

WATER SHAPES

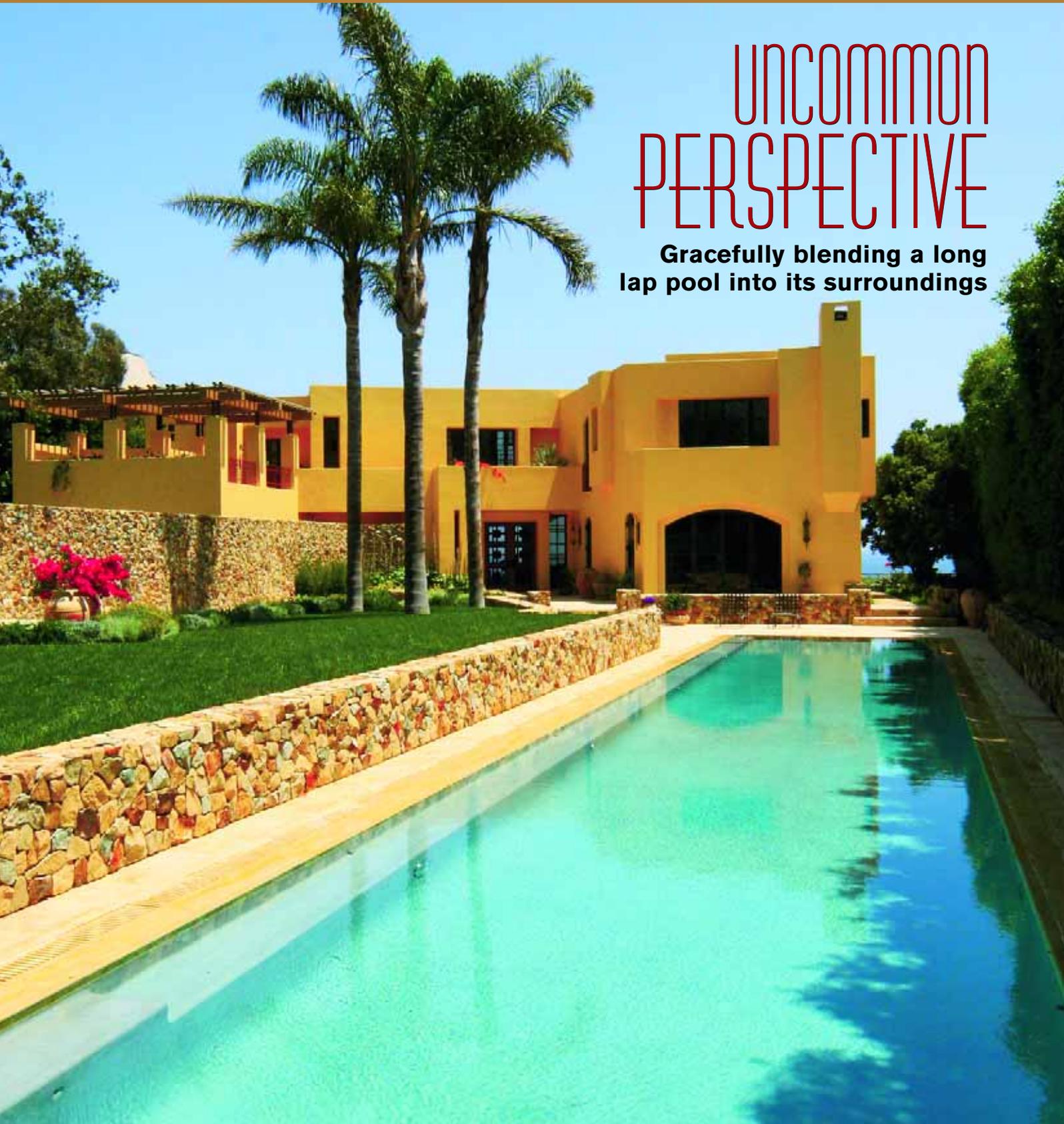
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Time to Rebound

By Eric Herman

Economists, commentators, politicians and just about anyone who's been paying attention have described the recession that started in 2008 as the worst economic calamity to befall us since the Great Depression. None of us needs their expert testimony to know that the past 18 months have been the toughest most of us have seen in our lifetimes.

Just as we knew when times were great that the housing market was ripe for a bruising and that credit simply had to tighten, so, too, do we know that, when it comes to economics, no down cycle lasts forever and that the mighty engines of our economy will eventually rebound.

The way I currently read the tea leaves, we seem to be heading for that upswing. Just recently, for example, the National Association of Realtors reported that, as the third quarter was drawing to a close, pending home sales were increasing at a healthy three-percent clip and had in fact been rising for six straight months. Then the Institute for Supply Management reported significant increases in hard-goods manufacturing, and since then there's been a parade of reports indicating that we may have hit the bottom and already started climbing again.

I'm starting to hear positive news from watershapers as well. Lots of you have said that, although sales are still flat and have been for some time, you're seeing increases in inquiries, proposals and bids. And as I've mentioned before, the high-end/custom part of the business has remained strong. In fact, through both 2008 and 2009, a number of you have told me that you've had your best years ever – despite the cascade of bad news that's been pouring over us. Landscape architects in particular have apparently been holding their own.

Those who've suffered the most have been those who use the volume model along with builders who serve a mid-level clientele. Unfortunately, this is still where much of the industry's raw volume is, so manufacturers have been caught up short to an amazing degree if any of the reports I've been hearing are anywhere close to the truth.

It's not generally my habit to discuss advertising or sales, but I'm going to break with tradition to offer a quick observation. If you're a supplier to the watershaping trades, it's time to snap out of it (if you haven't already) and get active again. Sure, money's tight, core markets are suffering and marketing budgets have been slashed, but opportunities are starting to resurface and there are all-new markets emerging for those who are thinking green and recognize the fact that the thousands of landscape architects who read *WaterShapes* represent the greatest growth potential among all water-oriented professionals.

To be sure, it's a more progressive industry model than has been pursued in the past, but for the foreseeable future, this is where the business will be. Watershapers who have embraced this evolutionary process are still here, still working and perfectly positioned to enjoy the rewards of economic recovery. Suppliers who tailor their messages, products and marketing efforts to the needs of this sector stand to reap the benefits as well.

If there's one lesson we all should have learned in the past couple years, it's that relying on old ideas results in tremendous vulnerability. Those watershapers and suppliers who are shackled to the past will likely suffer through what looks to be a slow recovery, while those who are looking ahead will be ready to harvest a new crop of opportunities.

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In This Issue

November's Writers

Eric C. Groft is a principal at Oehme, van Sweden & Associates, a landscape architecture firm based in Washington, D.C. A graduate of the University of Virginia – where he earned a master of landscape architecture degree in 1984 – he also holds a bachelor of arts degree with majors in geography and environmental science from Shippensburg University in Pennsylvania. He joined the firm in 1986, and his experience since then includes both teaching and lecturing. Groft is also a registered landscape architect and a member of the American Society of Landscape Architects.

Paolo Benedetti is founder and principal at Aquatic Technology Pool & Spa (Morgan Hill, Calif.), a firm dedicated to the design and construction of luxurious resi-

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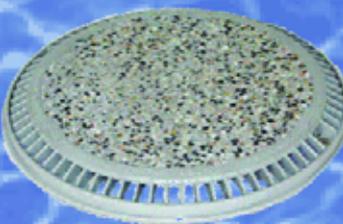
Sven Schunemann is co-founder of Flowforms America, Inc., and principal at Schunemann Water Design, both based in Mill Valley, Calif. A pioneer in the field of sustainable design and water-surface management, his work has focused mainly on the relationship between water use and energy consumption and on developing systems that result in conservation of both. He studied sculpture, photography and multimedia art at the St. Martin School of Art in London and has created a variety of integrated water/sculpture systems installed in high-profile settings, including the Princess Diana Memorial in Hyde Park, London, and Capitol Square in Madison, Wis.

David Tisherman is the principal in two design/construction firms: David Tisherman's Visuals in Manhattan Beach, Calif., and Liquid Design 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 and was also a 2008 recipient of The Joseph McCloskey Prize for Outstanding Achievement in the Art & Craft of Watershaping.

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Aqua Culture



The Road Traveled

By Brian Van Bower

Just recently, I spent some time looking through an issue of *WaterShapes* published in 2003. I won't name names, but one of the articles was about a custom installation that was labeled as "luxurious" – and I was struck by the fact that, by today's standards, it wasn't really anything very special.

Make no mistake: This magazine has had a great deal to do with advancing our industry, and I have no doubt that, six years ago, the project that caught my eye was at or near the cutting edge. Still, I couldn't help thinking how far we've come in recent years and how long it's been since just about any project that didn't drop out of a cookie cutter was newsworthy.

As we all continue to cope with the toughest market in our lifetimes, I see value in looking back at how far our industry has come and how it has evolved. More important, I think it's valuable to reflect on the value system that has driven this evolution so we can all prepare

Apparently, the pool industry was ready for a change because we've seen the creation of a whole new industry separate from anything that existed before.

for a more abundant future with further advancement in mind.

As has been written before in many contexts, those who stay rooted in the past will inevitably fall behind, while those who look ahead will excel come bad times or good.

ten years later

It was just over a decade ago that *WaterShapes* and Genesis 3 first set sail. As I've explained before, the timing was coincidental but extremely fortunate for both entities.

The co-founders of Genesis 3 – Skip Phillips, David Tisherman and I – had grown weary of the traditional pool industry and its approaches and very much wanted to kick down barriers and replace patterns of thinking that had constrained us and others who became our forward-thinking compatriots.

At that same time, Jim McCloskey and Eric Herman had something similar in mind and developed *WaterShapes* as a means of uniting the landscaping, fountain, pond/stream and pool/spa industries beneath a conceptual umbrella that explored water-oriented design and construction and celebrated the similarities rather than differences among water-oriented professionals.

Both endeavors were bold, and both ran headlong into the skepticism of people who at first didn't understand the scale of these ideas.

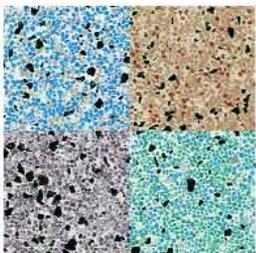
I'll never forget a breakfast meeting I had with Jim and Eric in New Orleans in 1998 when they asked me to write this column. Truth be told, I had no real idea where all of us were heading – but it seemed like a good idea at the time, so we all jumped in and gave it a go.

What's happened in the years since we've all been at this continues to amaze me. Apparently, the pool industry was ready for a change, and it has been about much more than the successes of Genesis 3 or *WaterShapes*: Indeed, what we've seen is the creation of a whole, new industry separate from anything that existed before, and we've watched with satisfaction as watershapers' careers (and sometimes even their lives) have changed for the better.

It's as though an emergent art form was waiting to be rec-



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ognized back in 1998, and the energy and interest we unleashed came on like lightning.

Of course, it didn't hurt that all of this came together during prosperous times when property values were soaring and homeowners had easy access to equity and credit – too easy, as we know with hindsight. But that supply of dollars sought out and found a class of creative people in our industry and drove many of us to higher and higher levels of ambition and inventiveness.

Those were heady times, and as I suggested just above, things cascaded to a point where it's fair to say that an entirely new industry was born. Those of us who jumped in and successfully navigated the currents have never looked back. Even now in a depressed market, those who stepped up and learned to play an elevated game still see powerful demand for increasingly creative water-shapes and exterior spaces.

left behind

As all of this progress and promise has unfolded, I have always been surprised and a bit distressed by how stuck in the past some people (particularly in the mainstream pool industry) seem to be. It's as if there's a fear factor that keeps minds closed and hands tied.

And they are ensnared by the past despite the fact that their own prospective clients are pushing at them as hard as they possibly can to get caught up and back in the race!

As an example, I was recently called into a project where the clients told me that they had tried to work with a number of local pool contractors who brought nothing at all to the table beyond tried-and-true designs and materials. And this was true despite the fact that these clients were absolutely interested in exploring a broad range of technological options and visual possibilities.

I indulged their desires by covering a

number of design ideas and material choices, listening all the while as these clients kept on expressing their relief and even surprise that they had finally found someone who was willing to join them for a bit of creative thinking. It was nice to hear, of course, but it was also disturbing because this was not the first time I'd heard this sort of complaint from clients.

I cannot rest easy knowing that there are situations such as this in which homeowners are looking for more than many people in the pool industry are seemingly ready or willing to offer. Can you imagine if this were the case with cars and you went to the lot wanting a luxury automobile, but all the dealer was willing to discuss with you was a limited selection of economy models?

On its face, that's outrageous, self-defeating and palpably insane – and unlike the car industry, the pool industry apparently does this to our base of con-

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Agua Culture

sumers often enough that all of us who want to do better need to overcome homeowners' negative preconceptions before we can even get going.

There's no wonder now that times are tough why some pool companies are going out of business. With limited creativity, they can't exploit the opportunities that exist, let alone generate enthusiasm where those opportunities aren't so obvious. As I see it, none of us can sit around and wait for consumers to lead us back to prosperity—and things will only get worse if, when they try, they run into pool people who balk at the chance to do anything creative.

If you're reading this and are among those who have yet to embrace the value system these pages have always represented and Genesis 3's programs have always espoused, you are playing a dangerous game these days: Old-school thinking will not carry you through this economic downturn and certainly won't help you exploit the greater opportunities that are

sure to arise when the economy recovers and pent-up demand is unleashed.

basic and advanced

The transition in thinking I'm discussing here exists on a number of levels, from basic technology and construction techniques to the farthest reaches of design creativity. It's even occurred with the most fundamental of systems with which we work—that is, *hydraulics*.

Not too many years ago, the pool industry was stuck in a rut in which small pipes were paired with oversized pumps to achieve basic circulation. This probably had something to do with continuing to do things "the way they've always been done," and there was definitely a marketing point being made, because what consumer would want a wimpy half-horsepower motor when the alternative was a burly monster checking in with two-and-a-half horses?

Nowadays, I think the battle about

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pipe and pump sizing is basically over and there's broad recognition that big pipes and small pumps offer tremendous hydraulic and safety advantages. There may be some who stick with the old approach to avoid admitting they've been wrong for all these years, but whatever the case, I cannot for the life of me understand why anyone would resist such a basic advancement in understanding of a science that's at the core of all of our installations.

On the other side of the spectrum are those who seem stuck on another planet with respect to what they consider to be "custom" or "luxurious" designs. Just this morning, I was flipping through the Spring 2009 edition of *Luxury Pools*, a big, glossy magazine that goes to consumers and includes projects pool builders pay to display. Overall, I think it's a great concept and value the level of exposure it brings to some of our industry's best practitioners.

In a number of instances, however, the pools featured are truly ordinary – not the least bit luxurious or particularly creative, even by past standards. This leaves me scratching my head and wondering where these people have been and what on earth they're thinking. Some of these entries are embarrassing – which takes me back to my original point about the way the pool industry seems happy to let consumers lead the way.

