

Inside: David Tisherman on Design Tools

WATER SHAPES

Design • Engineering • Construction

Volume 6
Number 8
August 2004
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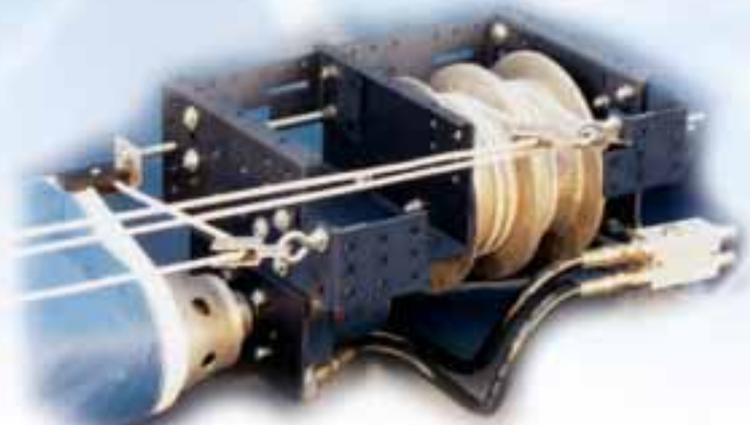
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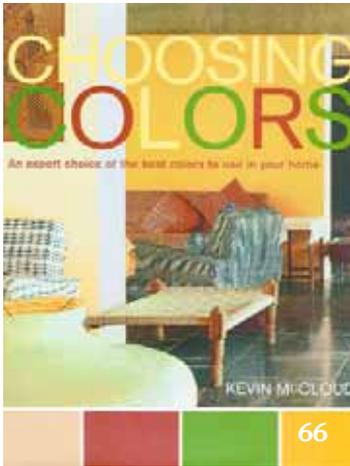
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On the cover:

Photo by Melanie Jauregui, Biomirage Landscape & Garden Design, San Diego, Calif.

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By Eric Herman

Sounds Of Music

At its finest, watershaping is all about creating a sensory experience. In fact, you could make the argument that watershapes appeal to *all* of the senses, where painting and music and other high-art forms tend to appeal to just one or two of them.

Watershapers play with the fragrances of plant material, for example, and with the sounds and tactile sensations of moving water and the lines of sight into well-defined and well-designed spaces. I'd also argue, given the fact that watershapes and surrounding areas are often designed for entertaining and dining, that appealing to the taste buds should also be allowed onto the list of watershaping's sensory achievements.

As more and more of you strive to create these "total sensory packages," it's not surprising to find that you are increasingly turning to outdoor sound systems to integrate music into outdoor settings. Indeed, requests for high-quality outdoor sound systems have increased dramatically in recent years, aided by manufacturers who have upgraded their products to meet the needs of residential and commercial clients who want access to all possible site amenities.

Marking this trend, two articles in this issue deal with the harmonies between music and water – one a technical piece about residential sound systems, the other about a choreographed fountain system in a public setting. In the first (page 36), fountain experts Ken Martin and Gerald Tester describe a landmark recently completed in the city of White Plains, N.Y. In the second, "Sound Options" on page 44, audio specialist Scott Sylvester covers a list of basic points watershapers need to consider in creating ear-pleasing backyard environments.

In a sense, these two offerings represent the extremes of the technical spectrum when it comes to combining music and water. In that same sense, both demonstrate what can be done when you keep music in mind as you explore your clients' desires and the total sensory space they're asking you to shape for them.

SSS

This month, the world's best athletes will gather in Athens for the Games of the XXVIII Olympiad. To mark the occasion from our watershaping perspective, you'll find "Reclaiming Olympic Gold" on page 28. Written by designer and engineer Ron Bravo of Rowley International, the story describes the restoration of the swimming pools used in the 1932 Games, the first of two Olympiads to convene in Los Angeles.

Long since supplanted by the aquatic complex at the University of Southern California – which has served as the area's premier aquatic-competition facility since the 1984 Olympics – the 1932 pools are registered historic landmarks and now function as an urban recreational facility. The restoration process involved returning the facility to its original beauty while updating it to modern standards – a painstaking process that required almost complete reconstruction of the vessels.

