a lakefront Midwestern estate, he demonstrates the intricate truth of that simple assertion by discussing his approach to completing the work – and accepting the fact that things will change as the future unfolds.

By Anthony Archer Wills

Despite our fondest desires, it's quite inevitable that most of the things we humans design and build are impermanent and will change.

That's particularly true of the greenery we place in and around our gardens and watershapes, simply because plants grow and gradually alter the settings they surround or inhabit.

There's a measure of melancholy in this evolution: As designers and installers of these spaces, we're left to recognize that in most cases we will never see them at their best and most beautiful. Yet that's as it should be, because any living work of art will continue to develop and improve long after it is technically "completed" by our hands.

There's also great joy in creating naturalistic watershapes and garden spaces, because I see the art of finishing as an exercise in setting the table for the future. In fact, I see this as being remarkably empowering: By participating in the future by way of my work today, I feel better about letting go and setting these spaces free to find their ways into the unknown tomorrows that await them.

Years Ahead

That train of thought was very much on my mind as we entered into the final stage of the project under discussion here. As has been mentioned in two previous *WaterShapes* articles ("Historic Perspectives," March 2010, page 26; and "Earthbound Endeavors," April 2010, page 22), the work was undertaken on a large property with a historic home that had recently been renovated, the general idea being that we were all collaborating to create a landmark that would exist in perpetuity.

In reality, the ponds, streams, waterfalls, grottoes and landscape features were, although brand new, to become part of the property's future as much as they were of its present. With that in mind, we conceived systems and settings that made grand gestures and brought drama to the space as it rolled from a tree-lined prominence down to the lakeshore.

As the two previous features attest, there was a considerable amount of heavy lifting in the project's earlier phases that

brought structure to the space. But the final phase, which included installation of a stream system at the top of the space and completion of the landscape, also gave us ample opportunity to express ourselves creatively.

Until now, we'd worked to establish the site's bones. Now we were fleshing out the composition and giving it an immediate and compelling presence.

Not to mix metaphors, but I also consider plantings as architectural features: Yes, plants go in last and bring color and contrast, but they also allow the designer to make adjustments – large *and* small – that bring balance to the entire composition with respect to form, texture, visual weight, spatial continuity and line in near views, distant views and all the myriad views in between.

This is why I always start my designs with plants in mind: I want to make certain I have adequate shallow areas in the water as well as broad areas along the shore where I foresee a need for plants. I also want to ensure that I've left plenty of nooks and crannies in rock formation for plants that will enliven, embroider and enhance the stone.

Curiously, until the plants arrive and I see them in context of the setting, I am never completely sure which plants will go where! It is only in seeing everything together and weighing their differences in texture, color and structure that things begin to coalesce and I start deciding how to proceed.

In that sense, working with plants is quite similar to placing rocks: There's a huge improvisational quality to the process that's always involved when you work with natural materials. Yes, my sketches offer a framework, but I know that, once I am on site with the plants themselves, experience and intuition will take over as I make my final decisions.

Visual Invention

What I love about all of this is the sense it gives me that I have total creative freedom up to and including the very last stages of the project.

Given the size of the space in which I was working in this case, I started by thinking not so much about individual specimens as about *stands* of plants in the water, along the shore and in the trees. The idea here is that large groupings offer structures and forms that make bold (or subtle) statements and balance the dramatic presence of stone and water.

I began by intertwining the visual boundaries between water and land with huge carpets of perennial groundcovers including Vinca minor (Periwinkle) and inserting thousands of daffodils in swaths careening down the hillside along with blue Scillas – key players that meander and connect with one another along the shores and extend into spaces well removed from the water's edge. The visual weight of these color blocks gives substance and drama to the lines they create.

(This brings up an important point: I often see plantings in which things are

The property had no indigenous stone of any substance when we arrived, so we had to bring in lots of material to create outcroppings and watercourses. Our aim was to convey the impression that the stone truly belonged and that all of it had been exposed by wind and water on a scale as vast as geological time.

so intermixed that, from any distance, you really don't see one plant but instead see only a weedy mass that has no visual order because there are simply too many conflicting shapes and colors.)

