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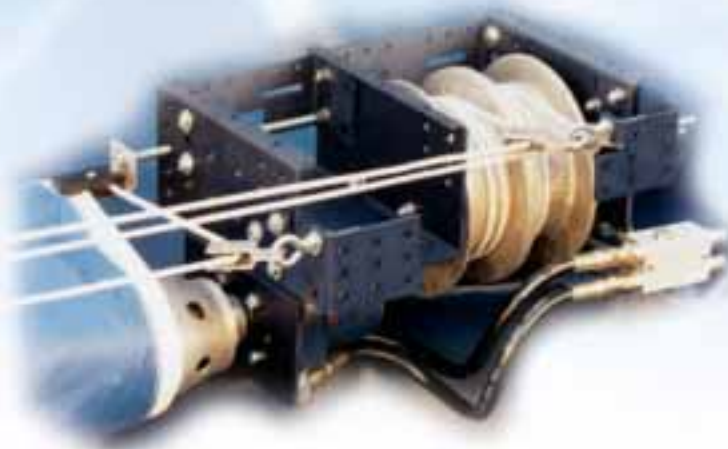
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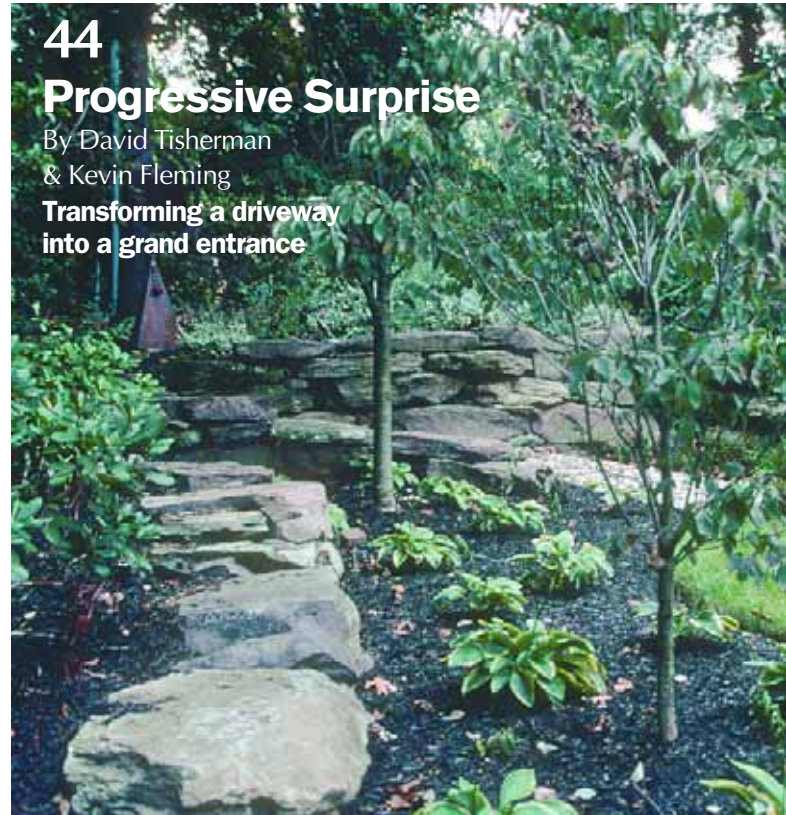
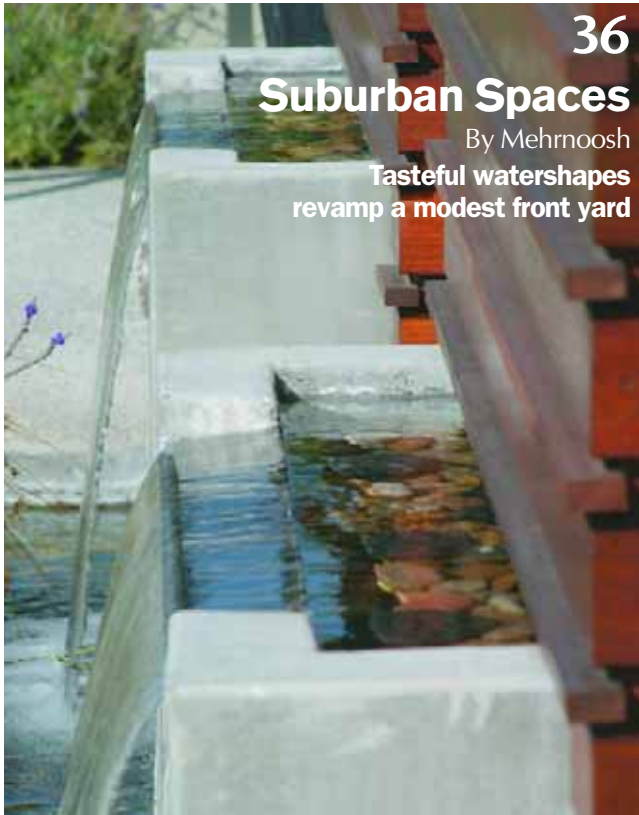


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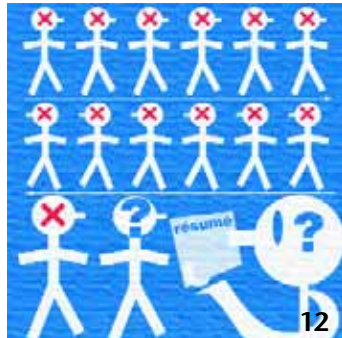


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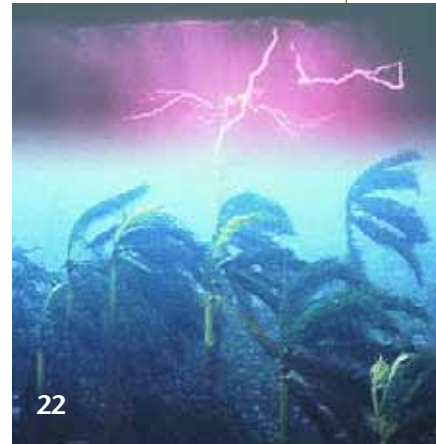
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Photo by Jim McCloskey, courtesy Mehrnoosh, Venice, Calif.

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By Eric Herman

The Home Front

In a sense, the way we “dress” our homes’ exteriors is not all that different from the way we dress ourselves: Both are expressions of personal pride, and the aesthetic choices we make speak volumes about who we are. Some of us prefer flash and ostentation while others take subtle approaches – and the possible permutations of styles in between are literally endless.

The more care we take in choosing wisely, the more accurately the clothing can be seen to represent our personalities – on our bodies or with our homes.

In the past few weeks, I’ve come to notice that when it comes to the presentations we make with our homes, there’s no better place than our front yards to make defining visual statements. That’s why I see it as somewhat ironic that so few watershapes make their way out front – especially with more modest homes, where we almost *never* see water used to any significant extent. For the most part, watershapes in these suburban neighborhoods are strictly a backyard affair.

If you stop and think about it, however, front yards represent a tremendous opportunity for watershapers to do something special for their clients – and a great means of expanding your relationships with individual clients.

Indeed, with lot sizes in new developments shrinking and the rampant visual monotony that characterizes so many stretches of suburbia, a properly scaled watershape can offer the perfect way to individualize and personalize the appearance of a home and provide an intriguing and exciting transitional space between enclosed, private spaces and the outside world.

To be sure, front yard watershapes are comparatively rare, so there’s not much creative precedent to examine and mine for ideas. Fortunately, however, we’ve come across two beautiful projects to cover in this issue:

W On page 36, there’s “Suburban Spaces” by Los Angeles architect Mehrnoosh. This one is about the complete metamorphosis of a nondescript suburban front yard in a middle-class neighborhood into a water-centered statement about the value of outdoor living spaces as buffers between our private worlds and society at large. Relying on wonderful contemporary sensibilities, she uses sheets of water, a small pond, a beautiful wooden fence and tasteful hardscape to create a transitional outdoor room for a lucky set of clients.

W On page 44, you’ll find “Progressive Surprise” by David Tisherman and Kevin Fleming, in which they lead us on a tour of the subtle yet daring renovation project David described in his “Details” column in our December issue. It’s a case where we see the complete transformation of an ordinary front yard to a special space with a sonorous watershape, extensive rockwork, great landscaping and a beautiful pair of sculptures.

Neither of these projects is monumental in scope, but to me they are both emblematic of how water and basic landscape elements can be used to redefine the potential of huge numbers of front yards. Just seeing these projects makes me think about how others might benefit from a bit of creative input from a good watershaper. Moreover, instead of being hidden in the backyard, these watershapes are in plain view to inspire passersby, friends and neighbors on a daily basis.

Sounds like opportunity knocking to me – and a great way to extend owners’ pride in their homes.

Eric Herman

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the nursery gap

The column by Stephanie Rose in your October 2004 issue ("Communication Gaps," page 20) raises some issues with the plant knowledge of landscape architects. I have also read the column in *Landscape Architecture* mentioned by Ms. Rose in her discussion of the overall lack of interest in plant materials among landscape architects.

In general, I agree with the premise behind both pieces, but I also want to point out that today's landscape architects and contractors are constrained by what is available from local nurseries.

I am a licensed landscape architect and have worked in six states through the past 12 years in the Midwest and mid-Atlantic areas. One of the first things I've done in each new market is tour and request literature from as

many local nurseries as possible. What I have found, across the continent, is that many nurseries have chosen to cater to do-it-yourself homeowners and to landscape contractors who use the same material over and over and have as a result moved away from quality, interesting plant material.

While there are some nurseries that carry interesting and hard-to-find plants, they are often too expensive to include in the majority of plans that have cost restraints.

I agree with Ms. Rose that there are many low-cost alternatives that can be included by landscape architects in their designs. Personally, I am not inclined to use the same palette of plants for each design, and do actually review soil types, microclimates

and how the spaces will be used. I would suggest, however, that nurseries spend more time talking to landscape architects and begin a dialogue that may lead to a better selection of plants for *everyone* – landscape architects, landscape contractors and homeowners alike.

P.J. Andersen, RLA, ASLA
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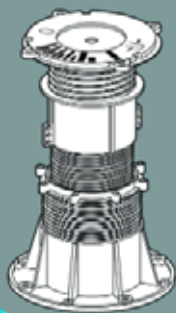


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in this issue

January's Writers

Mehrnoosh is a Venice, Calif.-based architect who focuses on high-end contemporary buildings and exterior designs for both residential and commercial clients. Born in Iran, she moved to the United States with her parents in the mid-1960s and went on to study architecture at the University of Oregon, where she earned her bachelors in 1973, and then at Harvard, where she earned her masters in architecture in 1979. Early in her career, she worked for I.M. Pei & Partners and then Skidmore, Owings & Merrill, tackling a range of major projects in the United States and abroad. She moved to Los Angeles in 1983 and has established a reputation for creative, modernist designs in a range of urban and suburban settings.

David Tisherman is the principal in two design/construction firms: David Tisherman's Visuals in Manhattan Beach, Calif., and Liquid Assets of Cherry Hill, N.J. A designer and builder of custom, high-end swimming pools since 1979, he is widely known in the pool and spa industry as an advocate for the highest possible standards of design, engineering and construction. He has degrees and credentials in industrial design, scientific illustration and architectural drawing from Harvard University and Art Center College of Design and has taught architectural rendering and presentation at UCLA. An award-winning designer, he serves as an industry expert for California's Contractor State License Board. Tisherman is a co-founder of and principal instructor for the Genesis 3 Design Group. **Kevin Fleming** is a partner in Liquid Designs of Cherry Hill, N.J. A 1991 graduate in landscape architecture from West Virginia University, he worked in residential landscape design, sales and project management for a New Jersey landscaping firm from 1991 until 1998, when he started the company's swimming pool division and, in 2001, a new division aimed at providing design/build services for custom, high-end residential watershapes. Fleming is a member of the National Spa & Pool Institute, has received several awards from the Northeast Spa & Pool Association and is a Level I and II graduate of the Genesis 3 Design School.

Jeff Freeman is director of technical services and commercial sales for Balboa Instruments of Tustin, Calif., and is also founder of Fluid Logic, an independent hydraulics consulting firm in Upland, Calif., that specializes in complex aquatic systems. He entered the watershaping industry more than 20 years ago, working for a wholesale distribution firm. He later established his own service and repair company, then returned to the

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distribution business as a product representative working with swimming pool and spa builders. He has extensive experience designing and troubleshooting hydraulic systems and has taught the subject at the California Polytechnical University in Pomona, Calif.

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 fostering new thinking and raising awareness of architecture and landscape design as a blended whole.

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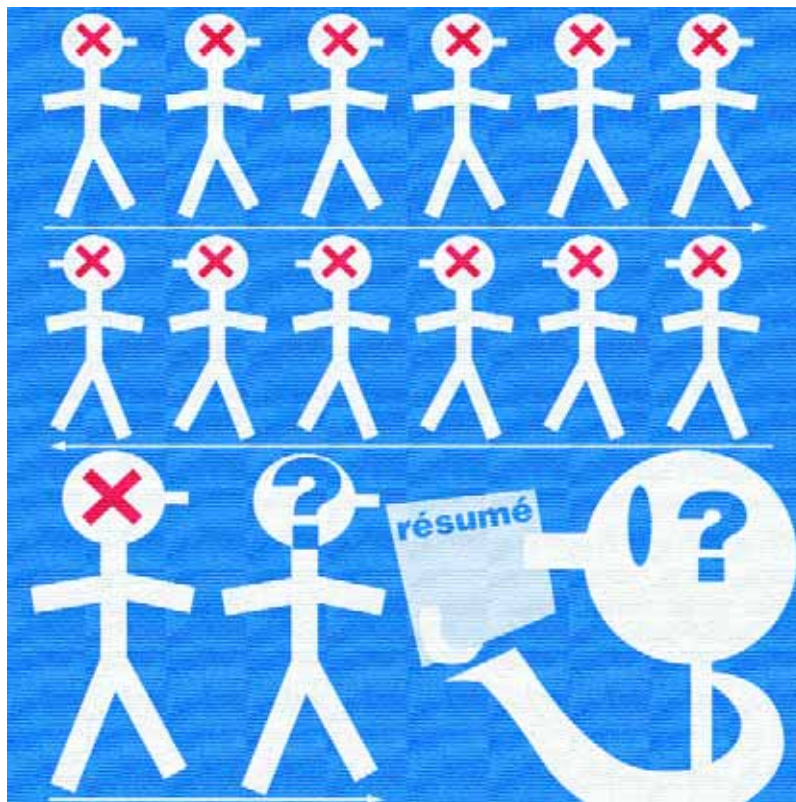
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WATERSHAPES • JANUARY 2005

11

By Brian Van Bower

The Company You Keep



If you ask a roomful of watershapers about the toughest of the basic business challenges they face, there's little doubt in my mind that a large percentage of them would say that finding, hiring and keeping good employees is near the top of the list.

That always-tough task is complicated by the fact that the vast majority of watershapers need to rely on others to get a project done. Yes, there are a few of you out there who work entirely on your own with the aid of subcontractors, but watershaping is generally a group effort involving combinations of in-house salespeople, office managers and craftspeople as well as designers, engineers, project managers and all sorts of other possible positions that define our companies.

To a large extent, success in what we do depends on the coordinated efforts of these groups of employees. A prerequisite to that success involves sitting down with a prospective employee, considering his or her background, asking questions, weighing responses, looking a candidate in the eye and finally making a decision about whether or not he or she has the right stuff for your firm.

A twist on the road from hiring to long-term success, of course, comes

To find people to fit specific roles, you can take one of two approaches – either hire someone with work experience who exactly fits the position, or find someone with transferable skills who can be trained to do the job you need done.

from knowing that once a new hire has been trained and is now making a positive contribution, eventually he or she may leave to captain an independent ship. That's a frustrating part of this business, but you can't escape the cycle – and, as we shall see, there are some steps you can take to keep valuable employees on deck by your side.

looking for the right fit

Depending upon several factors – the size of your company, its business volume, its focus and how much work you submit to outside contractors – your own approach to hiring and employee management will tend to vary substantially. Regardless of how formalized and structured your procedures, however, the same basic principles apply whether you have a staff of 50 or just five. The plain fact is that you will always begin hiring people one at a time.

It's fair to assume that, for the most part, water-oriented companies in the landscape, fountain and pool/spa trades are relatively small in size. In fact, it's a business where a firm with 20 employees is considered to be pretty big. In such an environment, hiring is seen as more critical than in others: The people get to know each other quickly, trust is an important value and each employee is extremely important to the success of the business.

In finding people to fit these specific, significant roles, you can take one of two approaches – either hiring someone with work experience who exactly fits the position (that is, someone with direct experience in the industry), or finding someone with transferable skills who can be

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trained to do the job you need done.

w Hiring for experience. When you hire someone from within the industry with experience that mirrors the position, the learning curve will be much, much shorter and less expensive. If it's the right person who's making a move for the right reasons, hiring from within the watershaping trades can indeed

be a big plus – but there can be downsides to this approach as well.

