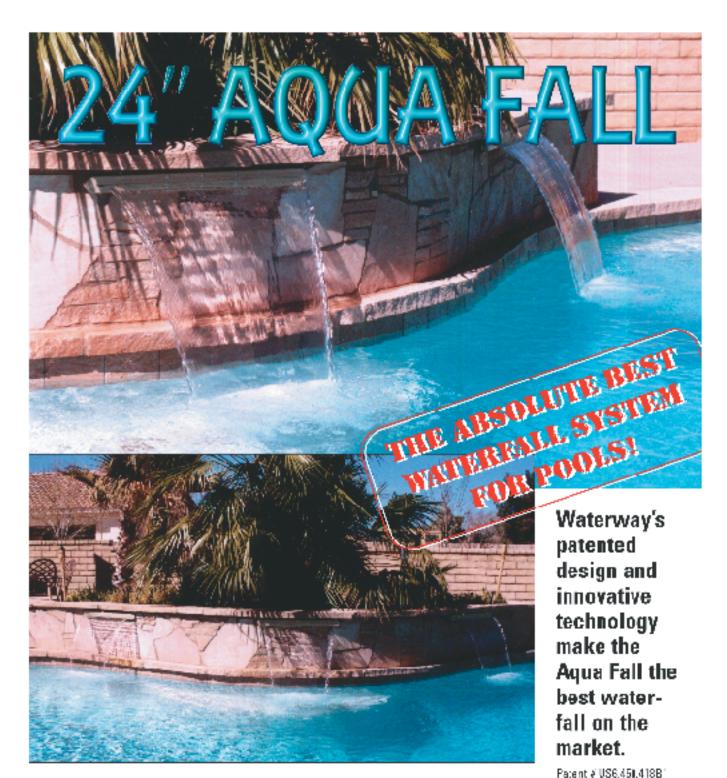
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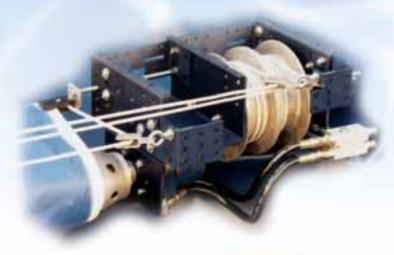
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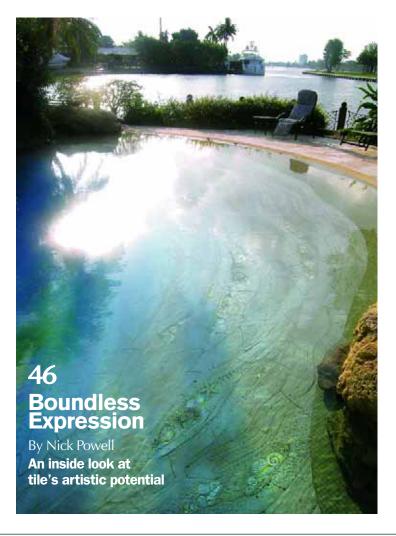


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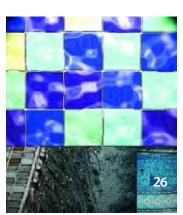


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Photo by Jim McCloskey, courtesy Stephanie Rose Landscape Design, Encino, Calif.

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By Eric Herman

### **Growth Formulas**

For all the beauty and creativity that characterize the finished watershapes we cover in our magazine, I often find just as much inspiration in the stories *behind* these polished works of art. Quite often, in fact, I perceive that these great outcomes are the result of processes of professional and/or personal self-improvement that our contributors are happy to describe in the course of writing their columns or features.

I'd like to say that we deliberately planned on assembling a whole clutch of stories that reflect this self-improvement theme for this particular issue of *WaterShapes*, but the truth is that this thread emerged on its own, yielding unexpected treasures that shimmer with a brilliance that could never be manufactured or anticipated.

The first of these pieces to reach us was Stephanie Rose's discussion of her arrival in the realm of project management, which she details in this month's "Natural Companions" (page 20). Then came the story of her work on a project with Randy Beard – and a description in words and photographs of the outcome of the big step she'd taken toward a new and challenging role (page 66). Viewed as a set, column and feature demonstrate what can happen when someone is willing to grow and step onto new ground.

By chance, the same theme surfaced in Nick Powell's article, "Boundless Expression" (page 46). Here, he chronicles the growth of his family's business and the course it has taken to become the producer of wildly imaginative and expressive works of ceramic art. In his case, Powell grew up in an environment in which his folks continuously pushed at the boundaries of their chosen artistic medium – a pursuit Powell and his brothers have carried to levels at which they now generate mind-bending works of color and fantastic imagery.

Then we began working on "Technical Daring" by Ron Lacher and Aaron Cowen (page 56). In this leading-edge feature, we see the same spirit of ambition applied to the subject of structural engineering through the use of advanced three-dimensional modeling technology. In this specific case, it's all about a structure that will rise 50 feet above grade on a fragile cliff-side in southern California.

First in order in the magazine but last to reach my desk was Brian Van Bower's "Aqua Culture" column, which begins on page 12. In his inimitable style, he urges his peers to stretch beyond their comfort zones to find better and more exciting ways to tackle their work – an inspiring message that cuts to the heart of almost any effort to reach for new heights in one's work or life.

As I said up top, I'd love to take credit for orchestrating this set of thematically related discussions, but I must concede that this collection of inspiring stories is actually a coincidental confluence among enterprising professionals who are sharing their work and approaches with the rest of us. It's a privilege to provide a forum in which the industry's best results are on display – and even more so when we have an opportunity to peek behind the curtain of achievement to see the spirit of growth and innovation that drives these watershapers to their finest efforts.

Ein Herman

# WATER SHAPES

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### **November's Writers**

**Tim Eorgan** is the technical manager of Carlisle Coatings & Waterproofing of Wylie, Texas. He graduated from Pennsylvania State University in 1978 and has been with the company since 1985. Before that, Eorgan worked as a project manager for Glace & Glace Consulting Engineers and is also a member of the American Railroad Engineer & Maintenance Association.

Nick Powell is the director of Craig Bragdy Design Ltd., a manufacturer of custom tile mosaics founded, owned and operated by his family since the early 1950s and currently based in Denbigh, Wales. The second son of four, Powell spent his childhood in North Wales in a succession of flour mills his parents converted to ceramic production. In 1973, he entered art school with a specialization in photography. In 1979, he began working at a small publishing office in Hong Kong as a photographer for travel magazines and then moved on to establish and run a small magazine-publishing business in the Middle East. He rejoined the

family business in 1983 and now manages it with his younger brother Shon. He now spends most of his time travelling worldwide to promote his company's products to prospective clients in the United States, Europe, Saudi Arabia and various Mediterranean countries.

Ron Lacher is president of Pool Engineering Inc., in Anaheim, Calif. A licensed civil engineer, he spent the first ten years of his career managing large-scale construction projects for a variety of governmental agencies before becoming a pool builder in Southern California. In 1992, Lacher founded Pool Engineering, which specializes in developing structural and engineering plans. Since then, the firm has provided structural documents and details for thousands of residential and commercial swimming pools. He regularly serves as a field expert for California's Contractor State License Board, insurance companies, homeowners and pool-construction companies. Aaron Cowen is a senior civil engineer for Pool Engineering in



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### in this issue

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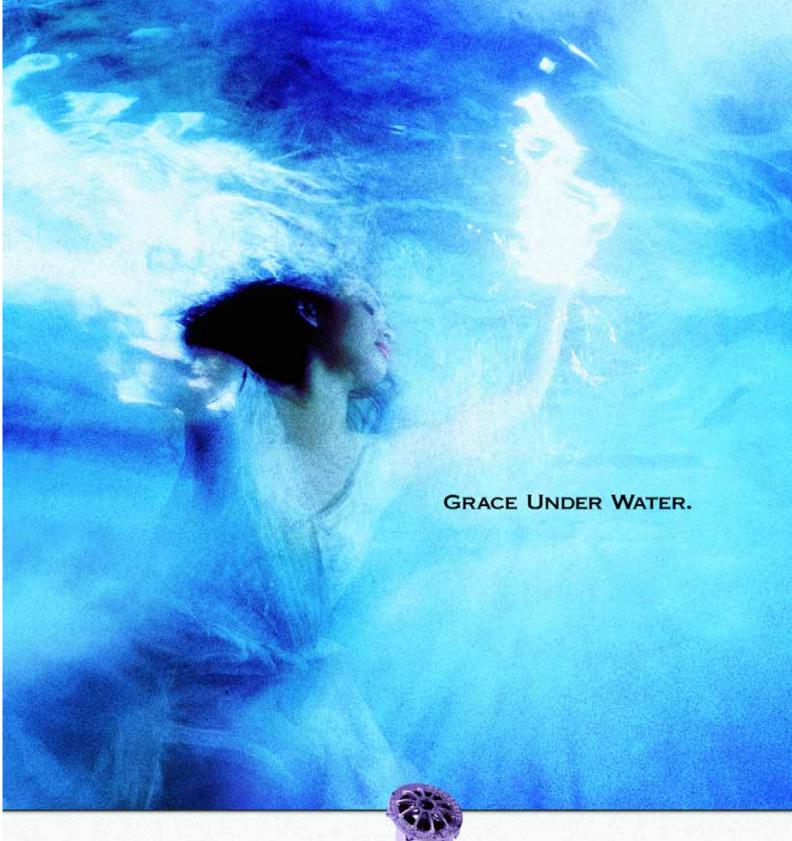
Anaheim, Calif., a position he's held since 1998. He holds a B.S. degree in civil engineering from California State University, Long Beach (1991) and a master's degree in structural engineering and design practice from the University of California (2004). He has served as design leader for numerous projects, including many that have featured cantilevered concrete decks, thin-wall concrete shells and swimming pool structures that called for drilled piers, grade beams and structural floors. Before taking his current position, Cowen served as an assistant civil engineer for the City of Santa Ana, Calif., where he designed and drafted sewage and water-distribution systems.

Stephanie Rose runs Stephanie Rose Landscape Design in Encino, Calif. Once a New York securities analyst, she gave up Wall Street 16 years ago to pursue a career in landscape design – and has never looked back. Her firm specializes in residential gardens for upscale clients in the Los Angeles area, where the lengthy planting season and mild climate provide

tremendous creative freedom and year-round work. Her projects frequently include collaborations with custom pool builders, a cross-disciplinary blending of perspectives and skills she sees as having profound potential for professionals on both sides of the relationship. Rose was a featured designer for episodes of "The Surprise Gardener" on HGTV and is an instructor for the Genesis 3 Design Schools. Randy **Beard** owns Pure Water Pools, a construction/service firm in Costa Mesa, Calif. While working behind the scenes in the entertainment unit at Knott's Berry Farm, he also ran a small pool-service business. With his wife and business partner Martha, he purchased Pure Water Pools from another technician and they have operated in the Costa Mesa/Newport Beach area ever since – first focusing in service but gradually moving on to big repairs, remodels and finally to new construction. Today, the firm works with many of the area's leading architects and landscape architects to create a range of custom watershapes for upscale commercial and residential clients.



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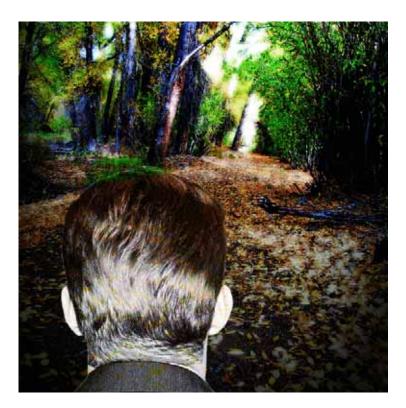
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By Brian Van Bower

## Facing the Future



obert Frost once wrote, "I took the road less traveled and that has made all the difference."

As we approach the New Year, I can't think of a more fitting theme for the watershaping industry. If we consider where we were just ten years ago and compare that situation to the world in which we live and work today, it's clear that the industry as a whole has changed immeasurably – and, I think, for the good.

I can say further and without fear of contradiction that those who have embraced the "road less traveled" and faced the future with creativity, hope and optimism have flourished, while those who have clung to the paradigms of the past are not so well positioned to face what's already happened and what is to come.

The fall season is well suited for the kind of reflection that leads to personal and professional growth. It's also "trade show season," a time when many of us invest time and energy and money in seeking information and discovering new ways to move forward into the months and years to come. It's a good time to step back and size things up – so let's jump into a bit of that here.

I can say without fear of contradiction that those who have embraced the 'road less traveled' and faced the future with creativity, hope and optimism have flourished.

### fear factors

As I engage in my own process of personal and professional assessment – a process that really should be ongoing and constant rather than annual or seasonal (something I'm working on still) – I think back over my career and try to understand how I arrived at a place where I not only design watershapes but also write this column, participate in the development of educational programs, conduct seminars for a variety of groups and generally keep pushing into new and ever more exciting ventures.

My first thought, of course, is that it's all because I've been blessed with great looks, tremendous charisma and unyielding modesty. Beyond that fantasy, it also occurs to me that I've been extraordinarily fortunate in the company I keep: There are so many wonderful people I've known who've been a part of my journey that it's difficult to keep track of them all – which leads me to conclude that the value of having terrific friends and associates can never be underestimated.

Beyond the riches of good fellowship, another thought that occurs to me is that my greatest growth has resulted when I've stepped beyond my comfort zone and tried something new. The very first time I conducted a seminar – for Region 7 of what was then the National Spa & Pool Institute – I was terrified and completely unsure of my qualifications or ability to teach anybody anything. As it turned out, the response was quite positive and I've continued down that path ever since.

For a long time, however, whenever I'd stand up in front of an audience, I'd fight my nervousness and the fear of failure each and every time. When I finished, however, I'd have the thrilling sense that I'd done something valuable for others – and enjoy the accompanying satisfaction of facing a stressful situation and overcoming my own anxiety.

Continued on page 14



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### aqua culture

That path eventually led me to a longtime gig as a radio-show host — and let me say that if you ever want to experience a real case of the butterflies, sit down in front of an open microphone and start talking over the airwaves. It was incredibly nerve-wracking at first, but ultimately it became great fun and eventually led to all sorts of wonderful (and unanticipated) experiences and opportunities.

These days, I'm extremely comfortable in front of audiences and actually look forward to public speaking. I can't even imagine the wealth of experiences I would've missed had I not made the effort and found the strength to face what was initially a very uncertain and, frankly, uncomfortable situation.

### moving on

Facing the very natural fear of public speaking is just one feature of my life, but it's amazing to me to think how different things would have been, both personal and professional, had I stayed on the familiar road. I am certain that I would've missed out on all sorts of fun and prosperity.

The same principles apply to most anyone who finds success in his or her field: There is simply no way to become an expert or an authority in any type of pursuit without tackling situations that make us uncomfortable, even if only temporarily.

In my case, I started out in pool service and today design high-end custom watershapes for all sorts of customers over a huge geographical area in this country and internationally. Every step in that long journey has involved doing things I hadn't tried before.

When you stop and consider how far the watershaping industry has come in the last decade or so, it's evident that a great many of us have taken up the challenge of breaking new ground. Sure, we've benefited from a number of huge social and economic trends that have essentially set the table for our industry's growth and creative expansion, but without a population of adventurous souls willing to take the up the journey, things would've stayed the same and might have even moved backward.

It's a lesson in the fact that, for most businesses, change is the only constant. In that light, it is crucial to keep your eyes on what's ahead. You can't *predict* the future, but you can do everything in your power to *position* yourself to respond. This is why, whenever I find myself being drawn in a new direction, I step back and take the time to consider the broader implications.

As one example, for the past few months I've been involved in a big project on the Caribbean island of St. Lucia, joining with my friend and Genesis 3 partner Skip Phillips, who has done most of the hydraulics and design. The project is unlike anything I've ever seen and involves development of 24 luxury suites, each with a spectacular view of the ocean or the island's famous Pitons – or both.

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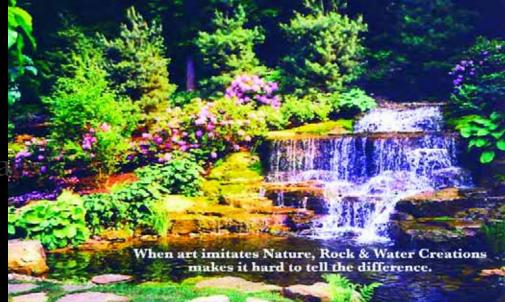
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### aqua culture

rative waterfeatures. The hydraulics for this project are intimidating enough on their own before you consider the need for precise planning, construction and serviceability on a grand scale.

### one thing to another

On a recent visit to this project, which is nearing completion, I had the oppor-

tunity to meet the husband of the woman who's supervising the entire project. He seems like a bright guy and asked me to take a look at a master plan he has in the works for a major housing development. Without going into too much detail, his concept is to create luxury homes that are all completely energy efficient and environmentally sound.

What I saw blew my mind. When I consider "green" lifestyles, my tendency is to think of devout environmentalists who, as a group, are not generally given to leading lives of extreme luxury. In this case, however, the idea is to build homes that are beautifully appointed and use technologies such as hydrogen energy plants and state-of-the-art, energy-efficient materials without sacrificing an iota of comfort, luxury or elegance.

What excited me most is that each home is to feature a glass-enclosed solar-ium filled with watershapes and land-scaping that will warm the homes through winter and cool them in the summer. Furthermore, the systems will run on reclaimed water or rainwater.

This particular project is still on the drawing boards, but it caused me to think about where we might be headed as an industry and has filled my usual year-end ponderings.

It's no secret that energy consumption and the creation and preservation of healthy environments are issues that are going to be with us for the rest of our lives. Once the focus for a fairly small group of partisan advocates, it seems pretty obvious that these are concepts that are quickly cutting across all political and social lines.

What intrigues me most about this luxury housing concept is that it will have broad appeal: Heck, I imagine most of us would be in favor of conserving energy and preserving the environment so long as we didn't have to sacrifice comfort, convenience or luxury to do it.