As the Games are rejoined in the country that was the birthplace of Olympic movements in both ancient and modern times, the project Bravo managed is a shining reminder of our own grand tradition of hosting international competitions – a spirit we're proud to celebrate in these pages.



Editor

Eric Herman — 714.449-1905

Associate Editor

Melissa Anderson Burress — 818.715-9776

Contributing Editors

Brian Van Bower David Tisherman
Stephanie Rose Rick Anderson

Art Director

Rick Leddy

Production Manager

Robin Wilzbach — 818.783-3821

Circulation Manager

Simone Sanoian — 818.715-9776

National Sales Manager

Camma Barsily — 310.979-0335

Publisher

James McCloskey — 818.715-9776

Publishing Office

McCloskey Communications, Inc.

P.O. Box 306

Woodland Hills, CA 91365

Tel: 818.715-9776 • Fax: 818.715-9059

e-mail: main@watershapes.comwebsite: www.watershapes.com

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Ron Bravo is project director for Rowley International, an aquatic design and engineering firm based in Palos Verdes Estates, Calif. With 15 years of diverse project experience, Bravo is an expert in pool renovation and the mechanical aspects of pool design and construction and is also involved in the research and development of new products. His key projects have included large aquatic facilities at California Polytechnic University, San Luis Obispo; West Boise YMCA, Boise, Idaho; and The United States Military Academy, West Point, N.Y.

Ken Martin is a principal of Aquatic Design & Engineering (ADE) in Montverde, Fla., and has

more than 26 years' experience in the design, engineering and construction of watershapes across a range of project types. In addition to holding a degree in business administration from the University of Central Florida, Martin is also a 1984 graduate of the Harvard School of Design and has earned a reputation for strong designs and problem-solving on complex projects at resorts and theme parks throughout the eastern United States and the Caribbean. **Gerald Tester** is a project manager for Crystal Fountains of Toronto, Ontario, Canada. Tester's background is in the music industry, and he often participates in projects requiring the coordination of music and fountain effects. After studying theatrical production, his first position

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Interested in writing for WaterShapes on design, engineering or construction topics? Contact Eric Herman at (714) 449-1905!

was with the Canadian Opera Company. For the next 15 years, he worked in lighting, sound and video for live entertainment with performers as diverse as Bare Naked Ladies and Roger Whittaker before joining Crystal Fountains.

Scott Sylvester is director of technical services for Sonance, a manufacturer of whole-home audio systems based in San Clemente, Calif. Since 1984, the company has pioneered development of architectural, high-fidelity audio products, including in-wall and in-ceiling speakers, subwoofers, amplifiers, multi-source control systems, cables and other products for distributed-audio and home-theater applications.

Melanie Jauregui is principal designer and founder of Biomirage Landscape & Garden Design in San Diego, Calif. She entered the landscape design business in 1980 while pursuing a career in the fine arts in Sedona, Ariz. She soon discovered great creative possibilities resulting from blending her background in the arts with the technical aspects of construction and horticulture. Returning to school to study landscape architecture, Jauregui accepted an internship at Wiley Group Landscape Architecture in San Diego, where she worked and studied for eight years. She started Biomirage in 1992, focusing her efforts on high-end, custom residential landscape and garden design.