Often, for instance, people with direct experience have their own ways of doing things, some of which may not align with your own values or some that are simply bad habits. Getting someone to unlearn and relearn under these circumstances can be more difficult than starting from Square One.

You must have realistic expectations when it comes to those who know little about the business when they show up for their first day on the job.

I've also found that those hired from within the industry are more likely to exit your own firm one day to start their own companies and may see working with you as a steppingstone in their own path toward business ownership. Observing this process can be painful and certainly puts a premium on loyalty, but it's an inevitable fact of being in business. And the better your business, the likelier it is that good people will see working for you as valuable experience they can take with them when they go out on their own.

w Hiring newcomers. The other approach – hiring and then training – carries more cost up front because the process of bringing a person up to speed does not yield benefits so quickly. If, for example, you hire a salesperson from outside the trade, you cannot reasonably expect his or her numbers to be as strong in the early going as those of someone who's been selling watershapes for a period of time.

No matter the position, you must have realistic expectations when it comes to those who know little about the business when they show up for their first day on the job.

I believe, however, that the upside potential of hiring from beyond the industry can easily make the cost and effort of properly training these fresh faces worthwhile. First, you open yourself to a much wider prospect pool and will have more choices. Second, you can provide training in specific skills and the needs and priorities of the position and therefore effectively tailor the employee to suit a specific function. Third and perhaps most important, when you start with a blank canvas with respect to employee training, you stand a much greater chance

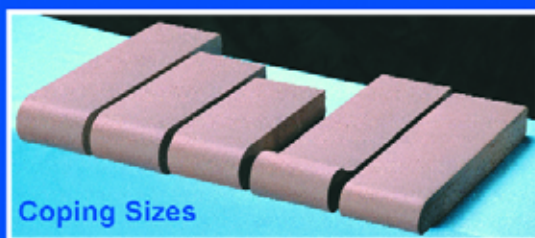


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of filling your new hires with your own business values.

I've tried both approaches through the years, and each has its good points. How you proceed depends upon a number of variables – for example, hiring a designer is different from hiring a project manager or an office assistant – that determine the value of industry experience

and the need for flexibility in approaching the hiring process.

personality check

As with most everything in business, you need to have a structure in place for your hiring process. You need to know in advance what you're willing to pay by way of salary and benefits, what vehicles you'll use

in finding prospects, what sort of training will be involved, probationary periods and how you specifically intend to indoctrinate a new hire in the way you do business.

The more clearly you understand what you expect in and from an employee, the more clearly you express clear objectives for the short and long runs and the better will be the chances of your new hire's success – and your own.

How you find candidates is a major concern. I've tried a number of routes, from newspapers and community organizations to job services at local universities. Others have tried the Internet, trade magazines and other creative resources – and they all work fine. But however you slice it, you'll likely end up sifting through a whole bunch of unqualified (and a few over-qualified) applicants in looking for a select group of strong contenders.

One of my industry friends, Nanette Zakian of Hachik Distributors in Aston, Pa., runs a successful firm with dozens of employees and has had great success in hiring. She makes use of a professional consultant to screen the pool of applicants for all positions in her firm.

I spoke with her as I was preparing this column and she said that by using a professional screener, you're essentially buying the experience of someone who has broad experience in spotting red flags and is knowledgeable about a range of hiring concerns. You pay for such assistance, of course, but given the importance of hiring decisions, using a professional might well be a wise investment.

She also suggested that the foundation for any good hire is developing a detailed job description as well as an outline of the characteristics you seek for a given position. Doing so helps you organize your thoughts, she noted, and helps you focus on what's most important rather than becoming distracted by positive qualities in an applicant that you may like but isn't really the ideal hire.

During the interview itself, she recommends using the same set of questions with each candidate for each specific job. This helps you establish clear, clean cross-comparisons among all candidates.

Continued on page 18

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Another person whose hiring practices I admire is Bill Kent, who runs the Team Horner family of companies out of Fort Lauderdale, Fla. He has a reputation for hiring quality employees and retaining a large percentage of them for long periods of time, and he does so in part by using a personality-profiling service that gives applicants a simple test that can be used to define key personality traits. (I took one of these tests out of curiosity and was really impressed by how well they pinpointed my main personality quirks.)

eye to eye

The benefit of these sorts of hiring procedures is that they can be used to stack the deck in your favor. But for all the forethought, discipline and analysis you apply in the hiring process, there still comes a time when you must look a candidate in the eye and make a judgment call.

On a certain level, in fact, the hiring

process all boils down to personality and the way the person comes across in an interview.

This is unavoidably a subjective process, and I myself make no bones about the fact that I pay close attention to some intangible details. First, for example, I look for someone I believe will be inspired by the job. I've always said that I'm not really in this business to make money: Instead, I'm into creating beautiful environments that improve the quality of my clients' lives. Because of my own value system, I want someone who is similarly inspired by our products and their potential.

On an even more subjective level, I hire people with whom I believe I'd be proud to associate – those who take pride in themselves and care about presenting themselves in positive and engaging ways. This can mean many different things, but I know these qualities when I see them and am not easily fooled: It's all about personal appearance, confi-

I hire people with whom I believe I'd be proud to associate – those who take pride in themselves and care about presenting themselves in positive and engaging ways.

dence, body language and a positive energy and spirit that I don't think can be faked. I also seek out people with ambition who see working with me as a way to grow personally.

I'll confess to being turned off almost completely when the first thing out of a candidate's mouth is a concern about compensation. We all work to make a living, of course, and part of good hiring

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means paying meaningful, competitive salaries and wages, but I see primary concern with money as a red flag.

On the positive side, I *do* like people who ask questions, especially when they cut to the essence of what the business is all about. And I've always admired job candidates who answer the question "Where would you like to be in five years or ten years?" with something along the lines of, "I'd like your job." What some might see as naked ambition I take as a sign of someone open-eyed in wanting to develop skills and grow in a chosen field of endeavor.

At the core, hiring is about finding a person with the right qualifications as well as someone you believe will be able to embrace your own core values as they relate to the business. In some sense, you're looking for clones of yourself – but clones who bring their own strengths to the workplace and enrich it with their individuality.

retention rates

Once you hire someone good, your next mission is hanging onto them. In fact, I'd say that retaining good employees might even be more important than consistently hiring well because it requires a greater investment of time and energy than does the ad hoc exercise of bringing someone aboard in the first place.

For starters, if you want to retain employees for the long haul, you have to give them both short- and long-term goals. You need to define the roles you're asking them to fill and you need to set up plans that let them see pathways for advancement. All of this serves to give them a sense of acting in their own self-interest as they simultaneously work in the service of you and your customers. In a sense, this lets them see their work as an investment in their own futures.

Employee benefits and profit-sharing programs can be big keys as well. In Bill Kent's case, his firm even offers financial counseling to its employees – something that enables him to transfer his own considerable skills in personal finance to employees who might not be as expert as he is at investing money and planning for


the future. In doing so, he improves the quality of their lives, wins an amazing degree of loyalty and creates a general belief that everyone in the company is vested in its success.

These days, of course, health insurance is a huge and complex topic and extremely important when it comes to retaining good people, but it's just one com-

ponent in a big overall picture. All things being equal, it makes sense that employees will be happiest working for firms that offer good benefits packages.


Another key to retaining employees has to do with the working environment. I've always believed in setting up office spaces with nice furniture, interesting and lively décor and comfortable amenities. Some

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firms take this to a wonderfully developed level with exercise rooms and massage services (a personal favorite), and I've always thought creative enterprises in particular need working environments that reflect within the company what should be produced in the field.

I recently toured Dominus Winery in Napa Valley and was amazed by their fa-

cility. It isn't even open to the public, but it's absolutely stunning in every detail, from the architecture to materials of construction and terrific interiors. The entire place embodies a wonderfully open and warm feeling, and it's all there strictly to benefit the employees. And it came as no surprise to me that Dominus is a world-class outfit producing a glorious high-end product.

You don't have to go that far, certainly, but if you want people to feel comfortable, it's good to create a stimulating and inviting environment. When I look at the drab, utilitarian, cubicle-studded environments in which so many companies house their employees, I want to scream and literally cringe at the thought of working there. Rest assured I'm not alone.

the company you keep

Even more important than the physical workplace, however, is the atmosphere you create.

Company culture is all-important in maintaining long-term employees, especially in a creative field like watershaping. The best work can only happen when your people feel valued and at ease as they work, and I go out of my way to make sure that the working atmosphere around me is friendly, light-hearted and filled with mutual respect.

I see our company as a reflection of my desire to feel as though what I do all day long really isn't work, per se. We have lots to do and the emphasis is always on getting the job done, but without a liberating spirit of creativity and shared ambition, the experience of being at work can become a burden: When your employees really don't want to be there, they'll perform that way.

This is why I've always believed that the best employers are those who provide not only a good living for their employees, but also a good life. Our product is about enjoyment, imagination and self-expression, and by reflecting those values in the workplace, I think we stand a better chance of not only hiring good people, but of keeping them around to share and enhance the experience. **WS**

Brian Van Bower runs Aquatic Consultants, a design firm based in Miami, Fla., and is a co-founder of Genesis 3, A 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.

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By Stephanie Rose

Nature's Way



Throughout my design career, I have repeatedly expressed to clients that their gardens are dynamic, constantly changing and only to a very minimal degree under anyone's control. You can plant, water, fertilize, cultivate and prune – “and if you're lucky,” I say, “you'll enjoy the fruits of your labors in the form of a visual feast.”

But that's *only* if you're lucky, I continue, because no matter what we do to nurture gardens, they are always subject to the whims of Mother Nature. From the smallest annual to the most statuesque tree, no garden is immune.

Even though I've always had this talk with clients, however, I've always held the mild belief that it's possible in some ways to stay a step ahead of Mother Nature by being vigilant and active. I learned the other day, however, that she still has the upper hand.

crying time

When my daughter was born 12 years ago, I planted a 15-gallon Weeping Willow in the front yard. I've always admired the graceful sway of these beautiful trees, no matter the season, and I've always loved this tree in par-

Recognize that, when
push comes to shove,
Mother Nature's hand trumps
all others, no matter how
many cards we might
have up our sleeves.

ticular for obvious sentimental reasons.

The tree thrived and grew to about 30 feet, at which point I started trimming it back to keep it away from the power lines and its main branches at a safe distance from my house. I also had my tree trimmer stop by at least once a year to lighten up the leaves so light could get to the plants below and the tree wouldn't get too heavy.

Everyone in the neighborhood loved that tree, too, but note the past tense: The willow didn't make it through the first major storm of the 2004-05 season.

Weighed down by water and whipped by the wind, the tree gave way. We saw five terrifying arcs of electrical current light up the entire street as the branches first touched the power lines and watched helplessly as the tree caught fire and the downed power lines continued to spark.

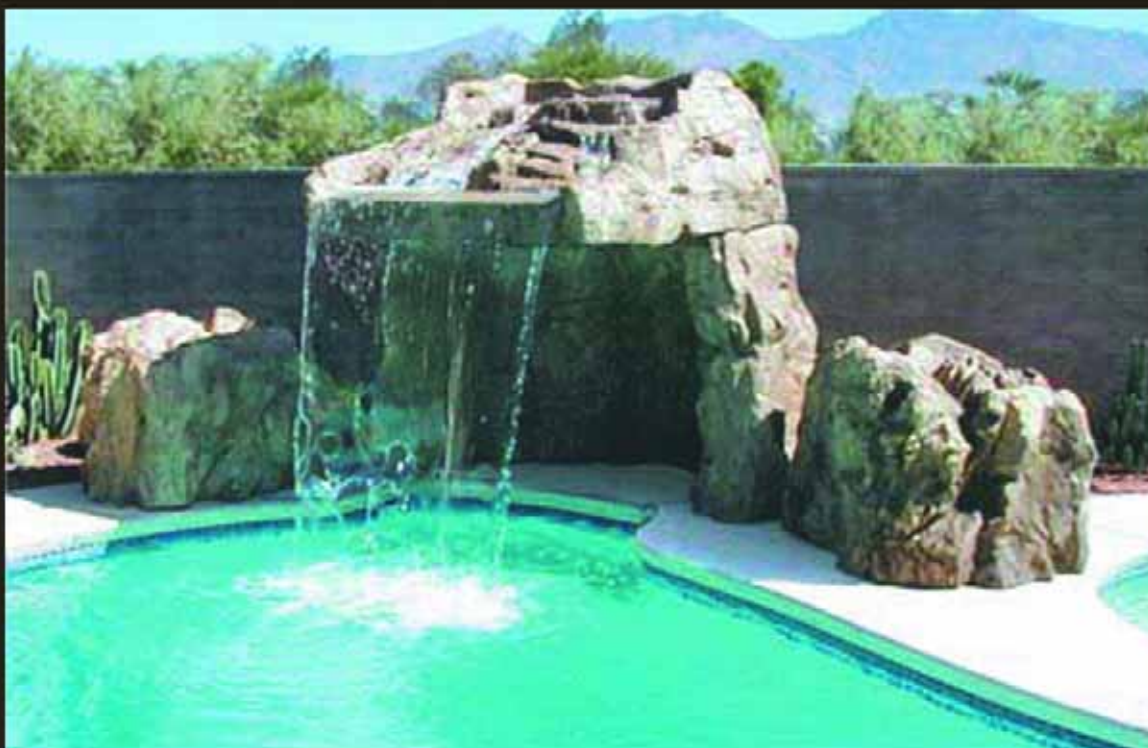
Before long, the Fire Department arrived, the power was off and it was safe to go outside to survey the damage, and I knew it was all over for my tree. It occurred to me as I stood there that, no matter how well I had cared for the tree through the years, it was somehow destined to meet this particular fate.

After calling neighbors to apologize for a power outage in the middle of one of the bigger October storms we've experienced in many years, I called my tree trimmer, said a few words over the limbs of a fallen comrade and, callous as it may seem, started almost immediately to think about replacing it.

Looking out over my front yard and a mostly destroyed landscape, I can only smile at the irony: I'm the landscape designer with the best looking yard on the block, yet I'm the one who wreaked havoc on the entire neighborhood with my handiwork!

Irony aside, there were serious lessons to be learned here.

Continued on page 24



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natural companions

basic truths

Through all my ponderings on the misfortunate willow, I saw that our clients need to:

- know that we will design beautiful landscapes for them that will require their constant attention – or the attention of a qualified professional.
- accept the fact that all the constant attention in the world cannot guarantee that the landscape will look exactly the way they want it to look.
- recognize that, when push comes to shove, Mother Nature's hand trumps all others, no matter how many cards we might have up our sleeves.
- know that, although we can't fight Mother Nature, there are still things we can do to minimize her effects.

The thought that the best offense is a good defense applies just as easily to a garden as it does to anything else: By taking good care of our gardens, we create the healthiest environments we can and engender an integrity that becomes their own best defense

against the forces of nature. It's just like taking good care of your health: If you exercise, eat right and get enough sleep, you have a better chance of fighting off illness than if you become a couch potato.

So what are some things you can suggest by way of minimizing the potential damaging effects of Mother Nature? Here are a few points to consider:

w Have an arborist examine all trees on the property once a year and, if he or she diagnoses tree diseases or other abnormalities and makes suggestions for treatment, make sure your clients heed that advice. Arborists will typically set up programs to visit, diagnose and treat trees on a regular basis, even setting up schedules so nobody needs to think much about it. To find one, start with the Yellow Pages, check for certification and do what you can to find a professional who is familiar with the given area.

w Make certain that all trees and shrubs are pruned on a regular basis. Beyond routine maintenance, it's important to have a gardener or specialty maintenance



The fallen tree looks graceful even in its demise, but it caused a good bit of neighborhood trouble on its way down – and taught some valuable lessons at the same time.

crew come in once or twice a year (ideally during May and October) to shape, prune, thin and otherwise care for plants that may overgrow or create hazards.

w Thin out larger trees. As we look up at large trees, it's tough to assess just how much weight is carried on those branch-

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natural companions

es. A good, wind-assisted rainstorm multiplies that weight many times and conjures a significant potential for broken branches or, as in my case, a fallen tree.

w If something looks abnormal on your client's plants and trees, something has probably gone wrong. Not long before the storm, for example, I'd noticed that my Weeping Willow was leaning a bit and that

the base of its trunk had a knotty/gnarled appearance – a syndrome I later learned was probably a disease called “crown gall.” Although there was nothing I could have done to save my tree, there is always a chance of staking a sickly tree or cutting it way back so that it doesn't become a hazard. Removal may still be necessary, but you don't want to have that become a fore-

gone conclusion during a rainstorm.

w Keep trees well away from power lines and low enough relatively so that if they *do* fall, they will fall harmlessly. Even though mine was trimmed away from the lines, it was tall enough in other parts that it caught two or three of the six lines in its path on the way down. Keeping heights down also minimizes the amount of tree standing up against the elements and, once again, lowers the probability of damage in a storm.

w Select appropriate plants for the general weather patterns in your area. Putting a large, heavy tree in a small yard that frequently experiences high wind conditions, for example, is probably not a good bet. I'd even recommend consulting an arborist on tree choices before making final selections. In my area, for example, oak-root fungus is rampant, causing trees to die quite quickly and often without warning. It's enough of an issue that I now routinely check with an arborist to make sure that trees I've selected are truly suited to their locations.

w Keep a sense of humor through thick and thin. As sentimentally attached as I was to my willow, I had no choice once it fell other than to let go and move on. My daughter wants me to plant another Weeping Willow; I'm reluctant to do so at this point, but I'm convinced I'd know how to take better care of one the next time around.