This is exactly why hybrid automobiles are gaining so much attention with their fuel efficiency and increasingly passable styling and performance. It's happening because the world is changing and the people who design and manufacture cars are desperately trying to get ahead of the curve. And I'll wager that this general trend will be among those defining the future of watershape design and construction as well.

### gaining momentum

It's easy to imagine a time when there will be a demand for systems that provide the same benefits as today's watershapes with respect to beauty, exercise value, entertainment and luxury, but will do so with an entirely different set of technical solutions.

Continued on page 18



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### aqua culture

Perhaps this will mean ultra-efficient hydraulic and filtration systems that run only a fraction of the time that current systems must operate. It may involve the use of captured rainwater, or development of land-scaping substrates that filter water. Heating systems may change dramatically, as might chemical treatments, lighting systems and maybe our entire concept of how water-

shapes are plumbed and powered.

Fact is, these trends are already gathering steam. I know of systems that include cisterns designed to capture rainwater. I've also designed a perimeter-overflow pool with a surge tank oversized by 4,000 gallons to capture and store rainwater. For years, of course, people in the trade have been advocating the use of small pumps

and large plumbing as a way to increase efficiency and decrease operating costs, and we've already seen a variety of products featuring recycled materials.

Something tells me that this is only the beginning of what may well turn out to be one of the most dynamic and fertile trends affecting our businesses for generations to come – and it has already started.

I bring up this example of efficiency trends because this is precisely the sort of focus that separates people who embrace the future and are willing to step out of their comfort zones and those who rely on conventional thinking as a way of life. To the forward-looking professional, such a trend represents opportunity and perhaps even a chance to develop an entirely new specialty.

In the not-too-distant future, there will be new products, new applications, new design concepts, new ways of talking about the product and, indeed, new ways of thinking about the very nature of watershapes' roles in our daily lives. I foresee a time when water reclamation and the use of bodies of water to heat and cool interior spaces will affect everything we do as watershapers.

If so, there will be those among us who will blaze new trails and flourish and establish ourselves as authorities within the industry. On the flip side, there will be those who see this new sensibility as a threat to the status quo and will drag their feet or even work to disrupt its progress in one way or another.

If you ask me, it's pretty obvious which side will fare better: We all know the future is coming, and it's up to each of us to decide whether to turn our backs to the inevitability of change or face tomorrow fearlessly, with open hearts and open minds. I believe, in other words, that Robert Frost was right: The road we choose makes all the difference.

**Brian Van Bower** runs Aquatic Consultants, a design firm based in Miami, Fla., and is a cofounder 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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### natural companions

By Stephanie Rose

### **Transitions**

n the October 2005 issue of *WaterShapes*, I discussed a project that had tested my abilities and helped me to grow as a landscape designer.

To that point in my career, I had functioned mainly as a designer focused on planting design. It was quite a step for me to accept the greater responsibility that came with a project that put me in charge of work on the *total* environment – pool, spa, deck, outdoor amenities and artwork placement as well as the planting plan.

I knew going in that project management is a challenge no matter the size or scale of the job. Coordinating various trades, anticipating schedules and materials needs, making on-site design decisions and covering all the bases involved in bringing a project to fruition always requires a high degree of focus and concentration.

In a high-profile project such as this one, however, the stakes were unusually high—an interesting time for me to step beyond a design role and take the lead on the entire job. Indeed, I've noticed that becoming the point person for the design/construction project led me to make adjustments to my way of thinking as well as my usual approach to tasks at hand.

As I accepted the responsibility of being both designer and project manager, I recognized my decision had some obvious rewards.

### thought into action

Typically, I develop a design, perhaps consult on hardscape installation and then supervise the overall planting installation. This allows me to exercise control over the placement of plants and the look of the final product. I have always worked with (and around) other contractors who understand my plans and take responsibility for the overall installations and often are willing to defer to my guidance on certain design details.

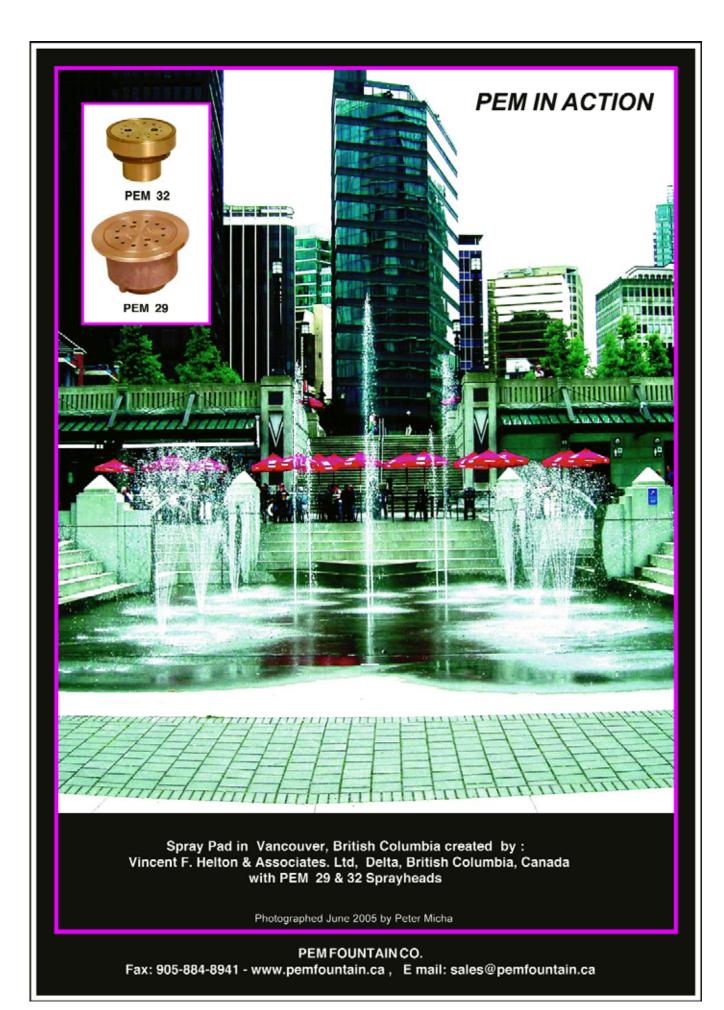
For this particular project, I operated the same way I usually do when we started: I planned the planting, made suggestions about hardscape features and incorporated suggested materials, shapes and locations into what I was doing – but I fully expected to leave the installation and project management to someone else.

As the project moved forward, however, it became clear that I had to become more involved in the actual installation and that, in fact, I needed to take charge as both designer *and* project manager. As I wrapped my mind around that and accepted the responsibility, I recognized my decision had some obvious rewards.

For one thing, exercising control over the project as its on-site manager enabled me to become even more deeply imbedded in the design process. It was no longer a matter of drawing something on paper and then handing it to someone else. I soon discovered that nothing on this job site was ever quite that easy.

What I came to see was all the small design details that make the difference between a good project and a great one and that having control over those details as a project-managing designer gave me the control I needed to move our work to a higher level. As we've all experienced, everyone interprets plans differently: If you want your design interpreted the way you intend, you need to be involved at every stage of the project.

Continued on page 22



### natural companions

The inside ledge of the pool, for example, needed to be as dark as possible in order to visually disappear. *Someone* needed to research materials and make suggestions – and it turns out it was *me*.

The material needed to be slip-resistant, as people and dogs would be walking on it. It also had to be workable enough to function as a proper edge in

a perimeter-overflow system. Then there was the finish: If we used a stone, it could be cut and/or it could be honed or flamed to get what we wanted. We actually tested a number of different surfaces as part of the decision-making process.

### learning curves

I felt like I was in school again – and I

took advantage of the opportunity to familiarize myself with the issues involved in creating a good, sound watershape design and develop an understanding that it isn't simply a matter of deciding to use black granite.

No, the process was also about the size of grout joints, the elevation of the spa's slightly raised dam wall and the overall maintenance of the perimeter-overflow illusion. It was about the shapes of corner pieces and how they would affect the illusion as well as the functionality of the pool. It also had to do with determining the slope of the edge pieces, again for appearance and functionality.

All of these decisions drove home for me the point that top-quality design requires constant nurturing and attention if great results are to be achieved. Creating a watershape is considerably more intricate than executing most hardscape and planting designs, but what the process demonstrated to me most was that my availability on site and dedication to managing all the details made a huge difference in the success of our labors.

To be sure, project management of this sort is about spending lots of time on site, research, networking and, most of all, interacting and taking responsibility with the client. That role with each client is crucial: It means being available to address the client's frustrations and even anger and may seem like a lot of bother – but again, it definitely has its rewards, including:

- **More money.** Obviously, if you're going to accept more responsibility and devote more of your time to a project, you need to be compensated appropriately. We may be in this business for the love of watershaping, but we need to pay our bills and be financially rewarded for the work we do.
- **Detter designs.** Drawing plans and handing them over to others leaves them to interpret the design in their own ways. Assuring your vision (and ultimately the client's vision) gets built requires personal involvement. Moreover, your being on site to make small design decisions will yield better results.
- Great collaborations. Working with design-savvy contractors teaches you an incredible amount about the construction









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### natural companions

process and in turn will help you create better designs in the future. Understanding the details of perimeter-overflow plumbing, for example, enables you to make decisions that can make for truly superior designs.

On this project, for example, we had a large surge tank with an unsightly cover. We knew we wanted to hide it by putting it beneath a pathway – we epoxied a slab of bluestone to the cover so it looks just like another stepping stone – and I had to work closely with the contractor to ensure exact placement of the tank.

Networking opportunities. As I've written in these pages countless times, our business is all about referrals – and how communication and positive working environments translate into future work. In

this case, many different trades were involved, all with significant referral possibilities. I've already been brought in on other projects with some of the professionals I worked with on this project – and it's only just starting.

DEducation. I learn something new in my work every day. I don't expect to build a better mousetrap anytime soon, but I find that the information, approaches and techniques I pick up by paying attention to what's going on around me is helping me become a better designer. Simply knowing (as I do now) that the black plaster we installed will require specified treatments that other plasters may not allows me to avoid not only the pitfalls of using certain materials, but also enables me to inform my clients and make projects run more smoothly.

### greater goals

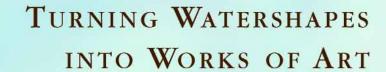
My favorite question from my clients is "How come nothing's happening today?" With each new project I take on, I'm better able to answer that question intelligently.

Familiarizing themselves with all the steps involved in completing a major project is something I don't expect my clients to do. For my part, however, I *do* expect myself to become better versed in processes so I can be a more effective project manager and a better support for my clients.

The people who pay us can be very demanding of our time, energy and design or construction abilities. Under the best of circumstances, the most important qualities you can offer them are patience, understanding and honesty. These are the keys to developing trust, a better product and, ultimately, satisfied clients – something for which we all should strive.

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**Stephanie Rose** runs Stephanie Rose Landscape Design in Encino, Calif. A specialist in residential garden design, her projects often include collaboration with custom pool builders. Stephanie is also an instructor on landscape design for the Genesis 3 Design Group. If you have a specific question about landscaping (or simply want to exchange ideas), e-mail her at sroseld@earthlink.net.





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Oceanside Glasstile www.glasstile.com

Watershape designed and built by Paul Benedetti.

### tisherman: detail 57

By David Tisherman

### Miles of Tiles

know I've quoted or paraphrased Ernest Hemingway on this point before, but it bears repeating once again: Anything that was ever any good, you pay for.

I'd go so far to say I've based my entire business philosophy on that basic idea. For one thing, there's an essential truth to what he's saying. For another, I see its clear application to watershaping on a variety of levels – particularly when it comes to the materials we use in creating our "art." Indeed, a huge part of giving clients the unique elegance and beauty they so often crave involves understanding and appreciating the aesthetic potential embodied in the materials we choose.

In my own work, I make no bones about the fact that I love working with tile: The range of colors, textures and visual effects you can achieve by using it as a key design component is virtually limitless – if, that is, you know what you're doing and are willing to step beyond the usual palette of options generally associated with the pool industry.

I love working with tile: The range of colors, textures and visual effects you can achieve by using it as a key design component is virtually limitless.

When you take that big step away from the standard selections and applications, you jump into a dazzling array of choices. Tile can be used in a subtle way, for example, as a waterline element that blends seamlessly with the colors of other parts of the composition. Or it can be used boldly to make singular statements that capture the attention of the viewer, as is the case with colorful mosaics or medallions. Or it can lend a rich visual quality to surfaces in a way that defines the entire design.

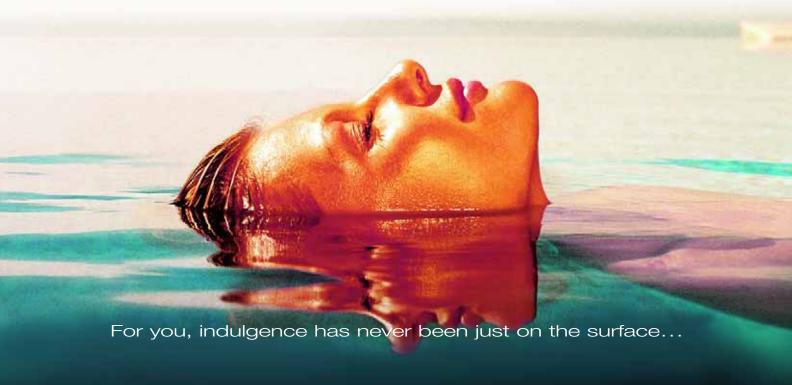
### my favorite things

With a design element of tile's visual power and diversity, it's important to understand what you're trying to achieve – in other words, how it will fit as part of the overall design scheme. You also have to be familiar with the options available on the market and know how the choices you make will affect issues including cost, lead times for materials delivery, installation requirements and even the physical configuration of the design itself.

The importance of those issues comes into much clearer focus when you get specific. To that end, I'll use this edition of "Details" to highlight products I turn to over and over again as I approach my projects. The list isn't exhaustive – just a rundown of some favorites.

The plain fact is, there are literally hundreds of tile manufacturers and suppliers out there these days. As designers, it's our responsibility to familiarize ourselves with these options, and through the years, I must say I've enjoyed the process of discovering tile products I can use to excite my customers and beautify my work.

Next month, I'll discuss how I approach and use some specific products in the design-development and materials-selection processes. This time, I simply want to identify a short list of suppliers whose products I've found to be especial-



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### tisherman: detail 57

ly exciting with respect to both design possibilities and client response.

Let's start the listings with glass tiles. These products come from a huge variety of sources in the United States and from places as geographically diverse as China, Italy and Mexico. In fact, I suspect you could spend years exploring nothing other than the glass-tile market and still

not find all of the suppliers.

### clear beauty

Making selections among glass tiles is all about understanding the qualities of specific product lines. What's so exciting is that they're all somewhat different – variations in colors, textures, levels of translucence, thicknesses and even how

they are used or installed. The trick is to find a product that fits the design you're trying to create.

The list below represents good places to find that perfect fit:

Boyce & Bean. Based in Oceanside, Calif., this company produces some of the most beautiful glass tile I've ever seen. Among the company's claims to fame is that its glass is produced in the same Illinois facility that once supplied Tiffany (and also made great marbles for generations of children).

It's a cast tile, very clear and, by comparison to others, very, very thick. The company produces a fairly limited set of products in dichron glass as well as tiles infused with metals and beautifully milky "moon glass" mosaics. They also make a tile series in soft, sea-foam greens that come in various round-edged shapes. The visual depth, smooth textures, rich colors and incredible reflective qualities lend a jewel-like appearance to water-shapes – stunning stuff.

The main tile line comes in iridescent, sandblasted and opaque finishes and has a soft look to it because casting sets the material up with slightly rounded edges. The color palette is fairly limited, but even so, it's the most beautiful tile I've ever seen and is a wonderful choice for the right setting with clients who are looking for something truly elegant.

Docanside Glasstile. This firm, based in Carlsbad, Calif., manufactures its tile mostly from recycled glass. The abundance and variety of this source material allows the company to produce its exquisite tiles in a beautiful variety of colors. Each tile is slightly different with irregular square shapes (within, of course, a tight range of tolerances). What I like most about the tile is that these slight irregularities actually make them even more beautiful – as though they were made by hand.

I've used these products in a large number of projects, including several that have been profiled in *WaterShapes*. I've used them to cover everything from small details inside and outside the water to thermal ledges and entire interior surfaces, often developing custom mixes of tile colors to suit specific settings. The fact that the company makes a full range of bullnose, quarter-round and other spe-

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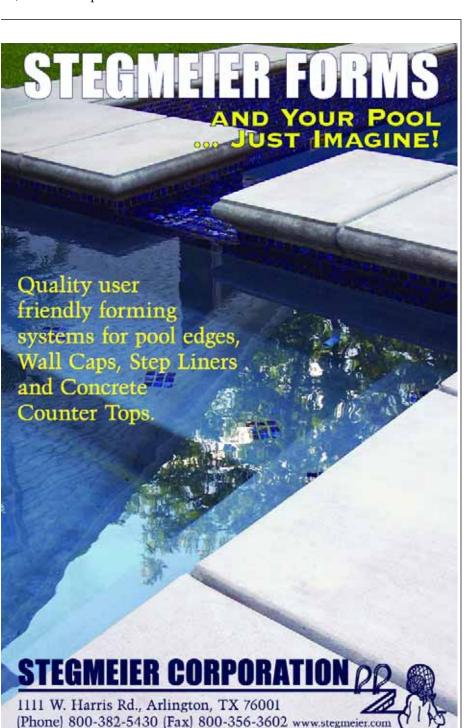
### tisherman: detail 57

cialty pieces is a key to this range of applications.