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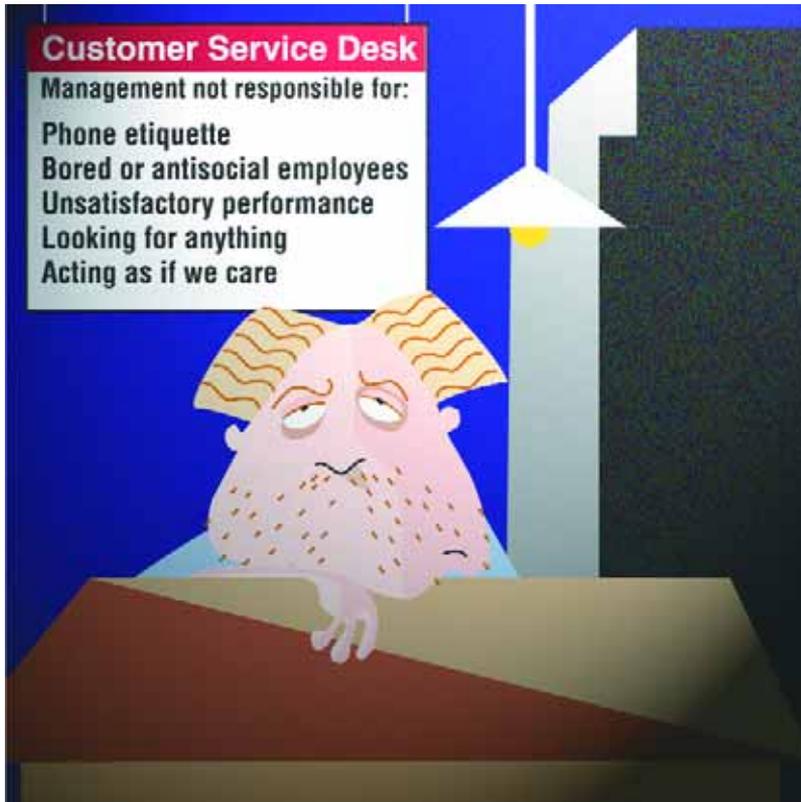
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By Brian Van Bower

A Positive Rant



It's amazing how many people I meet in the course of my day-to-day life who do not embrace the basic idea that the single most important part of doing business is how they interact with current and prospective clients. Way too often, I'll run into someone – usually an employee, but sometimes (and shockingly) a manager or owner – who just doesn't have a clue or really doesn't seem to care.

This happens so often, in fact, that I find my patience growing shorter with the laziness, incompetence or downright rudeness I encounter. It's gotten to the point where I'm getting pretty cantankerous about it, which is something of a surprise because it's not at all my nature to cop a negative attitude with anyone.

But honestly, the insolence of others is wearing me down. And it's all such basic stuff, this notion of having the right mental attitude and caring about communicating in clear, helpful and upbeat ways. Still, there are simply too many people who don't seem to give a damn.

off my chest

Some of those who don't care are watershapers, but rather than beat that old drum, let me share a couple of anecdotes from other business arenas

In a business where we ask clients to spend tens of thousand or even hundreds of thousands of dollars, there is an acute need to be accommodating and welcoming from first hello to final farewell.

that make the point equally as well. In fact, I'd bet my bottom dollar that most of you could tell similar (and maybe even more shocking) stories of your own.

This first one is about something very close to me, namely, the shirt on my back. I recently rushed to our local dry-cleaning establishment, hurrying through Miami traffic to get there before the posted 8 p.m. closing time. I was feeling good that I'd made it with ten minutes to spare. When I looked, however, I saw a sign indicating that the place was closed.

I knocked and a woman came to the door. She opened it just a crack, enough so that I could see it hadn't yet been locked. Just the same, she told me, "No, we're closed."

When I said that I knew they should be open until 8 p.m. because of the hours-of-operation placard, she repeated, "No, we're closed." Mind you, she didn't say, "Sorry, we're closed," or "We had to close early today" for one reason or another. All I heard was a terse response that clearly indicated her fondest wish was for me to become scarce.

I said nothing and made a sullen retreat to my car, getting more and more upset with each step. As I began the drive home, it occurred to me that my wife Gina and I spend somewhere around \$50 each week on dry cleaning, sometimes more. Any way you slice it, we have to be among the shop's best customers, and I'm familiar with everyone on the staff, including the woman who sent me shirtlessly on my way.

By the time I reached home, I'd resolved to bring the matter to the attention of the owner, which I did when I returned the next day. Pursuing things up the chain of command, I courteously asked to speak with the manager.

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When she finally stepped over to me, I politely explained to her what had happened. Her response was a very terse, "OK, we'll check on it."

That was it. No apology, no expression of appreciation for my patronage, nothing that indicated any level of concern at all. In fact, it was clear that she could not have cared less about what I

was saying. Part of me wanted to insist that she bring up my account so they could see just how good a client she was treating with such a dismissive attitude, but I didn't, recognizing a certain futility in the situation.

voting by foot

As I left, this time with my clothing in

hand, I decided that I had just visited that establishment for the last time and would no longer spend my hard-earned scratch with a business that thought so little of its loyal clients.