As I write this column, I can't help thinking about how much I loved that tree and appreciated the visual beauty to which it had treated me year after year as I looked out the window of my home office. I'm happy that I had spent all that time enjoying its simple beauty because, after all, you never know when Mother Nature will let you know who's *really* in charge. **WS**

Stephanie Rose runs Stephanie Rose Landscape Design in Encino, Calif. A specialist in residential garden design, her projects often include collaboration with custom pool builders. If you have a specific question about landscaping (or simply want to exchange ideas), e-mail her at sroseld@earthlink.net. She also can be seen on episodes of “The Surprise Gardener” on HGTV.

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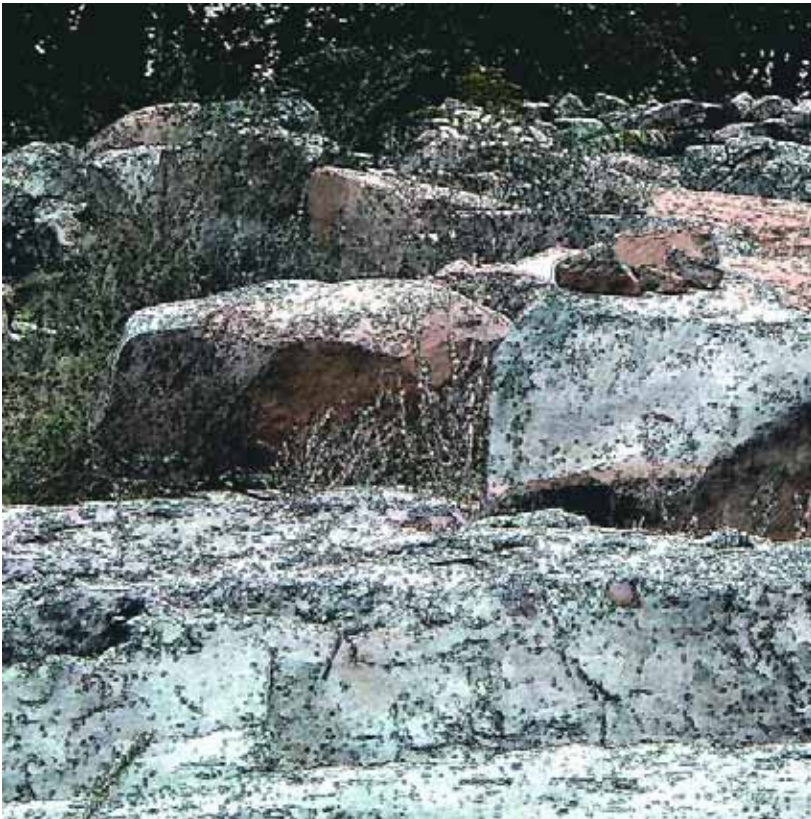
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By David Tisherman

Rock Steady



After a long, mostly weather-related break, it's finally time to return to the rolling hills near Hanover, Pa., and the huge, multi-phase water-shaping project I began discussing in the fall of 2003. When we last visited the project in February 2004 (page 22), the primary gunite structures were in place; we are now proceeding with the meticulous work that will give the project its visual appeal.

Even in unfinished condition, the pool complex is pretty impressive: a big, free-form vessel with a variety of features including an island spa, an enormous associated waterfeature, bridges and a range of bells and whistles I'll discuss in upcoming columns as the project draws to a close.

As previously discussed, one of the defining design elements on this project is the extensive use of natural boulders and large expanses of stone decking. Even without the weather delays, these project phases alone have turned into quite the odyssey, starting with the basic process of acquiring thousands of tons of stone and preparing the site for placement of hundreds of boulders.

Here as in most other large projects, we were in for a few surprises.

The average person does not consider that not all natural rock materials are created equal — particularly when those materials are exposed to water and the elements.

getting what you pay for

Fortunately, the biggest revelation for us had nothing to do with the work we were doing.

By the time we suspended our work when winter began last year, the homeowners already had purchased a significant amount of blond flagstone that had been installed by the general contractor in decking areas not associated with the swimming pool. The material came from a supplier who vouched for the quality and weatherability of the stone and was proud of the fact that it was quite a bit less expensive than the stone my partner Kevin Fleming and I had recommended before our winter hiatus began.

To be sure, the material *looked* something like the material we'd suggested for the vast square footage of the terraces and patios, but after a brutal winter and the ensuing thaw, the installed stone was popping and delaminating all over the place. In fact, it was simply falling apart, decomposing to sand and dust right before the owner's eyes.

To say the least, the general contractor and homeowner were upset, which meant that even before we resumed work on the pool, we collectively had to address the issue of the stone they'd been led to believe was the same as the stone we'd recommended — definitely *not* the way we wanted to rejoin the work on such a big project.

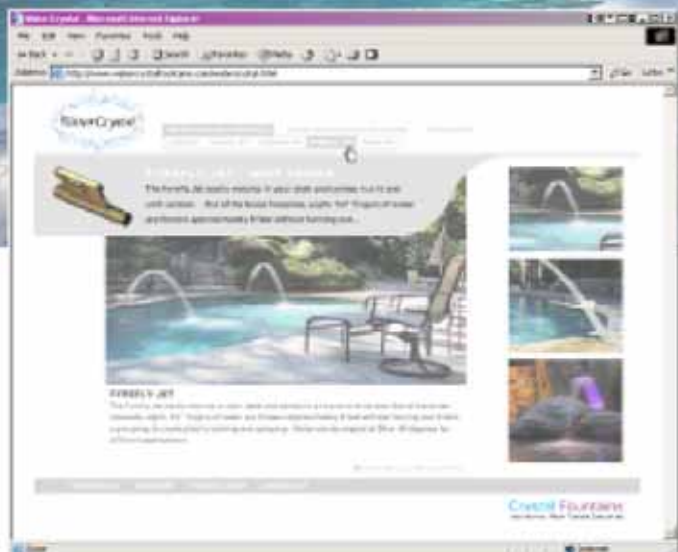
I carefully explained that although the stone looked superficially the same, it was a different type of material that had a different mineral composition and distinctly different physical characteristics. This was a big point, because the average person does not consider that not all natural rock materials are created equal — particularly when those materials are exposed to water and the elements.

Eventually, we solved the problem by repeating our recommendation that the stone for



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the decking be obtained directly from Malibu Stone & Masonry of Malibu, Calif., where I knew that they could obtain the sturdy material I favored. We put the homeowners and their contractor in contact with my friend, Joe Nolan, who ended up supplying the replacement material.

That was an unfortunate object lesson in

value: The reason they'd gone with the alternative material is that it was considerably less expensive than the stone I'd chosen. As is true with so many things in life, you really do get what you pay for – even with rock.

back to the pool

The most direct effect this incident had on the project was that it completely un-

dermined our faith in the local stone supplier we had originally lined up to provide stone and boulders for our own work on the pool area.

Given the large amount of material we needed, we'd thought it completely impractical to use a supplier all the way across the continent and truly wanted to work with a local vendor. But the simple fact of the matter was that there were no suppliers anywhere in the Northeast who had access to the warm, cream-colored material we wanted – and so we had to look elsewhere.

The owner (in conjunction with the general contractor) suggested that I visit a facility in Rock Island, Ark., that has become a center for distribution of a huge percentage of the blond stone quarried in Texas, Arkansas, Oklahoma, Missouri and the rest of the Southeast – a source of some of the most beautiful rocks and boulders available anywhere in the United States.

I flew into Little Rock, Ark., and made my way deep into the Arkansas backwoods to a spot with the enticing name of Bald Knob. I've traveled a lot, but I'm not sure that I've ever been to a more remote location. It reminded me of a truism Joe Nolan drops from time to time: "When you reach the end of the road, that's where you'll find the rocks."

I spent a couple of days touring the facility with its proprietors, an unpretentious set of people who *really* know their rocks. Ultimately, we selected a blond stone touched with a range of grays and blacks with a wonderful, hard-as-nails surface – ideal for a watershape setting in a rugged climate.

It was quite the exercise in "rock-shopping," and by the time I finished, I'd selected not only the array of boulders we needed for the pool project, but also found material for a phase of the work that will come sometime later on.

I'm not sure exactly how much rock material we purchased, but it measured in the *thousands* of tons.

selections to scale

We've learned through the years that it's much more cost-effective to over-order stone than it is to come up short. On this project in particular, the overage would never be a problem given the 200-acre site: We knew that unused pieces



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could easily be incorporated into the vast landscape somewhere down the line.

We've also learned that one of the biggest mistakes you can make is relying on the supplier to choose material: In a situation like this with a discerning, demanding client, there is no escaping the need to hand-pick the material in accordance with a refined vision of how things ultimately will look.

We knew the rocks we chose would need to fit together and have character and some degree of visual consistency. As important, we knew the stones had to be of a size and scale that befitted the full extent of the project.

Too frequently, contractors see bigger as better and will choose pieces that are oversized relative to the scale of the design – or they'll cut corners and use undersized boulders in places where larger specimens would be better. It's a simple principle: Big jobs require big boulders, while smaller projects demand smaller ones. You simply can't build a 20-foot water effect that's a major



The amount of stone brought to the Pennsylvania jobsite from the source in Arkansas was truly impressive. Much of it came in on pallets that dotted every accessible space for a while (A), then it was arrayed on a nearby field for the painstaking process of sorting and final selection (B).



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focal point using six- to eight-inch rocks.

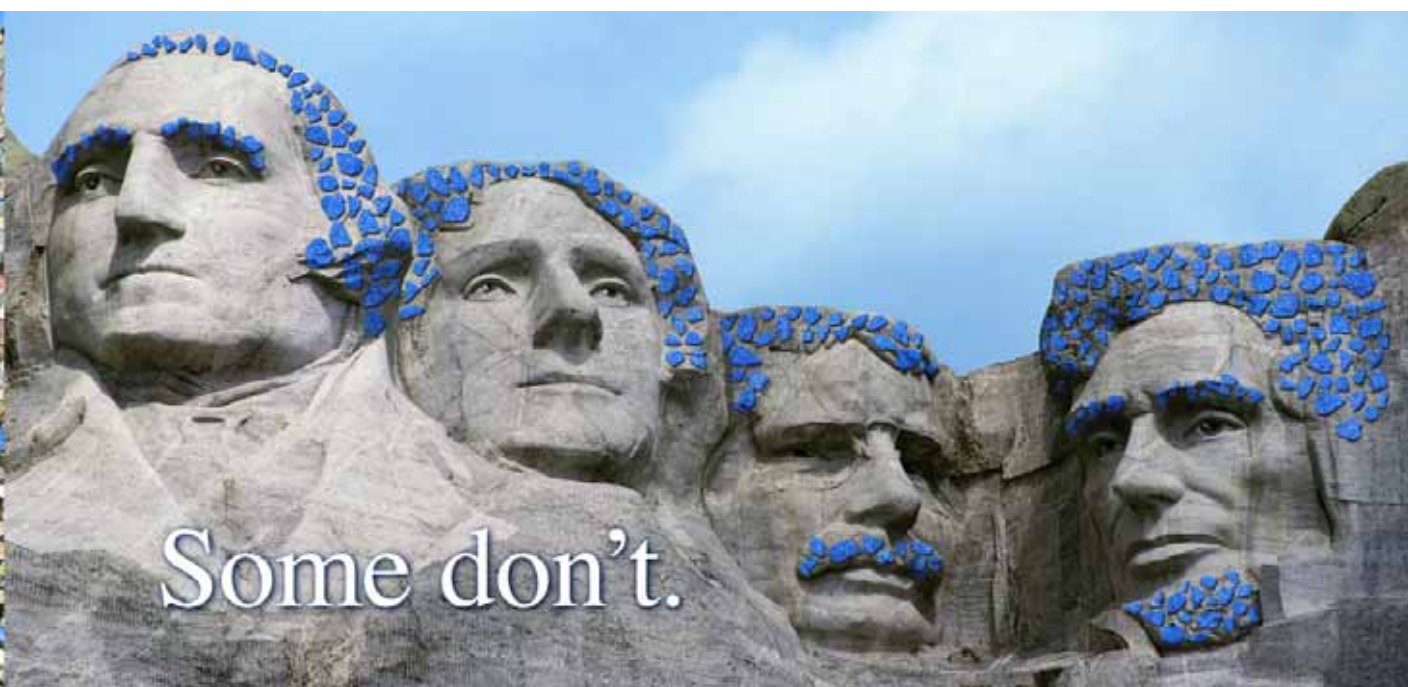
Based on the scale of this installation, we selected lots of two- to six-ton boulders (some as much as seven feet across) as well as a variety of bowling-ball-sized pieces to act as fillers and visual transitions. We laid everything out in a field adjacent to the pool area and now turned our attention to preparing the swimming pool and adjacent structures to support their weight.

Specifically, we were working beyond the pool with the waterfall and a structure that we're calling the "service area," something akin to a large grotto located just to one side of the waterfall. The waterfall is 15 feet wide and rises some 20 feet above the pool, appearing to flow from above and spanned by a cantilevered concrete bridge that, when finished, will provide wonderful views of the waterfall, planted areas and pool below.

The entire system is contained in a massive concrete structure reinforced by double curtains of #5 rebar and shot to a one-foot thickness. The structure is set atop an



The waterfall and grotto structures (left and right, respectively) are structurally separate from the pool in the foreground, rising above it to form a dramatic backdrop (C). There's plenty of big steel and concrete in the waterfall (D), mainly to support all of the large boulders that will eventually be placed in and around the cascade.



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incline and encompasses a series of two- to three-foot walls that create a series of basins around which we'll set the boulders. These basins will serve as small ponds and create terraces that will break up the flow of water as it makes its way down the slope to the pool. In some of these ponds, we'll augment the flow with return lines, our goal being to mask the sources of the water while gaining the ability to control flows in just the ways we want.

heavy construction

As suggested above, the waterfall will flow down toward the pool through a variety of levels that will feature rockwork, small pools and planted areas. In nature, waterfalls are anything but uniform, and the water moves around and over boulders and past plants that grow up around and between the rushing water.

As watershapers, of course, we need to design and rig those rocky and planted areas, setting up sleeves for feed water, drainage, irrigation and, in this case, lots

of low-voltage lighting.

The waterfeature is shaped in a sort of semi-circle with multiple tiers and all sorts of zigzags and direction changes. This free-standing, self-contained structure is set apart from the adjacent pool structure to avoid any possible problems with differential settlement.

After we shot the whole waterfeature and built small "cheek" walls out of eight- to twelve-inch concrete masonry units (CMUs), we waterproofed everything with four or five coats of ThoroSeal. At the same time, we sealed a notched detail around the perimeter of the pool in which boulders that will extend below the waterline were to be placed.

The service area mentioned above was formed with two-by-four stud construction in the shape of a quarter sphere. We set up a heavy-duty structure of reinforcing steel using #5 rebar and shot it in places with up to four and a half feet of concrete. This is what was needed to support the huge stones that will be placed up on top.

The idea is to establish a structure that exists in comfortable visual balance with the site and its watershapes. In unfinished appearance, the service area looks something like a band shell facing the pool. When finished, it will serve a variety of functions, including the provision of a shaded, wind-sheltered spot for caterers, party provisions or entertainment.

All in all, it's good to get back to this project, whose progress we'll track for the next several installments of "Details." **WS**

Next time: The placement and setting of the rockwork.


David Tisherman is the principal in two design/construction firms: David Tisherman's Visuals of Manhattan Beach, Calif., and Liquid Design of Cherry Hill, N.J. He is also co-founder and principal instructor for Genesis 3, A Design Group, which offers education aimed at top-of-the-line performance in aquatic design and construction.