These tiles are produced with variations in thickness, so they sometimes require more skill in the installation process. And I've received some comments from clients about sharp edges and the irregular feel of the surface. In a small number of cases, I've had to replace individual tiles to

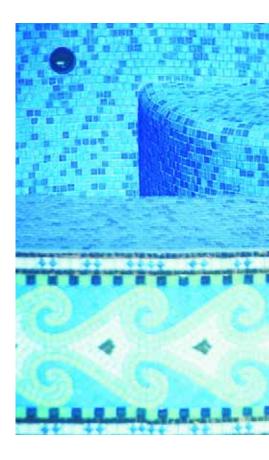
remedy these concerns – but to my mind, that's a small price to pay for such timeless beauty.

Sicis. This company is based in Ravenna, Italy, and makes a variety of coordinated mosaic blends that cover a wide range of colors. Their iridescent tiles are simply stunning, but they also make subtler blends manufactured with tradition-





This raised spa and its spillways are wrapped in glass tiles produced by Oceanside Glasstile. The photograph doesn't do justice to the impression of depth conveyed when light catches these tiles in just the right way.

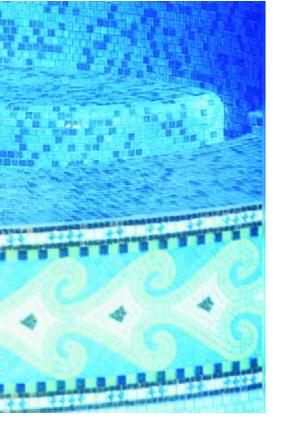


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WaterShapes · November 2005

### tisherman: detail 57

al Italian "smalto" recipes that lean toward opacity as well as "waterglass" tiles that are beautifully transparent with slightly crackled finishes that give them unique reflectivity.

In my work with these tiles, I often mix tiles from all three product groups – iridescent, opaque and clear – to create blends that generate delightful underwater effects. The company doesn't provide trim pieces, but the small size of the field tiles (they are just 3/8 inch square and quite thin in profile) lets them wrap over radiuses with beautiful results.

### feats in clay

When you move away from glass tile into the realm of porcelain and ceramic, it's just as easy to find wonderful products – and another dizzying set of options among suppliers.

In my work, I've steered away from mass-produced products in favor of those with particular characteristics that my clients and I find appealing. I also look



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When I want a waterline to disappear, I often use American Olean's ceramic tiles in a color that matches the pool's interior – in this case, a soft-green tile that visually fades into the softgreen plaster. comes to creativity and a whole different level when it comes to cost.

You give them the color palette, define what you want with respect to design elements and motifs and they get back to you with sketches for review and revision. I have a job in the works right now that will include a complex illustration of a coral reef with dozens of sea creatures

as well as a beautiful "beach" of maize-colored sand. (Only part of the pool – about 250 square feet – will feature this tile; the rest – about 1,400 square feet – will be covered in a jog-jointed blend of Sicis tile, including all three appearance types mentioned above.)

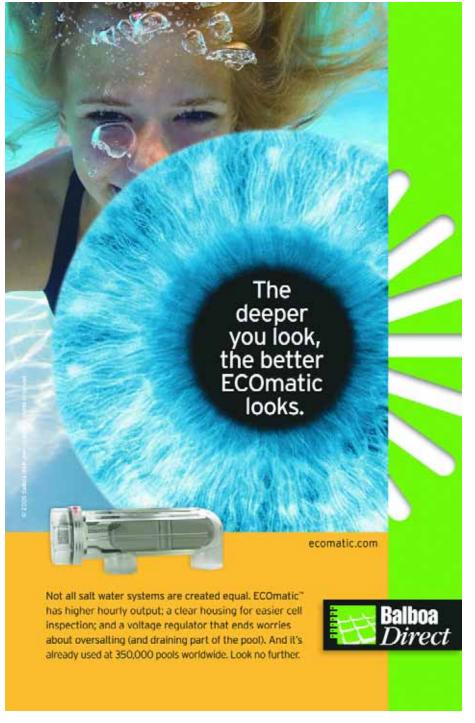
This is an elaborate, aquatically themed design, but not unexpected in a swim-

to firms that are responsive, have consistent quality control and offer reliable delivery commitments.

American Olean. This Dallas-based company is a subsidiary of the massive Dal-Tile family of companies but has preserved something of its own identity and individuality. It produces porcelain tile in a wide variety of colors and sizes, and everything benefits from truly amazing quality control.

I particularly love their greens and grays, which are beautiful when used in neutral color applications alongside, for example, green or French gray plaster, and I often work to match the plaster color to the tile to make the waterline effectively disappear. The tiles also come mounted in a "dot matrix," meaning there are rubber dots between each tile that maintain remarkably consistent spacing across a field of tiles. That's a terrific way to package these products from the installer's viewpoint.

**Oraig Bragdy Design.** This company, based in Denbigh, Wales, makes unusual tile – to put it mildly. Basically, these folks create painted masterpieces in ceramic – a whole different world when it



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### tisherman: detail 57

ming pool. With this firm, however, you're definitely not limited to seascapes: You can create anything you want with them – abstract, figurative, photographic, you name it.

**Dusby Gilbert.** This firm, which is based in Van Nuys, Calif., creates a rainbow of beautiful ceramic tiles – the broadest palette I've encountered. This is the

company that provided the tile for my controversial "red pool," and I know the overall impression made by that project would have been diminished dramatically without the fantastic colors the company lent to the cause.

It's also an adventurous firm: They'll create multi-colored tiles, for example, all hand-made and hand-glazed. They'll





The advantage of working with Busby Gilbert's ceramic tiles is the company's adventurous approach to colors and capacity to develop custom matches as needed – a key to creating bold projects such as my 'red pool.'

work with you on custom colors as well (and do incredibly well at it in my view), and they also offer a full line of "accessory" pieces – bullnoses, V-caps, quarter rounds and beaks. Through the years, I've been particularly impressed by their responsiveness and creative flexibility.

As I mentioned above, these are just a handful of the resources available to you as watershape designers. Even here, however, you'll find a range of options that will lend power and flexibility to your work.

The time you spend in exploring these and countless other options is nothing less than an investment in your ability to create beautiful watershapes that will be well worth the cost. When I work with these products, I can't help thinking that Mr. Hemingway would be pleased!

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

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### **Create Your Environment**





# theDeal

The brand-new Wynn Hotel on the storied Las Vegas Strip encompasses a range of elaborate watershapes - lakes, fountains, a rock-waterfall mountain and a host of pools and spas as well as multiple rooftop environments. In all cases, the reliability of waterproofing systems was of crucial importance, notes Tim Eorgan of Carlisle Coatings & Waterproofing, the firm charged with providing damage-preventive solutions for the city's newest crown jewel.

**By Tim Eorgan** 

The latest generation of Las Vegas hotels and casinos offers an amazing showcase for pools, fountains and watershapes of every shape and size. In fact, for many such properties, the presence of these increasingly imaginative watershapes is crucial to defining their appeal for huge numbers of guests and visitors

As these properties and their watershapes have become more elaborate and unconventional, they've presented designers, engineers and builders with greater and greater technical challenges – many of them carried in the plain fact that water can inflict a great deal of damage on these facilities if it is not properly contained and controlled.

In our end of the watershaping trades, the visual and sensory arms race has challenged the water*proofing* industry to step up to the plate and manage the integrity of every nook and cranny of every vessel, be it wide or narrow, curved or straight, below-grade or above.

#### **New** Heights

At Carlisle Coatings & Waterproofing (Wylie, Texas), we know these projects include the most challenging environments possible at the highest possible stakes. Custom designs and never-before-seen building features have forced us and others in the industry to offer a repertoire of products and techniques to keep these elaborate designs watertight.

Before opening its doors to the public in April 2005, the 2,846-room Wynn Hotel was already receiving considerable attention from tourists and the tourism industry: The sweeping curvilinear structure is located on the site of the once venerable Desert Inn and can't be missed in any transit up or down the strip.

Steve Wynn, the hotel's creator, planned bigger and better in his signature property as a follow up to his work on Treasure Island, The Mirage and Bellagio, to name a few.

As is clear in those past projects, water plays a huge role in Steve Wynn's formula for success. To that end, the new hotel offers a variety of waterways, swimming pools, extravagant villas and underground tunnels as well as naturalistic lakes and a



Photo by Cid Caba

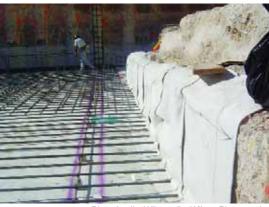


Photo by Jim Wilson, Jim Wilson Photography



Photo by Jim Wilson

Given the nature of the site, the ponds at the Wynn had to be built to prevent leakage from inside the watershapes as well as any intrusion of groundwater, so the excavated space was lined with a bentonite fabric before the plumbing was inserted and the artificial rock applied.

collection of rooftop "green zones" that include private watershapes for the enjoyment of the hotel's most exclusive clients.

Add it all up and it's a facility in need of unyielding attention to detail, quality in the construction process and an effective waterproofing strategy.

The Wynn's architect of record, Glen Ashworth, AIA, worked closely with our firm to determine the best way to meet the waterproofing needs as the building was in the planning and early construction phases. With so many watershapes, deployment of an array of waterproofing strategies - bentonite lining, spray- and roller-applied membranes, extensive drainage systems and various vapor barriers – was the overall key to success.

For starters, the grounds include a series of man-made lakes, streams and ponds - a feature found in many of the area's numerous golf courses, but far less common in its hotels and other commercial settings. These watershapes were a real challenge because, although Las Vegas is known for its arid climate, what most people don't realize is that it has an extremely high water table – a real problem for lakes and ponds if they're not properly structured and sealed inside and out.

#### Clay Craft

Naturally swelling clays have been used as a means of waterproofing for thousands of years. One of them, known as bentonite, is particularly valued for its ability to create an effective, efficient water barrier. Depending upon local soil conditions, it is often used as an alternative to liners or concrete – but in the Wynn's case it served as an added layer of protection.

Before we were through, thousands of square feet of our firm's bentonite-based rolled-fabric membrane had been installed under the lakes and performance pools. This made sense for a number of reasons, not least of which was the fact that the waterproofing contractor, Technicoat of Las Vegas, was familiar with the system and had installed it as part of several other local projects.

More important, of course, was the product's impermeable composition and the project's needs for a barrier that would endure hydration and could also self-seal in the event of punctures or penetrations. (With a variety of construction trades at the job site and given the amount of lighting and plumbing necessary in the various watershapes, the self-sealing action was a particularly important benefit.)

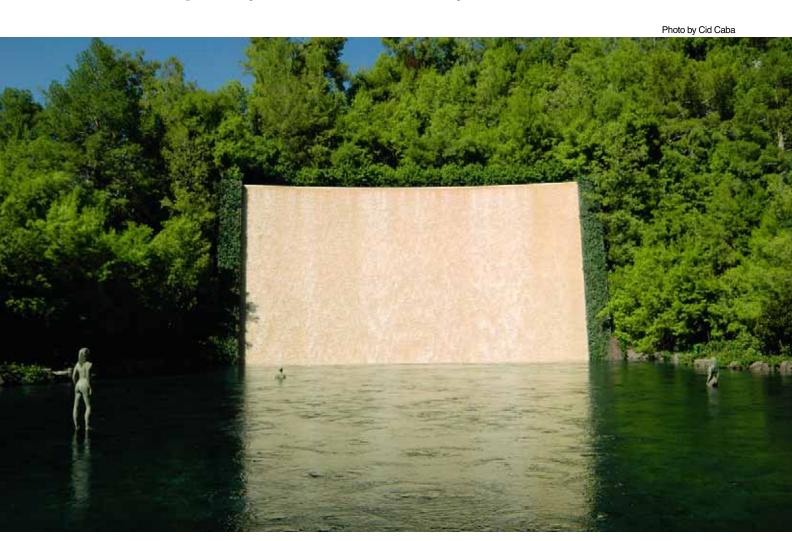
Application in this case consisted of pouring concrete at the perimeter of each of the watershapes and then waterproofing the structures with spray- or roller-applied liquid membranes before covering the vessels' floors with the bentonite fabric.

The fabric consists of a uniform layer of sodium bentonite clay sandwiched between a durable, puncture-resistant, non-woven polypropylene fabric on the bottom and, on top, a high-tensile-strength woven polypropylene fabric designed to endure construction wear and tear.

The fabric is needle-punched together with thousands of strands of high-



The giant waterwall and its pond are central fixtures on the hotel grounds. They had to be waterproofed, of course, and so did the planters that flank the waterwall on numerous levels – each pocket requiring extensive waterproofing with asphalt-based membranes.



WaterShapes · November 2005





The Wynn property features numerous swimming pools, reflecting pools, fountains and spas. Each one was sealed inside and out with bentonite fabric and asphalt-based membranes to ensure long-term, watertight seals in both directions.



strength denier yarn and is then thermally fused to lock the sodium bentonite into place and form an integral sealed surface. When hydrated and encapsulated in this way, bentonite is basically impermeable and offers excellent resistance to most chemicals. It also "heals" itself if ripped or punctured.

This sort of below-grade application differs from others in that it's hard to predict exactly what you'll encounter until you start digging. Bentonite is a good choice in these situations because of its basic compatibility with other coating products. It works well when a whole pond or lake is subsequently lined with concrete, for example, because the fabric is applied directly over the dirt and then can have concrete poured over its top. Furthermore, the system is tough enough that a drainage system can be installed on top of it to ensure adequate, long-term drainage.

#### **Black** Gold

The Wynn project also made use of another time-tested waterproofing material: a rubberized-asphalt membrane. Although this sounds like a product of recent vintage, simple versions of these membranes are mentioned in ancient Mesopotamian writings and they have been recognized for centuries for their waterproofing ability.

For this project, our firm's rubberized asphalt membranes were used to seal the facilitiy's numerous patios and green roofs. They are perfectly suited to those sorts of applications, as this type of product can be installed on a variety of surfaces; isn't particularly laborintensive; and can be applied by brush, roller or spray application.

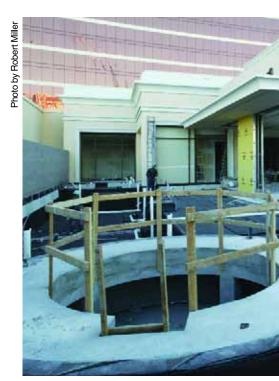
Carlisle Coatings & Waterproofing is among several manufacturers who supply water-based, rubberized-asphalt membranes that consist of an asphalt emulsion modified with a blend of



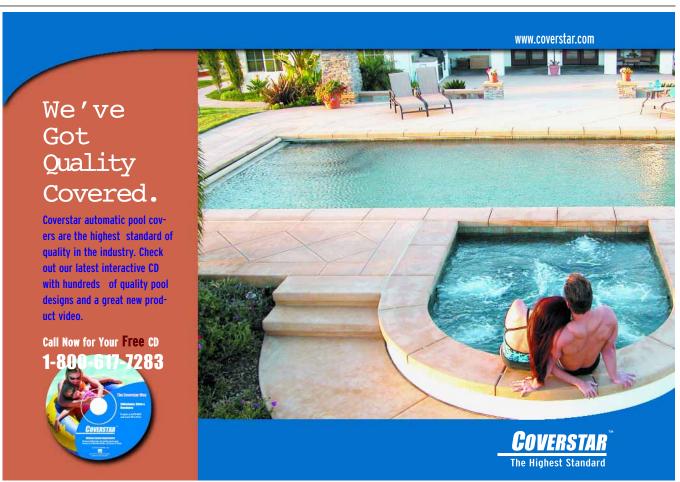


WaterShapes · November 2005





The hotel's exclusive villas open out onto the golf course with a simple elegance that belies all the intricate structures just below the surface and a variety of approaches to waterproofing just about every surface exposed either to water or soil.



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synthetic rubbers and special additives. Our company's products cure rapidly to form monolithic but highly flexible membranes of a sort used widely in concrete waterproofing projects.

The Wynn project features a number of patios outfitted with hot tubs, pools and elaborate gardens, each with distinct waterproofing needs. In cases in which a pool or hot tub was positioned above a livable space, there could be no compromise in the quality of the waterproofing products, and careful application was crucial as well.

Most facilities use multi-layered waterproofing systems for these applications to guarantee the containment and proper drainage of excess water. When you consider that certain plantings in the arid desert climate require 'round-the-clock watering, there's a lot of water moving below the surface and any leakage at all could result in extremely costly damage.

The use of our sheet membrane was the most common form of waterproofing used to protect "green zones" installed on rooftops and balconies throughout the hotel, supplemented in certain areas by application of liquid membranes to ensure protection of the living spaces below.

#### **Green** Scenes

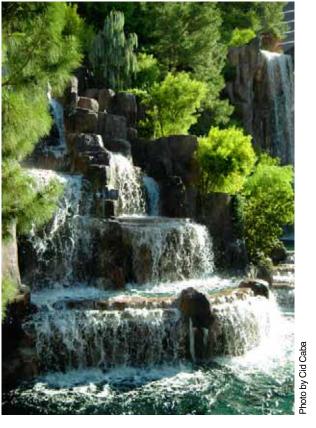
The Wynn also features hundreds of square feet of planters that contain a plethora of exotic foliage to complement the extravagant outdoor spaces. One extensive example of such a space is the huge mountain that rises in front of the building – already a new landmark on the Strip and a wonderful natural barrier between the hotel and the bustle of the street.

The mountain and several other locations throughout the complex feature more than 75,000 square feet of artificial rock. Pre-formed with rebar and then filled with shotcrete, the rocks rise 80 feet to the mountain's peak and frame the exterior lake's shorelines. The rock was hand-carved for texture and then finished with an array of colors and shades to conjure a natural look.

To seal the planters dispersed within this



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The mountain structure with its waterfalls, cascades, planters and pools – not to mention its variety of surfaces, different elevations, unusual contours and extensive plumbing and drainage systems – led us to apply just about every waterproofing approach and application technique at our disposal to make this huge project a success.



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structure – some of them up to 20 feet deep – we used a liquid waterproofing material that was rolled on and also set up a high-performance drainage system that uses Flat Pipe, a technology we've developed for these sorts of applications.