I believe that it's time to break with the past and for everyone who claims to be a watershaper on any level to reclaim a market-leading role by offering creative options to all consumers and refusing to accept old-school thinking. If along the way you happen to run into a client who actually wants something ordinary, it's easy to back up and accommodate those wishes. But at the very least we should all commit to exposing them to ideas they're unaccustomed to considering.

do your best

It's not my intention to demean anyone through this discussion, basically because experience has shown me that even the stodgiest, most determinedly Old School among us can get educated and learn to embrace greater creative potential. We all have room for growth and improvement of our skills – and the sooner we grasp those opportunities, the better off all of us will be.

Just as we knew during fat times that things would eventually change, so too we know through lean times that things will get better and the economy will rebound. The question you need to ask yourself is, *Will I be ready?*

If you have worked at tapping your most creative intentions, then the answer is *yes*. If you're wedded to the past, however, you can pretty much count on staying there until you wake up and see the choice you've always had to step up and begin anew. **MS**

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

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On the Level



There comes a time when we just need to acknowledge our limits and allow others to help us – no matter how stubborn we might be!

Touches of Humility

By Bruce Zaretsky

One of the things I love about my chosen profession is that no two days are exactly alike: Instead of installing the same design in the same way day after day, I'm constantly forging ahead, taking new paths and moving in new directions.

With these explorations come many opportunities to learn new techniques and work through new ideas. And I like the fact that I've built a reputation as someone who enjoys pushing the envelope and trying out approaches I haven't used before – even if it means I'm steadily finding new ways to mess things up.

At times, my willingness to go out on limbs puts my staff on edge. I love the looks on their faces when I say "Today we'll be trying something new" and that, as a result, "I'll be on site with you for this one."

The downside of all this is that I have a tendency to go things alone and not ask for help from anyone. There are a couple reasons for this, the first being that I'm both independent

and stubborn. I'm also curious about the way things come together and work and like to try to figure them out on my own. Finally, I like the fact that, if things go haywire, I have only myself to blame.

Using this approach, I've learned some key lessons (the need for extra space for upper pond overflows into lower ponds, for example, or for proper calculation of flow rates for waterfalls or how *not* to use a backhoe to set large stones on the bottom of a pond) and have generally been satisfied with the solutions and skills I've developed.

learning flow

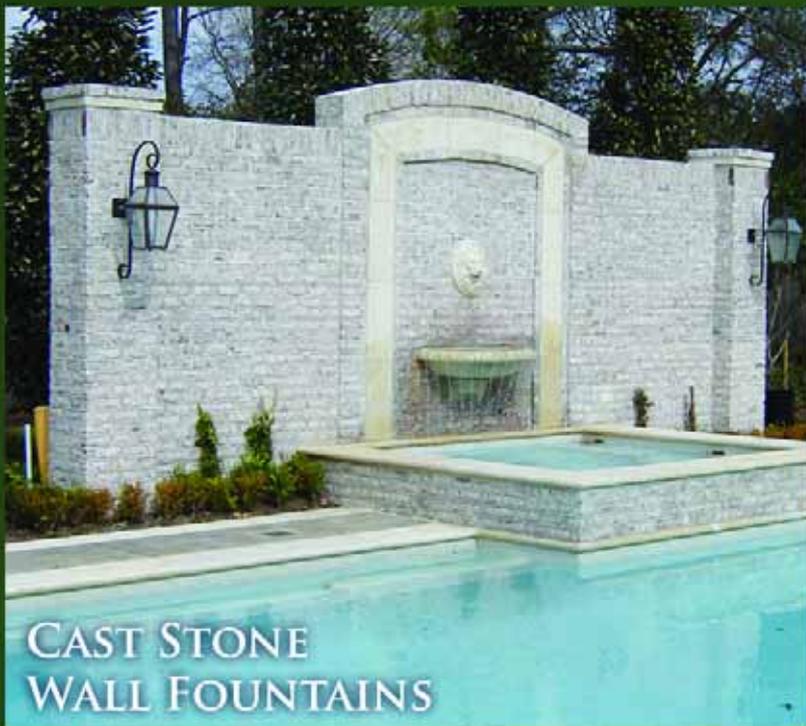
Through these many years, I've built lots of watershapes, mostly of the naturalistic kind, and have details such as bubbling boulders and overflowing urns down pat. As I discussed in my August 2009 "On the Level," I'm not averse to using items such as rain chains and even tubas if that's what's needed to produce desired effects.

In most cases, the calculation of flow rates and volumes (and hence the sizing of pumps) is fairly straightforward: For the most part, all I do is go big and valve down as necessary.

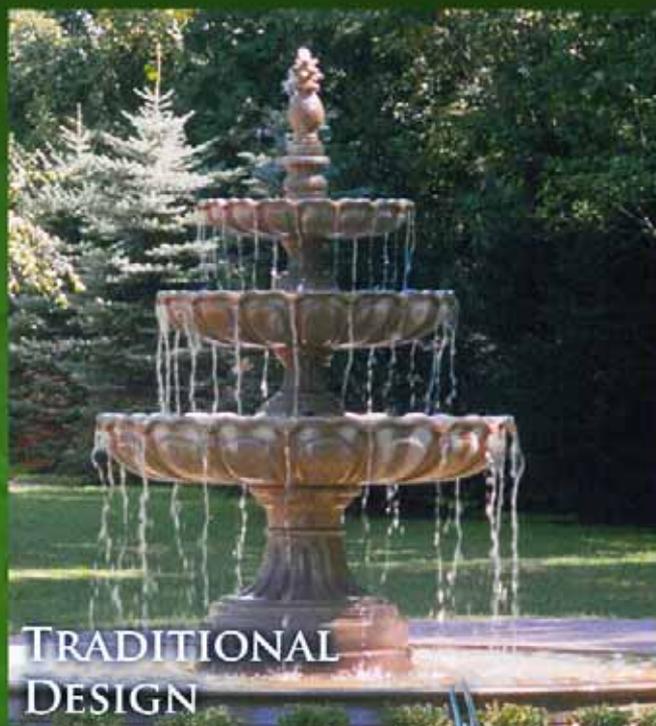
In virtually all past cases, I've used high-efficiency submersible pumps, which are very predictable and easy to use – so much so that only rarely have I gone wrong by going big. In fact, I have so much experience with these devices that I almost always make the right choice the first time through, even in situations where the complexity of the system should give me pause.

That isn't to say I haven't encountered a few problems through the years: It's just that I've been able to extract myself from the pickles I've gotten myself into without anyone's help. (Have I mentioned that I'm stubborn and not always willing to consult the experts?)

Quite honestly, the reason I've gotten away with this is that there's not much on the landscape side of watershaping calling for large-scale engineering. Indeed, just about the only time I feel compelled to get help is with larger retaining walls, where I quite dramatically let my clients know that I'm bringing in an



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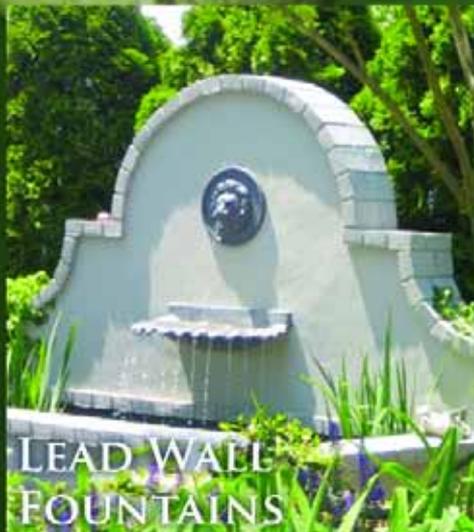


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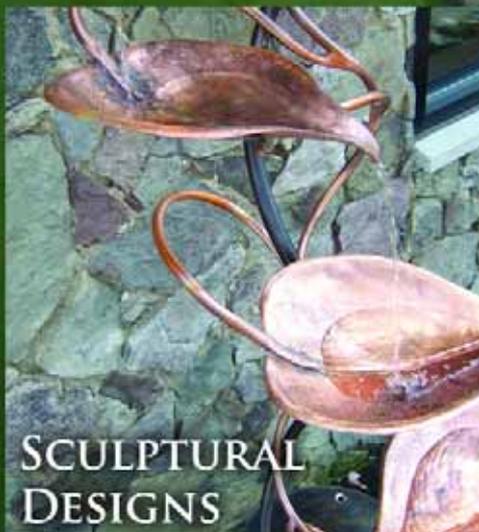
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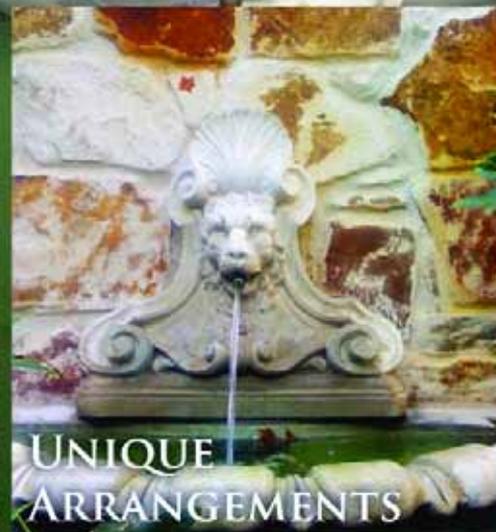
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expert to help design a wall because failure could be, well, quite dramatic. When I call in such an expert, I know that my most important task is to listen attentively so I can apply the advice I'm being given, fully and accurately.

So now, as you might have guessed, I want to tell a story – a somewhat embar-

assing one, in fact – about what can happen when habit and residual stubbornness get in the way even when you see the need to call on outside expertise.

You may remember from my August column on small waterfeatures that I once installed a group of three scuppers made from chunks of Bluestone protruding

from a stone wall. This feature and the private terrace on which it was installed were in fact a small part of a much larger project that included a patio and stairway made of large Bluestone slabs interrupted by ribbons of colored glass (lit from below in some areas) as well as an elaborate waterfeature.

For the most part, this project was all things I could have done in my sleep. The waterfeature I'll describe just below, however, was a different matter altogether.

simple enough?

Setting the scene, there was an elevation change of about 30 inches from the home's level down to the patio. My plan was to build oversized, three-foot-deep steps in Bluestone and glass as the transition. When my clients and their guests reached the patio level but before they reached the patio itself, they would walk over a wide, L-shaped, trough-style waterfeature, set with more of the Bluestone.

Within the trough were to be six three-by-four-foot Bluestone slabs floating on concrete piers. Two of them would be for walking; the other four were to be core-drilled in random patterns (with six holes per stone), and water was to bubble up through them.

I love the concept, and I'm certain those

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On the Level

of you who make hydraulic calculations on a daily basis would see this as a piece of cake. But for me, this was one of those times I was forging into new territory – and I knew I needed some help. So I swallowed my self-reliant pride, picked up the phone and called Skip Phillips of Questar Pool & Spa in Escondido, Calif., whom I'd met through my participation in a variety of Genesis 3 programs.

I explained the situation – my need for 24 one-inch holes to be fed with water from about 15 feet away via two-inch pipes that would pass through four manifolds that would step the lines down to the one inch size that would flow through the holes. I'd calculated a head of three feet to get the water bubbling up two inches over the stone. Finally, I asked my big question: "What pump do I use?"

I know Skip to be one of the most respected of all pool-hydraulics experts on the planet, so I knew that he wouldn't steer me wrong. After a minute or two of silence, he said: "You want a flow rate of 120 gallons per minute using a high-head pump." Being a math maniac, I immediately locked on to the 120 gpm figure, translating it to what was for me the more familiar figure of 7,200 gallons per hour.

As noted above, I work almost exclusively with submersible pumps and rarely with in-line pumps. This particular waterfeature pushed me out of my usual comfort zone and forced me to work with an in-line device placed in a separate underground vault. All very cool in my book – but all basically new to me. To show that I was still in control of the process, I went beyond Skip's 7,200 gph recommendation and installed a pump rated at 11,000 gph, confident I could make things work.

With all of that hydraulics stuff settled, I moved on to installing the vessel.

All along, I had planned to tackle the trough myself. The plumbing was fairly complicated, but it was nonetheless pretty easy to do. Then came the concrete work: While I've done a fair bit of it through the years, I must confess that I've usually brought in trusted masons for complicated (or large-scale) projects.

words to the wise

But I *really* wanted to do this myself and show off my stuff.

So I sat down and thought through and calculated, recalculated and calculated again to decide how to form the trough, how much rebar I'd need and how many yards of concrete would be involved. In doing so, I knew there was no room for error: The simple geometry of the waterfeature would reveal the slightest miscalculation or the merest twist in a line.

I lost a lot of sleep over this as the job's start date approached. Finally, with a week to go before moving on site, I paused long enough in my self-willed plunge into the abyss to listen to someone else – my business partner, Sharon Coates (who, lucky for me, also happens to be my wife).

She had been suggesting to me for *months* that I needed to bring in our long-trusted gunite-pool collaborator, Gary Bednarczyk of Design Pool & Spa (Fair-port, N.Y.). My will softened by lack of sleep, I finally gave in and called Gary. As luck



Given the unusual hydraulic arrangement (for me, anyway) and the need for an unusually precise concrete structure, I recognized that I was moving well beyond my comfort zone, needed to swallow my pride and had to ask others for help.

would have it, he was able to come in the following week to do the installation for us.

This took a tremendous load off of my mind and allowed me to focus on the plumbing for this project – and keep my hand in various other projects my staff was working on as well.

As I watched Gary and his crew form out the trough, set the steel and organize the plumbing runs, I recall silently thanking Sharon at least a hundred times for talking me into making that call. There comes a time when we just need to acknowledge our limits and allow others to help us – no matter how stubborn we might be!

The irony here is that I've always preached this message to anyone caught up in do-it-yourself fever – mainly not professional colleagues, but rather do-it-yourself-with-no-expertise-at-all clients. I let them know that they should step back and let experienced specialists do right by them. In this case, it took Sharon to remind me of my own preaching, and I'm glad she did.