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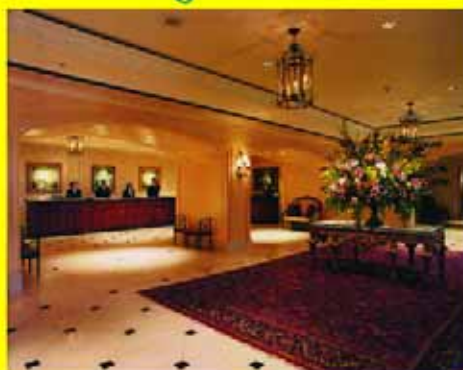




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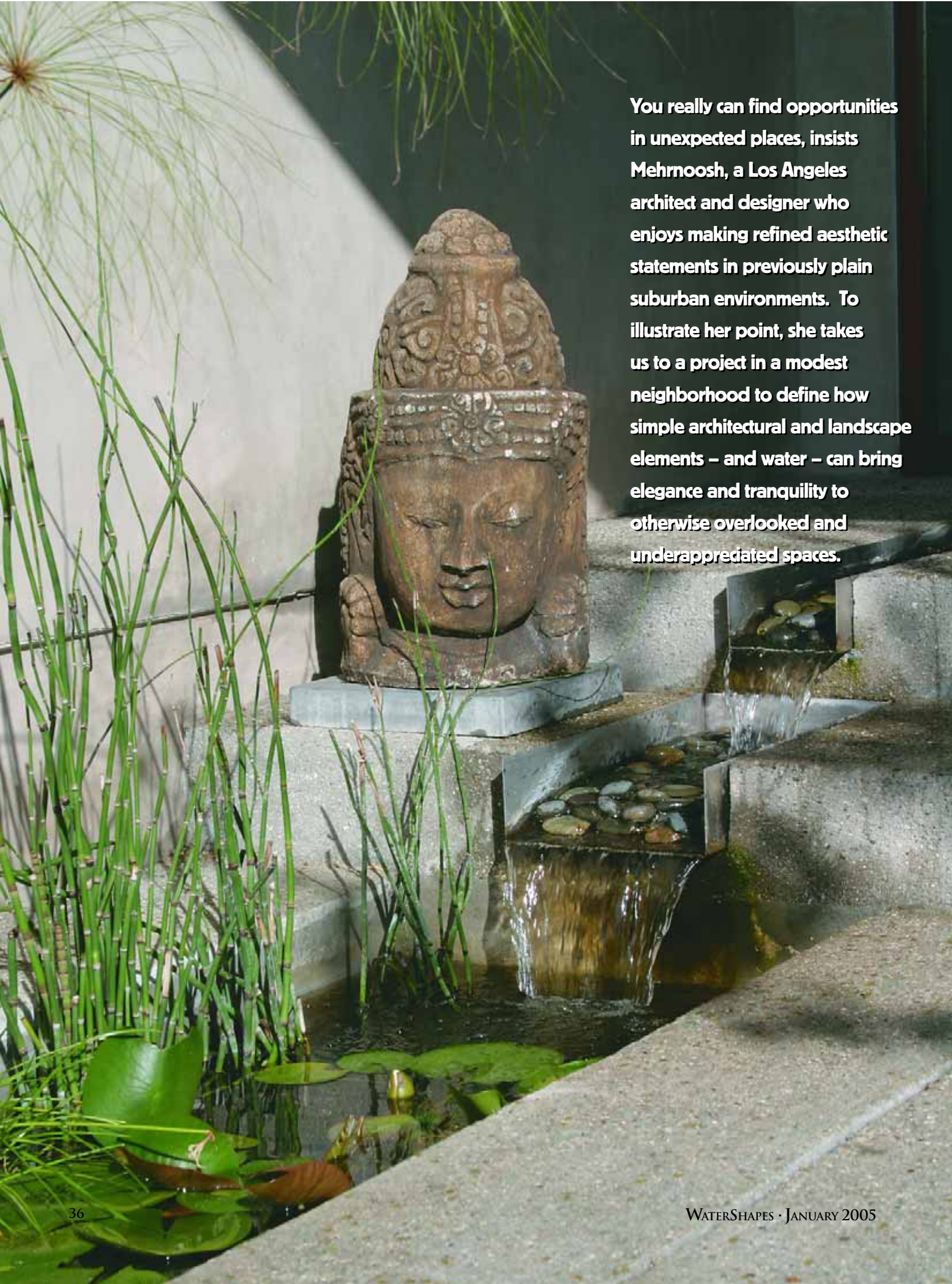
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Saturday Keynoters:
Dr. Damian Kachlakev, PhD, P.E. and
Dr. Nirupam Pal, PhD



You really can find opportunities in unexpected places, insists Mehrnoosh, a Los Angeles architect and designer who enjoys making refined aesthetic statements in previously plain suburban environments. To illustrate her point, she takes us to a project in a modest neighborhood to define how simple architectural and landscape elements – and water – can bring elegance and tranquility to otherwise overlooked and underappreciated spaces.

Suburban

Spaces

By Mehrnoosh

I've always been fascinated by the concept of urbanism as defined by Thomas Jefferson: He boiled it down to the notion that everyone should have his or her own private space as well as a buffer against the outside world.

In a sense, the physical concept of the *front yard* fits perfectly within Jefferson's utopian ideal. At root, it's an ingenious setup that has probably endured for so many centuries because, on some level, it addresses our primal need to have land all around us. By the very configuration of our residential spaces, we each have a small, open, pastoral area that separates the privacy and sanctity of the home from adjacent public areas, sidewalks and streets.

The problem is that in many modern cities and suburbs, the amount of room allocated for front yards in particular has dwindled as property values have soared and lots have become smaller and more tightly packed as a result. And when you combine that spatial shrinkage with the

increased desire for safety and privacy on the part of many homeowners, it all works together to place ever-higher premiums on how we choose to make use of our small slices of front-yard land.

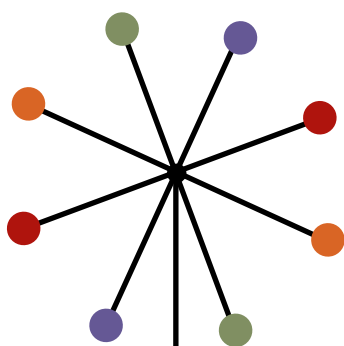
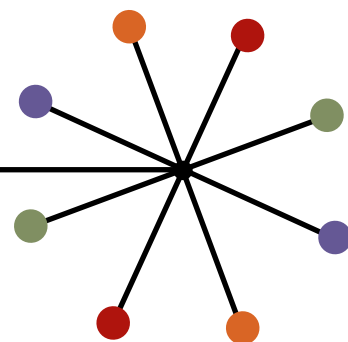
To my mind, this dynamic set of trends spells opportunity for forward-thinking watershapers, landscape architects and architects: By making creative use of small front yards (and side yards as well), we can help our clients find a greater sense of peace and privacy in their homes and essentially expand their usage of their precious available space.

Simple Truths

Of course, watershapers and architects would all love to work more or less exclusively with limitless tracts of land, but in today's urban and suburban contexts, more of us should focus on the needs of clients who live only a few feet away from the street and their next-door neighbors' walls.

The project pictured here is a precise example of this type of value-added focus and is all about working deliberately with and making the most of that all-important, buffering frontage that visionaries such as Jefferson saw as essential to the happiness of regular folks.

The home in question is located in a middle-class neighborhood in an area of Los Angeles known as Ladera Heights. It's a pleasant-enough area, with lots of well-kept single-family homes on relatively busy streets – not much different from thousands of other suburban areas in cities throughout the western world.





People who pass the home in cars or on foot no longer have the unobstructed view of the house they once had, but the new boundary between private and public spaces is much more inviting than an ordinary masonry wall fronted by flower beds, especially when the water flows.

In my estimation, most of these homes offer almost no transitional space between the lives people lead inside their homes and their pursuits in the wider world. Basically, you are either at home, or not. By creating a middle ground for them – a sort of mediating, in-between space – I'd argue that you're creating a transitional experience in which those leaving the safety of their homes enter more gradually and easily into the community environment around them (and vice versa).

In this case, the gently sloped yard between the front of the house and sidewalk is about 60 feet wide and runs anywhere from 20 to 40 feet deep. As is the case with the vast majority of front yards, this one was originally covered in lawn with a few gestures to landscaping in the form of small flowerbeds at the front of the house. The home itself is in a non-descript style with cream-colored plaster.

The client had seen some of my work in a similar setting and approached me to discuss treatments for yards in front and back of the house. I drew up detailed plans for both, but it was clear that reworking the front yard had priority. (Indeed, at this writing the front yard is finished and the backyard hasn't been touched, although they do plan to complete the work in the very near future.)

With small projects such as this, the range of elements in play is still quite broad: We were working with the sights and sounds of moving water, the color and textures of hardscape and plantings and the all-important sense of discovery that's pos-



sible when the environment leads observers from one experience into another.

Above all, we were after something beautiful that would harmonize with the house and its surroundings. I soon lit on a contemporary design that made use of a simple material/color palette and a set of clean-lined structures that made a statement without becoming overpowering.

Soft Barriers

One of the clients said she was after a restful environment that would provide a sense of privacy while connecting the front of the home with the space beyond it. She liked the thought of moving water especially, thinking it would conjure a peaceful ambience in the space.

The basic scheme called for a wooden slat fence/plaster wall structure rising over a set of rectangular fountains, planters and seating areas – all intended to add warmth and interest to the setting. Between the wall and the house, we were to add a small, rectilinear pond next to the walkway leading to the front door. The new courtyard would also include a deck finished in textured concrete as well as planted areas and stone pads that would form a new front-yard patio.

The choice of simple materials and warm, mostly neutral colors enabled us to craft distinctive front yard structures that do nothing to overwhelm or disrupt the simplicity of the house itself or give it a look that would seem out of place in the context of a relatively modest neighborhood.

The one hitch was the fact that we needed to get modifications from the county to encroach on the minimum 20-foot setback from the property line in building the walls that were to enfold the mostly rectangular 38-foot wide, 16-foot deep courtyard and associated structures. These were obtained, and the project moved forward.

When you approach the house now, a sloped, planted area backed by the wall structure is what greets the visitor in place of the old expanse of lawn. This visual barrier alternates between plastered sections and wooden panels. Beneath the three main panels are three rectangular-trough waterfeatures with sheeting water spilling gently into a 25-foot-long catch basin. (The entire composition is all part



There's an awesome amount of detail in the fence/waterfeature structure, including the measured gaps in the wood fence, the careful arrangement of shadow lines and the balanced proportions of wood, masonry and water. It's all intended to separate two distinct but related spaces – one facing the street, the other an outdoor sanctuary.



of a single concrete structure engineered by Los Angeles-based structural engineer Nader Nohroodi.)

The rectilinear walls and waterfeatures are echoed in a series of three raised planters that separate the remaining, narrower portion of the front yard from a walkway that traverses about a third of the span of the home's façade. Although not part of the main courtyard, the space behind the planters creates yet another shielded area.

Visitors enter via a new set of concrete steps that lead to the front courtyard through a wide gate made with the same wooden-slat treatment used on the wall. Once inside, they are immediately greeted on the left by a small pond located at the base of one of the wall sections and, on the right, by the intimate courtyard area. A small, two-tiered spillway emerges from the steps leading to the front door, flowing into a trough-like pond.

Down to the Details

The courtyard is taken up by rectilinear planting areas, pathways and a small deck. A series of raised benches extend from the walls inward, directly opposite the similarly shaped waterfeatures on the street-side of the wall.

When seated on the courtyard benches, one can hear the unseen water; when approaching from the street, you can see the water and are curious about what's on the other side. This infuses both spaces, inside and out, with a sense that the wall structure separates a pair of interesting spaces.

One of the keys to the success of this simple design is use of the wooden slats. Made of a richly colored ironwood, the slats are set up with 1/2-inch gaps to provide a visually permeable barrier. From the street, you can see that there is a space between the wall and the house, especially at night when some of the light from the house and landscaping filters through the gaps. From inside, you can see the motion of cars or pedestrians walking by; there's a sense of privacy, but not so much so that those in the house or courtyard feel entirely cut off from the outside world.

As is the case in all such projects, attention to detail is crucial – especially in intimate areas in which the homeowners





Between the wide gate and the front door, those either arriving or departing find a private, modestly sized courtyard touched alternately by sun, shade and darkness – a gathering place, a focus for relaxation and a means of establishing a buffering, transitional area between private and public worlds.

and visitors will be in close physical proximity to the work and are likely to notice the smallest visual inconsistencies or disruptions. In this case, even before we started our work in earnest, we spent a good deal of time addressing minor issues with the house itself, including cleaning up and re-stuccoing the eave details and, for example, relocating a laundry vent that poked out right next to the front door.

The waterfeatures were installed by Paragon Pools, a Los Angeles company that did a wonderful job not only in building the system but also in taking the time to develop a circulation system that provides just the right amount of flow over the custom-made, five-foot stainless steel weirs.

In small features such as these, the correct flow is critical for both aural and visual aesthetics – and for making certain that water doesn't splash out of the catch basin and into the planter. The troughs and catch basin are all filled with a colorful river rock selected by the homeowners.

Less is More

The hardscape is simply configured, but it is also nicely detailed with a textured gray surface expertly installed by Los Angeles-based contractor Eurotech Construction. The expansion joints ensure the structural integrity of the deck, but they're also used in an aesthetic fashion by being aligned with the corners of the building, the waterfeatures, the planters and the raised benches.

Where the hardscape meets the house, we left a narrow, foot-wide space that is filled with the same river rock used in the fountains. This offered a welcome degree of visual consistency and helped us avoid interfering in any way with the integrity of the house's footings.

The square pads are pre-cast concrete, surrounded as well by the river rock. That detail is picked up in front of the sidewalk in similar areas of pads and river rock – again projecting subtle aesthetics beyond the courtyard and adding to the sense of discovery on the inside.

The plantings were selected by Santos, a Los Angeles landscape-design firm. Again, the palette was simple and sub-



tle, consisting mostly of black bamboo, ornamental grasses, succulents and various shrubs chosen for their almost-sculptural appearances as well as for drought-resistance. A handful of small granite fieldstone boulders were used as accents throughout the planting areas.

For its part, the courtyard pond is stocked with a small number of Koi that swim among water lilies and papyrus planted directly in the water. The lighting throughout is fairly minimal, with some recessed pathway lighting and up-lighting in the planters. We considered fiberoptics for the watershapes, but opted instead for standard incandescent pool lights.

To my mind, the key to a project such as this one is not to have the architectural or landscape features overpower the space, but instead to make them look and feel like a natural extension of the home. To a large extent, this means that everything is toned down in size and overall visual effect to create a sense of comfort and tranquility rather than to make a huge statement about the prosperity of the homeowners or the complexity of the design.

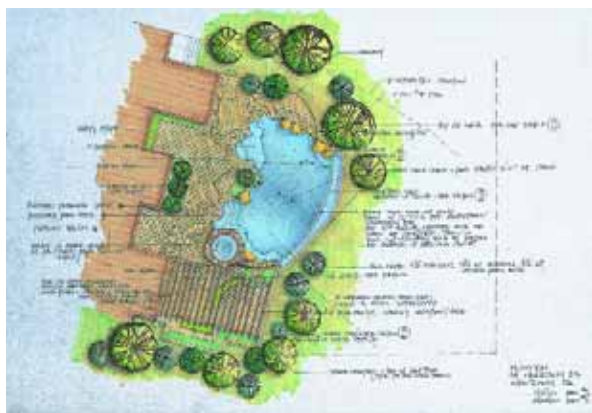
This less-is-more approach is perhaps counterintuitive for designers who are accustomed to making big statements. For those, however, who can step far enough back from grandeur to consider the simpler needs of small spaces in modest suburban settings, there are vast opportunities to enhance the quality of life of middle-class consumers and to create settings that harmonize with the environment while making homes more beautiful – and more livable.



Water in motion is critical to the overall impression made within the courtyard space. The sounds of the unseen sheet falls on the outside of the courtyard wall pass through the slats and carry refreshingly into the space, while adjacent to the front door a small waterfeature offers a balancing source of sound within.



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Set in an affluent neighborhood in Cherry Hill, N.J., this project offered the Liquid Designs team a golden opportunity to transform a dull, aimless front yard into a sublimely beautiful and uniquely engaging environment. Here, designers David Tisherman and Kevin Fleming share a few words and a number of photographs that show just what they were after in using water, plants and masonry to exploit the power and drama of surprise.

Progressive

By David Tisherman & Kevin Fleming

SURPRISE

There's something in human nature that loves the unexpected. From pulling open gifts wrapped in paper, ribbons and bows to the thrill of rounding a forest trail to come upon a waterfall, the sense of anticipation and discovery adds spice to life and generally keeps things interesting.