This system consists of a dimpled core of high-impact polystyrene that has a graduated profile to move water steadily away from a structure. To ensure long-term performance, a geotextile filter fabric is laminated to the core to keep soil particles from entering and reducing the effectiveness of the drainage channels.

Other planters were equipped with systems of protective boards and root barriers topped by extensive irrigation systems, soil and, finally, plant material. In these cases, a roller-applied membrane provided the water barrier that, in conjunction with the root barrier and drainage system, effectively protects the concrete structure from water degradation.

#### For the Long Haul

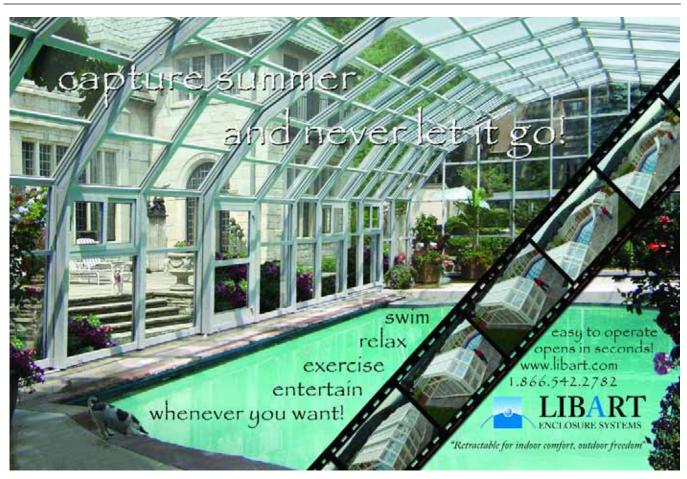
As tourists admire the Wynn, those who saw to the waterproofing of its splendid structures

and watershapes know that the beauty has been protected. As any watershaper knows, managing the movement of water is no small trick. As any waterproofer knows, it can mean the difference between success and extremely costly failure.

For this project, the installation of proper drainage systems in combination with a range of waterproofing strategies will protect the property for years to come. In designing these solutions to age-old problems, we know that if you can control the movement of the water, you win the battle.

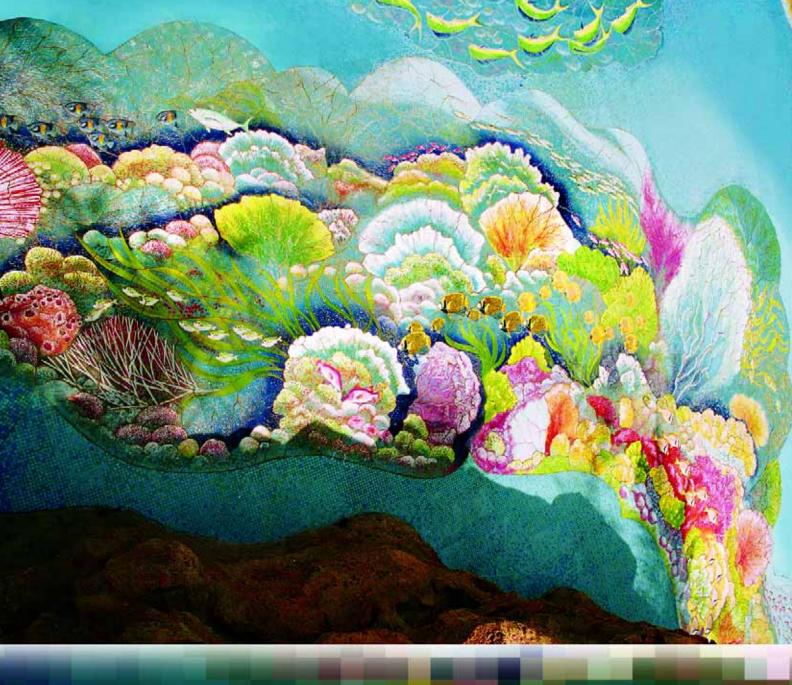
Next to fire, water is the single most destructive force a structure will ever encounter, and water-proofers take great pride in developing approaches that get the job done. In this project, those approaches involved using a variety of our products and a range of techniques.

Everyone involved knew what was at stake. On a project of this scale and complexity – an oasis of watershapes in the midst of a desert – we knew that our work was the key to long-term avoidance of water damage and the pathway to sustainable, Las Vegas-style success.



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## Boundless



Among all of the elaborate and colorful surface materials used with pools and other watershapes, the tile compositions crafted by Craig Bradgy Design Ltd. stand out for the imaginative ways in which they enhance the aquatic experience. Made in Wales by a family of restless artists, the work reveals the surprising flexibility of tile as an artistic medium as well as a collective desire to challenge designers and clients to see things in brand-new ways.

By Nick Powell

We've always based our work as tile artists on refusing to let existing rules and conventions get in the way: We push at all boundaries and always seek something more exciting to create.

That undaunted spirit of breaking new ground started with my parents, who established Craig Bragdy Design Ltd. in Wales just after World War II. Jean and Rhys "Taffy" Powell met in art school, had four rowdy boys and started the business by producing decorative ceramic products – coffee and tea cups, dishes, salt and pepper sets and a host of other smallish daily items.

Even then, they were swimming against the tide: In the postwar United Kingdom, most people were interested in purely practical products and certainly weren't in the habit of thinking of saltshakers as having artistic merit. Despite the fact that the early years were tough, my parents believed enough in what they were doing that they opened a shop and filled it with their small works of art.

Success came gradually, and as the firm grew we found ourselves living in a sequence of warehouse spaces of increasing size where my parents would establish production facilities as well as our living quarters. That life was hard at times, so much so that it drew all of us into the workforce and grounded us all in skills that have served us well ever since.

#### **New Patterns**

To be sure, it was an unusual upbringing, but our family struggles engendered in us an undying pioneer spirit when it comes to artistic expression and left us all with great memories as well. Our parents were always trying to expand what their art could become, the upshot being that they eventually moved entirely away from production work and into fine art.

Before long, they were making decorative tiles large enough that people were hanging them on walls like paintings. These tile pieces became larger and more elaborate and eventually evolved into entire mosaics installed on walls and other architectural features. As we all grew older and operational control passed to my brothers and me, that spirit of innovation and exploration always served us well.

Part of what has made all this creative expansiveness possible is the amazing flexibility of ceramic tile as a medium. It's an incredible material, wonderfully durable, and there are no practical limits to what you can do with it with respect to colors, textures or applications.





Our exploration of applications led us about 20 years ago to work on our first watershapes – small fountains to start, but then, relatively quickly, high-end swimming pools as well. Almost immediately, we recognized the power and vitality that occurred when our work combined with water – a real-world example of how the whole really can be more than just the sum of the parts.

As we discovered, ceramic tile is a perfect fit with aqueous systems. Water doesn't corrode it, the material can bridge wet/dry boundaries, and it withstands the wear and tear of human traffic, use and abuse. As important is the fact that we can create any type of image, pattern, underwater scene or illustration and place it in an environment that by its very nature attracts a glorious amount of attention.

It didn't take us long to appreciate the fact that all of this fit perfectly with our belief in always pushing creative boundaries, but it also led us to greater recognition of the fact that we couldn't rely solely on our own artistic instincts to carry

us forward: Indeed, when any artist works on a high-end architectural or watershaping project, virtually all of the ideas spark originally in the mind of the client.

As we've moved into more elaborate designs, we had to work hard at mastering the art of picking up and transforming our clients' inklings into original works of art. We learned the nature of the give and take, offered suggestions, expanded on clients' concepts and applied our own artistic backgrounds in collective efforts to generate designs that would amplify



Our capacity to create beach entries that capture the illusion of a shoreline swathed in gently lapping waves is greatly enhanced both by subtle gradations in color and by the ripple-generating textures we work into the surface of the tiles.



and celebrate client-driven visual schemes.

#### Translated Traditions

Combining the deep wellsprings of client ideas with the boundless potential of what starts out as large lumps of clay, we've never come anywhere close to running out of fresh ideas and new challenges. Swimming pools in particular are incredibly exciting to us because, for so many years, they were really untouched canvasses.

Of course there were early examples of

decorated pools, such as the Roman and Turkish baths of ancient times and, more recently, the elaborate pools at Hearst Castle. These and other instances hint at vast potential, but it's no secret that for generations, pools were mostly quite ordinary in appearance.

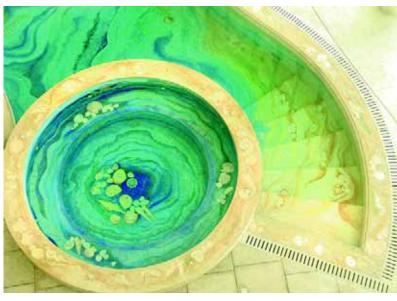
Recent times, however, have seen the advent of beautiful stone surfaces, tile mosaics of all kinds and a rainbow of finishes and textures for swimming pools that have truly opened them up as the focus of artistic expression and, perhaps more

important, as an element in comprehensive exterior designs.

It's been our observation, in fact, that exterior architecture and design is a much different field than it was even a decade ago, probably because so many clients who once focused their attention almost exclusively on interior decoration are now applying the same sensibility to their outdoor spaces.

All of this has blown open the mindset of a great many designers and clients, and the great fun we're having in our work feeds off this trend as well as our own ap-





**The careful way** in which we plot out our images and use the contours of the vessels we're working on gives us an ability to conjure remarkable impressions of depth (and, in some cases, even motion) through our compositions.

petite for pushing at creative boundaries with as much force as we can muster.

From the start, our work with swimming pools revolved around a sense that, if we played our cards right, we could find opportunities to create art in pools that simply hadn't been seen before.

Of course, our march to that goal was more gradual than we hoped it might be, both because the specialized work we do is quite expensive and also because it takes the right sort of client to join in the process of creating these massive original works of art. Happily, our work is international in scope, so we've always been able to find enough clients to fuel our business.

#### Step by Step

Today, our sales process (if you really must call it that) is based entirely on collaboration that engages both the project designer and the client. It begins with simply sitting down and listening. There are times when things coalesce quickly into design ideas; there are others when, with less expressive clients, it becomes a sort of detective work. However they come, we gather these concepts and subsequently flesh them out into detailed and highly personalized expressions.

To be sure, firms such as ours that constantly redefine and push at limits face something of an uphill climb in winning projects, mostly because we often spend a good bit of time and energy in describing the fundamentals of what we're all about to designers, contractors and clients. Again happily, we've found

that the momentum is there now and that acceptance has increased dramatically as more and more people are seeing things they like but haven't experienced before.

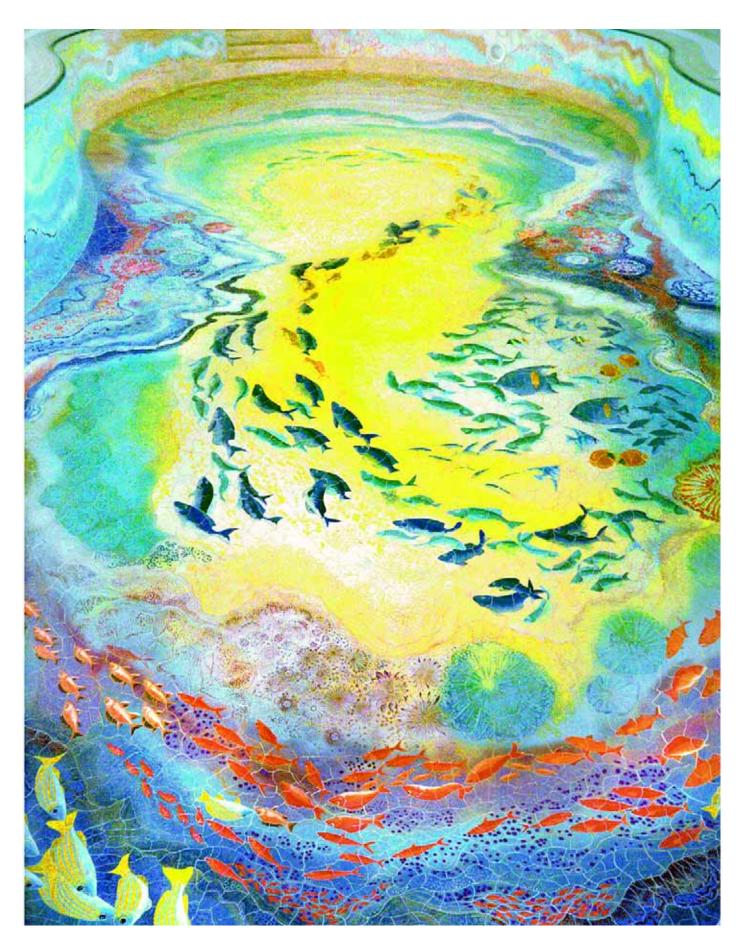
That's particularly true in California and a couple of other U.S. markets where the push is on to more and more exciting lifestyles. At this point in our company history, we're pleased to note that fully 70 percent of our projects have to do with swimming pools.

In some cases, the designs are expansions of elements already found in pools – beach entries, for example, for which we've created realistic ceramic designs that look and feel like a beach, complete with seashells underfoot and the rippling sand patterns one would expect to find on an actual beach.

Underwater scenes are also popular in pools, for obvious reasons – and we've tackled the idea by presenting seascapes with extraordinarily vivid and detailed artwork. This might include representing fish and sea creatures in profile view on vertical surfaces and as top views on the flat surfaces to provide a realistic sense of perspective and depth.

We're able to infuse these traditional motifs with all sorts of character and personality – perhaps something as simple as inscribing a child's name in the "sand" of a beach entry or as elaborate as imbedding semi-precious stones to glitter on the "shore."

In one case, we took a picture of a great white shark that our client had photographed on a diving expedition. This reflected his fascination with these animals and his travels around





Although we focus a great deal of attention on the overall imagery, we also expend tremendous energy in making certain all of our details are right on the mark, whether we're working with literal figures or total abstractions.

the world to see them with his own eyes, and in this case that meant capturing the shark with all its scars and scratches rather than portraying it in idealized, pristine form. The result is a highly detailed illustration that depicts this fantastic looking carnivorous fish swimming in a coral reef.

#### Tile's Nature

As I've mentioned above, one of the best things about ceramic tile is its flexibility, which means we've never been limited to the more predictable sorts of images and patterns easily associated with pools and aquatic environments. Through the years, in fact, we've created completely abstract patterns, representations of galaxies, various geological features, textiles and reproductions of photographs.

A big part of our challenge in working with designers and clients is nudging them beyond convention toward a greater potential for expressiveness. When we encounter these freer-thinking collaborators, the results can be amazing – something that literally has never been seen before.



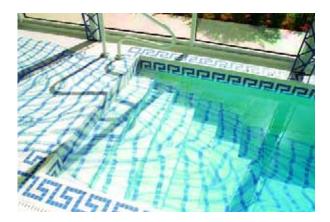
This level of flexibility extends largely from our family background and the fact that we've never created "mosaic art" in the traditional sense. Most such artworks result from placement of individual pieces in patterns that together represent a form – a time-honored approach that can result in stunning work.

By contrast, our images are created as single large pieces (like our parents' artistic tile panels) that are subsequently sliced into large, irregular shapes. Each resulting piece is completely different from the rest and contains part of a larger image.

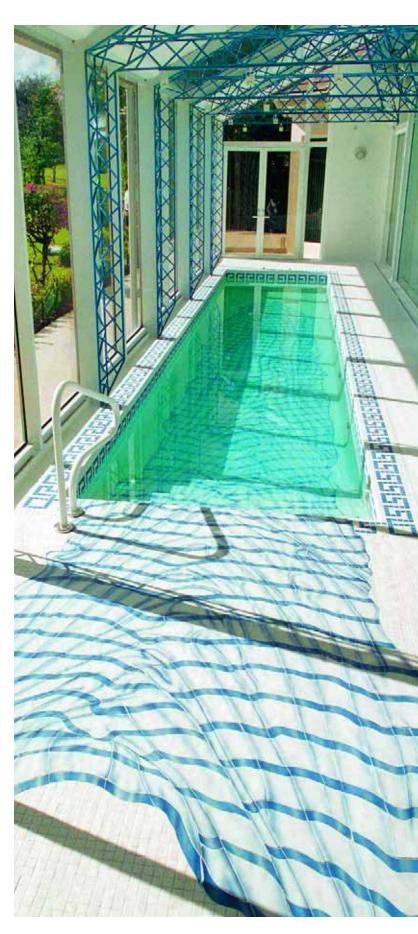
As a result, our process in the studio is relatively straightforward, albeit on a large scale. We roll out large sheets of clay and begin by outlining the illustration's basic forms. To get full views, we work with scaffolding over the work so we can see it from different heights and guide the entire process with both the big picture and detailed views in mind.

Our artists will spend days sketching, sculpting, coloring and texturing the clay surface to generate the overall illustration. The details vary from project to project, and the various schedules for glazes and other materials are basically reinvented for every job.

Our company employs a variety of artists from a range of backgrounds, but they all share our desire to vest each project with forms and nuances we believe our customers won't find anywhere else. Make no mistake: This process can be extraordinarily involved, time-consuming and expensive, but we know it all must be just right from the client's perspective, so discussions, sketches, test pieces and sometimes total reworking of ideas is part of what we do.



This is a particularly unusual effect: The client wanted it to seem as though a large sheet of chiffon had draped itself across the deck and found its way into the pool. Translating a sense of three-dimensionality to a two-dimensionalsurface was, in this case, quite a challenge.





Our clients lead us to approach our tile art from a number of different directions, asking us to create wall panels for interior spaces, for example, or reproduce favorite photographs or create cosmic pool tapestries meant to be seen at their best from high above deck level.



#### **Just Right**

For all our determination to tackle as much work as we can, we're unabashed in presenting our work as just about the most exclusive option available in aquatic design.

Instead of working away from the subject of expense and the painstaking nature of the process, we've found success in offering art in water at its most expansive and on its most detailed lev-

el. We don't compromise: The bottom line is, when you aspire to work at this level of artistry there's no room for shortchanging the process.