Once the trough was poured, we did the final waterproofing (using a black liquid rubber) and built out the series of manifolds. I was excited at the prospect of finally hooking up

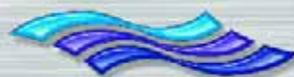
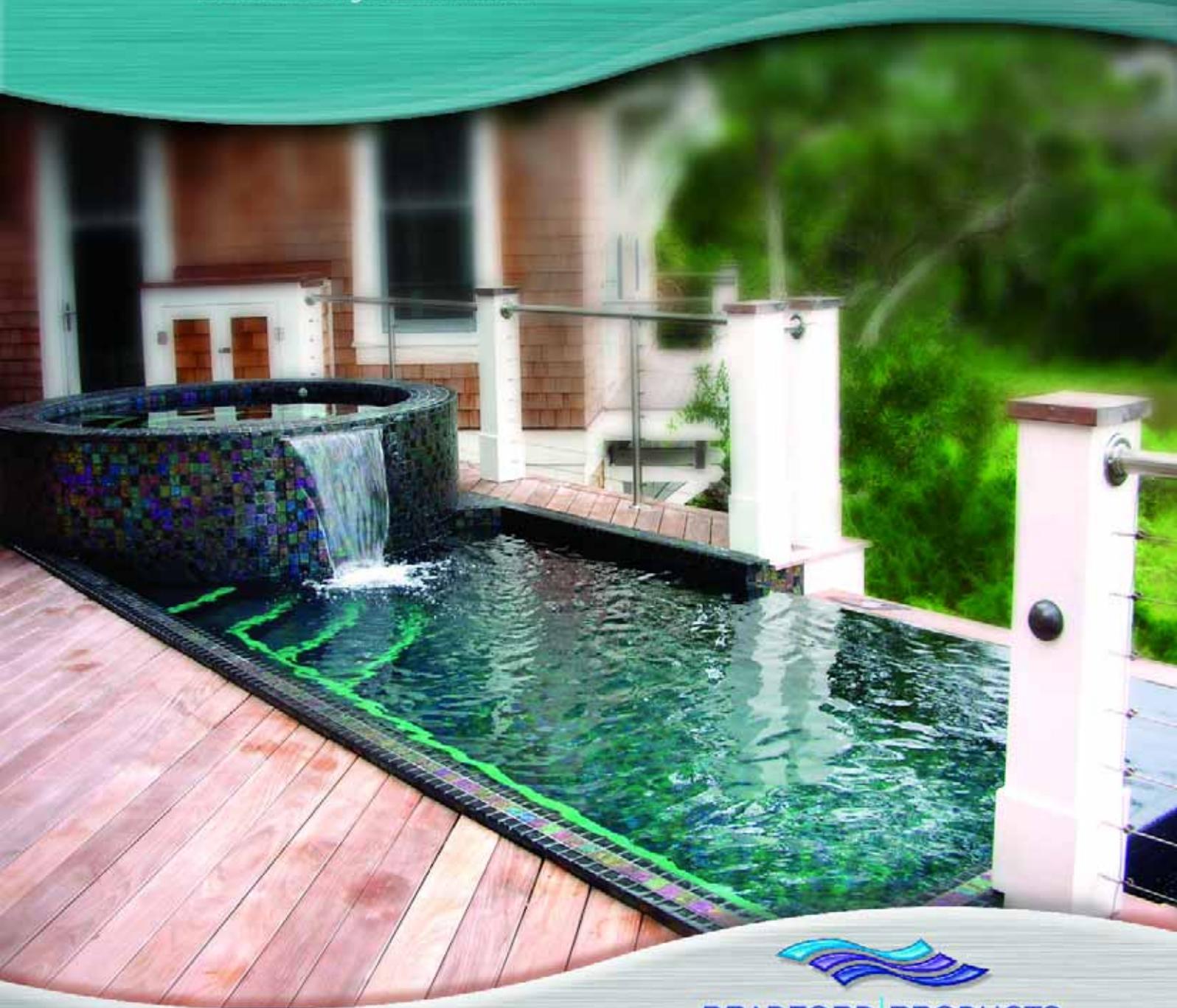
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On the Level

the pump and seeing the bubblers in action, pushing up water to flow over the Bluestone slabs.

I knew going in that, given the various distances from the pump to each stone, I would need to do some adjusting of the valves, but I was confident that within a few minutes each bubbler would be performing just like the others.

missed step

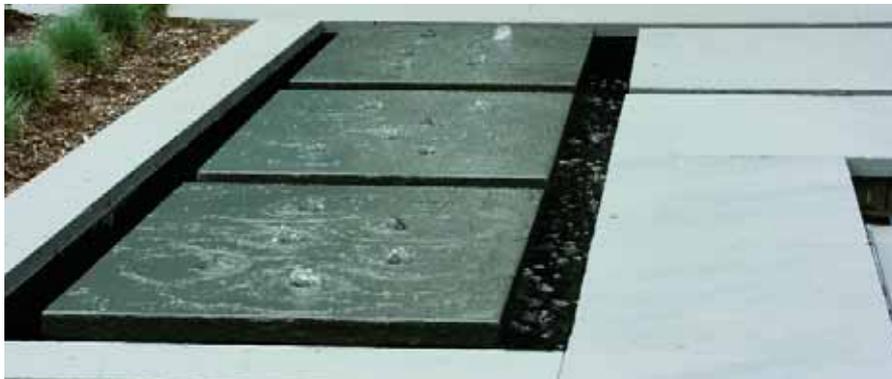
Finally, the moment of truth: I turned on the pump.

The bubblers in the stone closest to the pump looked great, but there were only dribbles of water coming out of the next closest cluster and nothing at all from the other two. I adjusted valves, scratched my head, cursed occasionally and then scratched my head some more.

I had no answer, but my thoughts ran immediately to the fact that Skip had recommended a 7,200 gph pump and I'd gone with an 11,000 gph pump. Was that



This experience – and the simple fact that the results were outstanding and made my clients very happy – taught me lessons I won't soon forget about valuing the skills and expertise of my colleagues.



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my mistake? Or was there a clogged line, or maybe a misaligned valve? I had no answer, so I started by pulling the pump.

Falling quickly into investigative mode, I staged an experiment: I went to my house and pulled the three-quarter horsepower pump off my pool. When I installed it on the waterfeature, the flow improved but still wasn't right. I just couldn't figure out what was wrong and paced and fretted over it for hours before finally breaking down and giving Skip Phillips a second call. Once again, he went silent to roll through his calculations and came back with the same answer: "You need a 120-gallon-per-minute high-head pump."

Then it hit me: During our first conversation, I had missed two critical words: *high* and *head*. The pump I'd used originally was a quarter-horsepower low-head pump, and my pool pump was just as inadequate to the task at hand: Neither had the power to run this feature. Humbled but happy, I immediately ordered up the exact pump Skip had recommended, hooked it up, checked my lines and turned it on. Perfection!

Since that experience, I've learned to take my own advice: I do not hesitate to step back and allow more knowledgeable people to tackle tasks I have no business taking on myself. I feel silly for failing to heed advice I've so generously given to other people, but I'm bound to prove that this old pooch can learn new tricks.

Just because my fingers and sweat

don't touch every aspect of my projects, it doesn't make a project any less my own. In fact, it's reached the point where I actually enjoy sharing my work with others while giving them an opportunity to add variety to their usual project mix – and making me look great at the same time! **WS**

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



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Pools of Light

By Mike Gambino

If there's ever been such a thing as a match made in heaven, swimming pools and landscape lighting lay a strong claim to that perfection. Separately, they take little-used spaces and transform them to all-day hubs of activity and sources of constant beauty. Together, however, the magic starts, with pools and landscape lighting systems accentuating each other's virtues in ways that are tough to quantify or adequately describe.

To landscape lighting designers and installers, pools offer a wonderful set of aesthetic opportunities along with a few challenges, safety issues and potential pitfalls. For watershapers, landscape lighting offers a means of infusing projects with entirely different dimensionality and expressiveness at night.

When it all comes together as well as it can and should, these illuminated pools can be among the most striking of all exterior settings. When it doesn't, the problems can range from simple unsightliness to significant safe-

Pools can be beautiful living spaces that are just as enjoyable (if not more so) once the sun goes down.

ty hazards. My intention in this column is to help steer you toward the former and to enable you to avoid the latter.

first things first

In my experience with lighting exterior spaces, I've found that pools and the elements that surround them are among those my clients are most interested in seeing at night. This might be because these watershapes represent substantial investments and they want to see the tangible results as much as possible, but I prefer to think it's because pools can be beautiful living spaces that are just as enjoyable (if not more so) once the sun goes down.

I'll discuss the aesthetic issues below, but there are some other points to cover before we get there. First is the fact that this discussion is about lighting *around* pools and spas rather than lighting *within* them. I am a landscape lighting designer and contractor who works with low-voltage systems, and I don't get involved with fixtures below the water's surface.

Next, if you ever consider placing electrical devices in close proximity to water, your first and foremost consideration *must* be safety – which in the case of lighting systems means you need to have a complete understanding of applicable sections of the National Electric Code (NEC) as well as any local codes or restrictions that may apply.

The vast majority of systems around water will deploy low-voltage fixtures and lamps. (In fact, that's all I *ever* use around water.) Although these systems are perceived as being inherently safe in such applications, it's important to remember that the 120-volt transformer itself is a grounded appliance – but that the 12-volt fixtures and cable are not and should never be used in water that comes into contact with people.

A worst-case scenario is where a transformer leaks 120-volt power through 12-volt cable. Most transformers have internal devices that prevent this from happening, but residual concern about the possibility explains why safety codes are *very* specific about the importance of thorough, capable precision in the grounding and bonding of these transformers. (If there's ever a

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doubt, get a transformer listed for pool and spa use.)

There's also some concern about how close to water transformers can be installed. NEC requires their placement at a distance of at least ten feet away and also says that no low-voltage fixtures (for which there are no grounding requirements) may be installed within a body of water with which people will come in contact. (Local codes related to fixtures vary in their pronouncements, so you need to keep up to date on what's allowable and what isn't.)

In practical terms, these requirements are not particularly difficult to satisfy – but they can limit or even eliminate certain types of effects you might have in mind. In other words, you have to be ready, willing and able to design around these restrictions while fully complying with the codes.

Once these key concerns are accommodated, it's time to think about aesthetics and the effects you want to achieve.

across the water

In many respects, lighting around swimming pools is much the same as lighting any well-designed landscape: You enter the process looking for elements to light as primary objects and for those that

will play supporting roles – and then find ways to use silhouetting and up-, cross-, down-, moon-, fill- and path-lighting to bring attention to worthy plants, rocks, architectural features, waterfalls or art works in one way or another.

It may seem self-evident, but most of the lighting challenges you'll face around pools have to do with the fact that, within some proximity to these illumination-worthy elements, you have a large body of water that limits where you can position your fixtures.

If the trees, walls, columns or sculptures are removed by several feet from the pool, there are no more limitations than you'd find in any other landscape. But if those objects are right at the water's edge, you'll need to be creative in deciding which fixtures to use and how and where to place them.

What this means in specific terms is that objects at the water's edge can only be lit from across the water, using spotlights. Those lights can be located on structures, in trees or in any other place from which you can direct a beam in such a way that it doesn't face the primary viewing area. It's also important to be able to conceal the fixtures as best you can.

In weighing these issues, consider the object's type. If, for example, you're light-

ing a single piece of sculpture, one tightly focused beam may well be all you'll need. In such a case, you'll want to make sure the fixture is shielded so the beam falls on the subject and little else, thus highlighting the object in its space while reducing glare in peripheral locations.

Of course, landscapes and poolscape being what they are, things can become more complicated – if, for example, you're trying to light a large artificial-rock formation and waterfalls at the water's edge. Here, you might want to use multiple spotlights to bathe the faces of the rocks in light and create wonderful light-and-shadow effects. This will almost always mean using diffusers and low-powered lamps in order to create an even distribution of light over a broad area.

As suggested above, glare is an issue – and it only gets more interesting (and troublesome) when it bounces off the water's surface and opens on the primary viewing area. This is probably the biggest pitfall associated with lighting around pools and the source of many common mistakes. Fortunately, it's also simple to avoid simply by taking care, when shining light across a body of water, to watch for stray beams reflecting off the surface of water and ending up in undesired places.

The key here is making certain that lights mounted on the far side of the pool (from the primary viewing area, that is) should always be pointed *away* from that spot. This is especially true of down-lighting of any kind: Depending on how high the fixtures are mounted and their angle on and proximity to the water, you even run the double risk of reflecting the light source itself on the water. Frankly, there's nothing worse for a setting's aesthetic appeal than naked glare bouncing off the water and into a viewer's eyes.

magic mirrors

While reflection creates the biggest potential problem in lighting around pools, it also offers the greatest of all opportunities. Without question, in fact, the most stunning effects are those achieved by capturing lit objects on the reflective surface of the water and exploiting the near-magic of the "mirror image."

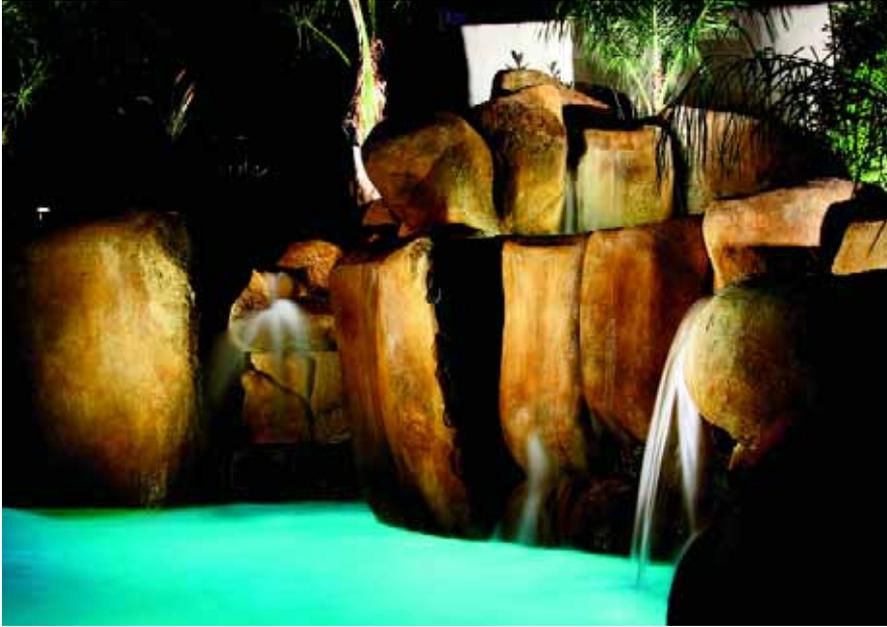
Privacy Preserved

Quite often, my clients ask me to light the spillways of their spa as the water flows into attached swimming pools. This makes sense, given that these are significant visual transitions and highlight key pool and spa details as well as the beauty of water in transit. In nearly all cases, the most effective approach here will involve aiming a spotlight at the spillway from a distant location.

In planning for such things, I've found that it's *always* a good idea to place these lights on separate switches, for two primary reasons: First, when someone is relaxing in the spa at night, they won't want to have the spotlight shining in their eyes. (It's generally impossible to shield the light source so that it hits the spillway but not the eyes of someone sitting in the spa.) Second, the delicate fact is that people in spas often want a greater level of privacy than they might in other settings within the landscape. Having a spotlight aimed in their direction runs counter to the human sense for discretion.

Placing that separate switch somewhere near the spa is simple to do, and it's a touch that can make a big difference for those enjoying the soothing water after dark.

– M.G



If you want to light large structures, sculptures or rock formations at the water's edge, you need to place light sources on the opposite side of the watershape. In such situations, you need to be careful about glare and hide the light sources as best you can to produce results that show these large features off in the best way possible.