In my work here, I strongly felt the influence of the late Brazilian master, Roberto Burle Marx. He is justly famous for using large, homogeneous stands of tropical foliage to define spaces, thereby enabling observers to "read" those plantings from hundreds of feet away at the same time they are being drawn in for a closer and more differentiated view of their lines and bold contrasts.

When it comes to planting large areas, Burle Marx does it better than anyone I've ever studied. For this project, I definitely applied what I've learned, extending the concepts into the way I approached light

The edges of the ponds reflect the variety of strategies we envisioned from the design stage forward, with expanses of lawn stretching down to the water's edge; cascades of colorful terrestrial plants pouring down slopes; and patches of wetland in which aquatic plants make discerning any 'edge' at all a real challenge.

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and shade as well.

In placing the trees, for example, I arranged things so that there were areas that would be sheltered beneath a lovely canopy, offering that wonderful feeling of cool repose often associated with the presence of water. But I also wanted to avoid any sense that the shade was gloomy or forbidding, so we also left large areas of open sky where lawns bathed in sunlight during the day.

If there's any enduring lesson from a project such as this, it's that you need to juggle a mass of ideas, factors and possibilities from the very beginning to put yourself in a position where, as your work draws to a close, you still have the capacity to think creatively in response to what's unfolding before your eyes.

From the largest decisions about stands of trees to the smallest details of placing a colorful shrub, you always have to be acting upon the planning you've done as well as being open to the intuition that drives decisions minute by minute. In many cases, you have no choice but to be patient as concepts that formed a project's groundwork will only take shape at the very last minute.

Careful Decisions

Let's consider one specific case in which this interplay between forethought and improvisation occurred in this project – that is, in how we placed the Maidenhair Ferns among the waterfalls and rock formations.

Obviously, when you plan for and place rock, you need to make provisions for plantings – with balance being the key. If there's an area with a large vertical rock face, for instance, it's unlikely to be graced with robust greenery, but you must be aware that you need to balance it with a significant planting nearby.

So while I knew from the start I'd be using these ferns, I didn't make any final decisions about where to fit them into the rockwork until the very last minute – that is, when I could see everything in complete context. Having prepared for this moment by making multiple plant-

A profound amount of work went into placing plants once the basic construction was complete – the project's main finishing touches, in fact. They had been included in our thought processes from the start, but it is only when I am on site and actually begin the process that final decisions are made about placement of swaths or other groupings of various groundcovers, shrubs, grasses and even trees.

ing locations available, I had a welcome freedom of choice as I made my final decisions.

The same concepts come into play with aquatic plantings. Obviously, some areas will be designated as plant-free and will have crisp, architectural edges, but other, planted areas will have to be provided for at the excavation stage with shallow shelves or planting pockets along the shore – even if you have no certain idea how things will go when it's time to place the plants. Will there be shallow plantings along the shore to create the impression of brimming water with no clear boundary? Or will the plants reach out into the water to create a wetland effect? To have options here, you need to be prepared.

On the flip side of this point, I've often seen projects where plants are used simply because space has been set aside for them. I've always believed that just because I've set up an area for plants – inside the water's boundary, for example – that does not mean I must use it! In this project, in

This composition is made even more appealing by the fact that the clients have fun-loving natures and wanted to make certain that both children and adults would have a good time interacting with various details of the design. These included the adult-scale grotto adjacent to the largest waterfall in the system as well as the unusual boardwalk built across one of the ponds.

Making Way

The full discovery of large spaces requires the inclusion of pathways that helps observers on their way and takes them where you want them to go. As has been the case with many of my projects, I had a great deal of fun here in setting up various byways – especially the boardwalk leading across the lotus pond.

As is true of other project details, pathways are planned to some extent during the initial phases. But later on, with major features in place and much of the space defined, it's possible to witness the journey others will be taking and take complete control over where they'll step and what they'll see.

In this case, the clients loved the idea of the boardwalk as a key feature in the system of pathways that were to run throughout the space. Not only did they sense the drama inherent in a long, narrow path over the water, but they also asked me to make it deliberately shaky so there would be a slight sense of peril in crossing it.