None of that is to say that we won't tackle designs that are relatively small in size or comparatively simple in design. In fact, some of those more "ordinary" projects are quite beautiful and satisfying. And despite our tendency to pursue the wildly expressive, much of what we do is quite





subtle in appearance. What everything has in common is a design and manufacturing process that seeks to explore the ultimate expression of the clients' ideas, whatever they may be.

In some cases, our clients have told us that our tile work for their pools is the single element in their yards that visitors remember and that they themselves enjoy the most. That's terrific feedback: For my part, I take it as encouragement that tearing down boundaries is a true path to unveiling this ultimate form of satisfaction and excitement. As my parents taught us, there's no greater reward than seeing original and unrestrained art work its magic.





As watershape designs become increasingly creative and complex, the demand for more precise methods of engineering their structures has grown as well. To meet that need, observe Ron Lacher and Aaron Cowen of Pool Engineering, experts like them can now turn to advanced three-dimensional modeling technology – systems so sophisticated that they make it possible to develop plans for daring projects such as they one they describe here.

### Technica Darie

Bu Ron Lacher & Aaron Cowen

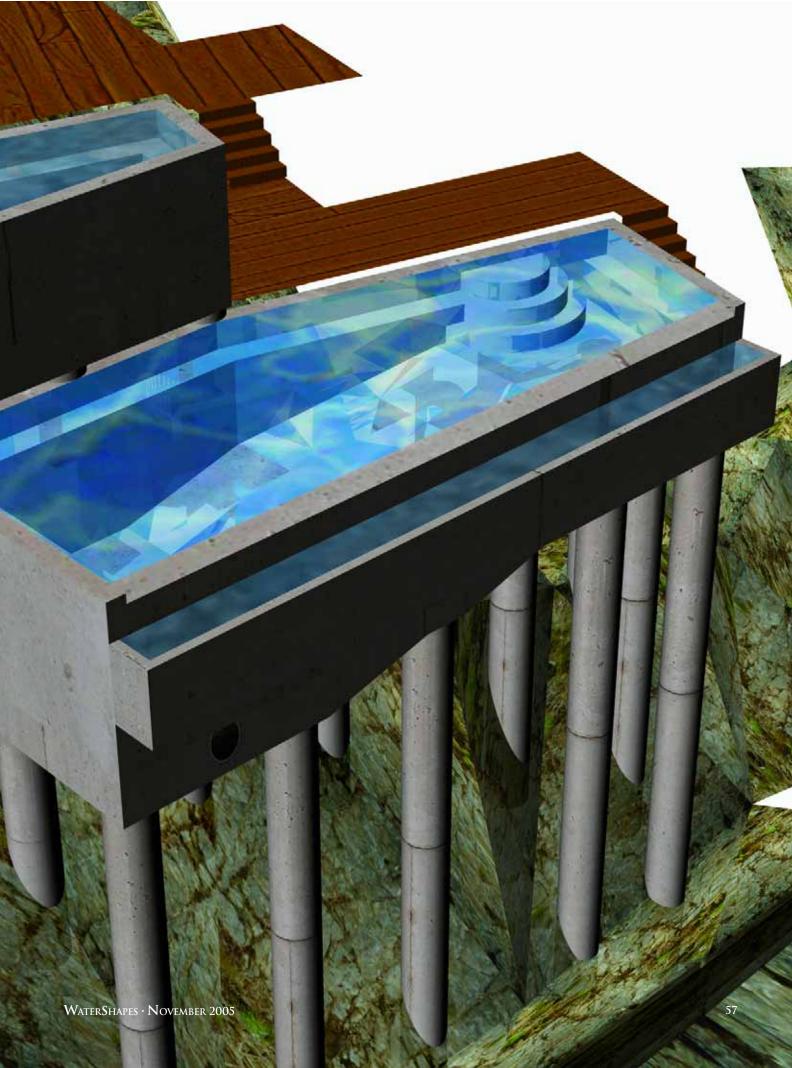
It's easily the most sophisticated watershape structure we've ever engineered.

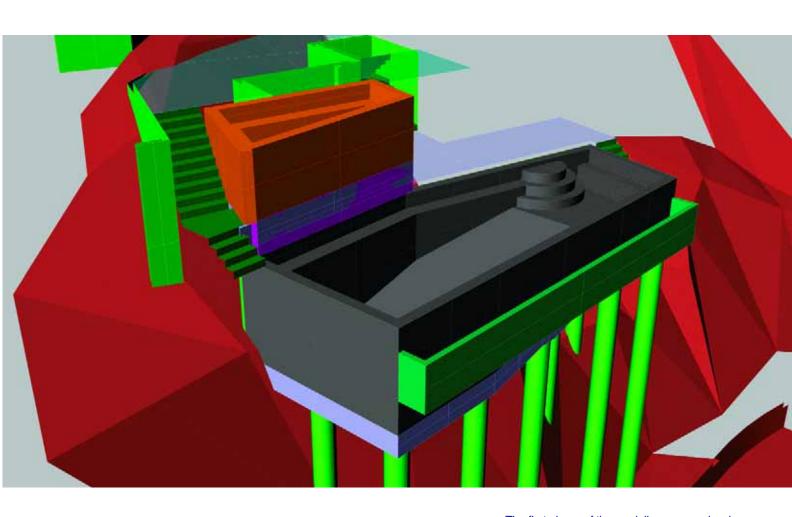
The pool/spa combination, not yet built, will rise some 50 feet above grade on a cliff behind a home in the densely populated Hollywood Hills near downtown Los Angeles. As conceived, the vanishing-edge pool will sit a full ten feet below the spa in a complex monolithic structure. Supporting the entire affair will be 18 exposed concrete columns on a friction-pile-and-grade-beam foundation that, from below, will look a lot more like a freeway overpass than a watershape.

The project is so tricky and the access so difficult that, in fact, we're uncertain it will ever be built. From our perspective as engineers, however, it's important to note that, even a few years ago, there was no method familiar to the pool and spa industry that would have allowed us even to dream about such a structure with much confidence.

For the past three years, however, our work at Pool Engineering of Anaheim, Calif., on behalf of designers and builders has been enhanced by advanced computer modeling technology. In the case of this project, we were forced to stretch our own technical capacity with this technology to all-new levels to design a structure that would not only bear up under its own weight, but also withstand the near certainty of a large earthquake.

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In a project such as this, there is simply no room for error.

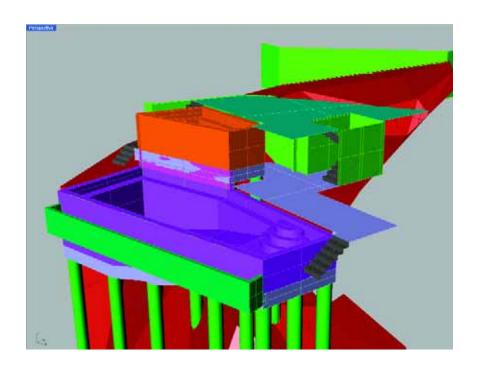
#### High Stakes

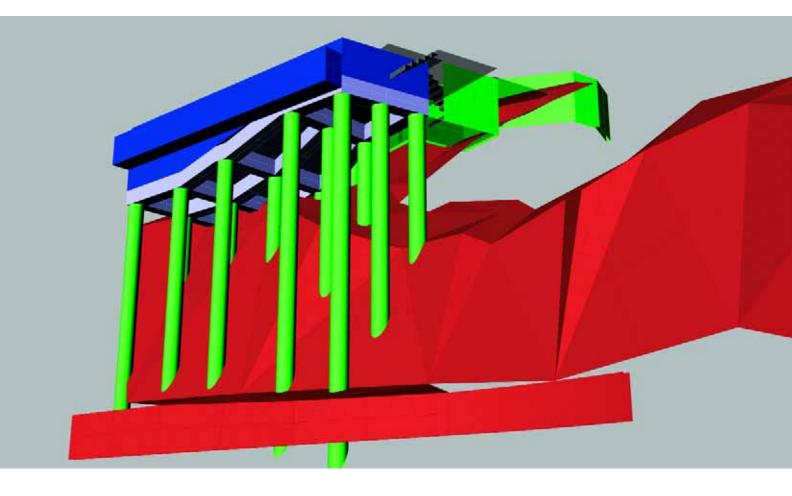
One key feature of this modeling technology is the fact that it lets us visualize entire structures in three dimensions. That's great, but the real value comes in the fact we're also able to run modeling programs that test a proposed structure against a range of structural stresses and forces that will influence its performance under a variety of conditions.

The programs we use perform literally millions of calculations that examine extremely small segments of a structure in exhausting detail. This enables us to see, in three dimensions, exactly where a structure will have the greatest chance of failure – thus allowing us to adjust the design to correct deficiencies in those areas.

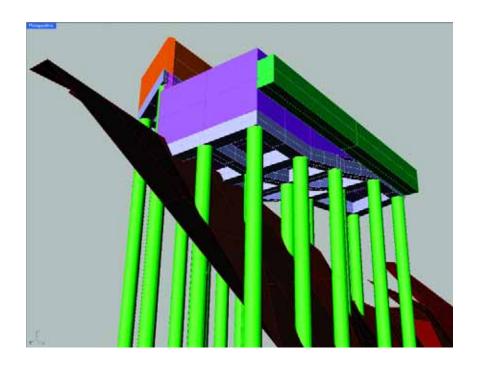
With a project of this complexity and apparent risk, this process is the only way we can determine where we stand and remove any guesswork that might have characterized the process had it been tack-

The first phase of the modeling process involves generation of a set of 'solid' structures in three dimensions, as extrapolated from drawings generated by the archi-





tects and contractors. The colors highlight different 'layers' of the composition and enable us to see things very clearly, even at this early stage.

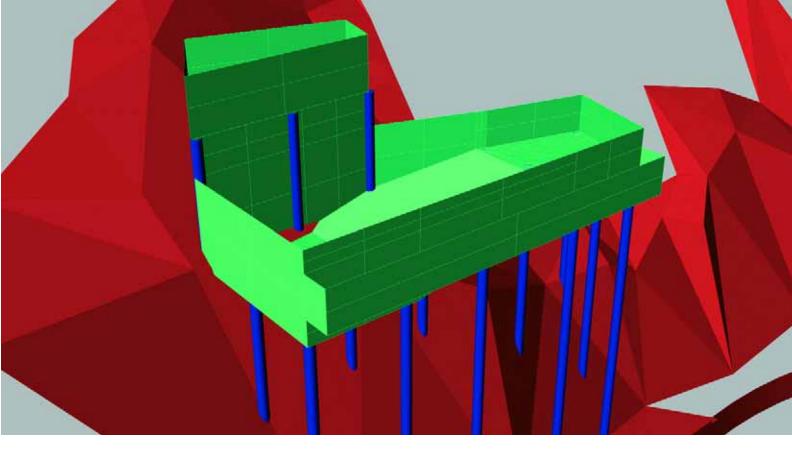


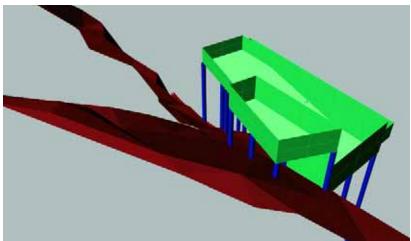
led with more conventional techniques.

The traditional design approach might simply have been to overbuild the entire structure and go way beyond what the building codes require. The problem with that approach is that, as you add weight to a suspended structure to overbuild it, you also increase demands on the foundation system required for its support. Things get even more complicated with a structure that's suspended high in the air and holds water.

As we've learned through our modeling analyses, certain areas in a structure – and it's often hard to anticipate exactly *which* areas – will experience the highest stress. Adding mass to a reinforced concrete structure in the process of exceeding code requirements will increase the stress on those areas and might actually increase chances of catastrophic failure rather than reduce them.

We don't believe in that sort of compensatory overkill. Experience shows that a properly, precisely designed structure will be the most reliable (and cost-effec-





In the second step of the modeling process, we produce a mid-line mesh based on the centerlines of walls and floors. This intermediate stage is critical: It gives us information on basic structures – and on dimensional planes that we feed into the next stage of the analysis.

tive) to build – and that's what we set out to deliver in approaching this project. For starters, we were required by building codes to calculate "hydrodynamic forces" – basically the forces exerted on the structure by the motion of water moving within it during an earthquake.

In this case, we ended up running 29 different loading combinations, each requiring a completely different set of calculations, to cover seismic events moving in a variety of directions as well as the impulsive and convective hydrodynamic forces. (The *impulsive* force refers to the effect of the water's mass being pushed; the *convective* force accounts for the sloshing of the water back and forth and how

water rising on one side and lowering on the other will influence the structure.)

In addition, we also had to calculate basic dead and hydrostatic loads; bending, axial and shear loads; soil-creep loads on the pilings; and a variety of combined scenarios – the full list of load analyses. If performed using traditional methods, making these calculations would have involved making lots of assumptions; that was not the case using finite-element-analysis technology.

#### Bit by Bit

Before running these calculations, however, we had to do quite a bit of research. We obtained documents from the Nuclear Regulatory Commission, for example, taking advantage of its extensive studies of concrete structures that contain the water for nuclear reactors. We also relied heavily on a publication from the Portland Cement Association, *Design of Liquid-Containing Concrete Structures for Earthquakes Forces*, which provides mathematical formulas that define input loadings for seismic stresses.

We also worked extensively with our software providers to establish protocols for calculations that would meet basic codes, and we modified major portions of the software to work with swimming pool structures, which are unique in a great many ways with respect to the challenge of structural engineering. In all, we amassed 80 pages of standard calculations in reference to specific codes.

Although most people (and even most watershapers) don't generally think of swimming pools as high-tech structures as compared to, say, nuclear reactors, in some respects our pools, spas and fountains can be more technically challenging.

In most industrial, military or commercial applications, large concrete structures are typically either rectilinear or round with flat bottoms and sides. By contrast, most swimming pools are composite shapes with varying depths and a variety of internal and external contours. For this project, we've had to examine *all* of the various dynamic forces section by section, which greatly complicated the entire design process.

We began our computer studies with a program called Rhinoceros 3D, to which we input basic design features as provided by the architects and contractors. This enabled us to generate a solid, three-dimensional model and let us "see" the structure from a variety of perspectives, estimate its basic mass properties and provide the basis for subsequent modeling iterations.

From there, we converted the results into a *mid-plane mesh*, which is basically a model that's based on all the centerlines of walls and floors. That model was then transferred into a second modeling program, this one called Algor, which broke the design down into *plates* (or finite elements).

The majority of the structural modeling and engineering calculations were carried out in a third program known as RISA 3D. This program provides more control over loading combinations and also performs specific reinforced-concrete design calculations for the beams and columns. The transfer of data between all three programs was performed with a special proprietary translating program designed by our inhouse computer-programming staff.

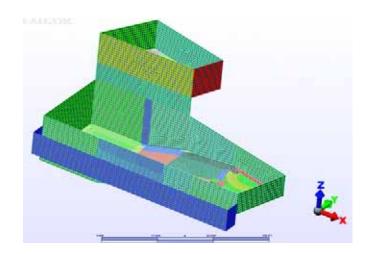
#### **Reinforcing Logic**

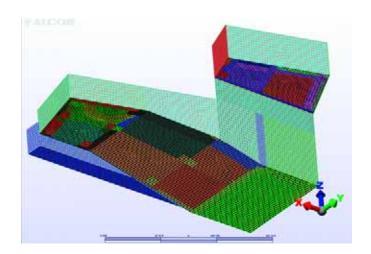
Collectively, this stage is where the bulk of the calculating took place.

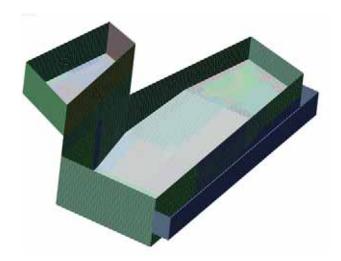
In this case, we generated tens of thousands of plates, each one roughly four inches by four inches and each one of which was run through thousands of specific calculations. (That size can be adjusted, but the smaller the elements, the vaster the number of calculations required generating the model. In our case, we actually pushed the processing capacity of the software and our computers. Had we used a finer mesh of plates, the demand for computing capacity would've gone way beyond what the software and our systems could have handled.)

There are so many variables in the modeling process that we double- and triple-check the process as a matter of habit by running various calculations using standard methods: In other words, we want to make certain that the loads we're seeing in the models match the outputs derived from basic formulas, because mistakes at one stage of the process will be exacerbated in subsequent stages.

Moreover, we were translating data between three programs that work in different units of measurement, so it was critical to be certain all of the mathematic translations were correct. Just consider the consequences of translating something from







The information available once the second step is complete is then transferred to the Algor program, which takes the midline information and generates information on individual 'plates' that are part of the structure, allowing each of these small units to be analyzed individually. The mesh is later transferred to the RISA program for the actual analysis.

inches to feet or inches to millimeters through a simple error: The cascade of errors that would flow from such a miscue could result in a design based on entirely erroneous data – not something to be desired.

The formulas and calculations are so complex and numerous, it would take literally hundreds of pages to describe even a portion of them. Indeed, with this project and all of its structural complexities, we've pushed the limits of our ability to use and master this technology.

Interestingly, the process has also reinforced in mathematical terms a range of theoretical assumptions engineers are taught in the classroom. In analyzing the loads on the caissons, for example, the system demonstrates that the greatest lateral stresses are placed on the shortest pilings near grade – in this case the columns right below the wall separating the pool from the spa.

Most people would assume that the

longest columns, some reaching 50 feet above grade, would experience the greatest stresses because they have the greatest spans. In fact, the opposite is true: Because shorter columns are less flexible than longer ones, they absorb far more of the shear force.

In this case, the modeling showed us stresses on the shortest columns that were several factors greater than those affecting the long ones. Thus, what was once something we understood only on a conceptual or theoretical basis has now been proved to us mathematically.