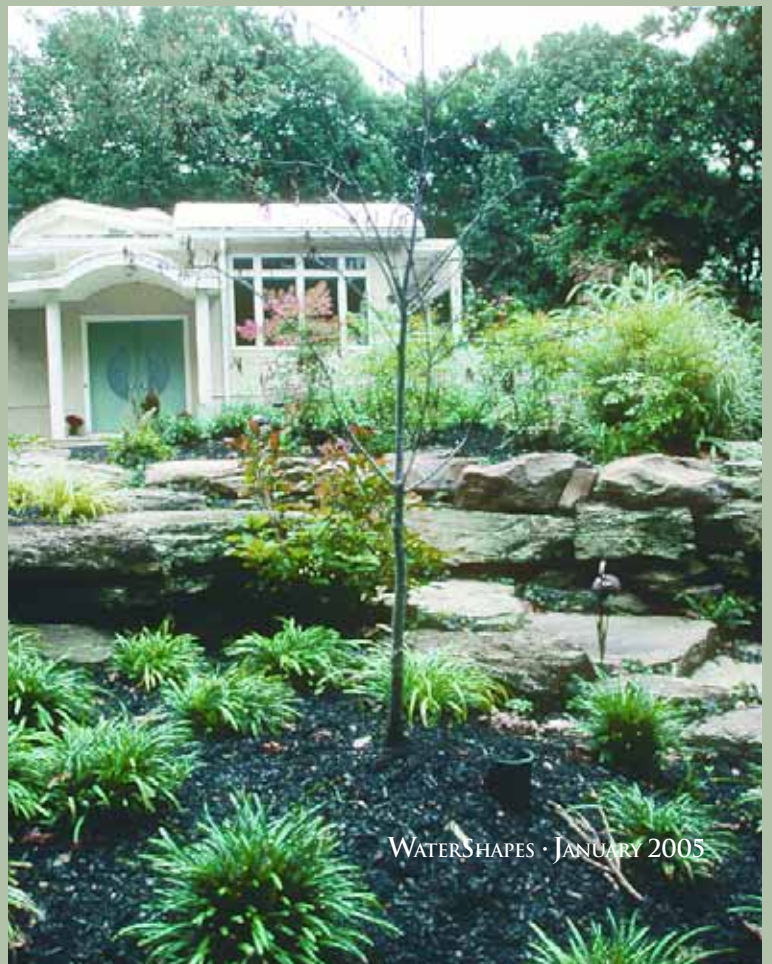
As designers of watershapes and landscapes, we have a tremendous opportunity to use the excitement that comes along with the process of progressively experiencing an environment. And the nice thing about setting up spaces that unfold as you move through them is that they can be organized around simple elements, from free-standing walls, steps or hedges to trees, fences and just about anything else that partially blocks, disrupts or interrupts a view.

This project, which was first covered in "Details" in the December 2004 issue (page 20), is a perfect example of using a sense of discovery to add beauty, interest and anticipation to the experience of arriving at the front of a home. As first explained in that column and pictured here in its finished state, the project rolls out like a series of vignettes that comes to life when someone looks up the driveway while passing in a car or on foot.

Let's take a tour:



Rather than think in terms of setting up a wall around a castle, we saw this front-yard design as being about creating a sense of reward as the observer moves through and more deeply into the environment. The experience begins with the view from the street of inviting landscaping and hardscape structures along the driveway.





With this environment, the process of unfolding works whether you approach on foot or in a vehicle. As one moves up the right fork of the drive toward the garage, an assembly of rough stones leads the eye toward the front door before the observer knows exactly how to reach it. By the time the hidden stone stairway is seen, the water wall registers on the observer's perceptions visually and aurally.





The beauty and colors of the plants and the rich textures of the stonework draw the observer over to and up the stone stairway. Moving in that direction, any direct view of the flowing water is lost, but awareness of its presence is assured by the lively sound of water splashing down the wall's irregular surface and increases curiosity about the scene awaiting at the top of the stairs.

Taking CONTROL

The art of design often resides in how the designer manages a space and draws the eye in desired directions. In the case of the project described in the accompanying article, proper orchestration required careful consideration and evaluation of a number of primary focal points.

In this case, we used landscaping as the main guiding element, using it to mask and then open views and help the observer make sense of the overall layout defined by the boulders, stonework and water. The placement of sculptures in two key locations – one up to the side of the front door, the other secluded in a “distant” landscape – serve as visual crescendos for the unfolding visual composition.

All of these elements conspire to create a rich experience for anyone who stops by to visit. It's a prime example of what can be achieved when spaces other than backyards are the focus of our efforts. When elements of surprise and discovery are added to the scheme, the results can be subtle, beautiful and fondly memorable.

– D.T. & K.E.



The visitor approaches the front door via the stone stairway to the right side or drives around the planted island to the parking pad at the top of the left-side fork of the driveway. Either path brings the observer to another set of unexpected visual treats, including a lush green backdrop, the creamy colors and textures of the stonework and a small pond that envelops the stepping pads that lead to the home's front door.



As the visitor takes in the setting and determines a path to follow to the door, the extent of the pond and the fact that it is the source of the flow over the wall begins to register. In moving across the stepping pads, a view of a remarkable steel-and-stone sculpture comes into sharp focus, once again moving the eyes away in a pleasurable way from the mundane objective of gaining access to the home.





The environment even rewards the observer who, on the doorstep, turns around to look back down to the street or who is simply leaving to return to the street and the outside world: Tucked into the landscape along the left fork of the driveway is a dramatic iron sculpture that recedes so mysteriously into the surrounding colors and textures that seeing it comes as yet another visual surprise.



Good Chemistry

By Jeff Freeman

Water and cement-based materials interact in so many ways and on so many levels that it's tough to sort everything out. From initial issues of hydration and curing to a range of longer-term, maintenance-related concerns, says chemistry expert Jeff Freeman, cementitious products in submerged environments react so distinctly to water's presence that it is indeed essential for watershapers to consider what's up when putting them together.



Water and concrete are a powerful combination that has stood at the heart of the watershaping arts for millennia. Despite a track record that dates to time-honored civilizations, however, the full dynamics of what happens when water is placed in long-term contact with concrete remain the subject of discussion, debate and even controversy to this day.

Those discussions move forward in a variety of contemporary forums. The subject of water's interaction with concrete, plaster and other materials, for example, has long been the study of materials scientists associated with the Portland Cement Association and the American Concrete Institute, while plaster-related problems within the mainstream pool industry have spawned years of formal and informal research having to do with a variety of chemical reactions and variables. Suppliers have also participated, developing myriad products designed to extend the service lives of concrete structures that

exist in aqueous environments.

Suffice it to say that beyond the laboratories and study groups – that is, out in the practical realm where cement and water actively collide through the efforts of watershapers – the nature of the relationship between these two key materials is less an exercise in scientific method than it is a dividing line between long-term watershaping success and more rapid sensations of frustration or even failure.

TWO SIDES

First, consider the plain, indisputable fact that *all* cementitious products, from white plaster and artificial rocks to exposed-aggregate surfaces and tile grout, will, when constantly exposed to water, to varying extents “absorb” water via their permeable surfaces. In addition, the condition, age and physical characteristics of the cementitious material will have a huge influence on the degree and rate at which water will influence those surfaces.

At the same time, the characteristics of

the water with respect to chemical balance, sanitizer levels, metal content, total dissolved solids and various other factors will have much to say about what happens to the surfaces it constantly touches. To begin to understand these topics fully, we need to explore both sides of the cement/water equation – separately *and* as they relate to one another.

This two-pronged approach makes the process of gaining a good understanding of possible outcomes a real challenge. When problems arise with a plaster surface, for example, and somebody has to foot the bill for fixing it, what might otherwise be scientific and theoretical discussions become painfully real. Is it the fault of the contractor who installed the material, or of improperly maintained water chemistry, or of the supplier who mixed the batch of material in the first place?

Sometimes, of course, the answers are obvious – but all too often they are not. Despite the fact that there are workman-

ship standards for swimming pool plastering and recognized boundaries for proper water chemistry, divining the pathology of these problems too often runs away from science and moves quickly toward a desperate round of finger pointing.

What every watershaper needs in this difficult and often-confusing context is a basic understanding of the nature of the water/concrete relationship that will stack the odds in favor of long-term, reliable, reproducible and liability-shedding success.

To begin the process, I recommend taking two steps: In the first, watershapers think through issues such as materials selection and workmanship; in the second, they consider the condition of the water at start-up and what sort of shape it's in once clients and service technicians take over.

THE COMMON CURE

First up is the materials side of the equation and an important and very basic fact: All cementitious products (and virtually all forms of natural stone, for that matter) contain a variety of calcium-containing compounds. The most widely known of these compounds are calcium hydroxide, calcium carbonate and calcium chloride.

To varying degrees, these compounds are all soluble in water over time – that is, they will break down chemically, be captured by water molecules and, instead of being part of their original, solid structure, become part of the water's content of so-called dissolved solids. You can see dramatic examples of this dynamic in places like Carlsbad Caverns, where millions of years of dissolution and redistribution of the rock's calcium-based components have created spectacular geological formations.

Similarly, when we introduce cementitious materials into submerged environments in our watershapes, we call into play a tremendously broad spectrum of phenomena. With natural stone, for example, there are some types that will hold up very well, while others will begin to degrade and fall apart quite rapidly.



Hydration is crucial with all cement-based materials, but ensuring its adequacy is absolutely crucial in the case of swimming pool plaster or with exposed-aggregate surfaces.

This is because some stone materials possess much higher levels of the more soluble forms of calcium-containing compounds than do others. And there are structural differences as well: Some stone species are more porous or permeable than others. The burden this leaves watershapers who are selecting natural materials for their projects emphasizes the urgent need to make the correct choices – which is often no trickier than asking stone suppliers the right questions at the right time.

With cement-based products of the fabricated sort, you are still burdened with selecting the right material for the application, with the added factor of workmanship and the role of installers in determining how well the materials will hold up for the long haul. The list of these workmanship issues is long or short depending upon the material, but this is where usual choices about cement and aggregate products, the water-to-cement ratio in the mix, the method of application, the use of admixtures and the curing process all come into focus.

These workmanship factors are exceedingly important, and those who install these materials must know what they're doing at every step of the way. It's important to know, for example, that most cementitious materials gain 90 percent of their strength in the first 28 to 30 days following installation. During this time, it's the water in the cement mix itself that causes a series of chemical reac-

tions within the cement matrix that result in durable surfaces.

This process is known in general terms as *hydration* – and may just be the most important turning point in the cement/water relationship.

IT'S THE WATER

Hydration is crucial with all cement-based materials, but ensuring its adequacy is absolutely crucial in the case of swimming pool plaster or with exposed-aggregate surfaces.

This is why so much emphasis is placed on filling a freshly plastered pool with water as soon as possible following application: Plaster is an unusually cement-rich material, and its proper curing requires that it be exposed to a steady supply of water that can flow onto and away from its surface. If left exposed in the open air, even plaster that's been perfectly well applied under ideal conditions of temperature and humidity will cure far too quickly and will experience a variety of problems – shrink-cracking chief among them.

As plaster cures, a complex set of ion exchange reactions take place between the minerals in the water and the calcium-containing compounds within the plaster, not just at its surface – a time during which it releases what is widely known as *plaster dust*.

This material consists primarily of calcium hydroxide and calcium chloride, both *extremely* soluble compounds. As the dust abandons the surface of the plas-

ter, less-soluble, more-durable chemical constituents are left behind on the surface of the plaster. As the curing process progresses, the chemical transitions happen more slowly but can still take quite a while, depending upon the scale of the project. (It's said, for example, that large structures such as Hoover Dam will take upwards of 100 years before they can be said to be fully cured.)

In the much shorter term, however – meaning within the first few days or even the first couple hours after plaster or other cementitious materials are installed – the health, durability and fate of the surface usually are determined. Here's where things begin to get complicated because feed water now becomes a factor.

The condition of the water that is first added during the watershed's start-up has extraordinary importance: On the one hand, if the pH and alkalinity are too low and it's too aggressive, the feed water can damage the plaster by way of etching it; on the other, if the pH is too high and too basic, it will cause scale to form on the new plaster.

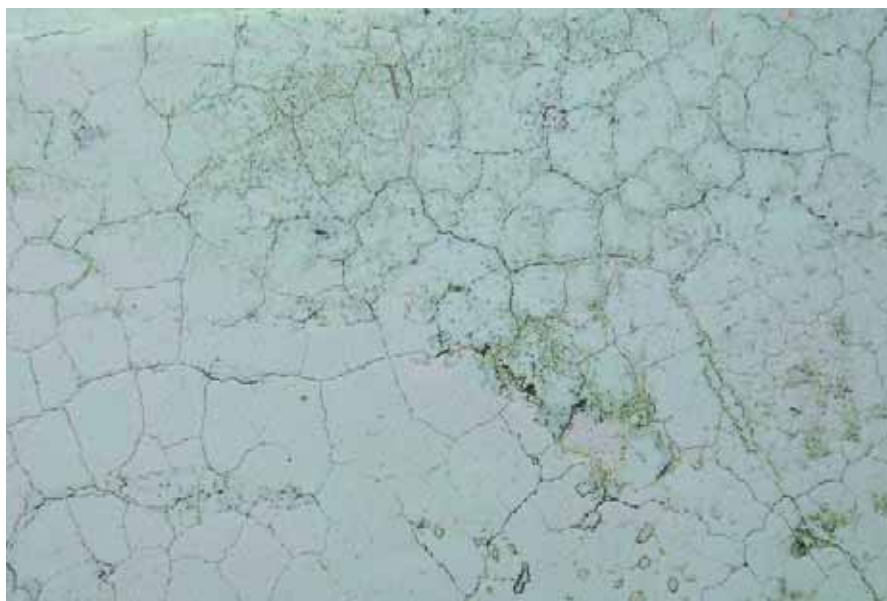
Calcium hardness is another particularly critical factor with fill water. If that level is too low, the water will seek balance by dissolving plaster compounds at the surface. If it's too high, the water won't absorb enough of the material (that is, the plaster dust) as it leaves the plaster's surface. That unabsorbed dust will eventually deposit itself and cure onto the plaster in the form of something that looks like scale.

Even within this seemingly limited topic of watershed start-ups, there are different approaches and tremendous variability – much of which will be considered in upcoming installments of this series of articles.

TOUGHENING UP

In addition to proper hydration and curing, other parts of the process can and will contribute to the long-term durability of the material. For starters, it's absolutely critical to start with a properly proportionate mix of cement, water and aggregate.

Each type of material has a different



Age isn't kind to cementitious materials constantly exposed to water. In this case, 20-year-old plaster has experienced extensive check cracking that has increased the surface's susceptibility to staining and facilitated the emergence of calcium nodules.



In a closer view, the extent of the surface's deterioration is clearly visible. The areas around the cracks show signs of delamination, staining and the formation of safe havens for algae.

mixing schedule, so it would be pointless to go into specifics here. Suffice it to say that this isn't an area for cutting corners: Always be sure that the right components are added to the mixer in the right amounts – and be certain your suppliers and subcontractors toe those lines right along with you.

In addition to the three fundamental

components of the mix, a number of durability-enhancing *admixtures* are available on the market, including fly ash, pozzolan-based additives and various polymers. In their own ways, these products all aim at creating a cement matrix that contains more durable and fewer soluble compounds.

There are also a variety of sealers that

can be applied topically to create chemical barriers on the surface of the cement material. These can be quite effective and offer the distinct benefit of providing a protective, stain-resisting option for natural rock, which obviously cannot be enhanced by chemically engineered admixtures.

Another part of this picture has to do with materials used as “application aids,” chiefly calcium chloride, which is often added to plaster and other mixes to accelerate the curing process. These substances are used to allow material to be applied and troweled to a finish more quickly, thus enabling crews to cover more square footage in shorter amounts of time.

The use of accelerators is a subject of controversy because it has been associated with problems that can occur later on. Without fear of contradiction, it can be said that when the curing process is accelerated too much, the material “sets up” before it’s actually finished, which can force workers to re-wet the material to finish their troweling. Although some defend the practice, I believe it can be detrimental in the long run depending upon a range of other conditions. I would also say categorically that accelerators should never be used with colored plaster because of long-term effects on the color.

There is no question that other application errors can result in problems down the line. The spiked shoes of a plasterer, for example, can leave hard-to-spot voids in the surface that will allow water to intrude beneath the plaster surface, resulting in the eruption of calcium nodules that effloresce from the shell. Other and even more serious problems can arise if the plasterer applies too thin a layer of the material to the substrate.

Maintenance techniques have their impact as well. Acid washing, for example, might rid surfaces of unwanted blemishes, but the process removes the surface coat of the cured material and opens the surface to water’s influence in new ways when the vessel is refilled.

DESIGN ISSUES

It’s seldom considered, but there are a range of design decisions that have a profound influence on the way that water and cementitious surfaces will interact – perhaps most obviously in the form of choices at the waterline.

We all accept the fact that tile is among the most durable of all surfacing materials used in containing water. For years, I’ve heard professionals say that tile at the waterline is there to allow for easier removal of deposits and gunk that inevitably collect there. Tile certainly does that, but the real reason behind its use is quite different and is related, not too surprisingly, to water.

In places where cementitious material is exposed to both an aqueous environment and to the atmosphere in an immediately adjacent area – such as at the waterline in a pool or fountain – there will be a wicking effect in which almost infinitesimal amounts of water slowly work their way through the concrete matrix. In wet/dry conditions, this wicking action can cause a range of problems from cracking or spalling to delaminations. In turn, those problems enable the penetration of even more water and can lead to additional problems.