When a pool's lights are off, the landscape lighting is on and the water is still, it's easy to capture the reflected images of trees, statuary, rockwork and architectural features in ways that often stun viewers with the mesmerizing beauty of a scene. It's fair to say, in fact, that mirror images offer the landscape lighting designer an entirely separate dimension in which to work.

Better still, it's easy to make it work: You simply walk into the space during the day and stand at the primary viewing points. Anything you can see reflected in the water during the day can be used in creating mirror images at night.

By lighting features that are visible in daytime surface reflections, you can use your bag of tricks to create unbelievable drama. If, for example, you use silhouette lighting to wash a wall behind a tree or statue with light to create a shadow image of the object, it will be brilliantly reflected in the water while the original im-

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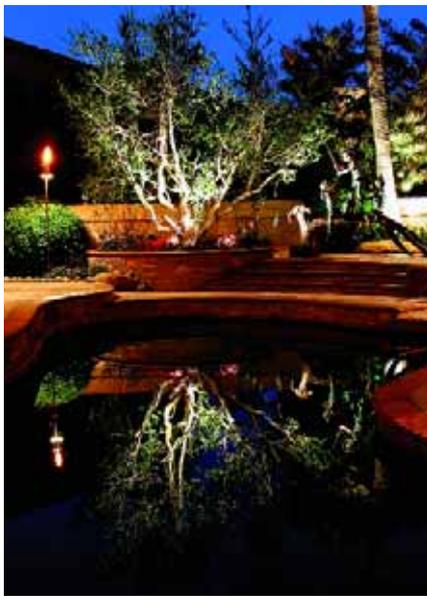






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age still looks glorious above the surface.

In essence, what you're doing is taking the drama you can create with landscape lighting and multiplying it by two: Almost invariably, these views become my clients' favorites.

These opportunities are available in almost every "designed" landscape surrounding a swimming pool, whether planned from the first or not. But I must say that things get even more fun and interesting when the designer thinks about reflections ahead of time.

This is an area in which my collaborations with projects' other designers have become particularly productive. If, for example, a landscape architect places trees

The presence of a watershape puts certain limits on where you can safely and effectively place lighting fixtures, but when you solve the riddle and figure out ways to light objects around the water, the resulting mirror reflections can be a spectacular source of enjoyment after sunset.

with reflection in mind relative to the primary viewing points, we can work together to create *incredible* vignettes. This is happening more and more frequently, and I'm delighted to work with designers in strategically placing trees, smaller plantings and art work for this purpose.

It bears mentioning that, at night with the pool lights off, the interior surface of a pool doesn't matter at all. Daytime reflections are enhanced by dark interior finishes, but unlit at night, even a white plaster pool offers a glorious reflective surface.

The key to the mirror effect comes in managing surface waves and turbulence on the water's surface. If capturing reflections is a priority, then the water should be as still as possible and big waterfalls or streams entering a pool are not desirable. In fact, I even suggest paying attention to the slight movements that can come from poorly placed return lines or other hydraulic fixtures.

managing mood

Swimming pools are indeed fascinating design elements in well-appointed

landscapes – and have major roles to play in overall lighting schemes. Certainly, they set limits on some possibilities, but most of the time they offer substantial advantages if you're creative and keep safety uppermost in mind.

Safety is indeed an overriding issue, and it doesn't just have to do with codes. Bear in mind that lights inside swimming pools are often only lit when the pool is in use, so it is left to lighting *outside* the pool to make traversing these spaces both safe and easy. Homeowners and their guests need to be able to see where the deck ends and the water begins, for example, or where landscape areas near the water flow onto decks, or where steps are located or where pathways start and finish.

It's no secret that adults sometimes consume alcohol around their pools at night – or that children playing in or around the water may not pay close attention to where they're going. For these reasons in addition to basic concerns over comfort and ease of movement, landscape lighting around pools plays a significant role in making these areas safe at night.

In setting up lighting systems, it's always important to avoid directly shining lights into viewers' eyes: This is annoying at best and can temporarily blind them at worst – and it's especially hazardous when point sources are reflected off the water's surface and catch people off guard so close to the water's edge.

If you pay attention and do things right, the lighting around a pool or spa can utterly transform a space that is, by day, filled with energy and visual excitement and make it, after dark, a space of serene beauty and shimmering tranquility. It's the kind of thing that leaves clients feeling *great* about their decision to bring water into their lives. **WS**

Mike Gambino owns and operates Gambino Landscape Lighting of Simi Valley, Calif. A licensed lighting contractor since 1990, he has specialized since 1995 on high-performance low-voltage systems. He may be reached via his Web site: www.gambinolighting.com.

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A Sense of

By Eric D. Groft

The renowned landscape architecture firm of Oehme, van Sweden & Associates has long advocated the concept of The New American Garden, an approach based on respect for native plants, local materials and a project's particular context. Water is frequently a key feature in these spaces, explains Eric D. Groft, not only for its aesthetic potential but also because it puts the people who enter these spaces in desirable frames of mind.

In his book *Gardening with Water*, James van Sweden called water “the heart of the garden.”

I've had the privilege of working with him and his partner, Wolfgang Oehme, since 1986, and all of us at Oehme, van Sweden & Associates (Washington, D.C.) share an appreciation for the simple profundity of our founding partner's words that is clearly reflected in the way we use water.

To be sure, we occasionally design gardens *without* water, but more often it's a key part of what we do and serves as a powerful foil to plants, hardscape, art and architecture. We enthusiastically take advantage of the way it brings contrasts, reflections and sounds to spaces and exploit its ability to define destinations, invite recreation or provide gathering spaces. We also work closely with

all of the psychological associations it conjures within human beings – feelings of tranquility or excitement as well as sensations of the raw, regenerative power of nature.

In our work, which spans the full spectrum of residential, commercial, public and institutional settings, fully 80 percent include watershapes in some form, from lily ponds, rills or cascades to formal fountains or swimming pools. Occasionally these are stand-alone features, but when the situation permits, we'll use them in juxtaposition to natural rivers, lakes or oceans.

Almost always, in other words, we seek out ways to incorporate water into our designs. And when we do include it, we treat it as a tremendous aesthetic opportunity as well as an important responsibility.

Place



‘Water serves as a powerful foil to plants, hardscape, art and architecture. We enthusiastically take advantage of the way it brings contrasts, reflections and sounds to spaces and exploit its ability to define destinations, invite recreation or provide gathering spaces.’

In Context

All of this is by way of explaining why we value our relationships with water-shapers and have sought ways to develop effective ties to the profession. As you know (and as we have learned as landscape architects), water is a challenging material that needs to be contained, controlled, treated and managed in environmentally sensitive, responsible ways.

From our perspective as a landscape architecture firm, we also look at water in the context of “The New American Garden,” the design concept and philosophy developed by Oehme and van Sweden that stands at the core of our approach to exterior spaces.

This approach is based largely on respect for native plants and materials and for the appropriate use of water within given settings. In that context, sense of place is as important as any other feature

of the design: Where some swimming pools are so divorced from their settings that they might just as soon be located near Lake Tahoe or at San Tropez, we focus on unique design solutions that tie our work intimately to the qualities of the space at hand.

Indeed, we’re always trying to extract (or even *abstract*) the native elements of a given region and base our designs accordingly. What this means is that if we’re working in the Great Plains, we’re going to develop something completely different from what we’d place on top of a cliff in Maine. In doing so, we use nature as our guide – not only in plant selections, but also in terms of whether or not we’re exaggerating the horizontal or vertical nature of the topography.

Another basic concept of this design approach has to do with the ways we

The Garden's Roots

Just as American culture is an amalgamation of cultural influences and historical traditions, so, too, is the design philosophy described in the accompanying text. Indeed, The New American Garden has been influenced by a wide range of designers and design traditions.

These start with individuals including the great Brazilian artist Roberto Burle Marx, the British watergardener Lancelot "Capability" Brown American masters including Frederick Law Olmstead, Frank Lloyd Wright and Thomas Church – all of whom advocated dynamic usage of water with architecture and in landscapes.

Water in The New American Garden is also influenced by broader traditions, such as the use of rectilinear and quatrefoil shapes by Islamic and Moorish designers; the tumbling waterfalls, runnels and rills of the Italian school; the horizontal discipline of the French tradition; and the sublime simplicity of Japanese gardens.

It's tough to define commonalities among such diverse flows of influence, but if there is a resonant theme to be found, it's in the fact that they all involve spaces that respond to their given settings, unify architectural and landscape elements and blend the function and flow of indoor and outdoor spaces.

In all cases, furthermore, the presence of water in the landscape plays a major role in achieving those harmonic goals.

– E.D.G.

‘Sense of place is as important as any other feature of our designs: Where some swimming pools are so divorced from their settings that they might just as soon be located near Lake Tahoe or at San Tropez, we focus on unique design solutions that tie our work intimately to the qualities of the space at hand.’



combine plants and hardscape. When people walk into our gardens, we want them to be blown away by the lushness and sweeping views and amazed by the movement of plants in the wind, the use of color, the abundance of textures and all of the fragrances with which we beguile them.

We then balance and contrast those natural sensations with man-made structures – patios, terraces, decks, walls, courtyards, outbuildings and swimming

pools – exploiting the tension between natural and built elements and doing what we can to blur the obvious lines between them.

So while we take cues from nature, we also work with the architecture of the home and other buildings. Our aim here is to take these architectural elements, extend them out into the exterior space and then efficiently blend and fuse the visual transitions between contrived and natural. In so doing, we foster a sense of

connectedness that begins inside and continues outdoors.

Doubling back to the idea of designing with the region in mind, we also spend a good bit of time encouraging our clients to use local hardscape materials, not only to reduce the costs and carbon footprints of their projects, but also to broaden the linkages between our gardens and their grander surroundings. The same holds true with plant selections: We'll hybridize



Photo by Roger Foley

‘We use nature as our guide – not only in plant selections, but also in terms of whether or not we’re exaggerating the horizontal or vertical nature of the topography.’

our gardens to an extent by including plants from other regions, but when we do so we select specimens that are appropriate for the climate and harmonize visually with regional species.

All of this means, in essence, that The New American Garden is not so much a style as it is an approach to design.

Know the Basics

With all of that as background, I cannot emphasize strongly enough that

‘Our aim is to take architectural elements, extend them out into the exterior space and then efficiently blend and fuse the visual transitions between contrived and natural. In so doing, we foster a sense of connectedness that begins inside and continues outdoors.’





‘Simply knowing where the sun rises and sets in relation to the property’s orientation is critical, as is seeing how much shade the site experiences from adjacent trees or structures or land masses the clients want to maintain as part of the design.’

when we consider the design of a water-shape of any kind, we want it to exist comfortably within the design vernacular of the place itself. That’s not to say that the design process is purely aesthetic and lacks either specificity or discipline – quite the contrary.

First and foremost on any project, in fact, we begin with the most fundamental of practicalities in the form of local codes and regulations. These tend to place various restraints on what we might want to do, whether it’s about compliance with fencing rules, pool-cover requirements, structural setbacks from

property lines, environmental easements or impermeable-surface limitations or something else.

We always make it our business to do this sort of regulatory spadework ourselves, but we also consult with local contractors and take advantage of their experience with local building departments. Our ambition is always to avoid finding out that some element in a design violates a code, ordinance or regulation. Along similar due-diligence lines, we always work with detailed site surveys and soils reports when our plans call for building significant struc-

tures – pools included.

This background work is important, but our own site inspections yield additional information that we put to use as well. Simply knowing where the sun rises and sets in relation to the property’s orientation is critical, for example, as is seeing how much shade the site experiences from adjacent trees or structures or land masses the clients want to maintain as part of the design. Views beyond the site can be significant as well, along with primary views from the home, ambient traffic noise, privacy concerns and site access. We keep all of these issues in mind as we walk the site.

Getting to know the project team’s players – architects, clients, client representatives, interior designers, water-shapers and more – is another key consideration in the early stages of our projects. Indeed, the landscape design can and usually does draw on all elements on site, so we often become diplomats who work to bring everyone



Photo by Richard Felber

and everything together. For this reason, we're thrilled when we're in on site development from the start: It enables us to influence such decisions as placement of the house on the site or where the driveway runs or how the home's design relates to exterior views.

And when watershapes are part of the program, our work with the pool contractor, the pond builder or the fountain specialist early in the process helps us deal with specific challenges that could be more difficult if addressed down the line. The issues can be major (such as the location of equipment rooms or surge

tanks) or minor (such as where we'll run plumbing for small spouts that might be used to feed spillways from a wall into a swimming pool).

In these cases, early interaction helps us avoid the frustrations that occur when watershapes aren't fully considered in the design phase. So we work

'When we're working with naturalistic ponds, we'll generally bring the water as close to the home as possible so that we can use the reflective nature of the water to bounce light up into the interior spaces. This also gives us opportunities to use the watershape to draw eyes outdoors to garden elements beyond the water.'

with experts and make certain all questions have been answered *before* construction begins. That's the overwhelming value of a team approach: It enables us to work out key details, major features and a whole range of minor issues long before construction begins.

'We tend to use pools as destinations a bit removed from the house, using the water's reflective qualities to give observers access to images of distant views or trees or other features beyond the property's perimeter.'





‘To give each project its measure of uniqueness, we’ll use any number of distinguishing effects – such as varying step and shelf configurations, using vanishing edges or perhaps installing spouts that spill from walls rising above the water.’

we’re working with naturalistic ponds, we’ll generally bring the water as close to the home as possible so that we can use the reflective nature of the water to bounce light up into the interior spaces. This also gives us opportunities to use the watershape to draw eyes outdoors to garden elements beyond the water, often courtesy of reflected trees or other design elements.

With pools, by contrast, we tend to push them away from the back of the house, basically because the structures are imposing enough that they crowd the space and give some people a sense of claustrophobia. As an alternative, we tend to use pools as destinations a bit removed from the house. Even here, however, we will still use the water’s reflective qualities to give observers access to images of distant views or trees or other features beyond the property’s perimeter – or possibly meadows or bodies of water that stretch into the distance.

Another common ground in today’s water designs has to do with shapes: In recent years, we’ve found growing numbers of clients who crave simplicity in the contours of their watershapes and have found rectangular swimming pools to be particularly desired. (In a number of cases, they’re thinking along these lines because they’re also thinking of including covers as part of the design.)

In these situations, we try to enhance these basic rectilinear pools by staying away from the oppressively proportioned 40-by-20 foot pool with its usu-

Photo by Roger Foley

Observations on Water

As suggested above, The New American Garden approach leads us to consider watershapes against a spectrum of variables that are part and parcel of any given space. That may seem an overwhelming propo-

sition filled with too many opportunities, but through the years we’ve found that certain ideas and thought processes move in common from project to project.

One of these lines of thought has to do with reflections. When, for example,

al set of radiused steps off the shallow end. To give each project its measure of uniqueness, we'll use any number of distinguishing effects – such as varying step and shelf configurations, using vanishing edges or perhaps installing spouts that spill from walls rising above the water.

This doesn't mean we trade only in rectilinear pools. In fact, there are settings and situations in which multi-radiused designs are a far better choice be-

cause of the ways they can be integrated with meandering decks, natural landforms or well-considered planting areas.