The process also can demonstrate where basic assumptions are wrong. In our earliest thinking about the caisson structure, for example, we thought that 24-inch diameters would be the solution. Once we got into the numerical analysis, however, we saw that 30-inch columns would be required as a result of the very high seismic loading from the mass of the water.

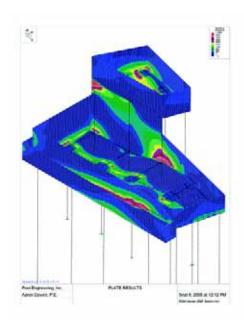
#### Hurdles to Come

Because the engineering plan is based on rectilinear geometry with planes intersecting corners, we also were able to recognize that most of the spots experiencing the greatest stress are located at corners where loads are transferred across perpendicular intersections. In other projects that have more rounded or free-form shapes, we would see an entirely different profile of major stress points.

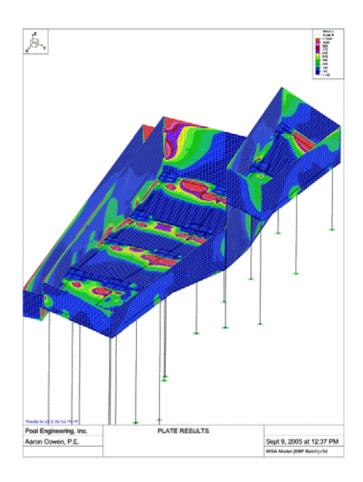
The significance of all this is that we can use the system's identification of points of high stress to design structural details that can accommodate those stresses. We'll use requirements for those critical areas as the basis for the steel and concrete structures we specify for the rest of the vessel.

This has practical implications as well: It makes sense to maintain relative uniformity in the steel schedules to reduce chances of confusing installers on site. After all, this sort of project is complicated and challenging enough all on its own.





When the RISA program completes its analytical calculations, we gain access to stress contour maps such as these in which colors are used to indicate structural stresses induced by a range of different seismic scenarios.





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To be sure, this project is unique in its structural requirements. Simple designs don't need this sort of attention, nor would they come close to justifying an investment in this level of analysis. In this case, the project gave us an opportunity to explore the uses of this technology in a real-world situation – and we welcomed that opportunity.

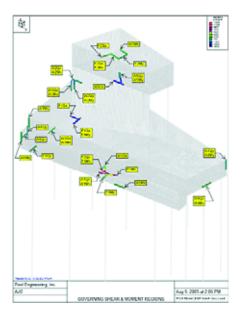
We're confident that when this project breaks ground and the support structure and vessels rise above the hillside, the contractor will be working with reliable plans that, if executed as specified, will result in a structurally sound installation.

Naturally, on-site supervision is crucial to ensure that the plans are actually executed to the necessary level of detail. We know that when the work begins, we'll stop by and visit the site repeatedly to observe how the design is playing out in the field with respect to installation.

That's an entirely separate story from what's happened so far in the precise realm of plate analysis. This site offers incredible challenges with respect to access, and it's immeasurably difficult to work on such steep grades. At this point, construction may require the steel structures for the pilings to be fabricated off site and flown in by helicopter – and that's just the beginning of the practical hurdles that would confront any contractor charged with bringing this plan to fruition.

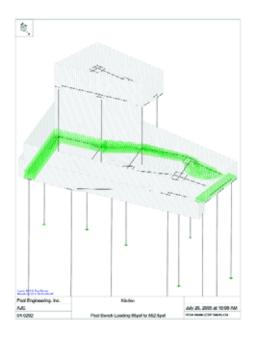
Even if the challenges prove too great and the watershape is never built, the background process of designing the structure has proved invaluable to our firm. We've learned so much about both computer technology and our own assumptions about structural engineering calculations and design, and we know this knowledge base will transfer over to other projects.

From our perspective, however, our firmest conviction is that what we've seen on this project is a glimpse into the future of watershape design.

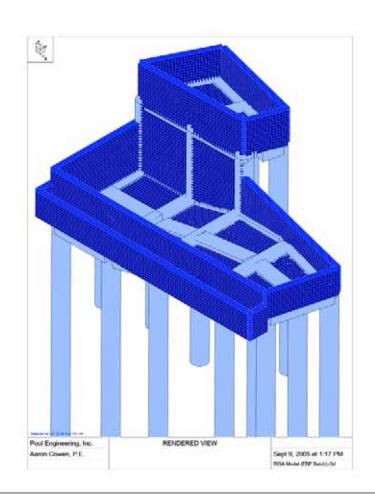




Circle 103 on Postage Free Card



Our modeling is completed by using the RISA program to generate very specific information we can use to get a handle on loading combinations for the overall structure and to generate specific information about the reinforced-concrete structures of the beams and columns.





Circle 62 on Postage Free Card

## coordinate

Working together for the first time, designer Stephanie Rose and builder Randy Beard became quickly and closely allied in their effort to complete a challenging project for extremely particular clients – a couple who, from concept to construction, also became key collaborators in the project. The result is a contemporary composition that blends an understated watershape and tasteful plantings with an outstanding collection of modern art.

by stephanie rose

CISO

In a word, the project pictured in these pages is about the power and value of collaboration.

I was originally called in to consult on the planting design for a backyard in need of remodeling. A couple of months into the process, the clients informed me that they hated their existing pool and asked me if I knew of a pool contractor named Randy Beard, who had worked with them previously on another of their residences. I offered to contact Beard and discuss the project with him: We had known about each other for years, mostly through *WaterShapes* columns and articles, but to that point we'd never had the opportunity to work together.

The clients had said they wanted to remove the spa from the pool and perhaps raise it to create a spillway into the pool. Beard and I quickly came to the same conclusion: Revamping the pool would neither be cost-effective nor would it achieve the outcome the clients desired. Pointed discussions and budget reviews led to the determination that the existing pool/spa combination should be abandoned in favor of something that worked better to generate a sense of space, greater functionality and enhanced aesthetic appeal.

Although we didn't set out to tackle the project as a team, Beard and I wound up working hand in glove with a synergy that was valuable to both of us – especially in approaching a complex project for most particular clients.

#### an exterior gallery

Coordination was the key, but experience played its part, too, as Beard had worked with the couple before on a similarly complex project at another of their homes. We knew going in that these clients demanded quality in all aspects of the project and that they understood what that meant with respect to budget.

From the design standpoint, the fact that they were interested in obtaining *exactly* what they wanted opened up the process to a huge range of possibilities and a number of detailed discussions. They were quick to dismiss ideas they didn't like and weren't particularly hasty in committing to those they did. Given Beard's experience with them, we were ready for this sort of give and take.

It was immediately apparent that they liked having options for everything from big ideas about the basic layout to the specifics of material selections and small hardscape and landscape details.

In other words, the design process *evolved* and indeed continued to do so through various construction phases. I knew from the outset that the clients were focused on art and the paintings and sculptures that filled their homes, for example, but as I became more familiar with them, I saw that their lives really did revolve around art and that what they wanted most was to put it on display.



One of the first things we talked about was incorporating a sculpture by the modern abstract artist, Guy Dill, who had created a concrete and steel piece they'd placed in another of their homes. During the construction process, Dill suggested that the piece would work better in this setting if redone in marble and stainless steel.

I suggested placing this sculpture over a functional swimming pool that would effectively double as a reflecting pool, an idea that immediately appealed to the clients. They also showed me a photograph of a kinetic sculpture by artist Bruce Stillman – another piece they wanted to put on display outdoors.

Through this stretch of the process, I became acquainted with the remarkable art collection they had on display inside the home, including pieces by Andy Warhol and other prominent modern artists. With this piece of the puzzle falling into place, the basic design began to come together.

#### all decisions were driven by a perceived need to support the artwork and increase the functionality of the yard.

#### setting a course

It had taken us months of ongoing discussions to get to the point at which I finally presented the clients with a program for their exterior spaces. I had settled on the thought that the exteriors should act as a functional extension of the art-centered interior spaces and would serve as a setting for artwork – a sort of outdoor gallery.

From that point on, all decisions were driven by a perceived need to support the artwork and increase the functionality of the yard.

But there was a challenge here: While the artwork to be displayed all had a distinctly modern look and feel, the home itself was basically a traditional Cape Cod in style. Going with a sleek, minimal exterior design would harmonize with the artwork but conflict with the house. By the same token, had we headed toward a classic design for the pool, the artwork would have seemed out of place.

This concern over direction evaporated as I became more familiar with the scope and nature of their art collection. It was so dominant inside, and the art slated for use outdoors was so striking that a scheme featuring an ultra-contempo-

rary watershape and landscape design coordinated with views from inside the home emerged as the best visual solution.

The program now included a water-shape that would serve as a reflecting pool while being fully functional for use by the clients' grandchildren and their dogs. It was to work with Dill's striking sculpture, and the plantings were to provide medium-green, nearly uniform backdrops for the artwork – like an art gallery's walls.

When we arrived, the existing yard was about 180 degrees from that direction: The space was dominated by a humdrum swimming pool, and there were raised planters for two big trees – one a Japanese maple, the other a sycamore. Both were mature and quite lovely, but the planters sliced off a third of the backyard space and established a grade that flooded toward the back and was killing a ficus hedge that lined the back of the property.

The pool had to be demolished and the space entirely re-graded while keeping the existing grade around the trees. To accommodate the trees, we built a raised wooden deck that masked the fact that the trees had been planted on different

grades from each other and the rest of the yard. The deck would also serve to extend the usable space in the yard and provide a comfortable spot shaded by the trees and overlooking the pool.

#### unusual details

The yard wasn't quite square across the back line of the property, so while the pool appears to be rectangular, it is actually a rhomboid offset at one end by about 18 inches. The pool is 33 feet long by roughly 17 feet wide and between 3-1/2 and 7-1/2 feet deep. A set of broad steps extends the full width of the pool on the side adjacent to the deck (which helps them visually disappear under the water), while a pedestal supporting the Dill sculpture is located inside the pool along the far wall.

The spa is on the opposite side of the pool from the steps and is unusual in shape: It extends the full width of the pool but is only six feet wide. The atypical configuration prevents any visual disruption in the appearance of the overall structure. (To get the spa seating just right, we placed a chair in the "spa" when we excavated the area and had the clients sit in it so we

Continued on page 71





We reworked the approach to the home, guiding visitors on an indirect path to the front door. The structure itself is a traditional Cape Cod, so we used the sleek verticality of the vases to begin a transition to a more contemporary space. Through the open door, you immediately catch a glimpse of a large sculpture out back, which continues to loom large as you pass through a long hall filled with contemporary art. By the time you reach the door leading into the backyard, the transition from past to modern styles is complete.







The large marble-and-steel sculpture seems to dominate while you're inside the house, but it becomes a component in a larger composition once you move out to the backyard. The views of Guy Dill's piece are fantastic from any angle, day or night, with great reflections reaching all the way out to the sharp visual edge of the perimeter-overflow pool in virtually any light.







70

We wanted visitors to get a glimpse of the sculpture as they entered the house as a means of drawing them to the backyard.

#### dark beauty

Working to create a dramatic reflecting pool, designer Stephanie Rose asked us to develop a jet-black plaster finish – and it turned out to be the darkest I've ever installed.

The plaster is a custom blend of black ColorQuartz aggregate from 3M (St. Paul, Minn.) in a black-dyed plaster matrix that we blended with a special anti-cracking material to prevent calcium bleed and nodule development through the life of the surface.

As anyone who's worked with dark plaster knows, it's one thing to mix and install the finish and quite another to start it up so that the color holds. In this case, any trace of calcium-carbonate plaster dust from the start-up process adhered to the surface would ruin the appearance.

To prevent problems, we used a start-up method recommended by chemistry expert and consultant Randy Dukes. We started with a traditional approach and let things run for 60 days, during which time a small amount of calcium deposition occurred on the surface.

Next, we dropped the total alkalinity and pH to immeasurably low levels to dissolve the plaster dust. We then drained the pool, removing the calcium-saturated water, and quickly refilled it, balancing the chemistry as the vessel filled. When we were done, we were thrilled to see the plaster was a remarkably uniform black.

In a dark pool such as this, it's also critical to be sure than none of the interior fittings disrupt the look. This was a simple matter of selecting black anti-vortex main drain covers. (We always install split main drains to avoid the risk of entrapment.) We also painted the inside of the return lines black so that no white PVC would be visible.

- Randy Beard

could adjust the height and width of the benches to accommodate them.)

The pool decking consists of irregularly set bluestone provided by Malibu Stone of Malibu, Calif. The colors harmonize with those of the house in ways that soften the sense of stylistic differences. The same material was used for a stacked ledger detail on the outdoor cooking area located at the entrance to the side yard by the wooden deck.

The pool also features a flamed blackgranite coping or interior ledge that blends beautifully with the pool's black plaster, works well with the bluestone and provides a necessary non-slip surface around the perimeter of the pool.

Given the fact that the design was to focus on the Dill sculpture, we spent a considerable amount of time working through possible placements. In fact, no fewer than six meetings were devoted mainly to this subject, and we all knew the decision had to be both well-considered and final because the pedestal was to be part of the pool's structure.

We wanted visitors to get a glimpse of the sculpture as they entered the house as a means of drawing them to the backyard. To ease the placement process, I developed a full-scale template for the basic pieces of the sculpture and moved it along the far side of the pool so the clients could pick a precise location.

Again, it was all about visually linking interior and exterior spaces: This placement worked to everyone's satisfaction and construction began in earnest.

#### finishing touches

The surface of the pedestal falls an inch below the water's surface and is also finished with a black granite top. The sculpture is mounted on three small granite disks concealed beneath the piece's footprint and is secured with threaded stainless steel pins sealed with epoxy. The effect is that the disks disappear, leaving the sculpture to float on the surface of the dark water.

The kinetic Stillman sculpture is located on the south end of the yard, opposite the raised wooden deck in a small lawn area. Although it isn't close enough to the pool to be reflected on the water's surface,

Continued on page 73

The construction project involved a delicate, precise balancing of visuals and practicality, as in the appearance and functioning of the perimeter-overflow system as well as our effort to hide the lid of the surge tank under a steppingstone (it's the closest one in the image, by the way) and in establishing a functional spillway level for the spa without passing more than the faintest of ripples – just visible in the photograph – into the reflecting pool.

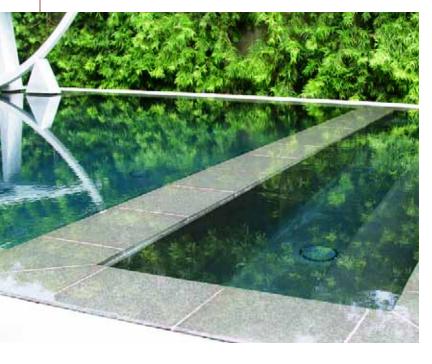
#### flowing over

The swimming pool and spa described in the accompanying text are fitted with a slot-overflow detail that encompasses the watershape's entire perimeter. We knew, given the fact that Stephanie Rose's design was meant to provide a seamless, reflecting-pool effect, that the appearance and function of the overflow system was critical.

The water flows over a flamed granite coping and into a half-inch slot. It then flows by gravity along a formed gutter to feed a six-inch plumbing loop that drops into an eight-foot-cube surge tank buried beneath stepping pads that lead to the side yard and the equipment pad. We didn't want the access to the tank to be visually disruptive in the relatively small space, so we placed it so one of the stepping pads is lifted to reveal the tank's hatch.

As with all perimeter slot-overflow systems, precision leveling was a key to success. Using water levels, our masons hit the mark dead on. This was especially tricky with the spa: To maintain a sense that the entire pool was a monolithic reflecting surface, the spas overflow is a mere 1/64th of an inch above the surface of the pool and all but vanishes when you look across the water.

- R. B.







72

its movements draw the eye across the pool and the lawn during relaxing moments on the deck.

The planting plan in this outdoorgallery treatment is very simple – mostly medium to dark evergreen plants with little variation in texture. While it blends with the minimalist goals of the setting, it also has a subtle East Coast style that harmonizes with the home's architecture.

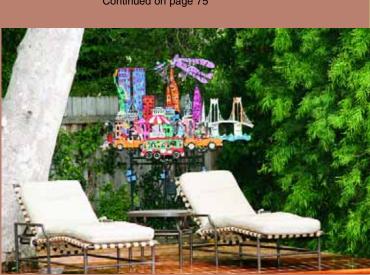
Across the back, we removed the Ficus hedge and its invasive roots, replacing it with a line of Podocarpus. On the side of the yard just behind the Stillman piece, we set up a wall of Mexican Weeping Bamboo, which has a soft texture and makes beautiful rustling sounds as it moves in the wind behind the kinetic sculpture. We also placed a pair of Mayten trees on each side of the Stillman piece as a soft, subtle frame.

To soften the appearance of the house's foundation, I planted a line of Roses, Pittosporum, Heliotrope and Stipa grass. Keeping this area simple and only using whites, greens and purples was critical to maintaining the gallery feeling while subtly blending the yard into the structure. These particular plants also appear in the front yard, tying the two areas together.

On the opposite side, we lightened the redwood decking with a straw-colored

Continued on page 75

Keeping the house foundation area simple and only using whites, greens and purples was critical to maintaining the gallery feeling.





The yard is large enough to hold several art pieces, but in keeping with the minimalist spirit of the space, there are just two others in addition to the Guy Dill piece floating in the pool: a colorful urban landscape by Fred Prescott on a corner of the wooden deck and, on the opposite end of the yard, an amazing kinetic sculpture by Bruce Stillman.

## silent running

Locating the equipment for this project was complicated by the fact that local codes in crowded (but highly affluent) Santa Monica Canyon impose rigid noise restrictions.