Of course, nobody is ever at great risk, as the water is only about a foot deep!

To make it work, I came up with a rather simple, practical detail in which I used large concrete masonry units (CMUs) as sockets for upright bridge supports. The wood uprights (made of Ipé to resist water damage) fit loosely into the sockets, with the small amount of play (a half-inch or so) making the walking surface wobble ever so slightly. It's completely sturdy and safe – just unstable enough to create a sense of adventure with a slightly unsettled feeling.

As a side benefit, the decking can be lifted out of the sockets for repair or any other maintenance. And at any time, the wobble can be eliminated simply by pouring sand into the support sockets, as desired.

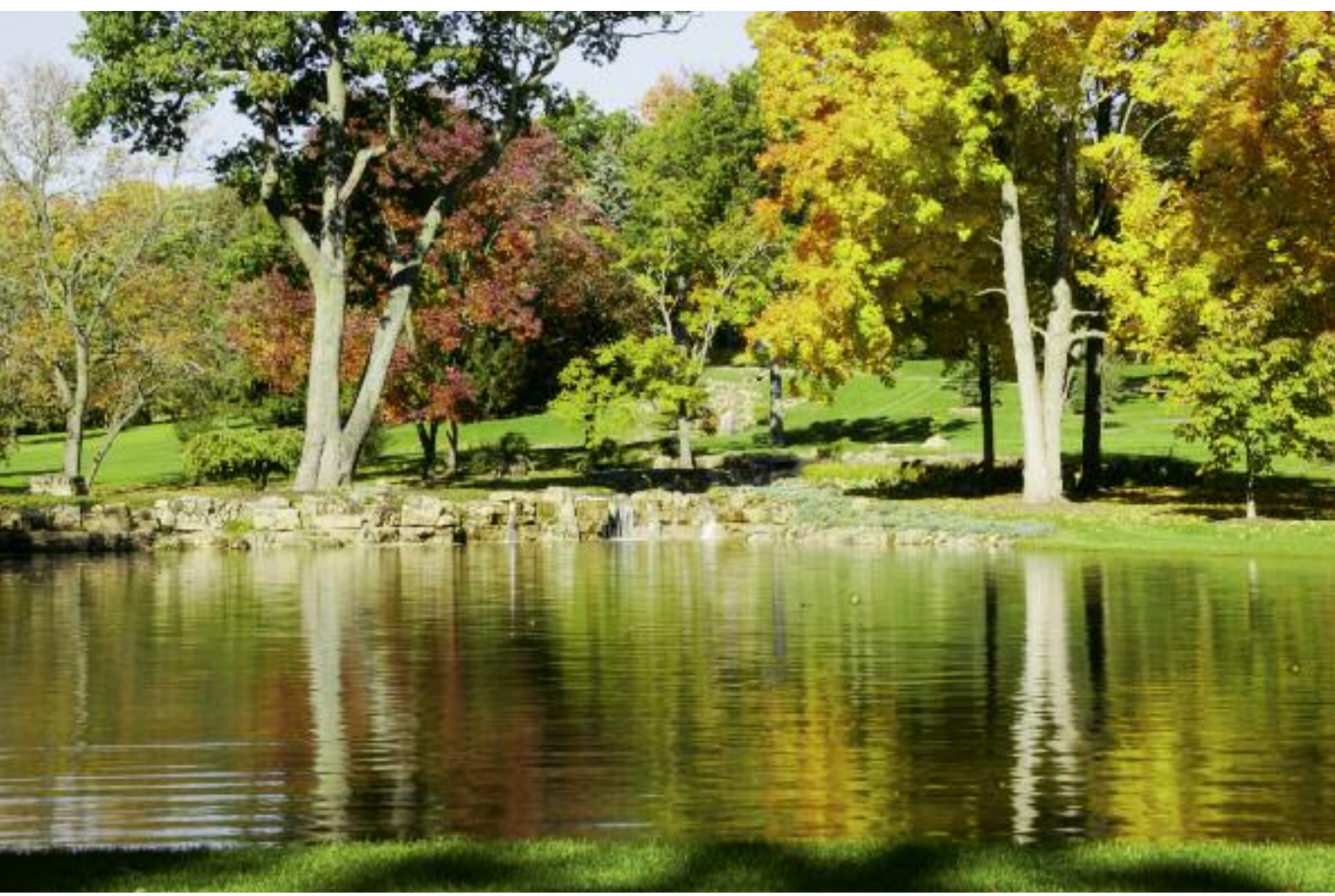
– A.A.W.