In everything we do, we enter the project with an open mind and, after carefully surveying the site, develop programs and select materials and colors based on what we see in the project's surroundings, in nearby architecture and in the lay of the land. That may all seem like a commonsense approach – and it most certainly is – but there are so many factors

to consider and so many elements to incorporate and integrate, that achieving the kind of harmony we pursue keeps all of us very busy indeed.

Ultimately and in most cases, it's all about staying true to van Sweden's vision of water as the heart of the garden and, along the way, being true to our intention to use native materials, colors and textures to make our gardens and watershapes fit comfortably, effectively and truly into their surroundings.

'In everything we do, we enter the project with an open mind and, after carefully surveying the site, develop programs and select materials and colors based on what we see in the project's surroundings, in nearby architecture and in the lay of the land.'



Photo by James van Sweden, Washington D.C.



Photo by Roger Foley

Covering Levels

By Paolo Benedetti

When it comes to common watershaping challenges with direct, practical design/construction solutions, says Paolo Benedetti, few are as significant as keeping surface waves from inundating the vaults set up for automatic pool covers. Here, he defines a simple approach in which redesigning the skimmer niche and lowering the waterline level not only saves water, but also prevents damage to the cover and its driving mechanisms.



■ Solutions

Automatic swimming pool covers are wonderful in a number of ways: They increase safety, save energy, limit evaporative water losses, keep debris out of a pool and can even reduce a pool's chemical consumption.

As a watershaper, I want these devices to be trouble-free so they will perform with nothing more than routine maintenance and my clients can use them without hesitation or concern. This is why, with every such installation, I do what it takes to arrange construction details in such a way that cover performance is optimized.

Through the years, however, it's been my observation that too few watershapers think these things through, particularly when it comes to setting an elevation for the vault's dam wall relative to the pool's operational water level.

In almost every one of these offending pools, the vault dam has been set at a point approximately two to three inches below the bottom of the coping. With a skimmer installed in the conventional manner, the pool's operational water level is also three inches below the underside of the coping. In such situations, with the operational water level at or barely below the elevation of the cover vault's dam wall, water will inevitably move into the cover box whenever the pool is used.

If someone swims or jumps in or exercises or plays in the water for any length of time, it's likely that a few hundred gallons of water will be displaced into the cover box. That's not desirable for any of a number of reasons, and it's a situation that can and should be avoided.

thinking it through

This spillage over a cover vault's dam wall is so widely recognized that many builders even rely on drains in the vault to serve as a pool's overflow system. That's a terrible idea, because we all know that homeowners are not going to remove leaves from the cover every time it is deployed. Those leaves will eventually be dumped into the vault, where they will settle on the bottom, clog the drains and render those outlets useless as overflow devices.

There's also the fact that automatic cover mechanisms are not designed for submersion: The brackets and hardware will corrode, ropes will rot, electric motors will short out and the presence of water in the box will place excessive drag on the mechanism when it operates. This is why the vault drains are there in the first place – to *protect* the cover and its mechanisms, *not* to serve as overflow lines.

With water being seen as a precious commodity across the globe these days, it's also irresponsible to waste those hundreds of gallons every time a pool is used. Moreover, real money was spent to buy that water and heat, filter and chemically treat it, so it's both water *and* money going straight down the drain.

To combat all of these issues, I design my pools with additional clearance between the underside of the coping and the operating level of the water. There's some foresight and planning involved, but all it takes is dropping the elevation of the skimmer relative to the top of the bond beam.

With our covered pools, for instance, we simply recess the tops of our skimmers to a point two inches below the top of their bond beams. This drops the pool's operating level to a



Under Cover

Another issue related to setting levels in pools with automatic covers has to do with setting the level for the dam of a spa placed within the pool.

All too often, I see these walls set at completely inappropriate elevations, and it's basically because the conventional approach to setting levels leaves only an inch (at best) to play with between the water's operating level, the cover vault's dam wall elevation and the underside of the coping. I cannot tell you how many covered pools I've seen with interior spas that have their dam walls set at exactly the same point as the pool's operating water level – or even below it!

This is obviously a construction defect that can and should be avoided, but I still run into builders who will argue that this is the only way to build these pools, and I can only think it's because they like spending time in court with angry clients. As is mentioned in the accompanying text, all it takes to eliminate this problem is paying attention when you set relative levels in your covered pools.

–P.B.

The main task in altering the water level in a pool with an automatic cover involves dropping the skimmer throat by an inch or two below typical placement in the bond beam. This effectively lowers the pool's operating level and lets the cover vault's dam wall play a real role in keeping water out of the vault. And if there's a spa within the pool, the larger gap under the cover makes it much easier to keep cool pool water from intruding on the spa's warm confines.



point five inches below the bond beam, so when, as usual, we set the top of the cover vault's dam two inches below the bond beam, the operating water level is now fully three inches below the dam's level – at which point it takes a hefty bather's best cannonball to force water over the vault's dam and into the box.

We also make a point of protecting the pool cover by installing overflow lines in the pool just below the dam wall's level. This way, even a heavy dose of rain won't be able to swamp the cover box and get to the cover mechanisms and components.

on the level

By dropping the skimmers, you effectively drop the operating levels of water within the pool. So if you want to deliver a pool of a particular depth, you have to remember to dig down an extra two inches at the excavation stage. You also need to use larger waterline tile or develop a mosaic approach to accom-

Spillage over a cover vault's dam wall is so widely recognized that many builders even rely on drains in the vault to serve as a pool's overflow system. That's a terrible idea.

modate the extra two inches you're leaving below the coping.

(I always select a tile that will allow me to wrap it around the corner where the side walls meet the cover dam, thus aligning the bottom of the tile on the face of the cover vault's dam perfectly with the bottom of the waterline tile on the side walls. This eliminates any extra visual attention that may be drawn to the cover box's opening.)

Another benefit of lowering the operating level of the water is that the dam wall of a spa contained within the pool will also gain extra clearance (see the sidebar on page 41 for more) – meaning no more cold-water intrusion on the spa's warmth.

This also leaves *plenty* of clearance for

the lead bar on the pool cover: Indeed, there's now enough room that you can have the lead bar tuck away out of sight beneath the cover box tray when the cover is open. And if you invert the guides on the ends of the lead bar, you can even tuck it out of sight under the coping when the cover is *closed* – a nice bit of visual gamesmanship.

What I like most about this is that it's a simple solution that eliminates a surprising number of problems. Better still, none of this is rocket science – but as mentioned above, it does take some planning as well as focused communication with excavators, plumbers, tile/masonry crews and pool-cover installation crews who might be accustomed to accommodating other builders' bad habits!



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Forming Flows

By Sven Schunemann

When observed as it exists in nature, notes Sven Schunemann, water's various forms and rhythms can be captured and reproduced by watershapers. He and other Flowforms sculptors have raised that bar, however, digging deep into water's physical dynamics and developing precise, specialized water/sculpture systems that are visually intriguing – and also lay claim to being a form of treatment that naturally enhances water's capacity to nourish.

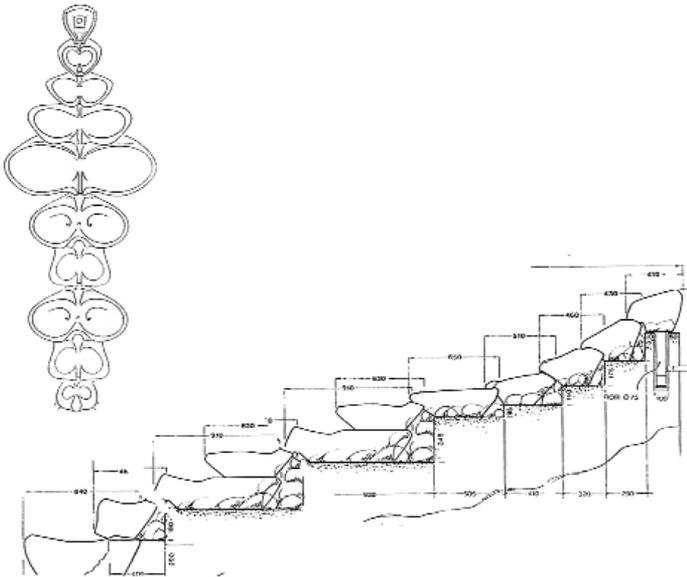
I was out of a job in Gloucester, England, several years back when I came across a collection of wonderfully unusual sculptures that changed my life.

These compositions, called *Flowforms*, were the work of British sculptor John Wilkes, an inspired artist who for most of his professional life has explored ways to use water's nature and characteristics as his medium.

I was immediately drawn to what I saw: I'd worked as an estate gardener before being trained as a sculptor at the St. Martin School of Art in London and had always had an interest in natural forms and all sorts of experimental media. I had also spent a good part of my childhood utterly fascinated by water, watching how it beaded up and flowed down windowpanes in rainstorms, for example, or playing with spoons under faucets and observing the way different effects could be created simply by moving the concave







surface beneath the flow.

As an art student, I had always known that I wanted to work with water and dreamed of ways I could treat it as a sculptural medium, but I had no clear idea how to do so until I saw my first Flowforms. I had never been truly inspired by mechanical displays, and fountain jets left me cold – but the charms of natural, flowing water never ceased to stir my imagination.

So I looked Wilkes up, knocked on his door and offered my services. Six months later, I was running a small production shop and making constructed wetlands with colleagues who also had worked with Wilkes. Thus began my career with Flowforms – an involvement that continues to this day.

Sensitive Chaos

In the course of following the insights revealed by Wilkes' work, I learned that his Flowforms concept extended directly from the pioneering research into water's natural movement conducted by Theodor Schwenk.

Schwenk assembled his ideas into *Sensitive Chaos*, a 1963 book that reveals how water's various shapes, forms, patterns and flows give rise to other shapes and forms we observe around us in nature – everything from wood grain, crystalline structures, animal shapes and ripples in sand to jellyfish physiology and human bone formations, all of which resemble responses to water's forming ability. He further defined water's role as the source of all life on our planet and then specifically defined humankind's relationship with water's movements and characteristics.

John Wilkes absorbed Schwenk's work and, to make a very long story short, extrapolated from it to create sculptures that use water's natural spiraling tendency as a means not only of making art, but also of increasing water's ability to nourish.

Wilkes initially linked up with his mentor in Germany's Black Forest region, joining a team headed by Schwenk that was investigating a variety of industrial processes that caused water to be compromised. Wilkes picked up the basic principles and carried them over to his sculptures, finding along the way that



While they may vaguely resemble anatomical forms, these carefully contoured vessels are meant first and foremost to move water in interesting ways by enabling it to swirl and oscillate as it passes from vessel to vessel.

the results were not only visually compelling but were also having a noticeable effect on the water itself.

Coincidentally, I had read *Sensitive Chaos* long before I looked up Wilkes. The title of Schwenk's book had been taken from a headnote written by Jacques Yves Cousteau in which he described the experience of a nighttime dive: "All around us arose from the living sea a hymn to the sensitive chaos." I'd been a huge fan of Cousteau's since childhood, had the honor of meeting his son and visited Calypso, Cousteau's exploration vessel. In truth, I was initially drawn to *Sensitive Chaos* because of Cousteau's contribution!

So having read Schwenk's book and being excited about the concepts therein – then seeing Flowforms in Gloucester and meeting John Wilkes – I recognized that I had finally

found a means of combining my passion for water with my passion for art.

All of this ultimately led to my business collaboration with Christopher Mann, who was responsible for funding the development of Flowforms. He patented these systems and set up production and distribution channels for them across Europe before carrying the concept across the Atlantic to a base in Blue Hill, Maine, in association with the Water Research Institute and Jennifer Green. About 12 years ago, I joined Mann to get things going from headquarters we established in Wisconsin.

Forms and Flow

Flowforms serve to articulate some of Schwenk's observations and give them both artistic and practical expression. They are quite distinctive in design, existing at the margins where water moves between chaos (turbulence) and laminar flow and taking the form of crafted sculptures consisting of sequences of vessels arranged as either circular patterns or cascades. The water enters, spirals into a figure eight/infinity symbol within each vessel and then exits to move down the chain.

These principals of laminar flow, pooling and turbulent or chaotic flow – all observed by Schwenk – make for engaging visual experiences and are the principles that guide my work to-

We've found through our observations that passersby are fascinated by what they see in Flowforms. The various eddies, undulations and other flow patterns seem to want to be touched, interfered with and altered as the objects of simple playfulness.



day. Indeed, I believe that water truly wants to move in these ways and that when systems pay attention to these principles, they appeal to observers on a variety of intuitive and physical levels.

There's a fundamental contradiction here in that it's unusual in artistic endeavors to make water *do* anything, despite the fact that water has infinite shaping potential and these potentials are best worked with and not opposed. (When you work *with* water, you find harmony, peace and joy, but when water is either ignored or forced – as in the case of channels or dams – with time you get erosion, destruction and other negative outcomes.)

To resolve the contradiction, I as a sculptor with expertise in working with water surfaces allow the water itself to dictate the shapes of the vessels.

The design idea is that, as water enters one of the sculpted pools, it is pushed to the sides as more water fills the bowl. The small pools are contoured to accentuate that motion, helping the water spiral and oscillate. The spillways through which water enters and leaves these bowls are precisely sized to maintain the correct flow rate and volume needed to sustain and maximize the effects.

In many designs, these vessels are symmetrical mirror images so the water flows within them in figure-eight patterns. This spiraling and oscillating action creates microscopically thin layers of water that slide past each other and generate a type of friction.

The design process for these visual chains can get tricky if you look at the individual vessels rather than the entire chain. To keep things clear, we start by defining a desired flow rate along the entirety of a desired drop in elevation. Once that key, triggering value is known, we work in clay to form vessels sized to achieve the appropriate oscillating action.

At each level, the water's characteristics determine the size and shape of the given vessel – each of which must be formed individually as though the water itself has done the shaping. Once each vessel in the chain is precisely contoured and we know through observation that it has been “tuned” to maximize the spiraling motion, we'll cast it in metal, stone, glass or a composite material. In many cases, in fact, we'll reproduce shapes over and over again across a range of media.

Making a Difference

As suggested above, the swirling action actually seems to be a form of water treatment that enables us to deploy these systems to nourish plant material in constructed wetlands. That may come as a surprise, but Wilkes and others have extensively studied these issues and have verified the fact that water passing through a Flowform system makes the nutrients more readily available for plants.

To this point, the research has isolated only the fact that this enhancement of the water happens, not how or why it is so. We all concede that, as yet, none of us is quite sure what's going on in these situations or exactly why these positive effects take place. Research into the nature of these effects is ongoing; for now, we simply accept that something wonderful is happening.

In the time since we set up shop in the United States, we've



made slow but steady progress, partly because we're trying to overcome skepticism related to how the systems work, but also because water conservation and concerns about usage are “new” issues in the United States, at least as compared to Europe. So far, in fact, decisions about installing these systems seem to be based on aesthetics: Some people think these vessels look odd or unusual, while others find them beautiful.