Tile resolves these concerns by offering a surface that is hard enough to be impervious to wicking action. Does this mean that every waterline must be tiled? No, but it *does* mean that if you’re go-

ing to use a cementitious material in a wet/dry condition, it’s to everyone’s benefits to explore your options for making the material more durable.

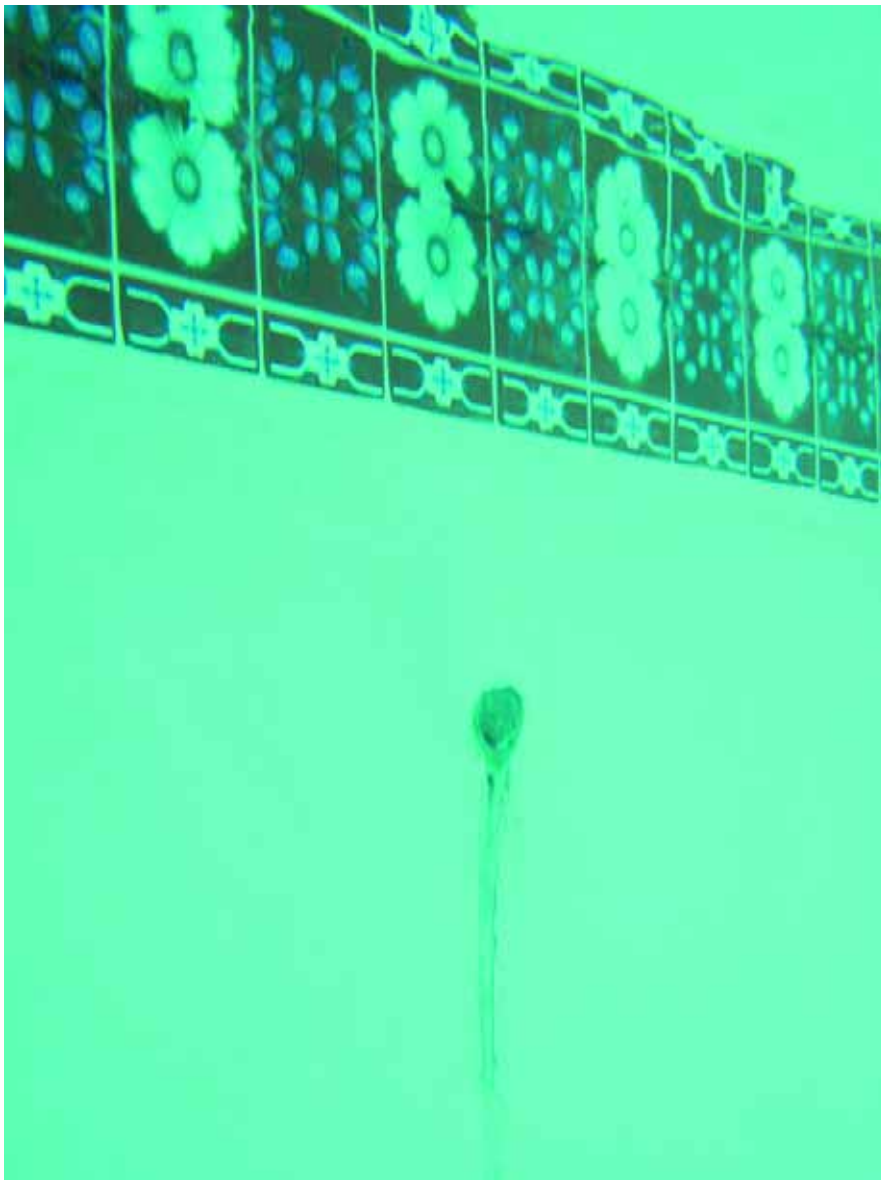
This is where certain admixtures and sealers offer real advantages. Or you might choose a different material in those locations subject to wet/dry exposure, such as beach entries, for example, where we see more and more use of natural, flat stone. Depending on the species of stone and whether or not it’s sealed properly, this can be an excellent design solution.

Likewise, for concrete pond/stream edges, roughly finishing dark concrete applied with large aggregate pieces is a fine solution: The material is so rough and natural-looking that minor variations in appearance that might eventually occur at the waterline are rendered inconsequential.

The point is, these design choices are critical throughout the vessel. In recent years, for example, designers and builders have turned to exposed- or polished-aggregate surfaces for several reasons, including fresh aesthetics and tremendous durability relative to other options such as plaster. The edge is that, with these finishes, a large percentage of the exposed surface is occupied by river pebbles or other less-soluble aggregates – hence there’s significantly reduced interaction between water and concrete.



For years, I’ve heard professionals say that tile at the waterline is there to allow for easier removal of deposits of gunk that inevitably collect there. Tile certainly does that, but the real reason behind its use is quite different and is related, not too surprisingly, to water.



Some obvious water/plaster problems are a direct result of design errors. In this case, poor hydraulic design coupled with sketchy water maintenance have invited long-term staining beneath a return inlet.

WATER MARKS

For most of the discussion above, the issues we've covered have been related to cementitious materials, how they are used and the effects upon them of prolonged contact with water through the curing process. There is, of course, another side to cement/water relationship, and now we will consider the water itself in closer detail.

Let's begin with a review of some of the bad things that can happen to ce-

mentitious materials when water is left to its own devices:

w Mineral scale: We've all seen the scale that builds up on waterline tile, steps and surfaces of all orientations in pools, spas, fountains and all other watershapes. It occurs when the water balance tilts toward the basic side. This generally means water that is high in pH, high in total alkalinity and high in calcium hardness, and the result can take on many forms, from sharp bumps that will rub feet raw to a plate-like scaling

that resembles a stain.

w Etching: This is the flip side of scale. When water is too aggressive (that is, has low pH, low total alkalinity and low calcium hardness), it will seek minerals to make up the deficits from any available source. There are two basic types of etching: a general sort that covers broad expanses of the surface; or spot etching, which, as the name implies, occurs in small patches that look something like the spots on a leopard.

w Staining: Most water contains trace amounts of metals, the most common being copper, silver, manganese and iron. These minerals are often present in feed water as it comes out of the tap (especially in areas fed by wells), but they are often introduced as a product of the corrosion or erosion of, say, copper heat exchangers. Whatever the source, unsightly stains can be caused under a wide variety of conditions when the metal precipitates onto surface materials.

w Subsurface Intrusion: As mentioned above, where voids are present in the surface material, water will invade those spaces and begin reacting with the material below. This can result in eruptions of calcium nodules, delaminations or, in severe cases, in bleed-throughs from rusting rebar.

There are other problems that can arise when water conditions go wrong, and we'll get to them in future articles. For the moment, the point to be made is that water balance, sanitizer levels and filtration are all players in the grand water/cement performance. The challenge is recognizing all of the factors involved in those diverse areas and understanding that changes in key, central conditions can lead to trouble.

To illustrate briefly just how challenging this can be, consider that southern California's tap water comes from upwards of seven different sources in unannounced and completely unpredictable sequences. Obviously, the nature of this feed water is crucial in start-ups, where you can have beautifully balanced water one day and overly basic water the next day – or even within the span of hours in

which a small pool might be filled.

Later on, dirt from bathers, fertilizers and animals will have a significant role to play, too, and the effects can come in layers. Trouble is, the steps taken to deal with these effects can all have both intended and unintended consequences. Adding chlorine in the form of sodium hypochlorite to deal quickly with a heavy bather load, for example, can cause a big upswing in pH and can affect water balance in ways that must be accommodated sooner rather than later.

HUMAN FACTORS

For all of the science, practicality and common sense tied up in understanding the water/cement relationship, there's also a final, subjective component that must be considered – one having to do with client expectations for performance.

Through the years, many watershapers have clinched sales by telling

their clients that their pools' finishes will not change in appearance through the years. Almost inevitably, however, changes *will* occur, even if a durable material is used in a properly balanced and maintained aqueous environment. When those changes occur, clients tend to become unhappy and will demand satisfaction by way of some form of repair or reinstallation.

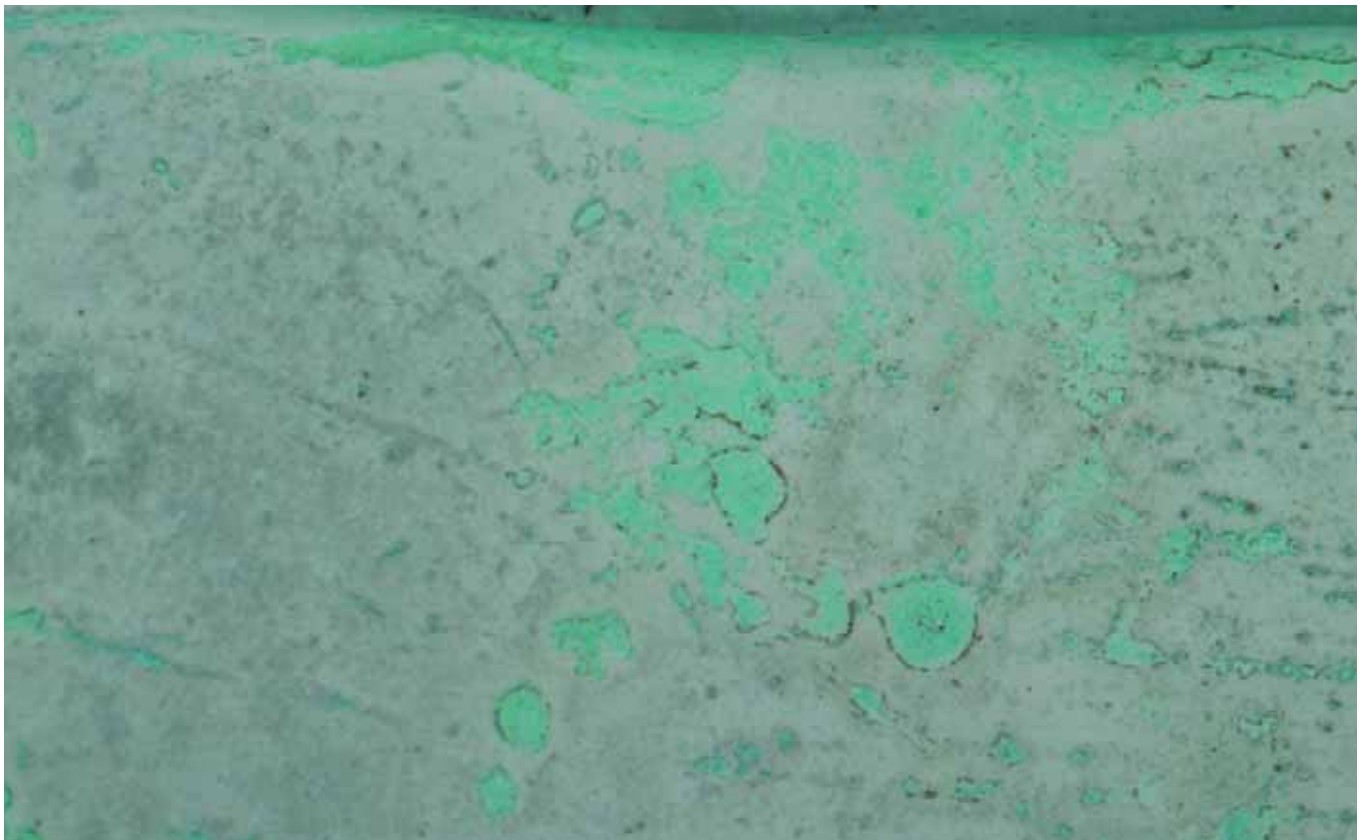
This is an absolutely avoidable situation if the watershaper simply informs the client that cement and water are natural materials and that there will invariably be natural variations of surface appearance that will arise either immediately or as the vessel ages. Watershapers can do themselves *and* their clients huge favors simply by explaining this fact of life rather than making a commitment that can't reasonably be kept.

That's not to say that anyone should accept the aesthetic damage that can occur if a watershape has been installed and

maintained without considering the nature of the materials being used. In these cases, clients deserve full recourse to have their problems remedied. By the same token, it's perfectly true that, with proper application and maintenance, even a standard white plaster can look good on a pool for a surprisingly long period of time. In fact, I've seen many 20- or even 30-year-old pools with original plaster that are in extremely good shape.

As I've noted many times in this discussion, the water/cement relationship is a massive topic that probably deserves a whole book rather than this single magazine article. Rest assured that many of these themes will be picked up and explored in greater detail as this series of articles unfolds.

In the meantime, simply keep it in mind that when you work with water and cement, you open yourself to a variety of considerations that require a working understanding and great care.



Here, a 20-year-old plaster surface – one most likely compromised by acid washing and inconsistent water maintenance – has become an aesthetic nightmare with extensive deterioration in the forms of metal staining, scale and delamination.



A Point We Made

The ultra-high-end residences designed by environmental artists, architects and landscape planners Suzanne and Ron Dirsmith tend to be both elaborate and spectacular, but The Point at Hybernia is exceptional even by their standards. A wonderfully elaborate space meant to nurture the mind, body and spirit, it boasts a dizzying array of landscape and watershape features and is as vast in creative scope and scale as it is in fine detail and execution.

By Suzanne & Ron Dirsmith

Serenity, comfort, repose. Delight in harmony with nature.

These were the guiding principles behind The Point, one of 114 elegant homes gracing the 145-acre Hybernia development on the western boundary of Highland Park, a celebrated Chicago suburb located about 25 miles from downtown on a stretch of Lake Michigan known as the city's North Shore.

We were initially called to Hybernia by a true visionary, David Hoffman, president of Red Seal Homes, the prime contractor for the development. He told us how his firm had struggled for years to acquire the parcels included in the development and wanted us to see that he was sensitive and attuned to the special nature of the setting and the history of its community.

His first request: a design for a building that would house a pool and hydrotherapy spa for two of his most discriminating clients as a safe, secluded, calming harbor from their heavy international business travels. As it turned out, however, this was just the beginning of what would become a much grander undertaking.

Vast in Scope

Our work on the enclosed pool/spa/entertainment building (described in the sidebar on page 66) unfolded over a period of about three years and eventually became an ongoing, organic design process that integrated and embraced a range of forms



The Point at Hybernian sits, appropriately, on a bit of land that juts out into man-made ponds that provide necessary but picturesque stormwater-retention space for the development. We started with a blank canvas and worked for several years toward a goal of creating a safe, secluded, comfortable harbor for a globetrotting couple.

and details all around the initial structures.

As that first phase of our work moved forward, our part in the project ultimately came to encompass a series of delightful, intimate environments – spaces for winter fountains, waterfalls, streams, detailed shoreline features, various landscapes, terraces, lighting, stone walls, sculptured entry gates, pergolas, arbors, walkways, outdoor all-weather bars and entertainment areas – and much, much more.

Appropriately, this particular property sits on a “point” of land, with one of the development’s two large ponds wrapping around two sides of the site. A large portion of Hybernian is a federally protected wildlife sanctuary and wetland, so



the ponds, waterfalls and streams were all created to exist in gentle harmony with nature – and the point was perfectly situated to take full advantage of the bucolic setting and views.

When we arrived on the site for the first time, however, there was absolutely nothing growing on an unadorned, flat piece of ground. Development had just started, and our clients’ estate was among the first to be built. The lot cov-

ered just a single acre, but its location overlooking the upper pond and open landscape beyond lends the site a tremendous sense of spaciousness. In fact, it feels as though it is an integral part and continuation of approximately 55 acres of protected wetland.

Much of our success in transforming the space over a three-year span is attributable to Hoffman’s patience and insight, his appreciation of our initial design and



Our original work on site had to do with a pool and hydrotherapy spa we set up in a room that can be seen from the kitchen through etched-glass windows. The pool isn't intended for heavy recreation; instead, the setting is designed for relaxation with a waterfall and a spray-jet system providing the soothing sights and sounds.

his openness when it came to a long list of subsequent concepts. Throughout the long project, our unusual requests were met with approval and cooperation – nothing short of extraordinary given the clients' impulse to build right up to the community association's public shorelines and, in places, even into the ponds themselves!

The homeowners are extraordinary folks, extremely private, who at the time of construction were traveling monthly to Australia in the course of shaping their international businesses. The home itself was built before the pool/spa complex, which enabled them to enjoy life at The Point while the process of detailing the pool/spa environment and creating the many landscapes, shoreline and water-features progressed month by month.

As each new area was designed and built, they kept after us for additional ideas that would enhance the property. Often, they would simply ask us, "What would you do in this area?"

Freedom and Privacy

To say that they responded well to the creative process would be a substantial understatement.



Their open-mindedness began to affect the process in a big way once they began to experience the various environments and finished landscapes. Over time and as the result of many, many intimate discussions, we learned an incredible amount about their likes, dislikes, preferred cuisines and favorite wines as well as their tastes in art, sculpture, travel and music. As we came to understand them and their individual backgrounds, we designed spaces we envisioned as capable of enriching and nurturing their busy, hectic lives.