fact, there were several areas that ultimately were not planted because it made more sense in those spaces to reveal an expanse of open water.

Along similar lines, I try never to be bound by preparatory work: If I see a need for plants – especially in the water – I'll make adjustments and drop in additional stone, gravel and earthen banks to accommodate them.

Making late adjustments is, of course, easier with terrestrial plantings that spread away from the water, simply because there aren't as many practical obstacles on dry land. There still may be the opportunity to return to the "bold strokes" concept – perhaps by inserting a strong line to accentuate a key viewing area. Or a subtle approach can be applied, perhaps with a stand of plants to conceal a portion of the view and conjure a sense of mystery.

As watershapers, we might tend to think that our projects are enjoyed mostly in the warm summer months, but the plain truth is that our work may be seen (and appreciated) every day of the year. As shown here, fall and winter can be particularly beautiful times around the water, offering surprising and refreshing splashes of color and activity to anyone who visits the property once summer fades.



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For more than 10 years, *WaterShapes* book reviewer Mike Farley has recommended outstanding reading material for watershapers through his 'Book Notes' column.

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WATERSHAPES

Of course, any big moves you make should be balanced by explorations of the near views. In planting along pathways, for example, I often try to place a little gem of a plant somewhere – something unusual that rewards those making the journey. Maybe it will be a carnivorous plant set atop a mound of moss, or perhaps it will be the fun and romance of a beautiful swamp hibiscus. Whatever the choice, it's never a bad idea to add surprises along the way.

A Place for Experience

This project is associated with a historic home that is owned by people who are heavily involved in the preservation of valuable architectural works as well as in promoting the arts. As a consequence, I've known from the start that this would not be an entirely private garden.

Since its completion, in fact, the space has already been used for art classes where painters hone their skills in capturing landscapes, and it's my understanding that the owners intend to offer the space as a venue for a variety of community and charitable events.

From my perspective, this all amounts to the best of all possible worlds: It's always good to know that spaces we've designed and installed are the source of comfort, fascination and rejuvenation not only for a property's owners, but also a broader public that will enjoy these spaces for countless years to come.

Isn't raising quality of life what it's all about? When we work with water and rock and living things, creativity takes on all sorts of added significance when you're able to present your work to a distant future for others to enjoy. That's generally why I start, and it's *certainly* what motivates me through any difficulties toward the finish.

Reflections are a major consideration in a great many watershaping projects, but when you work on a large scale and have brilliant trees and large water surfaces at your disposal, taking advantage of their availability can be the key to the success of the entire composition.

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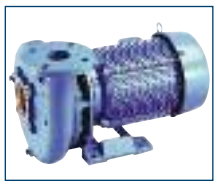
In the Spotlight

For live links to the companies featured here, go to **www.watershapes.com/spotlight**

Water-Screen Jets

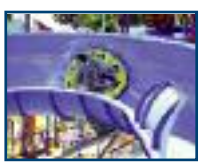
PEM FOUNTAIN (Richmond Hill, Ontario, Canada) offers the Model 1854/08 Water-Screen Jet to create a screen surface of atomized water for the rear or front projection of images using various high-resolution projection media. Made of silicon nickel bronze and stainless steel fitted, the jets will run at extreme operating pressures with an internal brace that can be removed for use at lower pressures.

Pool/Waterfeature Pump



PENTAIR COMMERCIAL POOL & AQUATICS (Sanford, NC) has introduced the Aurora 340, a single-stage, end-suction pump with a capacity of 2,500 gallons per minute – ideal for swimming pools and waterfeatures. Designed for quiet, smooth operation, the enclosed-impeller unit has a back pull-out design that simplifies disassembly and can be used in coupled, horizontal or vertical mounting applications.