As we see it, an increasing awareness of the need to manage water resources more wisely will gradually carry people in our direction: Given our documentation of 30 percent increases in nutrient delivery, we're gaining ground in constructed wetland applications and have strong cases to make with respect to both environmental *and* financial sustainability.

As a sculptor who sees beauty in these forms and their execution, I accept the mystery when it comes to water treatment and simply enjoy the thought that I can witness and even measure positive results in the growth of marker plant and insect species where these systems are installed.

Our strongest case at this point, however, has to do with aesthetics: We know that people are fascinated and soothed by flowing water. We know as well that these systems have a distinctive beauty from a distance – and then offer those who



These sculptures take many forms, including simple ones that have just a vessel or two as the source of their distinctive flows. The formal one we installed in a public spot in Madison, Wis., has just a few vessels, for example, but is just as popular with birds as it is with pedestrians.



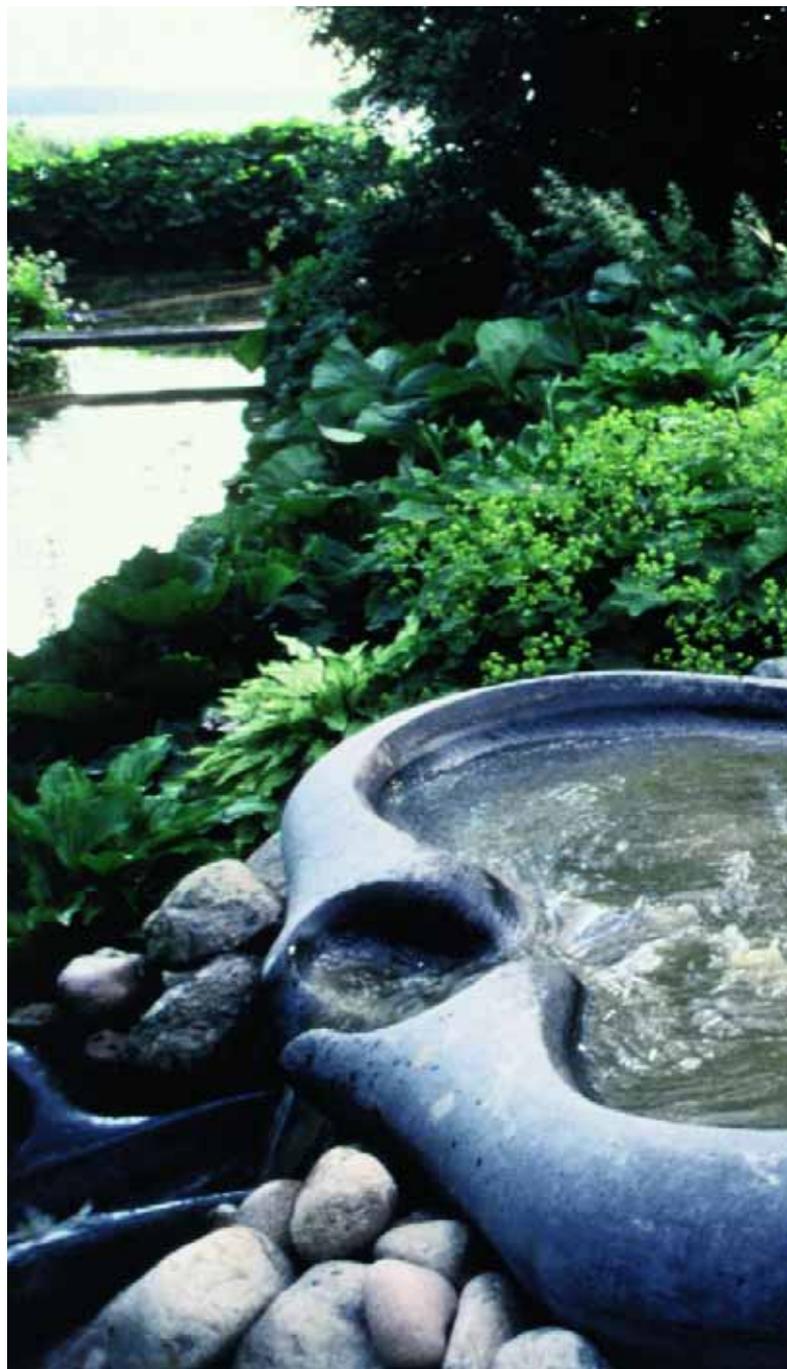
approach the vessels a chance to observe the swirling, oscillating currents and be fascinated by what they see, just as I was mesmerized as a child playing with spoons and faucets.

As new systems are installed and we take advantage of opportunities to watch how people respond to and interact with our sculptures, we can't help noticing that children will (as children do) stop and stare and study what they see and clearly become engaged by the complexity of the flowing, pulsing water. Adults take more time to get into the rhythm of these water-shapes, but they eventually "get it" as well.

We've monitored a large installation in downtown Madison, Wis., for some time now and have observed that even people who previously seem to be in a hurry will slow down and even stop to take a closer look at the system. There's a clear softening of their facial expressions and body language, and occasionally these passersby will end up spending a good amount of time as Schwenk and Wilkes did, observing the water and gaining insights into how it moves along.

As we see it, these systems are based on ideas that are so fundamental that even adults who spend no more than a moderate amount of time observing them will be won over – a tribute to the overall aesthetics of the installation on the one hand and of the amazing appeal of water in motion on the other.

In view of all that, we've become patient with our progress: These systems are visually fascinating, and the added thought that they can also be good for the planet is a bonus as valuable as can be.



Ongoing Research

Various individuals and institutions around the world have pursued research on the topic since John Wilkes' 1970 discovery of the "Flowform Principle." The main studies have been conducted at Emerson College's Healing Water Institute in Sussex, England.

Significant ongoing research includes investigation and analysis of the effects of Flowform treatment on plant growth. Much of this is documented in *Flowform Water Research, 1970-2007: A Collation of Research and Related Ideas* – a vast compendium that, among many other things, covers studies that trace the growth patterns of lettuce, cress and wheat in a variety of field and laboratory conditions and also reports on water condition as measured at a number of Flowform installations around the world.

Although the precise mechanisms are still to be determined, the findings consistently indicate that water treated with Flowforms embodies numerous beneficial effects, including measurable increases in plant growth relative to untreated tap water.

These and other related documents can be found at www.healingwaterinstitute.org.

–S.S.



In Europe, where the role of these sculptures in water treatment is widely established, they've even been installed at sewage-processing facilities to help improve water quality. In North America, by contrast, installations are less about functionality and more about aesthetics – and they've found their ways into a variety of beautiful spaces.





LINEAR GRACE

It's an unusually large lap pool in a prime spot in the client's yard, notes watershape artist David Tisherman, but there was no desire to have it dominate the space. That's why he worked with simple geometry, recessed the pool below the prevailing grade, organized a muted color palette and used warm, beautiful stone: It was all about having the watershape blend into its environment when it isn't being used by its avid swimmer/owner.



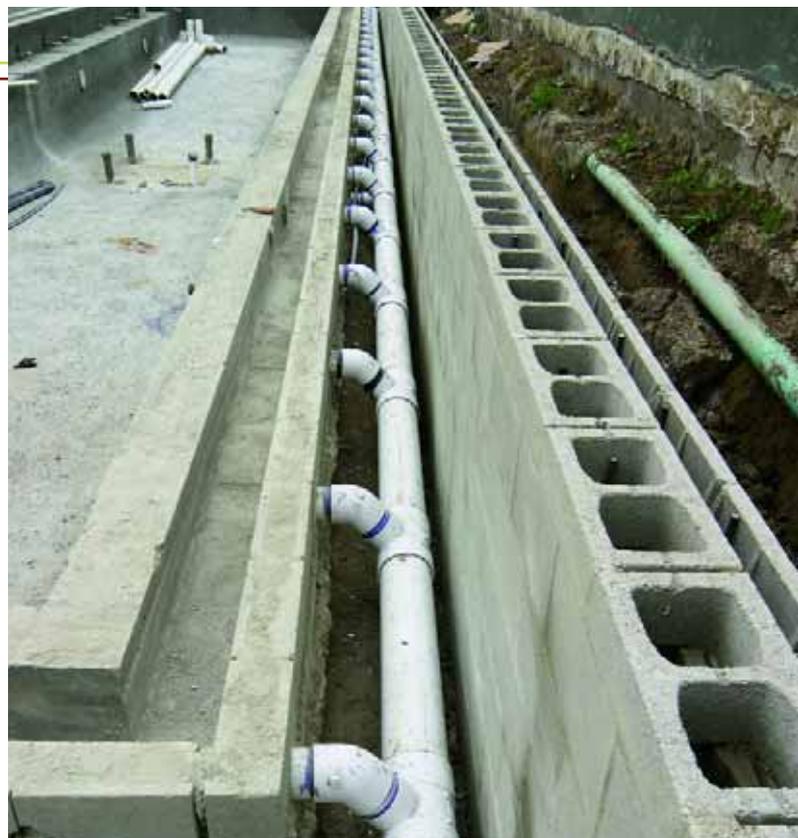


BY DAVID TISHERMAN

AS A RULE, I avoid working for contractors: I've found that far too many of them spend so much time worrying about the bottom line that they lose sight of the fact that their clients want quality rather than compromises. I've also found that their general caution is often at its worst when it comes to watershapes: Even though these structures may be key components of the overall project, they tend to come along late in the process and are all too often seen as places where corners can be cut to meet overall budget goals.



This perimeter-overflow system is different from most in that the water exits the overflow gutter through the side rather than flowing straight down. This keeps air from being drawn into the system, thereby eliminating gurgling sounds and making pool operation about as quiet as it can be.



Frankly, I've never liked being treated as a pawn or second-class citizen, so I avoid these situations like the plague. Instead, I typically work directly for homeowners and refuse to subordinate my part of a project to the whims of another contractor.

Any worthwhile rule, however, has its exceptions – and in my case one of them is working with Greg Golenberg of Golenberg & Company Construction (Agoura Hills, Calif.): He's among the finest builders I've ever known, and I'm proud of having worked for him on a number of projects through the years.

In the case on display here, he introduced me to clients who wanted only the

best of everything, from the design of the house down to the smallest detail of the exteriors and landscape. And it was easy to understand why: The house sits atop a bluff directly overlooking the Pacific Ocean in Malibu – one of the most spectacular locations for a home I've ever seen.

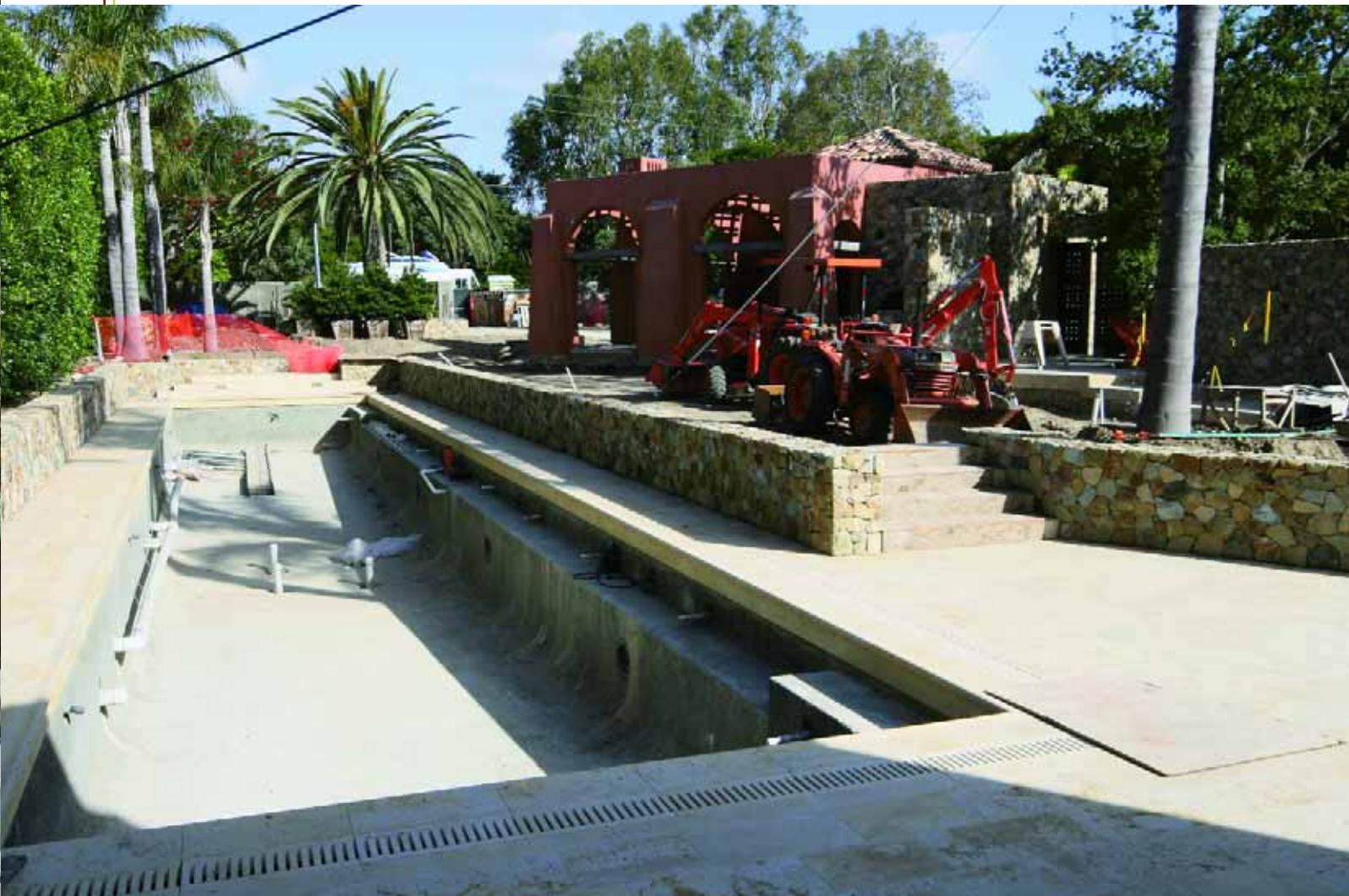
When Golenberg called and asked me to design and build the swimming pool, I jumped at the chance to join the project team. Not only did I know this would be a chance to create something truly special, but I also recognize the fact that Greg firmly believes in gathering whole families of top-notch professionals for his projects.

DOWN TO DETAILS

Golenberg's secret? He's a master of the lost art of listening, and in this case the team produced in ways that offer eloquent testimony to the value of his enlightened approach.

From the very start, every aspect of this project was about its details. The house itself is a masterful blend of Moroccan Revival and Modernist forms, with everything from the lighting fixtures and railings to the faucets and stonework thought out in painstaking detail. The color palette is reminiscent of those deployed by Luis Barragan or Ricardo Legorreta, while the architecture is boxy in a way that recalls Le Corbusier.