Perhaps I'm being too much the idealist here, but it seems to me that if you're in that business (or most any other, for that matter), the need to maintain existing, repeat clients is perhaps the most important key to success. My (former) dry cleaner's problems had little to do with quality: The service wasn't perfect, mind you, but I was more than willing to give them my business so long as I felt it was appreciated.

And this abuse came from a small shop that *must* put a premium on offering the personal touches that keep people like me coming back for more.

I might expect bad attitudes and apathy at a larger establishment, where employees seem to think that because they deal with hundreds or even thousands of people daily there's no need to care in any way, shape or form. Hence, a second tale of woe.

Just recently, I tried to purchase a barbecue from a local retail establishment that is known nationwide for its all-encompassing inventory and reasonable prices (that is, Target). An online ad had featured just the grill I wanted, so I called the closest superstore to confirm that the unit was in stock.

I was quickly connected to the garden department and a young woman who, when asked about the availability of the grill, glumly responded, "I don't know." To help her out, I mentioned that the product was in their ad and asked if she would check. Obviously displeased at the imposition, she punched a few computer keys and returned with the reply, "We don't have it."

At the risk of going that one deadly step too far, I then asked if she would check if the desired grilling amenity might be found at another local superstore and transferred to hers so that I could then purchase it. She said simply, "No."

In this case, I wasn't even given the opportunity to spend my dollars at the store on an item they had advertised. And once again, the person I encountered just didn't care the least bit about it. And as much

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as I'd like, I can't lay blame at the feet of the underlings who treated me so shabbily in either case I've mentioned here: The responsibility rests with the managers and owners who are too blind to see how disastrous these encounters really are.

why are you calling?

My point here is that all of us these days are looking for the human touch in our daily interactions. The world seems increasingly cold and heartless, but most of us still want to feel good and safe when we come face to face with others – especially when the outcome of that contact involves the spending of money.

In short, we're looking for love – even in our business transactions – or at least for some sort of attention that acknowledges an appreciation for the fact that we're willing to pay for a product or service. Certainly, there's little that I or most anyone else can do on an individual basis other than to vote with my wallet and my feet and take my business elsewhere

when I can. It's frustrating, but necessary.

And while our watershaping clients face the same sorts of challenges and options that we do in our own lives, I'd argue that what we're talking about when the discussion shifts to the way we run our own businesses is much more profound because of the greater extent to which we reach into our clients' pocketbooks and, for a time with residential clients, into their daily lives.

In other words, given the level of involvement and trust a client extends to obtain a watershape – no matter the ultimate price tag – the importance of approaching our client interactions with the right mindset is many times more important than it was for my local dry cleaner to extend me a bit of courtesy late that one evening.

To illustrate, let me return to something that truly frosts me – something I've encountered in the watershaping industry as well as several others and something to which I'm certain anyone who spends

much time on the telephone can relate: Often when I call and ask for someone by name, the receptionist will say something like, "May I ask what this is in regard to?"

I mentioned this maddening question before in a column on phone etiquette, and I must say the message didn't spread very far, because I still hear this one all the time. There's a certain nastiness to that greeting, the implication being that the receptionist will decide if you're worthy of an audience with the boss.

I generally resist the temptation, but as I said up front, I'm getting less and less patient every day and have actually said on occasion, "I'm calling on the remote chance that I might give some of my hard-earned dollars to your boss to help him stay in business, and you can patch me through in the hope that some of that money will trickle down to your sorry self."

good as gold

Please believe me, I'm *not* advocating being unpleasant to others. As you can



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see in my tale of the dry cleaner, I do my best to work with people and am displeased when the negativity of others prompts me on rare occasions to be less than courteous myself. In fact, the real and very best response to this sort of treatment in any form is to work to do better in our own businesses and in our own lives beyond work.

In a business where we ask clients to spend tens of thousand or even hundreds of thousands of dollars and allow us to intrude upon their lives and onto their properties in processes that sometimes seem incredibly chaotic, there is an acute need to be accommodating and welcoming from first hello to final farewell.