Waterpark Feature



WHITEWATER WEST INDUSTRIES (Richmond, British Columbia, Canada) has introduced Viper, a raft slide featuring a serpentine series of twists and high-banked turns before concluding with a dramatic drop into a 20-foot megatube in which riders are propelled vertically from side to side. The system is designed for use with three-person rafts, and additional megatube sections can be added to extend the ride.

Waterwall Systems

AQUA DESIGN GROUP (Brooklyn, NY) offers a range of stainless steel, brass and bronze machining and fabrication services, including the preparation of custom stainless steel manifolds for waterwall applications. The rugged, durable manifolds can be used to create mesmerizing effects with cascading sheets of water and use a baffle method that equalizes water flow to ensure long-term, clog-free performance.

Continued on page 62

In the Spotlight

For live links to the companies featured here, go to **www.watershapes.com/spotlight**

Sand Filter

ZODIAC POOL SYSTEMS (Vista, CA) has introduced the Jandy JS100 side-mount sand filter. Designed to deliver crystal-clear water with simple maintenance, the units are efficient, easy to install and fully compatible with the company's Versa Plumb System. Features include a sweep elbow; an extra-large 2-inch drain for sand and water; a clean/dirty indicator on the pressure gauge; and three backwash options.

Rock Bucket

BOBCAT (West Fargo, ND) has introduced a new rock bucket. Designed to make quick and easy work of removing objects from the soil, the rigs feature tines that are also helpful in sorting or sifting materials and removing debris. The heavy-duty tines are fully gusseted on each side and interconnected to one another for strength and durability, and the skeletal design means the operator always sees the cutting edge.

Ecosystem Products

HEADWATERS FLOATING ISLAND (Billings, MT) has published a 16-page document on BioHavens – manufactured ecosystems that mimic productive natural environments to provide habitats for microbes, insects, plants, fish and wildlife. Coverage includes five product types, including the Floating Treatment, Submerged Treatment, Floating Module, Overhanging Bank and Living Walkway Ecosystems.

Equipment Catalog

AFRAS INDUSTRIES (Westlake Village, CA) offers literature on its product line, with a focus on VGB-compliant drain covers, booster pumps, cover pumps, pump enclosures, debris vacuums and submersible pumps. The 25-page document also covers brass and brass-plated anchors and a wide variety of fittings, hose connections, ladder treads, directional fittings, extended returns, bubblers and more.

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Return Fittings

FRANK WALL ENTERPRISES (Columbus, MS) has introduced a return fitting kit designed specicifically for use in forming systems for the poured-concrete walls of vinyl-liner pools. The unit has a smooth face that fits flush against the form's surface and a slip socket that simplifies the process of gluing it onto a pipe. The kit comes complete with a face plate, a gasket and the necessary screws.

Well-Light Fixtures

ORBIT/EVERGREEN (Los Angeles, CA) has introduced a rugged series of well lights rigged with LED lamps. Made with PBT composite and designed for use in low-voltage landscape-lighting systems in challenging soil and weather conditions, the energy-efficient FG 5400 Series features 3-watt LED light sources that last up to 50,000 hours while producing the same brightness as standard 20-watt lamps.

Divertor Manifold

ATLANTIC WATER GARDENS (Mantua, OH) has announced the availability of the new Triton Three-Way Diverter as part of its Triton Water Management Solutions line. Designed specifically for pond-free fountain applications, the device features a 1- 1/2-inch inlet that doesn't restrict water flow, so maximum volume reaches each of three 3/4-inch barbed, ball-valve controlled outlets.

Antiqued Limestone

YELLOW MOUNTAIN STONEWORKS (Seattle, WA) has introduced an antiqued finish for use with its limestone products in both residential and commercial settings. Ready for use with a wide range of limestone types that come in a broad array of colors, the finish is hand-applied in several layers until the desired effect is achieved, with looks that run from the very rustic to the highly refined.