Once the shell was ready (complete with its long interior bench), we installed the drain grates and then waited for the rest of the work on site to approach completion before applying our finishing touches.



Whatever the visual references were to great architects, however, the overall linearity was to be softened by plantings and landscape choices – *and* through extensive use of stone around the pool and on prominent walls.

In keeping with this architectural program, the pool was designed for simple elegance. At 80 feet long and ten feet wide, it's a starkly rectangular, perimeter-overflow lap pool flanked by retaining walls done up with Santa Barbara Gold cladding that run the length of the vessel and enclose a narrow, slightly recessed deck area.

The pool is center deep, starting at a four-foot depth at both ends and moving gradually to a center depth of five feet. As I've suggested before on many occasions, there's no reason to go deeper unless a client specifically enjoys diving or likes to tread water. In this case, the homeowner is an ardent swimmer who wanted an Olympic-style overflow system to minimize wave action off the wall. (Most of the time, clients view a perimeter-overflow as a visual detail, but here it was included in the design as a practical matter.)

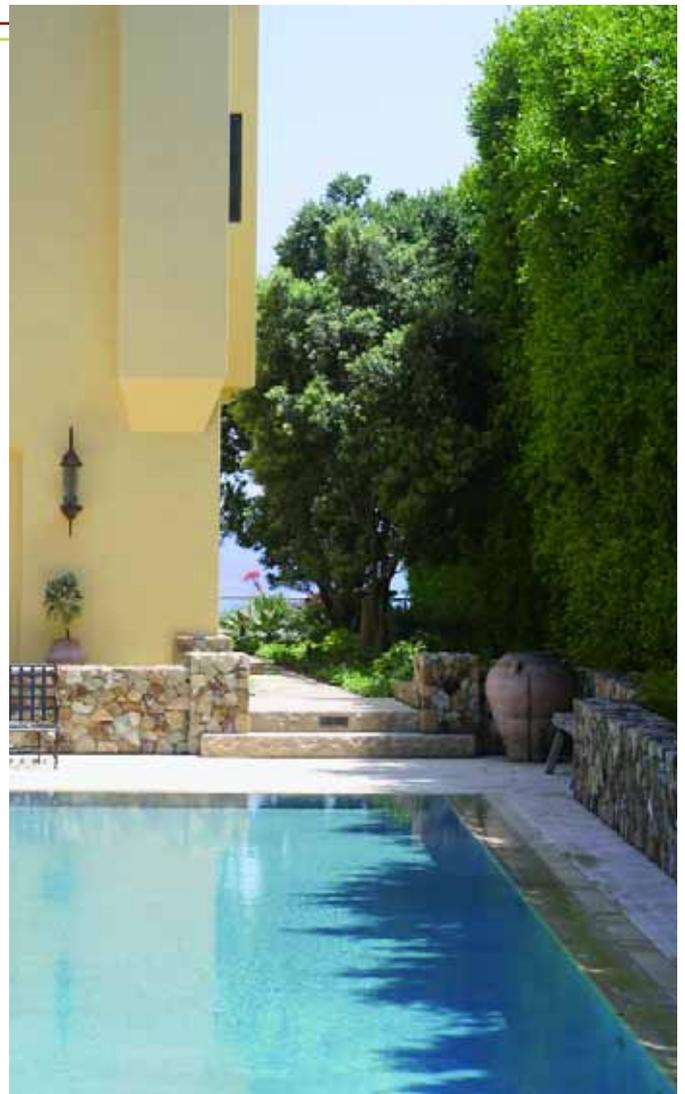
To get started, I asked for a soils-and-geology report – something I require for every project without exception. As I've stated in these pages countless times and will repeat as often as I can, all construction depends *entirely* on the nature of the soil upon which a project is to be built, and that goes for bridges, skyscrapers and houses as well as watershapes. So even though I'd been assured that we were all working in "competent" soil, I'd had enough experience in Malibu to know I needed the very specific information that only comes with complete testing, including test pits.

What's true in one spot may be completely different just a few feet away, and that was the case here: At one end of the pool, they found competent, load-bearing soil three feet below grade, but on the other end, it was nine feet down. With this information in hand along with my plans, I went to see my longtime associate, Mark Smith of Mark L. Smith Architecture & Engineering (Tarzana, Calif.).





In entering the property from the street, you move along a curving path through a lushly planted space and eventually see the house rising above the long, highly reflective pool surface. The stone details unify the space, leading the eye on one side of the pool toward the front entry and on the other side to a gap that leads out to a bluff overlooking the Pacific Ocean.



Smith prepares all of my architectural and structural-engineering details, and he and I determined that the pool would best be supported by installing a deepened foundation that would span approximately three quarters of the structure's length.

Following this program, we over-excavated one end of the pool by about seven feet, set up a system of #4 rebar on 18-inch centers three ways (horizontally, vertically and longitudinally), then pumped in 3,000 psi-plus concrete as a foundation. With the shell placed atop this structure, there would be no possibility of differential settlement – the main cause of shell failures here in California and elsewhere.

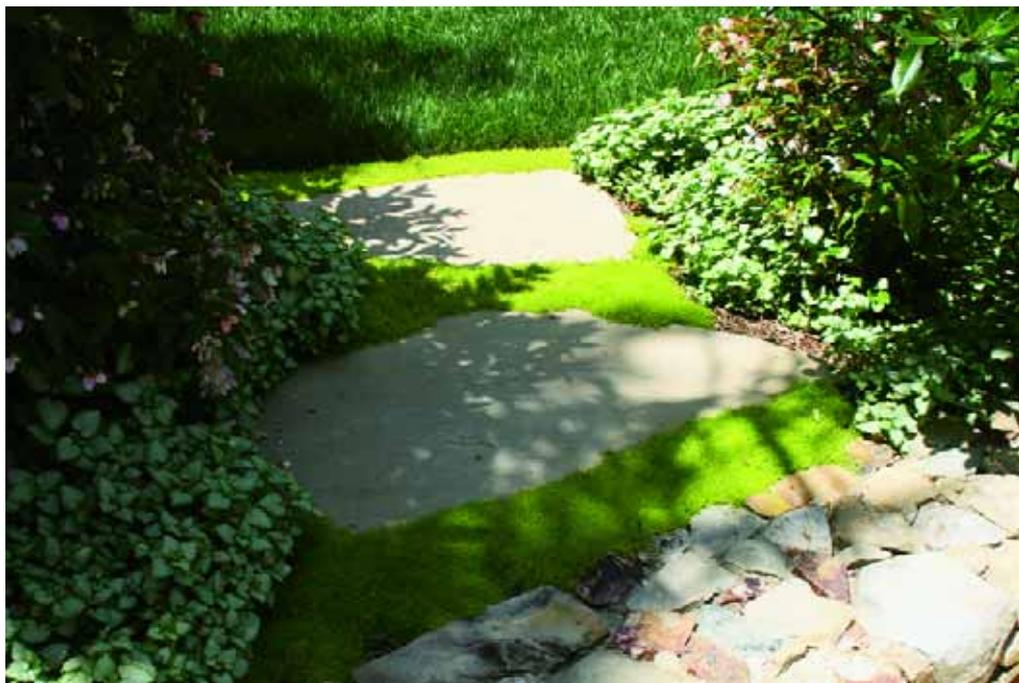
IN THE GUTTER

As mentioned above, the overflow detail was critical from a functional standpoint, but we also focused on the visuals for obvious reasons. I knew I had to be unusually careful in this case, however, because most perimeter-overflow systems lend their projects a distinctly contemporary look that wouldn't harmonize with the mostly Moroccan inclinations of the setting and our general desire to use the exterior spaces to soften the hard edges of the architecture.

With a solution in mind, I called Tim and Steve Harris of Harris Brothers Natural Stone Imports (Monterey, Calif.) and asked them if they could get me enough of a Greek limestone known as Kapandriti to get the job done. (For more information, see the sidebar on page 60.) What I needed, I said, was a bullnose coping with a very slightly raised profile that would allow water to flow easily over the edge and into a series of incised stone grates made from the same material.

Despite the contemporary nature of the perimeter-overflow approach, even when the water is running over the coping and into the gutter, this pool still boasts a relatively traditional appearance. In fact, it's almost a retro look that fully supports the visual environment rather than making a noticeable artistic statement on its own.

This left me, of course, with the chal-



It pays to be observant as you move through these spaces: There are so many nice touches, well-composed vignettes, wonderful elevation changes, amazing colors and textures and well-managed transitions that anyone with an eye out for visual beauty and drama will be richly rewarded.



lence of building a system to collect the water that would pass through the grates and ultimately flow to the surge tank. Personally, I've never been satisfied with the approach almost everyone who works with perimeter overflows use – that is, where the pick-ups feeding the trunk lines are mounted vertically and drop to a trunk line placed directly below the gutter: It may be easier to build them this way, but I dislike the loud gurgling noises that commonly result from this approach because of the way air is drawn into the system along with the water.

If water only makes these noises when it falls vertically, then why not have it flow horizontally instead? This is why I developed a plumbing detail in which the lines exiting the gutter are plumbed laterally from the sides of the gutter – in this case with three-inch pick-up lines placed every four feet to feed a six-inch trunk line that stands on its own outside the gutter.

All we did was pitch the floor of the gutter about an eighth of an inch toward the openings of the lines, which are mounted a quarter inch below the floor of the gutter. This way, the water always flows directly and gently into the pick-up lines, which are themselves slightly pitched down to the trunk lines to ensure easy flow.

The pool is quite long, so to ensure adequate pitching of the trunk lines, we broke the system into three separate sections, each with high points on center. The idea is that all parts of the system work by gravity, silently clearing the gutter the instant water flows into it.

The grates were another consideration in our noise-reduction campaign: Although there's still some noise as water flows through the grates and drops into the gutter, the sound is minimal. And when you consider that we've basically eliminated the noise associated with the water leaving the gutter, the overall system is remarkably quiet.

We also reduced a source of *visual* noise by coating the inside of the gutter with a black-oxide vinyl material: When you look down at the grates, all you see is a void or, when the sun is high in the sky, fleeting shadows cast by the grates.

IN THE SIDE

Another significant detail is inside the pool, in the form of the bench that runs along its full length. I've been using this detail for almost 30 years now, and my clients love these structures because they serve not only as steps down into the water, but also function as seating areas. In this particular case, the bench has the added benefit of offering easy entry and egress points along the entire 80-foot length of the pool.

We made great additional use of this detail by mounting all the lights in it, positioned so they face away from the house. We also placed all of the return outlets on the bench's face, doing everything we possibly could to avoid visual disruptions in the pool's long expanse of floor.

Too often, builders have so much happening on floors that it looks as though the pool has come down with a nasty case of permanent chicken pox. What I prefer to do is leave these flat, basically horizontal spaces as clear of visual obstruc-

tions as possible – and, with any penetrations I can't avoid, do all I can to hide them by using covers that can be topped with the same material used to finish the pool's interior.

In this case, the finish is a soft gray plaster that offers a wonderfully uniform appearance and great reflective qualities. I give credit here to my long-time friend and colleague Tony Marquez of Marquez Pool Plastering (Sun Valley, Calif.): His crews do an amazing job, and their attention to details such as the radii on the bench system was much appreciated. (It bears mentioning that plastering a rectilinear pool of this size while holding all of those long lines is surprisingly difficult.)

The result in the case of this water-shape is a beautifully uniform appearance, brilliant reflective qualities and a vessel that, as intended from the start, serves to enhance the setting rather than draw attention to itself. As for the overall project and the team's collective effort, well, the proof is in the pictures.

GRECIAN BEAUTY

As mentioned in the accompanying text, the coping stones and grates used on this project were provided by my dear friends at Harris Brothers Natural Stone Imports of Monterey, Calif. All were made from Kapandriti, a highly unusual limestone laced with quartz deposits.

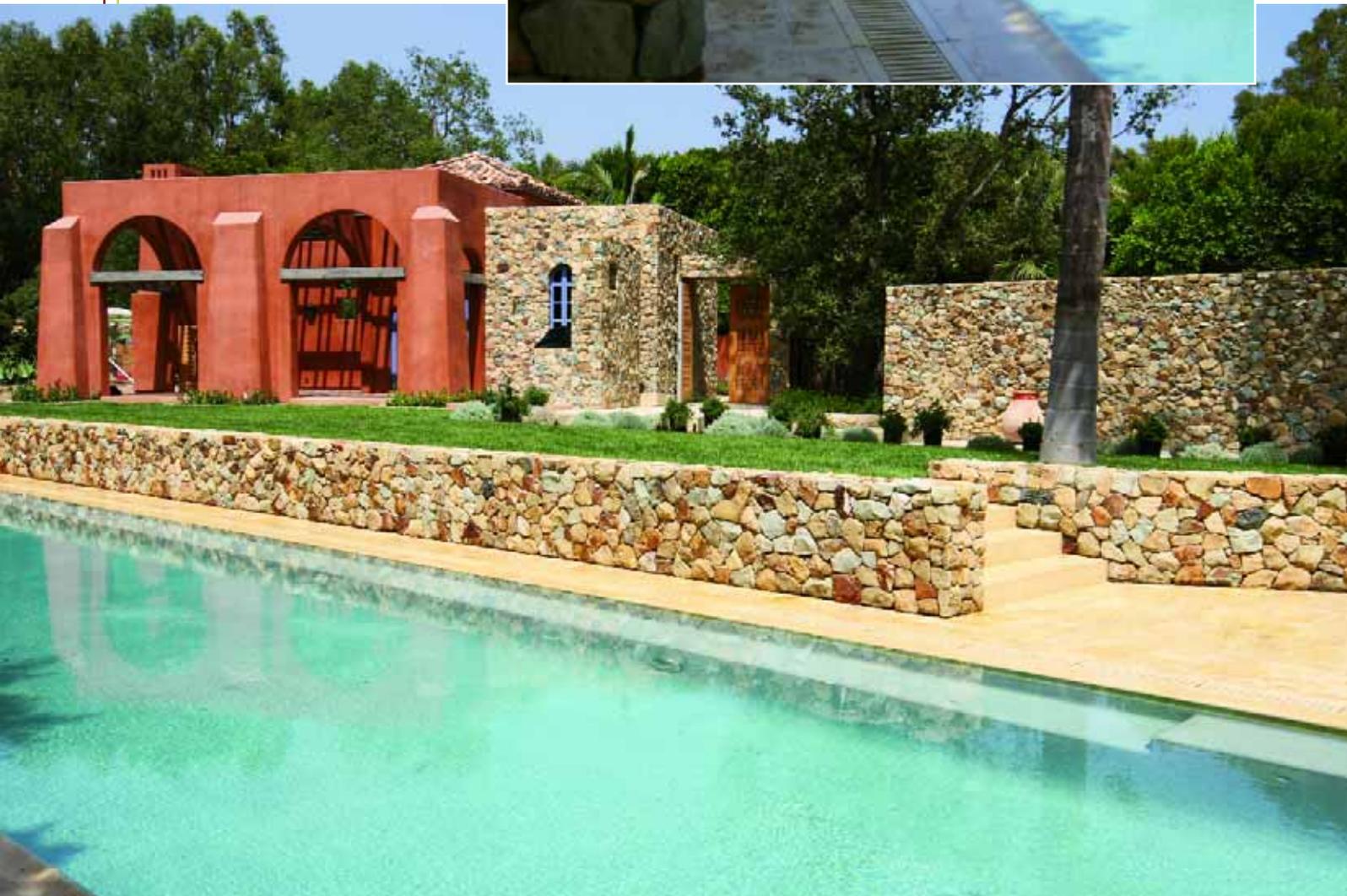
Quarried and fabricated in Greece by Sofikitis Ltd. (Athens), the collected material was prepared using a patented, computer-driven machining process that cut and created pieces in a variety of shapes and sizes with remarkable accuracy and consistency.