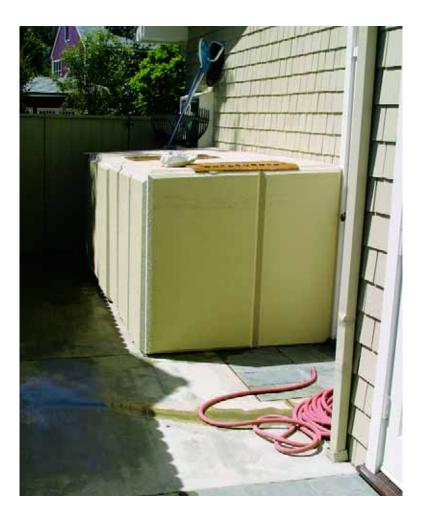
We had to get permission from the next-door neighbors to place the equipment in the side yard, for example, and even then we needed to use some form of noise control. We turned to a sound-deadening panel system made by Quiet Enclosures (Garden Grove, Calif.). Where normally a pool/spa system such as this generates sound in the 60-to-65-decibel range, these enclosures, which also look reasonably attractive, let us knock that down to 30 to 40 decibels.

Proper sizing and selection of pumps was critical as well, not only to minimize noise but also to increase hydraulic efficiency. In this case, the primary circulation system runs on a half-horsepower WhisperFlo pump (Pentair Water Pool & Spa, Sanford, N.C.) with a pair of two-horsepower pumps for the slot overflow system and the spa. We also use diatomaceous earth filters by Jandy (Petaluma, Calif.) – one for the spa and the other for the pool – along with Jandy's valves and its control system. The set is rounded out by a small heater from Sta-Rite (Delavan, Wis.) chosen for its small, modular design.

Proper plumbing size is also crucial in generating a whispering, smooth-running perimeter-overflow system. In this case, we upsized the plumbing with four-inch lines from the surge tank to the equipment pad, using two-inch return lines to feed a balanced loop of returns.

-R.B.

Our ability to control noise from the equipment pad was helped greatly by use of this enclosing structure, which obviated the usual concerns about the appearance of the equipment pad while reducing its noise by about half thanks to a surround made of well-insulated panels.





stain that picks up some of the architectural woodwork on the exterior of the home. We wanted the deck to look as though it had been there a while, so we applied just one coat of stain to allow the wood's grain and imperfections to show through.

Finally, in the front yard, we picked up some stone details as well as the same basic planting scheme, so now the aesthetic treatments flow through the entire space, both front and back.

The upshot of the months of meetings, countless side discussions, research and construction is a space that satisfies a complex set of needs. Most important, it has left our clients pleased with the outcome.

## seeing through

It bears mentioning that these clients are not the type of people who dispense praise or easily give pats on the back. Actually, we've yet to hear much in the way of comments or praise. They both focused on what we were doing and at no time eased the pressure.

The clients were so attentive to detail and so utterly involved in every decision that we knew, once we nailed down a detail in concept, we could move forward with confidence.

Satisfying their needs was made possible through dynamic teamwork and diligence that enabled Randy Beard and me to withstand the scrutiny, questions and criticisms while completing a project that works not only functionally, but also aesthetically.





## project reinforcement

As Stephanie Rose describes in the accompanying article, executing this project required tight coordination between her design work and on-site managing of the landscape installation and our work in developing construction details and building the pool and spa.

In our experience, these collaborations work best with a hands-on designer – and specifically one who is familiar with the construction process. Rose was right on target here: She was on board every step of the way and did a great job of "running point" with the clients.

There are countless details we can point to that resulted from step-by-step coordination. In fact, we worked so closely together that, from the clients' perspective, we offered a unified front. In other words, we looked out for one another, which made our lives easier and gave the clients confidence that the design and construction processes were fully synchronized.

In projects with absentee designers, the process is always more difficult and unpredictable. If this particular project had been run that way, I would have been left to make many aesthetic decisions on my own – and I know from experience that making those sorts of decisions in a vacuum is risky at best.

In a case like this, however, where the designer, contractor and clients are in constant and coordinated contact, those decisions proceed with confidence – and everyone in the loop stands to be satisfied with the outcome.

-R.B.

One of the challenges in our on-site efforts was the need to work with and around two large, mature trees. As can be seen in the image with the deck under construction, the trees had been planted on different levels – neither of which matched the grade set for the rest of the reworked yard. To even things out, we installed a wooden deck that lends a consistent elevation to its end of the yard, leaves plenty of room for tree growth and serves as a great platform for entertaining and taking in views of the backyard galley.

The following information has been provided to WaterShapes by product suppliers. To find out how to contact these companies, look for the Product Information Card located on page 84.

## LANDSCAPE DESIGN SOFTWARE

#### Circle 135 on Reader Service Card



GARDEN GRAPHICS now offers an updated version of its DynaSCAPE software. Compatible with AutoCAD 2006, AutoCAD Land Desktop 2006 and more, the new version includes a list of professional symbols, a symbol manager, a

clustering tool, intelligent soft- and hardscape labeling tools and extensive images and information on plants for use in various garden settings. **Garden Graphics**, Burlington, Ontario, Canada.

## TILE MURALS

#### Circle 136 on Reader Service Card

AGAPE TILE specializes in custom and standard mosaic murals that either reproduce famous works of art or involve original designs. Each installation is tailored to client needs with respect to color, size and subject and may include



a wide range of standard and custom materials, such as fine gemstones, shell tiles, Venetian glass, polished byzantine stone and kiln-fired, permanent-process tile. **Agape Tile**, Albemarle, NC.

#### LANDSCAPE LIGHTING

#### Circle 137 on Reader Service Card



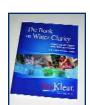
RSL PROFESSIONAL LANDSCAPE LIGHTING has introduced Apollo, a stylish, low-voltage floodlight in cast aluminum or cast brass. The fixture's 3-3/4-inch diameter allows air to circulate around the lamp, resulting in cooler operation, better performance and extended lamp life. It also has a shroud that rotates to provide shielded light where needed. **RSL** 

Professional Landscape Lighting, Chatsworth, CA.

## WATER CLARITY TEXT

#### Circle 138 on Reader Service Card

SEAKLEAR has published a comprehensive book on water clarity – a how-to reference that defines ways to attain clean, clear swimming pool and spa water. Written by industry veteran Terry Arko, the 72-page book is set up in a problem/solution format, provides scientific explanations for the causes of water problems and moves step by step through chemical and physical issues. **SeaKlear**, Redmond, WA.



# Horiz 1/2

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February 13 3rd Annual Golf Classic

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February 14 Demo Breakfast Spouse/Guest Tour Educational Seminars Keynote Speaker

Annual Auction Exhibitors Reception

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## OF INTEREST

## POOL/SPA MOTORS

#### Circle 143 on Reader Service Card



EMERSON MOTOR TECHNOLOGIES has introduced a new line of single and two-speed. two-compartment C-flange and square flange pool and spa motors. Available in 1/2 through 1-1/2 horsepower versions, the motors have

an integrated voltage-change device that eliminates the need to move leads or plugs and an angled terminal board for greater visibility and easy wiring access. Emerson Motor Technologies, St. Louis, MO.

## ARTIFICIAL-ROCK WATERFALL

#### Circle 144 on Reader Service Card

POOLROCK.COM has introduced the Chevenne Falls waterfall, an easy-to-install artificial-rock composition that weighs only 500 pounds fully assembled. Consisting of three lightweight, molded sections that can easily be moved through backyard gates, the structure has three weirs in addi-



tion to a whitewater effect and is made of a super-tough, UV-stable composite that comes in four standard colors. PoolRock.com, Tucson, AZ.

## FISH GUIDE

#### Circle 145 on Reader Service Card



AQUASCAPE DESIGNS has published Contractors' and Retailers' Guide to Pond Fish, a full-color, spiral-bound book that features information on fish care, types of fish, diseases and treatments, waterquality issues and more. The book was written by two experts - one a veterinarian specializing in koi health, the other a pond specialist - and includes

charts that summarize key points as well as a reference guide. Aquascape Designs, Batavia, IL.

## POOL/SPA DESIGN SOFTWARE

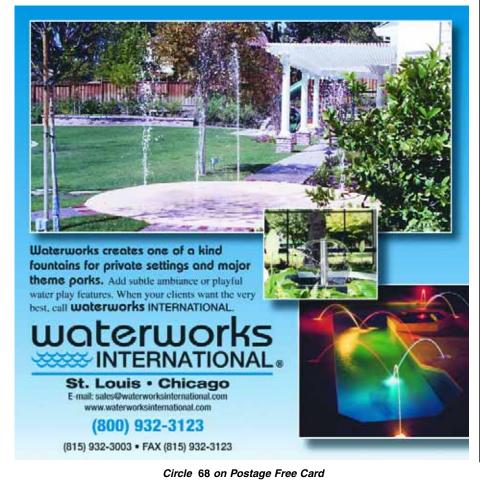
#### Circle 146 on Reader Service Card

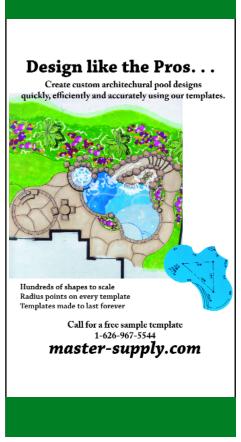
POOL DESIGN SOFTWARE has released an upgraded version of its SplashWorks program. Developed specifically for pool contractors and designers, the site-planning software is designed for ease of use, can import AutoCAD files, display images and provide access to more than 1,000 pre-



drawn pools, 140 hatch-fill patterns, 260 plant templates and a range of new design tools. Pool Design Software, Jensen Beach, FL.

Continued on page 80





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BOBCAT offers the Model 323 compact excavator. Designed to enable contractors to reach farther and dig faster with minimal repositioning, the excavator's two-speed travel motors and hydraulic system provide increased travel speed

and improved digging control. The unit has a digging depth of 7-1/2 feet and a maximum reach of nearly 13 feet at ground level for placing of spoils at greater distance. **Bobcat**, West Fargo, ND.

## **RETAINING-WALL SYSTEM**

#### Circle 148 on Reader Service Card

REDI-ROCK INT'L offers a modular retaining wall system with units that have nearly six square feet of exposed face and the appearance of natural rock. The natural-rock appearance enhances aesthetics, while the massive scale of the indi-



vidual blocks (with each weighing about a ton) allows for a fast, easy, and efficient installation process with stable gravity walls up to 13-1/2 feet tall. **Redi-Rock Int'l**, Charlevoix, MI.

## QUICK-CHANGE SPRAYER HOUSING

#### Circle 149 on Reader Service Card



RAIN DROP PRODUCTS has introduced OmniPod, an inground component that facilitates changes in waterplay features above and below the surface. Contractor-friendly and engineered for use with low-maintenance spray features, the unit installs flush to the

ground and features rustproof polymer components and a leak-proof internal gasket that virtually eliminates all sealing problems. **Rain Drop Products,** Ashland, OH.

## **ADA-COMPLIANT RAILS**

#### Circle 150 on Reader Service Card

S.R. SMITH offers pool and spa ladders and rails with outside diameters of 1-1/2 inches to meet new ADA requirements. All are made with 304 or 316-L stainless steel with a 600-grit finish that resists corrosion. The rails and ladders are also avail-



able with 1.9-inch outside diameters, and all products can be ordered with powder-coating for added corrosion resistance and aesthetic appeal. **S.R. Smith**, Canby, OR. Continued on page 82



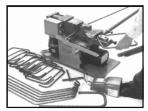


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Come spend five days and nights with world-renowned lighting designer Janet Lennox Moyer and associates to learn all about the art of lighting exterior space. Structured to familiarize participants with years needed to develop and achieve a number of letting effects in Oeir own projects, the intensive god am wilk into de technical information and an introduction to transford to hands-on exploration of lighting techniques. The school will be held at the exclusive Hyatt Regency Scottsdale Resort & Spa at Gainey Ranch in the Sonoran Desert. Program cost includes accommodations for six nights, meals and course materials.

## Intensive 20-Hour Design Courses

"Elements of Design" April 5-6, 2006 Orlando, Florida

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"The Vocabulary of Architecture & Style"
April 19-20, 2006
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"Basic Color Theory" April 21-22, 2006 Manhattan Beach, California

Please contact our office for registration details.



Pool & Watershape Construction School February 6-8, 2006

> Orlando, Florida Program Cost: \$1,950

In keeping with our mission of advancing education on a global level, we are pleased to offer yet another of our Genesis 3 Pool & Watershape Construction Schools as the latest component in our design-certification program. The school's curriculum covers plan review, excavation, layout, soil and drainage, steel placement, plumbing, utilities, gunite, tile and coping, decks and drainage, remote controls, automation, plaster and start-up — with top-flight tradespeople, designers and engineers from the industry as instructors. The school will be held at the Renaissance Orlando Hotel (near the airport). Program cost includes accommodations for three nights, meals and course materials.



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## PINNED RETAINING WALLS

#### Circle 151 on Reader Service Card



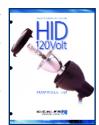
VERSA-LOK RETAINING WALL SYSTEMS offers solid, pinned segmental retaining wall systems that offer great design flexibility along with ease of installation. Available in standard split-face and weathered textures, the system allows for creation of corners, curves, columns, stairs, terraces and more - includ-

ing construction of stable walls to heights of 50 feet or taller. Versa-Lok Retaining Wall Systems, Oakdale, MN.

## LANDSCAPE-LIGHTING CATALOG

#### Circle 152 on Reader Service Card

KICHLER LANDSCAPE LIGHTING has published a new Professional Line catalog on its 120-volt HID lighting systems. The 40-page, full-color booklet describes the company's brass and copper fixtures and covers accent, well, ballast, path and spread lights along with installation details, accessories, photometric tables, a lamp guide, a technical glossary and more. Kichler Landscape Lighting, Cleveland, OH.



## WIRELESS REMOTE

## Circle 153 on Reader Service Card



JANDY has introduced AguaLink PDA – Pool Digital Assistant, a wireless control system for pools and spas. The device, which features a water-resistant, hand-held remote with a backlit display for nighttime use, is available in five models and controls the filter pump, heater, solar heater, lighting and up to 7 auxiliary circuits.

It also interfaces with the company's chlorine generators and digital lights. Jandy, Petaluma, CA.

## **EVAPORATIVE COOLERS**

#### Circle 154 on Reader Service Card

INTELLICOOL offers self-contained evaporative coolers designed for outdoor use. Hot air is drawn into the cooler's bottom, where flash-evaporation occurs. The cooled air then passes through moisture eliminators before moving to the louvered discharge head. The quiet-running, cast-aluminum, powder-coated units come in three finish colors and cool the air by up to 25 degrees. IntelliCool, Richardson, TX.





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## COMPACT EXCAVATOR

## **RETAINING-WALL SYSTEM**

#### Circle 147 on Reader Service Card

## Circle 148 on Reader Service Card



BOBCAT offers the Model 323 compact excavator. Designed to enable contractors to reach farther and dig faster with minimal repositioning, the excavator's two-speed travel motors and hydraulic system provide increased travel speed

and improved digging control. The unit has a digging depth of 7-1/2 feet and a maximum reach of nearly 13 feet at ground level for placing of spoils at greater distance. **Bobcat**, West Fargo, ND.

REDI-ROCK INT'L offers a modular retaining wall system with units that have nearly six square feet of exposed face and the appearance of natural rock. The natural-rock appearance enhances aesthetics, while the massive scale of the indi-



vidual blocks (with each weighing about a ton) allows for a fast, easy, and efficient installation process with stable gravity walls up to 13-1/2 feet tall. **Redi-Rock Int'l**, Charlevoix, MI.

## QUICK-CHANGE SPRAYER HOUSING

#### Circle 149 on Reader Service Card



RAIN DROP PRODUCTS has introduced OmniPod, an inground component that facilitates changes in waterplay features above and below the surface. Contractor-friendly and engineered for use with low-maintenance spray features, the unit installs flush to the

ground and features rustproof polymer components and a leak-proof internal gasket that virtually eliminates all sealing problems. **Rain Drop Products**, Ashland, OH.

## **ADA-COMPLIANT RAILS**

#### Circle I50 on Reader Service Card

S.R. SMITH offers pool and spa ladders and rails with outside diameters of 1-1/2 inches to meet new ADA requirements. All are made with 304 or 316-L stainless steel with a 600-grit finish that resists corrosion. The rails and ladders are also avail-



able with 1.9-inch outside diameters, and all products can be ordered with powder-coating for added corrosion resistance and aesthetic appeal. **S.R. Smith**, Canby, OR.

# Horiz 1/2

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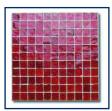
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## OF INTEREST

## **RED GLASS TILE**

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OCEANSIDE GLASSTILE has introduced Red #777 to its Tessera line of 1-inch mosaic glass tiles. The translucent red tile has a glossy finish and a gem-like color and is designed to provide the perfect tone-and-texture contrast to more subdued materials, including natural stone, cork and wood. The Tessera line also

includes border treatments as well as a full range of trim pieces. **Oceanside Glasstile**, Carlsbad, CA.

## **LED STEP LIGHTS**

#### Circle 158 on Reader Service Card

BRONZELITE has introduced 3- and 5-watt versions of its brick-sized step lights. The WLA1/WLB1 LED series is energy efficient and long-lasting, with 70-percent lumen maintenance after 50,000 hours; comes with cast aluminum or brass faceplates; and features horizontal frosted lenses, horizontal louvers or vertical louvers. The lights are ADA-compliant



and can be used indoors or out. Bronzelite, Littlestown, PA.

## LIGHTED SPILLWAY POTS

#### Circle 159 on Reader Service Card



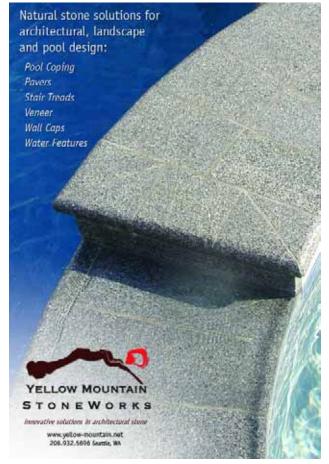
FIBERSTARS has introduced Lighted Spillway Pots. Lightweight, durable and resistant to freezing conditions, the pots are easy to handle and have been designed for easy installation with a simple water supply and conduit for the fiber. They come with a bronze-like patina and bring an elegant spillway look to any pool or spa. The package includes 45 feet of 50-strand fiber and a lighted bubbler. **Fiberstars**, Fremont, CA.