Continued on page 64

In the Spotlight

For live links to the companies featured here, go to **www.watershapes.com/spotlight**

Job Costing Software

EVOSUS (Vancouver, WA) has added a job-costing component to its business-management software. The new feature offers contractors a unique way to manage large jobs (such as new-pool construction or major renovation projects), covering job phases and cost codes, progress billing, employee time tracking, materials management and full general-ledger integration along with various costing reports.

High-Efficiency Pumps

GRUNDFOS PUMPS (Olathe, KS) has expanded the range of its CR-H multi-stage end-suction pumps to include additional units made with ductile iron and featuring flow rates up to 635 gallons per minute. Designed for any application calling for high efficiency levels, the horizontal, multi-stage, end-suction units are made for a plug-and-play approach and will fit into existing pump and piping footprints.

Walk-Behind Trenchers

DITCH WITCH (Perry, OK) has introduced Models RT10 and RT12 – walk-behind trenchers that feature easy hydraulic steering for greater maneuverability and productivity for operators of all sizes. Available with high-flotation tires or heavy-duty oscillating tracks, the units offer superior ground penetration, and there's an optional backfill blade to make trench restoration both quick and easy.

Outdoor Fireplaces

ECOSMART FIRE (Los Angeles, CA) has introduced The Synergy Series – a line of fireplaces for use in outdoor settings. The four models in the line (Vision, Fusion, Cube and Aspect) are all made with exterior-grade materials including weather-resistant, heavy-gauge steel and are available in any of six standard powder-coated colors (aged brass, aged bronze, cast iron, copper, pewter and white).

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WATERSHAPES

Reservoir Cubes

EASYPRO POND PRODUCTS (Grant, MI) has introduced high-strength reservoir cubes for use in heavy-duty residential and commercial applications. Ideal for pondless waterfeatures using large boulders, their large size (27 by 16 by 17-1/2 inches – the equivalent of 4.4 cubic feet) means fewer cubes are needed for large-scale projects. They also work well in rainwater retention and recycling systems.

Steel Trees

NATUREMAKER (Idyllwild, CA) has published information on its Steel Art Trees. In addition to providing a gallery of tree designs, the 30-page document discusses the settings for which the fully engineered, pest-free, fire-and-smoke-certified, ADA-compliant structures have been designed (libraries, commercial atriums, healthcare facilities), describes how they are made and covers frequently asked questions.

Butterfly Valves

HAYWARD FLOW CONTROL SYSTEMS (Clemmons, NC) has launched the PoolMaster series of butterfly valves. Available in sizes ranging from 2 to 8 inches and designed for use with commercial pools, aquariums, waterparks and in other applications, the reliable, economical devices feature PVC bodies and EPDM-lined disks that are immune to corrosion and cannot cause contamination.

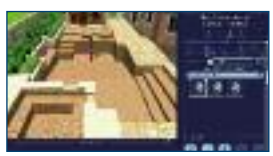
Color LEDs

NEXXUS LIGHTING (Orlando, FL) has introduced Galaxy Plus – color LED replacements for standard pool lights. The units use 90 percent less energy than standard incandescent bulbs and are now 40 percent brighter than the original Galaxy pool lights. They can be screwed into existing pool/spa light housings and also can be synchronized with the company's Melody, Notes and X-Stream products.

Composite Decking

TIMBERTECH (Wilmington, OH) has introduced ReliaBoard, a decking product that offers all of the benefits of low maintenance at an affordable price. The units come in a gray or cedar color and are made of recycled wood mixed with recycled and virgin high-density polyethylene. They feature 5.4-inch-wide plank surfaces with a square-edge profile and don't ever require painting, staining or sealing.

Search Feature



STRUCTURE STUDIOS (Las Vegas, NV) has added a search feature to the library of its three-dimensional pool-design software. System users are now able to access the thousands of design templates and fully rendered 3D items in the library and can import them into their own design schematics. These items can be searched by name or type, and the new feature will be downloaded in the regular update process.