As a primary example, we learned that privacy was absolutely critical to their comfort at home. As a result, we planted a variety of cascading large evergreen trees interlaced with low flowering deciduous Midwest shrubs around the perimeter. To ensure their seclusion, the trees were spaced tightly enough so that their branches touched, with underplantings of low, dense, spreading yews, barberries and thick evergreen groundcover.

At the same time, we did everything we could to blend their views into the wonders of nature framed by the walls of

greenery, opening vistas to a variety of private settings. In other words, where the mature trees and perimeter landscaping hid their home from view, we did nothing to disrupt the point's views across the ponds to the wetlands.

As the work progressed, each area became precious to them – a process of wholehearted adoption that occurred

with each newly created space. Time and again, they told us how much they looked forward to returning home to see which new areas were approaching completion and how the places of repose they had visualized through our design sketches were actually taking shape.

It was enormously fun to send them off for a month, then to witness the ex-

pressions on their faces when they returned and rushed out to the gardens and waterfalls. That energy was mutually infectious, with each success spawning another.

One major design concept was in place almost from the start – that is, the shoreline's development with a complex composition of boulders and stonework cascading down the slopes to the upper pond, which in turn was connected to a lower pond through a series of wonderful waterfalls and slithering streambeds.

The two ponds had been roughly excavated by the time we arrived on site.

As our involvement at The Point expanded beyond the pool and spa, we turned our close contact with our clients into a grand landscaping program that met their basic desire to enjoy the ponds and the protected wetlands beyond their property while ensuring their complete privacy – a seclusion provided by trees and shrubs on a year 'round basis.





Much of our work outside had to do with making the shoreline an inviting place for the homeowners. We set up several terraces both on the water and slightly away from the edge, giving our clients choices and enabling them to survey their secluded 'realm' from a variety of vantage points.







Each covered about five acres – all within the bounds of the federally protected wetlands and wildlife sanctuary.

Ponding Patterns

The ponds were set up to be 12 to 14 feet deep at their deepest points and were intended to function as part of the stormwater-retention system required by the city. During construction, however, the water level of the completed upper pond had to be lowered by about five feet to facilitate our work – and the developer was terrific in recognizing what the aesthetic sensibility we were bringing to this part of the project would mean to the setting in its totality as he accommodated our many unusual requests.

Because of the sensitive nature of the site and its functional role, many of our early sketches had to be presented to the city, the homeowners' association and other governmental agencies. Everything we did acknowledged and respected the composition of the soil – a heavy, dense clay that provided quite adequately for water retention once the developer set up a small pumping station with a float-valve control to help maintain water levels.

We attended to the aesthetics of the water-feed system, creating a series of waterfall weirs (since named the “Lower Falls”) that controls the water level for the upper pond.

Once the pond levels had been lowered to allow for the addition of stonework, streambeds and waterfalls on the shoreline, we reshaped the edge to include a back-sloped safety ledge all the way along the shoreline, placing boulders right in the pond as if they had cascaded down from the upper slopes. We also took advantage of this time to set large drums into the safety ledge – about 18 inches below the finished water level – to hold and control



Moving water is a key to much of The Point's outdoor experience. We added streams and waterfalls to lend sound and visual interest to a range of spaces from a multitude of perspectives – and set everything up in such a way that the effects can be enjoyed year 'round, day and night, indoors and out.

water lilies and other aquatic plants that were to be placed along the shore.

Finally, to ensure that the watershapes would run 365 days a year, seamless poly pipe was wrapped in a wet-suit-type insulation and wound with heating cables to prevent freezing. These were buried underground, rising from the bottom of the pool and climbing up the various streambeds.

The pond water at the full depth of 12 feet would stay liquid all winter and could flow at the clients' desire all season long. The pipe runs were set up in such a way that the water was insulated from the cold and would never freeze, even when the pumps were not operating.

In creating this essential run of shoreline treatments, we opened the door to a range of details that harmonized with the presence of the water in a variety of ways. One of these major components came to be known as "The Sculpture Fountain."

Key Details

This small but beautiful watershape was built just as a simple pool would be, that is, as a poured, reinforced concrete shell extending down at least two feet below

the frost line.

The "sculpture" in this case turned out to be a beautifully weathered, five-ton Dolomite limestone boulder we found in a ravine in the Fond du Lac region of Wisconsin. It really is a dramatic stone specimen, one that was probably formed about 270,000,000 years ago and had spent the ensuing eons of time tumbling, rolling and weathering.

We drilled the stone from top to bottom to allow for a center nozzle to bubble up as a small spout. A spray ring circles the base of the boulder, with small jets set below a cantilevered slate edge drilled in such a way that the water arches up through the deck itself.

This waterfeature was designed for year-round use, too, and is particularly beautiful in winter when ice forms and becomes part of the artwork.

A series of waterfalls and streams appear to come from the fountain, but they are actually separate systems driven by submersible pumps set in the bottom of the pond with the pond water rising up to an outfall manifold hidden under the slate ledge in seamless poly pipes with slotted diverters – all quite natural and mys-

terious. It's a simple bit of hydraulic sleight of hand that works to integrate the various watershape elements visually.

Another major detail is the incredible slate decking. Imported from the Kashmir Mountains in India, this stone was formed at about the same times as the fountain's boulder and is laced with imprints of all sorts of ferns and fossils that impart wonderful, almost metaphysical sensations to the eyes, hands and feet. This same material runs right through the pool/spa area to form the pool's deck.

Among all the many items added to the program, one of our favorites is the "Celebration of Nature" entry gate. Bearing in mind that the clients wanted their privacy, we nonetheless created a warm, inviting entry gate (fully motorized) to reflect their warm spirit, their love of the land, and their respect for nature.

The sculptor Bruce Fink, one of our most cherished associates, collaborated with us on this one-of-a-kind labor of love. A Great Blue Heron, an endangered Illinois indicator species, dominates the composition in a variety of flying and landing configurations. The rest of the gate features tendrils and flowering stems that make the

The Pleasure Pool

In many respects, the indoor swimming pool and hydrotherapy spa at The Point at Hybernia are purely traditional with a few key amenities.

Our clients had seen the work we'd done with the Playboy Mansion's pool and spa and 5-1/2-acre grounds on a variety of television shows and in press reports on Hugh Hefner's property in Los Angeles. They asked if something infused with the same sort of imagination could be transplanted from Southern California and brought into a home environment with a Midwestern feel.

We knew from conversations and from their visits to our design studios that they liked stone, wood and glass – materials we'd used for our own entry-garden fountain and waterfall. We also knew that they were not avid physical enthusiasts who would swim laps for a time each morning.

Instead, what they were after was a pool and spa that offered them a restful, relaxing environment that could also be used to a workout as the need and desire arose. This is why the pool has a depth of just 4-1/2 to 5 feet: It's a much more usable vessel than one with a traditional deep end.

They were especially impressed by the spa we'd designed for Hugh Hefner that levitated a body in the warm waters of a special "lie-down section." They also liked "The Seat," a full-body-massage configuration we developed using paired series of jets that has become a famous feature of the grotto at the Playboy Mansion.

Again, having seen and experienced our design studios and sensing our own relationships with nature and natural environments, they were keenly enthusiastic about bringing such effects into play along with a variety of elegant palms, ferns, orchids, pothos and a range of other exotic plants in the pool/spa environment – all set off by the amazing Kashmere slate decking.

The use of bronze mirrors to band the skylight openings and flank the main waterfall thrills visitors in different ways as the sun rises and sets across the Midwestern sky: The reflections across the rippling waters are simply delightful.

Again, they'd seen these features in our design studios and asked if they could be incorporated into their environment. "Yes" was the answer – just the ticket for a couple so romantically and spiritually inclined.

—S. & R.D.



One of the key waterfeatures is the Sculpture Fountain – basically an eye-catching boulder rigged as a water-spout and ringed by small jets of water. The composition is beautiful when the weather's warm but spectacular in an entirely different way when the water freezes and ice creates a constantly changing visual canvas.

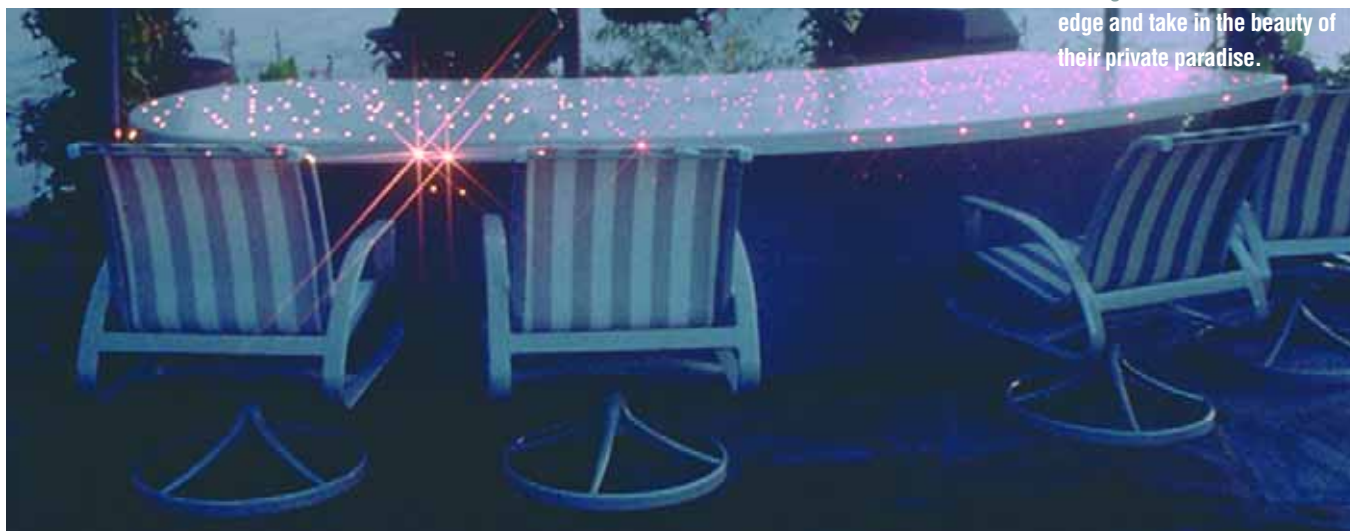


In Recognition

Our success at Hybernia would not have been possible without the expert efforts of Ferdinand Guidarini, owner of Masonry by Fernando Guidarini, and his unique old-world artist/craftsman, Amedeo Lamberti. We also salute our ingenious pool builder, John Bently of Carefree Pools in Chicago, and his late father-in-law, master mason and teacher Domenick Linari, who taught us everything we know about working with natural materials.



Our work on the project featured two special details that completed the package for our clients: A spectacular gate that greets them when they get home and suggests the natural wonders beyond, and a pond-side bar that, day or night, encourages them to sit at water's edge and take in the beauty of their private paradise.



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composition seem to grow up from the earth, while a pair of foxes pauses in the reeds at the base of the left-hand leaf.

Sacred Spaces

All around the property, we nestled, hid, slid, shoved and secluded a series of little secret places for the clients and their guests to discover and enjoy as they see fit at all times of day and throughout the seasons. By the time we were finished, they had Willow Walk, Sunrise Terrace, Sunset Terrace, Point Bar, Lower Falls, Fox Falls and Secret Arbor to discover in a continuous process of entrancement, nourishment and seduction.

The Point Bar was a late, interesting addition to the design scheme, emerging as we witnessed how deeply the owners became involved with nature and their wonderful property. We couldn't help noticing that they were usually 12 hours off of the Midwest time zone for several days because of their frequent, extended stays on the opposite side of the world and, as they

overcame jet lag, were up all night and slept during the day until their internal clocks made the necessary adjustments.

That in mind, we created a variety of night environments for their enjoyment – the Point Bar among them. This area features inlaid fiberoptic pin thin point-light sources that create an almost mystical aura in the space, inviting the homeowners and their visitors out to enjoy their long, sleepless nights.

We also wanted to attract our clients and their guests to the water's edge in daylight, stocking the pond with a variety of fish and establishing a feeding station at the edge of the stonework from which one can toss fish food morsels into the pond and watch the fish literally fly across the water for their meals.

Despite the great complexity of the overall project, all of its details, effects and features were achieved with a simple, natural selection of materials. We stuck mostly with indigenous plants, for example, and selected local stone species with soft col-

ors to complement the exotic stone we used for the decking. Our aim was to integrate and blend the various components into a seamless whole that reflected and joined with the landscape and each other.

To be sure, our firm is blessed to participate in projects such as these, where we stay involved with the clients for extended periods of time and are given free rein to pursue beauty and follow our hearts. This was among those projects about which we feel we were most privileged: The utterly delightful manner in which the work unfolded, with wonderful clients and a sympathetic developer, is something you can never count on and something quite wonderful when it happens.

The highest praise we hear from those who visit The Point is the much desired but infrequently heard comment, "It looks as though this has been here forever." To reach that point of influence over an environment and the human experience, we know that forces beyond our control must have been well aligned indeed.

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MOSAIC STONE TILES

Circle 135 on Reader Service Card



AGUAFINA GARDENS & IMPORTS supplies mosaic stone tiles for use on indoor and outdoor surfaces. The handmade tiles are assembled with exotic stones carefully sorted by color, size, thickness and shape for placement on a durable mesh backing. The sheets are installed in the same way as other tiles, and some patterns interlock across sheets for a visually seamless fit. **Aguafina Gardens & Imports**, Sylvan Lake, MI.

TELEHANDLER WITH FOUR-SECTION BOOM

Circle 136 on Reader Service Card

CATERPILLAR offers the TH580B Telehandler with a four-section boom that enables the machine to lift loads as high as 56 feet and to reach forward 42 feet. Designed for increased performance and maneuverability, easy operation, high capacity, expanded versatility and reduced maintenance, the unit works productively and cost effectively on various general- and heavy-construction tasks. **Caterpillar**, Peoria, IL.



AERATING FOUNTAINS

Circle 137 on Reader Service Card



THE POWER HOUSE offers fountains adapted from its aerating products that produce visually pleasing water streams while supplying substantial water flow and high oxygen transfer. Their high-volume spray resists misting and icing,

and these units are ideal for areas where pond or lake aesthetics are as important as the need for efficient aeration. Black floats are available on request. **The Power House**, Owings Mills, MD.

EROSION-CONTROL BLOCKS

Circle 138 on Reader Service Card

NSW offers Strata Cube erosion control blocks to help reduce erosion and structural landscape degradation. The UV-resistant blocks will not absorb moisture or nutrients (thereby preventing soil depletion) and can serve as internal reinforcement in stream banks and retaining walls, as shoreline water diffusers for lakes and streams or as re-vegetation cubes for soil stabilization and retention. **NSW**, Roanoke, VA.



Continued on page 72

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OUTDOOR LIGHTING FIXTURES

Circle 139 on Reader Service Card



ARCHITECTURAL AREA LIGHTING has introduced its Arts & Crafts line of outdoor lighting fixtures. Available in round and square versions, the fixtures feature a refractor system that accommodates symmetric and asymmetric patterns as well as a slightly diffused lens option for glare-free illumination. Hoods come in stainless steel, copper, opal acrylic, mica or painted aluminum. **Architectural Area Lighting**, La Mirada, CA.

CONCRETE-TEXTURING SYSTEM

Circle 140 on Reader Service Card

RAFCO PRODUCTS has expanded its Brickform texturing-product line with the addition of a high-density, seamless texture-mat system. Slightly more rigid than the company's regular line of texturing skins, the new mats are still flexible in applying exceptional detail to concrete surfaces. The material also distributes weight evenly, reducing the formation of "birdbaths" and "foot-prints." **Rafco Products**, Rancho Cucamonga, CA.



WATERSHAPE ENCLOSURES

Circle 141 on Reader Service Card



OPENAIRE offers retractable enclosures for use with commercial swimming pools, aquatic centers and waterparks. The structures eliminate concerns about the weather and enable these facilities to operate year 'round under spans as wide as 155 feet.

The retraction system opens as much as 50 percent of the roof area at the touch of a button. Design and consulting services are available. **OpenAire**, Mississauga, Ontario, Canada

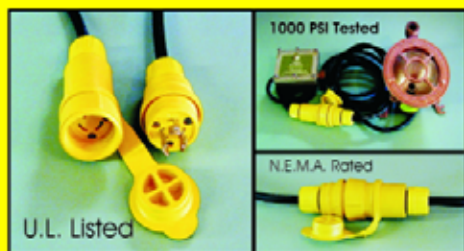
WIRELESS CONTROLLER

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CAT CONTROLLERS introduces its CAT 4000 Wireless Water Quality Controller. The system includes a factory-assembled controller that, once installed, is connected to the company's web site to activate the account and begin monitoring. The site allows users to see water-quality data, print charts and graphs, customize settings and get alarm notifications via e-mail, text messaging or cell phone. **CAT Controllers**, Fort Lauderdale, FL.