The cynical out there may see what I'm advocating as touchy-feely gobbledegook, the over-sensitized gibberish of the modern age. But the hard fact is that in people-oriented businesses of all types, your pleasant tone and caring attitude (or lack thereof) will translate directly into business gained or lost.

Sure, by being upbeat you'll inevitably feel better about yourself and you'll have more pleasant exchanges with people, but if that isn't enough to motivate you, then stop and think about how *you* react to situations where your patronage does not seem valued. In that light, it really does boil down to the Golden Rule and treating other people as you would want them to treat you.

What's particularly wonderful about taking pride in your work and the way you interact with clients is that it has the tendency to elevate their view of what you do and, more important, of who you are. Whether you're a high-flying designer or someone who digs ditches, you have powerful opportunities to influence others' opinions of you and their willingness to work with you simply by the attitude you bring to the process.

What's more, pride and courtesy are infectious: I've always found that a positive attitude leads others to respond in kind. That's where managers and owners enter the picture most forcefully, because they set the tone with the policies they establish and the example they set.

Becoming expert at the vast craft of wa-

tershaping is not easy and takes years to encompass, but no matter where you are in the industry, you can use a confident smile and a caring and courteous tone to elevate yourself immediately to the ranks of those who care about their clients while taking pride in what they do.

Doesn't sound half bad to me. In fact, it sounds all good. **WS**

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

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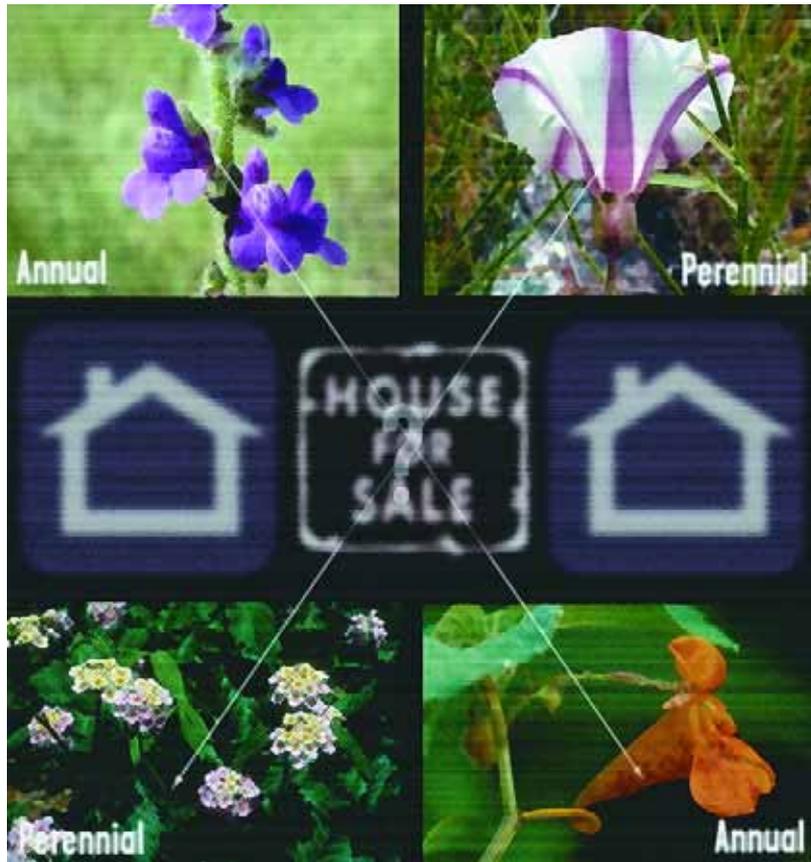
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By Stephanie Rose

Taking Sides



I recently received a call from a *Wall Street Journal* reporter who was doing a feature on preparing a home for sale.

She told me she wanted a landscape designer's perspective on how homeowners should spend their money to get the most bang for the buck and really put me on the spot in the process: Her deadline was the following morning, and I had to do some fast thinking when her call came in at 8 p.m.