Shotcrete Pump

BLASTCRETE EQUIPMENT CO. (Anniston, AL) offers the Model RD6536 Skid-Steer Pump Attachment. Designed for fast, efficient performance in use with all skid-steer units, the three-inch hydraulic squeeze pump can move anywhere from 0 to 25 cubic yards of material per hour, is ideal for a variety of shotcrete applications and also has the ability to pump grout materials and structural concrete mixes.

Cantilever Coping Forms

QUAKER PLASTICS (Schuylkill Haven, PA) now offers an extended line of cantilever forms and kits to extend its line of pool and deck products. The new items feature three different coping profiles – Modern, Victorian and Classic – with push lock, twist lock or wire tie/washer attachment options for fast, easy use on both vinyl-liner and concrete pools. The kits include tile strips in white, gray and tan.

Book Notes

Humility and Grandeur

By Mike Farley

Whenever I work with clients who want to make an artistic statement with their watershape or landscape designs, I commonly start by asking, "What's your inspiration?"

That simple question cuts right to the heart of the matter: It prompts them to discuss their memories, preferences, influences and tastes while also encouraging them to think in artistic and even emotional terms about what they want. This gets them excited about the process – and gives me some much-needed guidance in working with them.

But there's another side to the question of inspiration that's equally important: As designers, we always need to be in touch with our *own* sources of inspiration and understand how they influence the work we do (or want to do).

In the ten-plus years I've been writing this column, I've covered dozens of books that have served me as sources of creative, artistic and professional inspiration. None of them, however, has been as important to me personally as has *The Backpacking Guide to the Weminuche Wilderness*, self-published by Dennis Gebhardts in 1974.

It's long out of print and will most likely be impossible to find; moreover, it's really of interest only to aficionados of backpacking in southwestern Colorado. Even so, I bring it up because no matter where you are or what wild territories you can access, I believe there is no substitute for traveling to places that inspire you.

As I sit here working on this column, I'm about to set forth on my twenty-ninth trip to the Weminuche Wilderness, where I lead groups of youngsters and adults into the most beautiful acreage I've ever seen.

This year, 19 teenaged kids and five adults will spend a week with me, hiking a challenging 21-mile trail that crosses between 10,000 and 12,000 feet of elevation along the Continental Divide amid some of the grandest scenery anywhere. Designated as a U.S. Wilderness Area, the virtually untouched, 60-square-mile space sits between Silverton and Durango and includes seven peaks rising above 14,000 feet. (In my visits, I've now reached the tops of five of them.)

I experience the deepest possible sort of humility in these excursions, but I perceive a tremendous sense of joy as well – especially when I see the lights switch on behind the eyes of the young people who've made the trip. There's also the artistic inspiration I find here: The natural beauty of these peaks, forests and mountain streams cannot be conveyed in words.

Nor, I have learned, can they be easily translated into the work of human hands and minds!