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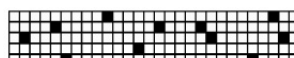
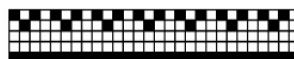


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ON-LINE TILE BLENDING

Circle 143 on Reader Service Card



HAKATAI ENTERPRISES has introduced an on-line Custom Blend Tool to give designers the ability to create, experiment with, price and order custom glass-tile blends with their computers. The designers choose up to ten of 51 available colors, pick percentages of each color and click a button. The computer randomly mixes choices and displays blends until the right mix is established. **Hakatai Enterprises**, Ashland, OR.

CAD RENDERINGS

Circle 145 on Reader Service Card



CREATIVE 3D VISUALS offers economical, high-resolution, three-dimensional renderings and virtual tours of any project, depicting existing structures, any water or rock features and a range of tile and deck surfaces. The presentation is based on either hand-drawn or CAD designs and show water, landscape and shadow movement, day and night views, fire effects and more.

Creative 3D Visuals, Temecula, CA.

POND FILTERS

Circle 144 on Reader Service Card



CAL PUMP offers the TBF2000+ and TBF4000+ biofilters for management of ponds of 2,000 and 4,000 gallons, respectively. The units come with filter medium and feature rotating cartridges and sweeping brushes that allow for complete backflushing while the pump is operating. The tank has a stainless steel clamp, a 1-inch backwash port and threaded 1-1/2-inch inlet and discharge ports. **Cal Pump**, Valencia, CA.

CONCRETE TREATMENTS

Circle 146 on Reader Service Card



SUPERDECK offers the Mason's Select line of transparent concrete stains, clear concrete sealers, concrete cleaners and non-corrosive concrete etchers. Designed to beautify and protect, the products are intended for decorative use on patios, decks, walkways and most other concrete surfaces. The stains are available in ten natural-stone colors and can be easily cleaned up with soap and water. **Superdeck**, Chico, CA.

Continued on page 76

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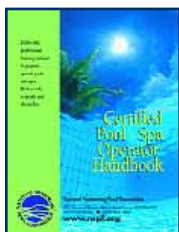
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CPO HANDBOOK

Circle 147 on Reader Service Card



NATIONAL SWIMMING POOL FOUNDATION has published *Certified Pool-Spa Operator Handbook*. Written by long-time CPO instructor Ron Ford, the handbook is a training and reference manual for professionals who help protect users of aquatic venues – including operators, health officials, service technicians, retailers, property managers and manufacturers. **National Swimming Pool**

Foundation, Colorado Springs, CO.

ITALIAN SCULPTURES AND FOUNTAINS

Circle 149 on Reader Service Card



ROSSATO GIOVANNI offers catalogs on Vicenza Stone Sculptures – statuary, vases, urns, planters, fountains, basins and more. Intended for use in gardens and outdoor settings, the sculptures are based on timeless, classic forms and

are hand-carved using San Gottardo and San Germano stone that has been quarried for Italian artists for centuries. Custom designs are also available. **Rossato Giovanni**, Vicenza, Italy.

BACTERIA-FRIENDLY MATS

Circle 148 on Reader Service Card

AQUASCAPE DESIGNS offers AquaMats, a material that provides a large surface area for bacterial attachment and speeds the process of naturally balancing a waterfeature. The mats float upright in the water, attracting bacteria and other aquatic life that reduce nutrient loads in a watergarten. They come in two colors: white to attract benthic algae or green to attract nitrifying bacteria. **Aquascape Designs**, Batavia, IL



MULTI-PURPOSE LED LIGHTING

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SUPERVISION offers Savi Spot, an indoor/outdoor/underwater color-changing LED fixture with state-of-the-art DMX control capabilities for special effects. Easy to install, program and use, the low-voltage, 25-watt fixture can reproduce more than 16 million colors with RGB and high-flux white LED technology. The fixture comes with a cast-aluminum housing and weighs 16.3 pounds. **SuperVision**, Orlando, FL.



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HEAT PUMPS

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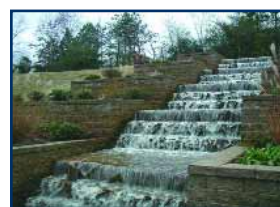
JANDY has introduced the AE-Ti line of heat pumps. Available in three sizes rated, respectively, at 100,000, 115,000 and 131,000 Btu, the units' standard features include digital control panels, titanium heat exchangers (included at no extra charge) and patented auto-heat systems. The automation-ready devices connect easily to pool/spa automation systems, automatic valve systems and remotes. **Jandy**, Petaluma, CA.

WATERFEATURE BLOCKS

Circle 152 on Reader Service Card

VERSA-LOK RETAINING WALL SYSTEMS

offers wall units that simplify the incorporation of waterfeatures into landscape designs. Available in a variety of colors and with both standard split-face and weathered textures, the solid, pinned, segmental wall system is versatile and allows for installation of straight segments, curves, corners and columns to frame water effects. **Versa-Lok Retaining Wall Systems**, Oakdale, MN.



CHEMICAL CONTROLLER

Circle 153 on Reader Service Card



ADVANCED CONTROL LOGIX offers a system that monitors and controls pH and sanitizer levels 24 hours a day. With a unique, remote-mountable interface that enables operators to control as many as eight bodies of water situated as much as 3,000 feet apart,

the system panel can be set up outside the pump room for easier water treatment – even from the lifeguard station. **Advanced Control Logix**, Colfax, CA.

WATER BASKETBALL

Circle 154 on Reader Service Card

S.R. SMITH has introduced a single-post water-basketball system. Made of 1.9-inch O.D. stainless steel tubing for easy mounting in a deck sleeve, the system features a high-gloss, clear-plastic backboard large enough to make the game easier for small children just learning the game as well as fun for adults. It also has a heavy-duty breakaway rim and a locking anchor that keeps the unit from turning during play. **S.R. Smith**, Canby, OR.



Continued on page 78

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LIGHTED WATERFEATURE

Circle 155 on Reader Service Card



FIBERSTARS offers the Lighted Rain Waterfall. Designed to add dramatic, glowing accents to any backyard, the waterfall systems can be powered by an existing fiberoptic illuminator and come with 45 feet of pre-attached fiber set up with center-fiber entry for cleaner installation. The waterfall units come in five lengths from 12 to 48 inches and can easily be converted to lengths up to 8 feet. **Fiberstars**, Fremont, CA.

LOCK-DOWN RESIN STEPS

Circle 157 on Reader Service Card



QUAKER PLASTIC offers the Lock Down Bleacher System for its in-pool resin steps. The system features stair-support posts that are pulled into a vertical position and lock into place – no field assembly, no nuts, no bolts, no tools needed. The units come with pre-drilled holes for rebar so builders simply apply concrete and the stairs are ready for final leveling before the concrete hardens. **Quaker Plastic**, Mountville, PA.

DEWATERING PUMPS

Circle 156 on Reader Service Card

MULTIQUIP offers the QP Series of trash pumps for dewatering applications. Designed for contractors who need to move water quickly and efficiently, the highest-capacity pump in the eight-model series offers a maximum flow of 396 gpm through dual discharge ports. All models are housed in strong, compact, die-cast aluminum pump casings for faster priming at higher speeds. **Multiquip**, Carson, CA.



SWING CHECK VALVE

Circle 158 on Reader Service Card

ASAHI/AMERICA has announced the availability of an upgraded Swing Check Valve for use in heavy-duty water systems. Rigged with a top bonnet O-ring seal to facilitate in-line maintenance and allow for improved pressure-rating performance in applications with elastomeric seal materials, the valves come in sizes ranging from 3/4 to 8 inches and are rated for full-vacuum service. **Asahi/America**, Malden, MA.



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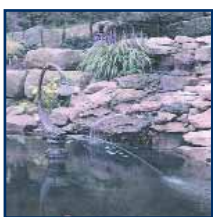


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LIGHTED FISH FIXTURE

Circle 159 on Reader Service Card



KICHLER LIGHTING offers a fish-shaped lighting fixture that serves not only as a garden or pond sculpture, but also acts as a functional fountain when optional vinyl tubing and a pump are added – all while creating a subtle light effect for its surroundings. The durable figurine is constructed of solid brass and comes with a 14-inch mounting stake as well as a 10,000-hour, 16.25-watt xenon lamp. **Kichler Lighting**, Cleveland, OH.

SPA-SIDE CONTROL

Circle 161 on Reader Service Card



PROSPEC ELECTRONICS offers the JBL REM35 wired remote-control system for pool- or spa-side operation of a stereo system. The unit is compatible with JBL equipment and features a display screen that indicates which station or track is being played, faceplates in black or white, a weather-proof housing with sealed switches and a backlit panel for easy operation in the dark. **Prospec Electronics**, Mount Pleasant, SC.

station or track is being played, faceplates in black or white, a weather-proof housing with sealed switches and a backlit panel for easy operation in the dark. **Prospec Electronics**, Mount Pleasant, SC.

CUT-OFF SAWS

Circle 160 on Reader Service Card



STOW CONSTRUCTION EQUIPMENT offers two hand-held saws designed to slice concrete, tile, ceramics, pipe and more. Both operator-friendly models have reversible blade flanges to handle both 20-millimeter and 1-inch blade arbors and can operate either 12- or 14-inch blades. Offering long service in tough conditions, both units feature triple-stage air filtration systems. **Stow Construction Equipment**, Carson, CA.

STAINLESS STEEL SPAS

Circle 162 on Reader Service Card



DIAMOND SPAS supplies standard and custom spas in 316L stainless steel. All models are fabricated for durability and aesthetic appeal and offer hydrotherapy with enhanced comfort. The standard models are available in round and kidney-shaped forms; custom spas can be made to fit any designed space. The number of jets as well as jet placements can vary in accordance with client needs. **Diamond Spas**, Broomfield, CO.

Continued on page 80



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GARDEN FOUNTAINS

Circle 163 on Reader Service Card



HADDONSTONE offers two styles of the Arcadian line's Lotus Flower Fountains. The frost-proof, waterproof models are available in either a self-contained triple-bowl configuration (with or without a lower pedestal) or a double-bowl alignment with a small pool. The fountains are hand-crafted in cast Colorado limestone and come in three colors: dark gray, creamy honey or off-white. **Haddonstone**, Bellmawr, NJ.

SALT CHLORINATOR

Circle 165 on Reader Service Card



AUTOPILOT offers Pool Pilot Professional, a system that powers and digitally monitors up to six chlorine-generating cells to fit every need. The self-cleaning, soft-reverse cells are designed for long life, operate safely at all salt levels and can output up to 15 pounds of pure chlorine per day while featuring temperature-compensated output that ensures a constant level of sanitizer production. **AutoPilot**, Fort Lauderdale, FL.

INGROUND FLOODLIGHT

Circle 164 on Reader Service Card



LUMIÈRE/COOPER LIGHTING introduces Monaco 6000, a family of small-scale, in-ground floodlights intended for architectural/commercial applications. The fixtures have heat/water management systems for reduced lens temperature and protection from the elements as well as the company's special aiming system for tilting and rotating the lamp from outside the fixture. **Lumière/Cooper Lighting**, Peachtree City, GA.

SKIMMER LID KITS

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POUR-A-LID offers a system that allows for fabrication of lids for pool skimmers, water mains, valves, and various clean-outs that blend in with surrounding decking to avoid aesthetic inconsistencies. The deep lids are filled with concrete of the same color as the decking material and fit several standard openings. Available in white, black, gray and tan, they match the basic range of decking colors. **Pour-A-Lid**, Lake Elsinore, CA.



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CONCRETE TEXTURING SYSTEM

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L.M. SCOFIELD supplies Texturetop, a fast-track, low-profile cementitious topping with high workability and strength in a range of attractive integral colors. Designed for interior or exterior applications in residential or commercial settings, the product can

be used to restore existing hardscapes, comes in stencil and stamp grades and offers fast setting and abrasion and freeze/thaw resistant surfaces. **L.M. Scofield**, Evergreen, CO.

ASIAN-INSPIRED FIREPITS

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SOJOE introduces the Willow and Crane Firepit, an Asian-inspired product featuring cranes and willow trees to bring tranquility and warmth to backyards. The product is fabricated from cold-rolled steel for durability and longevity and comes

with a stainless steel spark screen, a poker and a cooking grill. The cut-out design enhances ventilation, minimizes smoke and improves air-flow. **Sojoe**, San Luis Obispo, CA.

GLASS TILE

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EURO-TILE offers the complete Villiglas line of glass mosaic tiles in a range of styles and sizes. The tile installs quickly and easily using ceramic tile setting methods and meets all applicable standards for breaking strength as well as slip and abrasion resistance. Available in dozens of colors, the tiles can be ordered in a variety of standard and custom mixes and come with a number of trim pieces.

Euro-Tile, Fort Myers, FL.

LANDSCAPE/WATERGARDEN FIXTURES

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REPLICATIONS UNLIMITED has published a catalog on its line of artificial rock waterfalls as well as an expanded list of products including waterfalls, self-contained waterfeatures, fountain rocks and cover rocks acquired from Splash Products. The integrated catalog also offers information on the company's lawn and garden, watergardening, contractor and distributor programs. **Replications Unlimited**, Hazelwood, MO.





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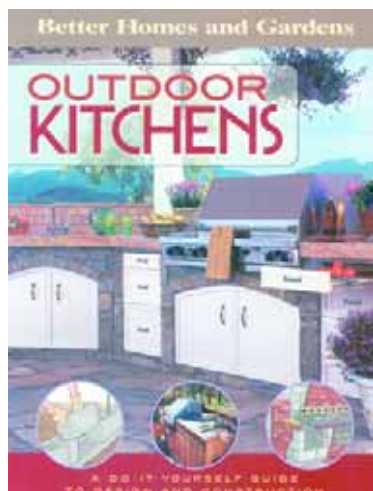
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By Mike Farley

Flames On



Back when I was first getting into the pool/spa industry, I clearly remember trying to find books that would help me get started. Boy, were the pickings *slim*. At that time 15 or so years ago, there were only a couple of books that focused on pool design, and neither one was particularly helpful (so I'll resist naming names).

Fortunately, those days are long gone, and now we find ourselves with a good supply of periodicals and books that offer watershapers a wide array of great ideas.

Recently, I felt a strong sense of déjà vu: I'd set out looking for information on outdoor kitchens and fireplaces and could find only a handful of basic and not entirely helpful publications – despite the fact that it's no secret that outdoor cooking/dining areas (and their cousins, outdoor fire amenities) have become more and more popular in the last few years.

It came as no surprise that the few books I *did* find had all been published in the past year, nor was I too surprised that none of them, pardon the pun, set my mind ablaze. Just the same, if you're new to the area of providing "hot" outdoor amenities, these four books are probably worth a look.

The first, published by the folks at *Better Homes & Gardens*, is the only one that pertains exclusively to exterior installations. Entitled *Outdoor Kitchens* (Meredith Books, 2004), it was written by Bill Lattay and edited by Ken Sidney and serves as a useful introduction to the challenge of creating outdoor cooking and dining areas.

Written mostly for do-it-yourselfers, the well-organized, 174-page book provides a good overview – advising us to take weather and the elements into account, for example, and to consider amenities and covers as well as the number of people who will be trying to use the facility at any one time. What's most helpful here are the constant reminders to factor in such basics as storage, cleanup and disposal.

The text also provides great advice on layout and even offers some theoretical discussion of ergonomics and the need for transferring the indoor kitchen's "Golden Triangle" to the great outdoors. There's also a well-illustrated design gallery featuring a dozen outdoor kitchens in various styles and settings. Best of all, they're finished with a range of materials.

The section on construction techniques, however, is far too basic for experienced contractors. I'm not so sure the same thing can be said of the final section of outdoor recipes, which at the very least gives you something to try on your own. (It certainly can't be a bad idea to have a favorite outdoor recipe or two up your sleeve when the subject of outdoor cooking comes up with a client.)

Publications about outdoor fire effects are only slightly more plentiful than those on outdoor kitchens – and probably not quite as useful. The best I found, *Fireplaces* by Encarna Castillo (Harper Collins, 2004), is mostly about indoor fireplaces but has a generous section on outdoor installations that includes details on basic design considerations. As a plus, there are several inspiring photographs of outdoor fire systems alongside gorgeous vanishing-edge pools.

Ideas for Great Fireplaces comes from Cynthia Bix and the editors of Sunset Books (Sunset Publishing, 2004). The text focuses entirely on indoor systems, but it provides excellent consideration of the basic functionality of fireplaces and has a comprehensive resource list. Last and perhaps least applicable, *Fireplace and Mantel Ideas* by John Lewman (Fox Chapel Publishing, 2004) has construction and product information and all sorts of ideas for creative indoor mantels – some of which might be transferable to outdoor settings.

I have the feeling that this is only the starting point with books like these: With the growing popularity of outdoor kitchens and fire effects, my suspicion is that better focused and more comprehensive volumes will be coming soon to bookstores near you. [WS](#)

Mike Farley is a landscape architect with more than 20 years of experience and is currently a designer/project manager for Gohlke Pools in Denton, 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.