It immediately occurred to me that I always ask homeowners whether they are landscaping for resale or for themselves, but the questions she was asking made me think of what I do in a different and clearer way.

defining value

The reporter started by asking me about adding hardscape, patios, gazebos and the like, and I found myself steering her away from these items by pointing out that spending on such amenities was not necessarily money homeowners would recoup in a sale, generally because these things cost more than most people believe.

Then we talked about the importance of having a proper irrigation system

A pet peeve of mine is that homes new to the market are too often freshly planted with hundreds or even thousands of dollars' worth of annuals, which typically last only a few months – three to six months at best.

to keep a yard looking great while being shown and discussed the always-underrated benefit of having an established relationship with a good maintenance crew for the duration of the listing process.

When the discussion finally turned to plants, I wasted no time expressing a pet peeve of mine that homes new to the market are too often freshly planted with hundreds or even thousands of dollars' worth of annuals. The color obviously draws attention, I said, but from my point of view such plantings say nothing about how well the house has been tended. There also seems to be an assumption that the house will sell quickly!

As we spoke, I found myself driving home a point that had never occurred to me quite so clearly before: I just don't like annuals!

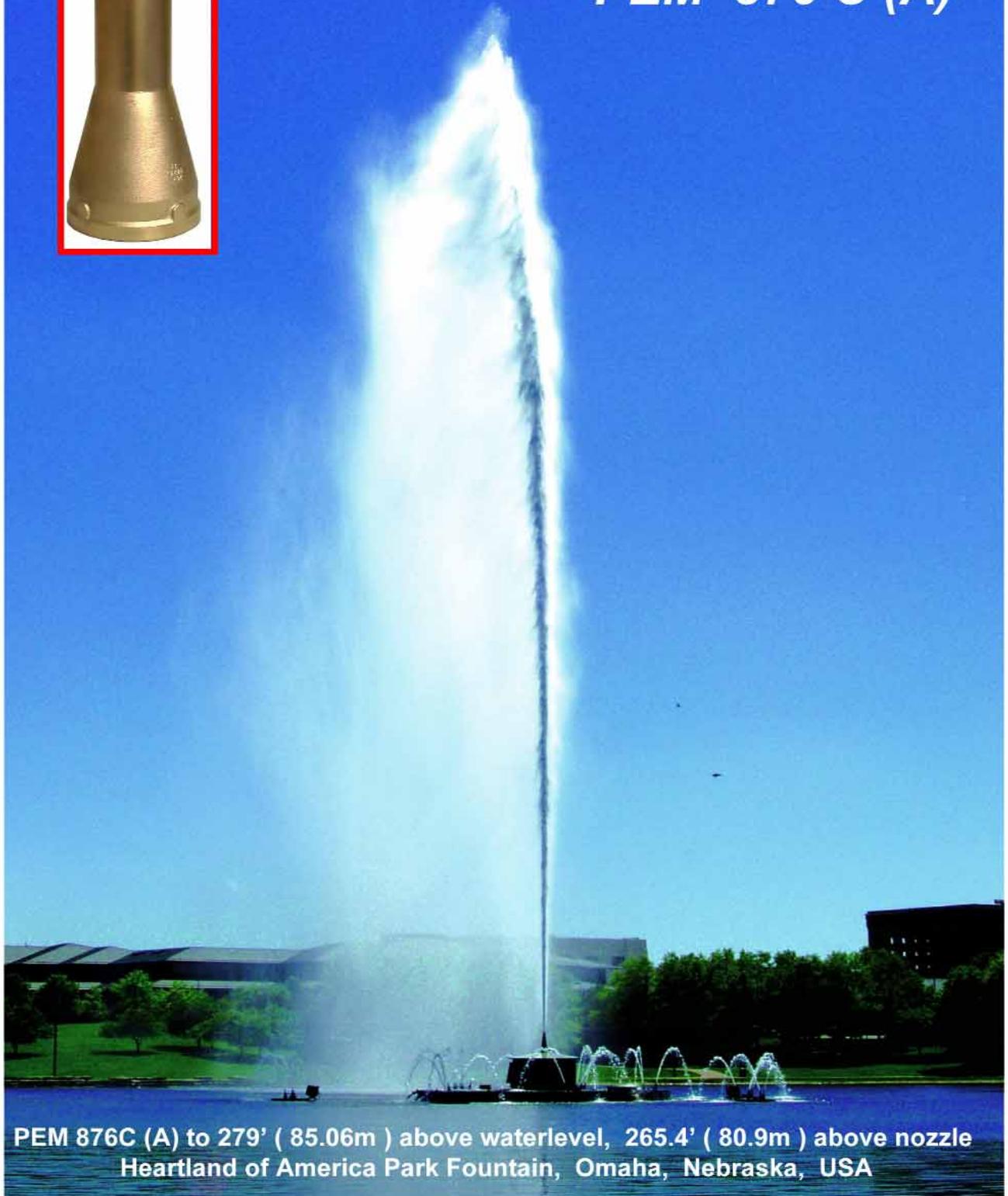
The large category of plants known as "perennials" all share the virtue of living for at least two years. To be sure, some die to the ground each winter and others need to be cut back or have leaves that don't look great in the winter, but the hardiest of them look great year 'round – including several I use frequently, such as *Heuchera*, *Salvia*, *Convolvulus* and *Digitalis*.