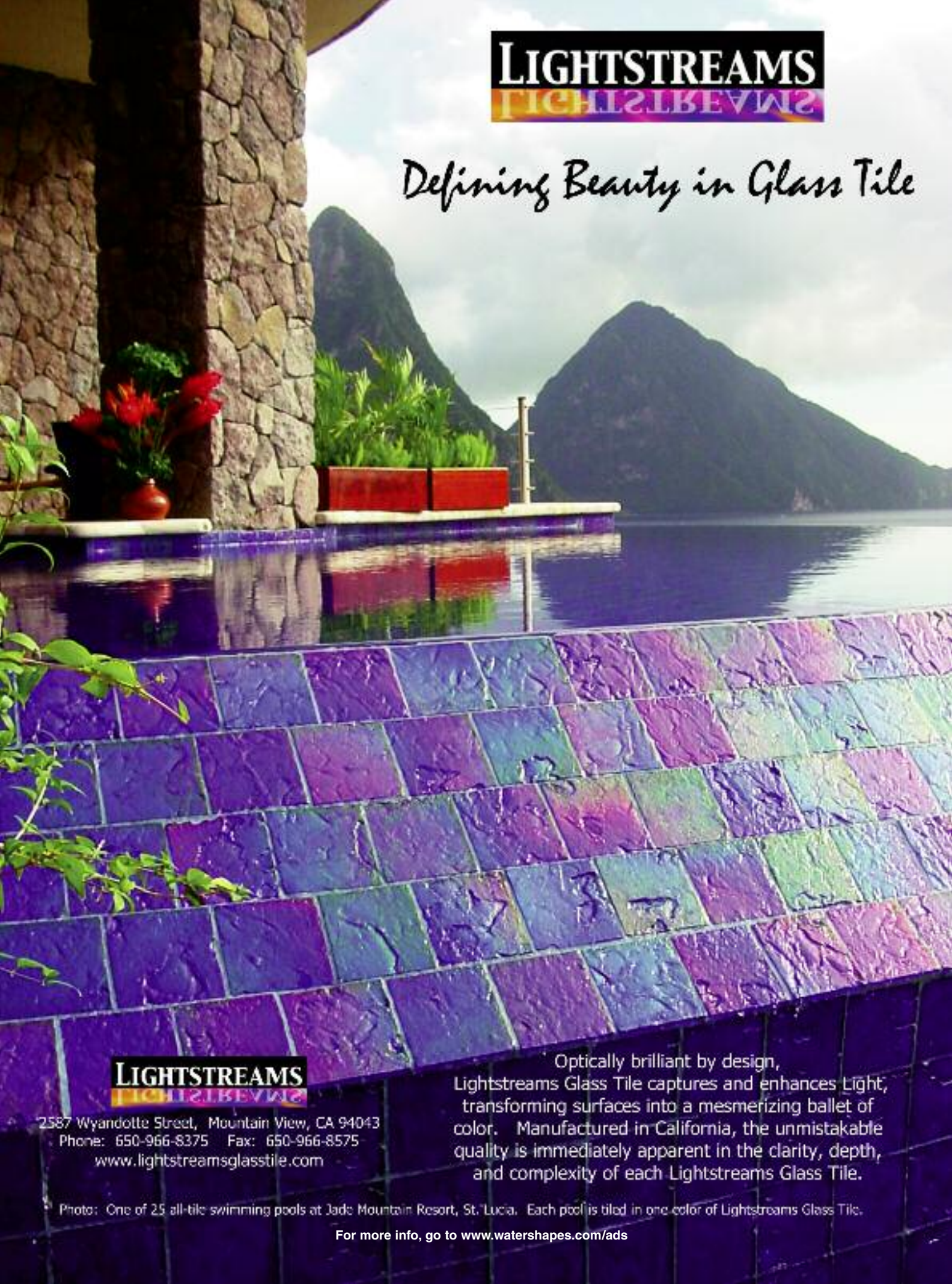
I've always believed that the greatest achievements in watershaping are those that succeed in mimicking nature and I find myself powerfully drawn to the possibilities, but I also find myself steering lots of clients away from naturalistic approaches because I don't believe the settings they're working with will allow the illusion to succeed. As a result, although I've done a few projects with a naturalistic bent (including one for my own home), I'm often reluctant to go that way despite my clients' wishes and my own passion.

I've spent so much time closely observing nature at its best, hiking through places of remarkable grandeur and beauty, that all nature-imitating projects end up on a microscope stage – and I almost always find them lacking when it comes to the details that make the difference. I continue to strive and have taken incredible numbers of photographs to document what I've seen for future reference, but ultimately I must confess to being a bit intimidated by my awareness of how these details look in the Weminuche Wilderness and other wild places.

As human beings, these experiences definitely show us our limits. In our work as designers, however, they offer layers of inspiration we can use to power our ideas and make us strive for incredible levels of excellence and achievement. Speaking for myself, getting out into nature in this way brings a joy and richness to my life that cannot be fully understood or expressed.

I also know that, one of these days, the right client and the right space will come along and I'll put everything I've learned to use in the best possible way. Here's hoping! WS

Mike Farley is a landscape designer with more than 20 years of experience and is currently a designer/project manager for Claffey Pools in Southlake, Texas. A graduate of Genesis 3's Level I Design School, he holds a degree in landscape architecture from Texas Tech University and has worked as a watershaper in both California and Texas.



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