## SOLIDS-HANDLING PUMPS

#### Circle 160 on Reader Service Card

SAVIO ENGINEERING has introduced a new debris-tolerant, fish-safe line of Water Master solids-handling pumps. The latest addition to the line has an output of 5,000 gallons per minute, and other models are rated at 1,450, 2,050 and 3,600 gph. They can safely pass materials up to 1-1/2 inches in size and have an oil-free design that makes these pumps safe for fish and other wildlife. **Savio Engineering**, Santa Fe, NM.





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## **Brass Castings**

#### Circle 161 on Reader Service Card



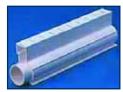
A & B ALUMINUM AND BRASS FOUNDRY offers a full line of brass castings for use in and around watershapes. Products include brass skimmer covers in 6-, 8- and 10-inch round configurations, square covers and grates in 5-, 8-, 10- and 12-inch configurations and round grates and drain covers in 6-

and 8-inch forms. Trench-drain covers and fountainheads are also available. **A & B Aluminum and Brass Foundry**, Dallas, TX.

## **DECK-DRAIN SYSTEM**

#### Circle 162 on Reader Service Card

QUAKER PLASTIC offers a 2-inch-square deck-drain system that is adaptable to standard 1-1/2-inch fittings. Available in black, gray, white or tan/sandstone to match most deck surfaces, the system allows for increased water flow. Its joints bond together the same



way as do PVC pipes, and the system also comes with a double-taped top for extra peeling strength after the concrete is placed. **Quaker Plastic**, Mountville, PA.

## WATER VAULTS

#### Circle 163 on Reader Service Card



PONDSWEEP MANUFACTURING offers Endless Cascades, a waterfall vault that allows for creation of simultaneous streams and falls in varying directions from single units. Individual units can be combined to construct waterfalls of any size or shape with a limitless number of streams and directions. The vault

also features a heavy-duty grate that will support statuary, stone or an overflowing vase. **PondSweep Manufacturing**, Yorkville, IL.

## GARDEN ACCESSORIES

#### Circle 164 on Reader Service Card

GARDENDANCE offers a line of garden torches, outdoor lighting, birdfeeders, hand-blown-glass hummingbird feeders and a variety of other accessories for outdoor rooms. Products include artist-designed stoneware torches made for outdoor use. Individually sculpted and hand-glazed, these pieces are kiln-fired to 2,200 degrees to ensure durability and long-lasting color-fastness. **Gardendance**, Hillsborough, NC.



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## ANTI-ENTRAPMENT DRAIN COVER

## Circle 165 on Reader Service Card



PENTAIR WATER POOL & SPA has introduced the XportDrain System, which provides a combination of cleaning efficiency and anti-entrapment safety protection. The funnel-shaped drain includes a secondary drain that prevents a vacuum from forming if the primary drain is covered or blocked,

and the housing has a shape and smoothness that prevents hair entrapment as well. **Pentair Water Pool & Spa**, Sanford, NC.

## NATURAL STONE

#### Circle 166 on Reader Service Card

KRC ROCK offers a variety of natural-stone products, including landscape boulders, flag and building stones, aggregates, decorative crushed rock, river rock, decomposed granite and a range of specialty stones. Design and selection services for interior and exterior projects are available,



as is a unique delivery and placement system that enables easy and artful handling of large boulders on site. **KRC Rock**, San Marcos, CA.

## AQUATIC PLANT FOOD

#### Circle 167 on Reader Service Card



JUNGLE LABORATORIES manufactures Aquatic Plant Food Tabs. Designed to feed potted pond plants for up to two weeks when inserted into an inch or two of soil, the tablets contain essential nutrition that keeps pond plants vibrant and thriving – and include low-level phosphates to hinder algae blooms. A special formulation

limits the potential for toxic buildup of heavy metals. **Jungle Laboratories**, Cibolo, TX.

#### SOFTWARE UPGRADE

#### Circle 168 on Reader Service Card

STRUCTURE STUDIOS offers an update for its Pool Studio software having to do with vanishing edges and use of raised or lowered elevations while eliminating many drawing constraints. The vanishing edges can have custom angles and either forward- or back-angled weirs, and there's an option that turns the wa-



ter flow on or off. The package also includes numerous landscape-library additions. **Structure Studios**, Las Vegas, NV.

# **QUIET ENCLOSURES**



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## ARTIFICIAL ROCKWORK

#### Circle 169 on Reader Service Card



**BACKYARD X-SCAPES offers Sculpture** Rock, a glass-fiber reinforced (GFR) artificial rock with the look and feel of real stone for use in commercial and residential applications. The comprehensive line includes boulders, rockscapes, stepping

stones, freestanding waterfalls and fountains, pool-edge waterfalls, benches, outdoor furnishings, accent items, garden statuary and more. Backyard X-Scapes, San Diego, CA.

## LANDSCAPE LIGHTING

#### Circle 170 on Reader Service Card

CAST LIGHTING has published literature on its line of solid-bronze landscape lights. The 44-page, full-color booklet defines the advantages of bronze in outdoor applications as an introduction to information on area and path lights, directional bullet fixtures and well, tree and deck lights. It also describes design-sup-



port services, installation, transformers and technical specifications. Cast Lighting, Hawthorne, NJ.

## POND/FOUNTAIN VACUUM

#### Circle 171 on Reader Service Card



ODYSSEY SYSTEMS has introduced Muck Vac. a tool for vacuuming ponds and fountains. Powered by the flow of water from a garden hose, the cleaner won't cause turbidity problems because muck, dirt and fish waste are cleared to waste outside the vessel. It operates at just 50 psi and comes complete with a power head, telescoping pole, waste hose, vacu-

um head and brush. Odvssev Systems. San Clemente. CA.

## ION PURIFIERS

#### Circle 172 on Reader Service Card

CAREFREE CLEARWATER offers the Model 1200 series of electrolytic ion generators for water purification in pools, spas and fountains. The systems release copper and silver ions into the water, where they destroy bacteria and algae without affecting water balance. The units can be retrofit or installed with new watershapes and feature larger, more efficient, self-cleaning anode assemblies. Carefree Clearwater, Cornelia, GA.



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## POOL-DESIGN TEMPLATES

#### Circle 173 on Reader Service Card



PARAMOUNT POOL & SPA SYSTEMS has introduced Liquid Studio Draw, a drawing-design template book and CD set. The set includes 130 pool and spa templates on acetate paper, and there's also a book of free-form layouts for tracing. The materi-

als are packaged in a lightweight carrying

case complete with a holder for pens, pencils and small measuring tools. **Paramount Pool & Spa Systems**, Tempe, AZ.

## **CD PLANT GUIDE**

#### Circle 174 on Reader Service Card

HORTICOPIA has released Horticopia Professional XE, a CD-based compendium on 8,700 woody and herbaceous ornamental plants. Clicking the mouse gives the user access to plant synonyms, pronunciation of botanical names and more than 21,000 photographs. Selections can be filtered by hardiness, bloom colors, height and any combination of plant attributes for printing and easy use. **Horticopia**, Purcellville, VA.



## MULTI-SHAPE POND KITS

#### Circle 175 on Reader Service Card



INTER-FAB has introduced Echoes of Nature pond kits. Designed for easy installation, the kits feature multiple shape options through different deployments of the rock surrounds and include all materials and equipment needed to contain and circulate

the water, including 45-mil EPDM liners and 1,450 gpm pumps. There are also artificial-rock waterfalls, accent boulders and a coping system. **Inter-Fab**, Tucson, AZ.

## **HIGH-FLOW PUMPS**

#### Circle I I 0 on Reader Service Card

AQUA ULTRAVIOLET offers the Sunami line of high-flow, self-priming pumps. Designed for cost efficiency, low maintenance and high performance, the pumps have 3-inch inlets and outlets and flow rates up to 220 gpm in sizes from 1/3 to 5 hp.



They feature high-efficiency impellers, quiet operation, large leaf baskets and tool-free access to the strainer basket and pump internals. **Aqua Ultraviolet**, Temecula, CA.

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## WATER-QUALITY MANAGER

#### Circle III on Reader Service Card



ACU-TROL PROGRAMMABLE CONTROLLERS has introduced PoolPC Pro, a water-quality-management system for pools and spas. The device, which monitors water quality, determines exact dosing amounts and adds the chemicals automatically, has an easy-to-read control panel that displays exact water conditions and has a visual alarm

indicator. Acu-Trol Programmable Controllers, Auburn, CA.

## **AUTOMATIC POOL CLEANER**

#### Circle 112 on Reader Service Card

HAYWARD POOL PRODUCTS offers the Phantom automatic pool cleaner. Designed to clean pool bottoms, walls and steps, the pressure-side device also rises to skim debris from the water's surface. It has a water-jet propulsion system and moves with-



out wheels to reduce surface wear and also has a wide cleaning path, a large intake capacity, a sweep hose and a big debris bag. **Hayward Pool Products**, Elizabeth, NJ.

## LIGHTED FLOATING FOUNTAIN

#### Circle 113 on Reader Service Card



KASCO MARINE has introduced the Model 1400JF, a 1/4-hp, lighted, aerating, floating fountain that features five interchangeable nozzle heads and a new LED lighting system. Designed for small backyard ponds and watergar-

dens, the system has a ring of LED lights rated for 100,000 hours and comes with a 50-foot power cord and a control system that includes a photo-electric eye. **Kasco Marine**, Prescott, WI.

## POOL/SPA ACCESS SYSTEMS

#### Circle I I5 on Reader Service Card

AQUA CREEK PRODUCTS has published a six-page, full-color brochure on its line of lift systems designed to ease access to pools and spas. The literature covers deck-mounted and portable versions of the Pro Pool Lift chair system, the Liberty Platform Lift for wheelchairs, hydraulic and battery-powered spa lifts, a variety of sling lifts and accessories including immersible wheelchairs. Aqua Creek Products, Missoula, MT.



Continued on page 92





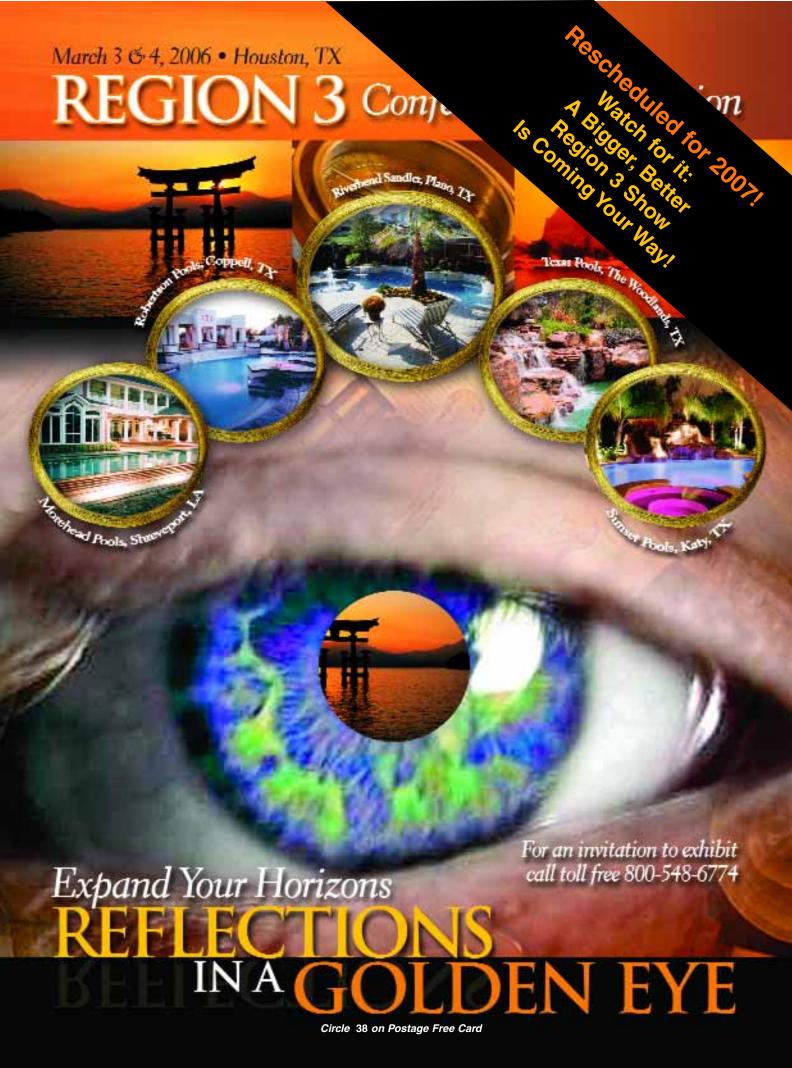
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## SEDIMENTARY SANDSTONE

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SILOAM STONE offers sedimentary layered sandstone for stairways, walkways, waterfeatures and architectural applications. The stone features excellent weather resistance and minimal water absorption as well as an elegant

appearance and positive traction. It comes in two earth-tone colors (buff and gray) and is available in thicknesses up to 24 inches, widths to 8 feet and lengths to 20 feet. **Siloam Stone**, Canon City, CO.

## FIBEROPTIC LIGHTING

#### Circle I 17 on Reader Service Card

SUPER VISION INT'L offers fiberoptic lighting systems for applications in and around watershapes, including underwater, perimeter and landscape use. The



systems include illuminators, cables and fixtures and feature color-changing capabilities to allow for individualized mood setting in any backyard. Pathway lights, illuminated pavers and a range of landscape fixtures are available. **Super Vision Int'I**, Orlando, FL.

## Wall-Estimating Software

#### Circle I 19 on Reader Service Card



#### KEYSTONE RETAINING WALL SYSTEMS

has introduced KeyCalc, a program designed for quick access to information needed to estimate the costs involved in construction of small- to medium-sized retaining walls. The system operates on Palm PDAs, and estimating can be done without printed ref-

erence materials, laptops or calculators in minutes instead of hours. **Keystone Retaining Wall Systems**, Minneapolis, MN.

## POOL ENCLOSURES

#### Circle 120 on Reader Service Card

CCSI INT'L manufactures rigid-frame, glazed pool enclosures and skylight roof systems. Designed to enable homeowners to extend the swimming and outdoor-entertaining seasons and increase the safety of the pool set-



ting, the enclosures provide years of reliable service and state-of-the-art performance and appearance. The company also offers help in the planning and layout stages. **CCSI Int'I**, Garden Prairie, IL.

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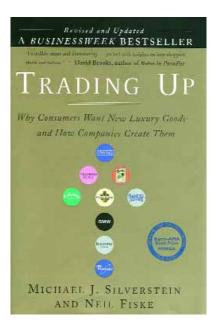


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By Mike Farley

# **Choice Matters**



or many clients, the decision to purchase a watershape represents the second or third largest expenditure they'll ever make. As a result, understanding the psychology that drives client decision-making is an issue that cuts very close to the heart of what we all do for a living.

To gain a firmer grasp on what makes clients tick, I recently turned to *Trading Up*, an insightful book by Michael Silverstein and Neil Fiske (Penguin Group, 2005). The 300-page text explores the issue of why people choose to spend more money in some areas of their lives while allocating less to others – a fascinating approach that sheds a great deal of light on the dynamics of making large financial decisions.

The premise of Silverstein's and Fiske's discussion is that most people have an idiosyncratic curve of preferences when it comes to making significant purchasing decisions. Why, for example, will some people will set aside substantial resources to buy a Mercedes or Jaguar while spending (relatively) much less on watches or clothing or home appliances?

Although they didn't look specifically at swimming pools or waterfeatures, their dissection of such decisions goes a long way toward explaining exactly why acquiring a watershape of some kind is so incredibly important to so many people.

Unlike other discussions of consumer psychology I've seen (which, frankly, tend to get quite fuzzy at times), Silverstein and Fiske have devised a clear structure that holds fast to a set of reasonable assumptions and observable dynamics. What they do is define what can be termed "new luxury" verses "old luxury" and then break consumer preferences down into four distinct areas.

First, they examine the desire many of us have to take care of our health and ourselves. They make a strong case that as the Baby Boom generation ages, issues of personal well-being are becoming far more important than they were in the past. This is why, for example, vacations that provide opportunities to improve one's health and fortify the spirit are becoming so popular – a trend pampering spas and health clubs have exploited (as have the many manufacturers of hydrotherapy spas).

Second, they discuss consumers' tendancy to make purchases that forge connections and affiliations with other people who have similar interests. Examples here include the growing popularity of groups devoted to sailing, fishing, rock climbing, wine tasting or bird watching.

Third, they cover a phenomenon they call "questing," which involves the desire to make purchases that lead to adventure and the expansion of personal horizons. A vacation to Turkey or Egypt would fall into this category; a trip to Las Vegas or Mount Rushmore probably would not.

Fourth, the authors write about style, citing information in support of the notion that more and more consumers are becoming so sophisticated in their tastes that they want to obtain objects of beauty and refinement. With watershapes, I see this reflected in the trend toward a sense that the appearance of a watershape is every bit as important as its functionality. This, the authors explain, is why retail establishments such as Pottery Barn or Crate & Barrel have become so popular – right alongside automobiles from Lexus, Audi and BMW.

Of course, everyone is different and most consumers favor one set of preferences and emphases over another, but you don't have to be an expert in consumer psychology to see how these factors come into play when a prospective client is deciding to enhance his or her life with a well-considered, well-designed watershape.

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

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## Trade Show Update

Be sure and stop by and see us at the following trade shows.

ASPA, Pool and Spa Expo, Orlando, FL, Nov 1-3, 2005 Booth# 1615 Agua Pool Show, Las Vegas, NV, Nov 16-18 Booth# 327 World of Concrete, Las Vegas, NV, Jan 17-20, 2006 Booth# C8255

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