As importers, Steve and Tim Harris closely monitored the cutting process to make certain the delivered material arrived precisely as ordered. Better yet, Steve and Tim are also expert contractors and stone installers, so they have a keen understanding of the ins and outs of highly customized installations as well as the supplier side of the equation. For this project and others, I consider them as valued members of my upscale-project team.

– D.T.



All through the space, there's a sense of gracious elegance and of spaces made for comfort, social ease and family fun. The low-slung pool and its rich reflections are subtle components of the overall setting – understated companions to the project's engaging architecture, gorgeous landscaping and beautiful stonework.



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In the Spotlight

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Looping Waterslide



WHITEWATER WEST INDUSTRIES (Richmond, British Columbia, Canada) has introduced AquaLoop, the world's first looping waterslide. The system includes a trap door that drops riders into the slide with sufficient freefall momentum to make it through the loop. It also has a smooth, translucent fiberglass flume that allows bystanders to watch riders as they swing through the slide at high rates of speed.

Concrete Curing Aid



DECK-O-SEAL (Hampshire, IL) offers Deck-O-Treat, a gunite/shotcrete curing aid. The specially formulated product contains no wax, resin or solvent and has a low VOC level. It comes ready to use and is tinted for easy identification of coverage. Horizontal and vertical surfaces treated with the material can later be covered by additional finishes, including paint, tile adhesive or plaster.

Custom-Cabinet Spas

HOT SPRING SPAS (Vista, CA) offers the Custom Cabinet line of spas. Designed to be clad with any style of exterior surface to blend in with outdoor environments, the units can be placed aboveground or partially/fully recessed and are made with 3/4-inch, sealer-treated plywood surrounds that cover the inner structure, plumbing, and electrical components while providing a solid surface for custom siding.



Raised Accent Beds

EYE LEVEL (Trumbull, CT) offers cast-stone raised accent beds for watergardens, fountains, ponds or flowers. Made using weatherproof, insect-proof, maintenance-free glass fiber-reinforced concrete detailed to look like real stone, the structures feature interlocking panels and Bluestone ledge caps that make it easy to customize bed size. In addition, the panels can be set below grade to achieve desired heights.



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Commercial Chlorine Generator



PENTAIR WATER COMMERCIAL POOL & AQUATICS (Sanford, NC) has upgraded its commercial-grade IntelliChlor system for on-site chlorine generation. The electrolytic chlorine generator allows the operator to choose in a range from 2 pounds per day of chlorine output with one cell all the way up to 32 pounds per day with 16 cells, all while tracking cell life and generating daily performance data.

Wall-Panel Leveling



CARDINAL POOL SYSTEMS (Schuylkill Haven, PA) has upgraded its steel-wall panels for swimming pool construction with an optional panel-leveling device. By combining a C-clamp, a bolt and leveling pad mounted through the existing rebar holes at the bottom of most steel-wall panels, this inexpensive, labor-saving device enables installers to level panels simply by adjusting the bolt at each selected location.

Railing-Post System

TIMBERTECH (Wilmington, OH) has introduced Secure-Mount Posts for direct connection to concrete pads or decks. The post-and-block mounting system eliminates the need for 4-by-4 posts and is designed to provide a corrosion-resistant support system for railings installed on decks or directly onto concrete. Available for use with either 36- or 42-inch rail heights, the units support up to 500 pounds.



Wave-Riding Feature

WAVE LOCH (La Jolla, CA) has introduced FlowRider wave simulators for aquatic centers, cruise ships and waterparks. Designed to deliver lots of action within small footprints, the devices reproduce the power and challenge of riding ocean waves by using "sheet wave" technology to form three-inch-thick sheets of water that flow over safety surfaces to create standing waves in which the water moves, but the wave doesn't.



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Paver Sand



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Splash-Park System



SCS INTERACTIVE (Denver, CO) has introduced HydroLine, a splash-park system for aquatic centers, parks, campgrounds, hotels, waterparks and resorts. Designed to provide fun for all ages with low operating costs and minimal supervision, the system is made of stainless steel and includes various spray features as well as climbable structures with tipping buckets and other interactive elements.

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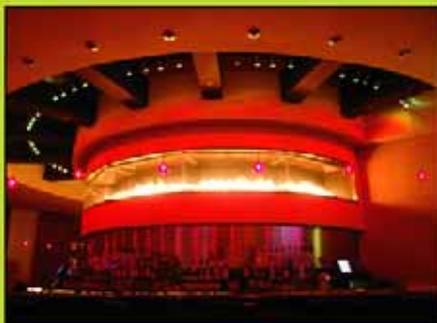


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Pet-Safety System



TERRAPIN COMMUNICATIONS (Ottawa, Ontario, Canada) has introduced a Safety Turtle system designed to detect immersion of pets of any and all sizes. Originally designed to sound an alarm when children fall in the water, the system works with pools and in nautical environments and includes a base unit that sounds an alarm the moment a collar-mounted detector breaks the water's surface.

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In the Spotlight

Chemical Injector



BETA TECHNOLOGY (Santa Cruz, CA) offers PoolShot, a microprocessor-controlled, repeating-event chemical-injection pump for accurate dosing in a variety of applications for pools, spas, fountains and ponds with capacities up to 100,000 gallons. The system has programmable delay, dose and lock-out times it uses as a dose cycle it performs repeatedly once it is programmed.

Centrifugal Pumps



GRISWOLD (Grand Terrace, CA) offers the H Series of self-priming centrifugal pumps for use in numerous watershape applications. Designed for versatility and fast, positive priming, the high-head devices can be used to dewater job sites or run pool/spa circulation systems and come in 3-, 5-, 7-1/2-, 10-, 15- and 20-horsepower models with heads to 260 feet and flow rates to 325 gallons per minute.

Software Enhancement

STRUCTURE STUDIOS (Las Vegas, NV) has updated its Pool Studio software to include new coping features. Projects can now be designed and fully rendered in three dimensions with separate custom coping options for pools, spas and each separate piece of decking and also allows the user to assign different coping widths and turn coping on and off for every element in the design with the click of a button.



Decorative Wall Panels

MÓZ DESIGNS (Oakland, CA) has introduced Móz Tides – ready-to-install kits featuring decorative aluminum panels for installation in association with residential or commercial pools and decks. Modular and easy to assemble, the panels come in multiple colors and patterns, can be mounted horizontally or vertically and are made with hand-etched 16-gauge aluminum in different panel lengths and widths.



Continued on page 70

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The WaterShapes Interviews

Ideas...insights...inspiration



Judith Corona: Understanding Watershaping's Color Palette

Judith Corona leads a colorful life: Among other things, she teaches color theory and application for UCLA Extension, as well as a 20-hour course on the subject for the Genesis 3 Design Group. In this far-ranging interview, Corona discusses the importance of color in pool design, plus various factors to consider when creating a color palette for a backyard watershape.



David Knox: Let There Be Shimmering Streams of Light

David Knox, founder of Lightstreams Glass Tile, talks about how and why he went from designing lasers for some of the nation's biggest technology powerhouses to creating and manufacturing small, shimmering works of art out of glass for watershapes. To Knox, it has been nothing less than a life-changing aesthetic and spiritual quest.



Randy Beard's Remarkable Watershaping Journey

Randy Beard, owner of Pure Water Pools in Costa Mesa, Calif., has built some of the most spectacular watershapes in Orange County—including the #1 Extreme Pool on HGTV's "Big Splash." Not bad for a guy who started out as a pool service technician at the age of 19.

Go to www.watershapes.com and click on **Interviews**.

WATER SHAPES
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In the Spotlight

Pneumatic Actuators



ASAHI/AMERICA (Malden, MA) offers the 79P line of corrosion-resistant, quarter-turn pneumatic actuators. Engineered to operate on ball and butterfly valves in harsh environments, the units have few moving parts, come in three materials and feature a rack-and-pinion design with dual, opposing pistons, graphite nitrile rolling O-rings and self-lubricating guide bands for long, durable performance.

Pool Slide



POLIN (Cayirova, Turkey) has introduced the Mini Pirate Slide, a smaller version of the company's large scale Pirate Slide that can fit into any pool, residential or commercial. Designed to be unique, colorful, functional and safe, the system is easy to install and maintain and includes a sunken pirate ship, a waterslide, a pirate, a parrot, a pirate flag and other accessories that make a pool into a special play area.

Pond Pump



ATLANTIC WATER GARDENS (Mantua, OH) has introduced the Typhoon Air Pump. Designed for energy efficiency with a continuous-duty diaphragm compressor, the professional-grade unit can be used in ponds up to 3,000 gallons. It features a weatherproof enclosure with a removable filter cover and also has a low-noise configuration that makes it usable both indoors and outdoors.

Floating Fountains



AQUAMASTER (Kiel, WI) offers the Masters Series of floating fountains. Designed and built for easy assembly, simple installation and superior, long-term performance, the systems feature stainless steel power housings, efficient oil-cooled motors and a choice among 30 interchangeable (with limited exceptions) spray patterns that provide great design flexibility while also improving water quality.

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PS Form 3526-R, September 2007 (Page 2 of 3)

Noise-Control Panels



ECKEL INDUSTRIES (Cambridge, MA) offers Eckoustic Functional Panels – high-performance, sound-absorbing, fire-resistant units that can be placed on walls or ceilings of indoor pool facilities for effective noise control. Provided as independent units that can be placed as needed without disturbing existing utilities, the V-ridged panels feature a polyethylene acoustic fill material topped with metal.

Channel Drain

AQUASTAR (San Diego, CA) offers the Channel Drain Anti-Entrapment Suction Outlet Cover, an unblockable system that complies with provisions of the Virginia Graeme Baker Pool and Spa Safety Act. Rated in single-pump applications at 316 gallons per minute (in floors) or 208 gpm (in walls), the 32-by-3-1/2-inch device has a three-port sump for use with single or multi-pump systems and is available in eight colors.



Continued on page 72

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In the Spotlight

Pond Product Catalog



AQUASCAPE (St. Charles, IL) has published its 2010 Product Catalog – an 88-page, full-color guide to the company's lines of pond kits, filters, pumps, aerators, lighting systems and water-treatment, fish-care and plant products. Coverage also includes installation tools and accessories, decorative fixtures, seasonal-care products and predator-control systems along with details on fountains and AquaBasin systems.

Automated pH Control



IPS CONTROLLERS (Temecula, CA) offers the M820 controller system to provide automated pH control. Easy to install, operate and maintain, the system uses dual-ORP detection for maximum reliability and is designed to work with tablets, salt or liquid chlorine. It can be used with new pools, but it can also be tied into existing systems and customized for specific environments and equipment arrays.

Landscape LEDs

KICHLER LIGHTING (Cleveland, OH) offers Design Pro LED lighting systems for landscape applications. Engineered to deliver consistent output in the 9-to-15-volt range, the path, spread, accent, underwater, inground and deck fixtures' driver circuits help control voltage drops while energy-efficiently providing landscapes with pure, long-lasting light, superior beam angling and precise brightness and color rendering.



Outdoor Ornaments

HADDONSTONE (Bellmawr, NJ) has partnered with Robert A.M. Stern Designs to develop the Olympian and Athenian lines. All items are made with cast stone. The Olympian collection includes two bowls, two urns and a tall, slim amphora – all contemporary interpretations of ancient forms – while the Athenian Collection includes various urns in two designs inspired by ArtDeco or Art Moderne forms.



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WATER SHAPES

ONLINE

Defining Resources

By Mike Farley

Those of you who've followed this column for any length of time know that it's all about my hunt for resources that will help me become better at what I do. As I see it, my job here is to share what I discover in the hope that my own information-seeking journey will help lots of you become more informed and inspired as well.

Every once in a while, I run into a dead end and just can't find what I'm after. That's long been the case, for example, with a great text on hydraulics – a topic I see as being critical to the performance of any watershaper. So far, the best source I've found isn't a book at all: It's the Genesis 3 course on fluid engineering taught by Dave Peterson, one of *WaterShapes*' three "Currents" columnists.

Seizing the opportunity, I once asked him to recommend a book on hydraulics, but even he came up short. He did, however, mention another book he liked: *101 Things I Learned in Architecture School* by Matthew Frederick (MIT Press, 2007). It's decidedly *not* about hydraulics, but it's a wonderful little book just the same.

In fact, like hydraulics and a couple of other topics, architecture is one of those core subject areas with which all watershapers, landscape architects and designers should be familiar. So even though my conversation with Dave didn't yield exactly what I was after, I jumped at his recommendation and immediately purchased a copy of the pocket-sized, 200-page book. As Dave suggested, it's compact enough that you can keep in it your briefcase or leave it on your nightstand and open it when you have a moment free to pick up an idea or two.

As I immediately learned, the book's title is ironic: The author rolls through 101 ideas he did *not* learn in architecture school, but wished he had. The result is a collection of often profound insights he picked up after leaving school in his long years of experience as a practicing architect.

The text is organized as a series of brief entries, some no more than a sentence, others not longer than a paragraph or two, often with accompanying illustrations. Almost without exception, these brief ideas apply to all forms of design, and I found them both inspiring and informative.

One of the ideas, for example, is about framing views and how we as designers can dictate the way people see things – not just through windows, but also by using objects in the



landscape to create physical and visual frames. Another of my favorites starts by noting that the Chinese symbol for *crisis* is a combination of the symbols for *danger* and *opportunity* – which, he explains, is why what we sometimes perceive as insurmountable project challenges often turn into our best designs. Another simply points out that most architects don't really hit their strides before age 50, a note I found particularly encouraging as I advance through my 40s.

I offer these comments not only as a direct and strong recommendation of Frederick's book, but also as an example of the process I've always tried to explore in these pages. This seeking of resources is a wonderful, ongoing challenge that requires me to keep an open mind. Certainly bookstores and libraries are great places to start, but there's also much to be found in taking seminars or in simply chatting with others who've also spent time working with or seeking useful information.

In my experience, almost all of these encounters yield something of value and utility. It gives me hope that there seems to be so much out there that's worth finding – and that when I keep my eyes and my mind open, I'll run into something new and inspiring just about every day. Here's hoping you do, too. **WS**

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



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