By contrast, the "annuals" typically last only a few months – generally three to six months at best. Their seeds germinate and grow shoots and leaves and flowers, then the mature plant goes to seed and dies. Most people think of annuals only during the shoots/leaves/flowers stages, purchasing them when they are just beginning to bloom and taking them out as soon as the flowers look spent. In my area, these people are inordinately fond of marigolds, snapdragons, petunias, stock and impatiens.

Continued on page 18



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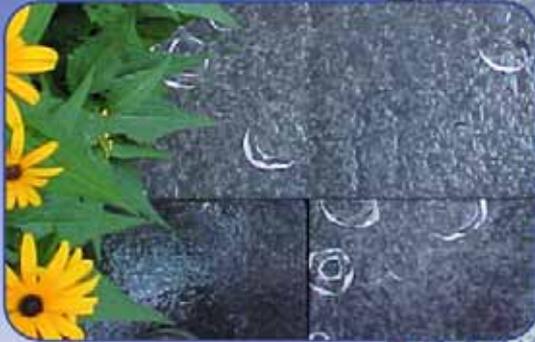
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From a purely practical perspective, I explained to the reporter, life cycle alone makes perennials more attractive than annuals. They are much less labor intensive and, more important in the context of our conversation, they don't bank on the proposition that the house will sell overnight.

back to work

In thinking about the interview after the fact, it occurred to me that I run into two types of clients in designing gardens: those who love all those little plants that add lots of color to their borders (my "annual clients") and those that can't stand the thought of having to replace plants every few months (my "perennial clients").

I completely understand the fondness for annuals. The client walks out into the garden and sees lots of beautiful color and flowers and is filled with good cheer. And I must give them their due: Annuals can produce flower displays more spectacular (yet fleeting) than will perennials, and there are certain annuals that are great for cutting and are perfect for specific spots where nothing else will do.

On top of that, they're easy to plant and frequently less expensive than perennials that might suit the purpose. I really do "get" all of this, and I can sense the curses flying in my direction from those who love annual colors, but I'm just not enthralled enough by these plants to want to use them as first choices in my garden designs.

Why not? Well, the annuals only last a few months, which means going to the garden center every three or four months (if you don't want any downtime) and figuring out which new plants to select. It also means ongoing costs for plants, ongoing costs to have them planted, ongoing needs to fertilize and maintain them – more money and work than most care

I'm just not enthralled enough by annuals to want to use them as first choices in my garden designs.

to invest year after year.

In my work, I always approach these issues as a “perennial client” myself, and my first speech to those who would tend to be “annual clients” is that I don’t work with annuals as the core of my designs, as I feel they’ll end up spending too much of the budget on plants that won’t be here a few months from now. Instead, I recommend spending 95% to 100% of their plant budget (depending upon its size) on perennials, shrubs, vines and trees that will last them many years.

I then point out that working with perennials is in no way an aesthetic sacrifice. There are plenty of perennials in all shapes and sizes that can be used to create beautiful color, foliage and floral displays – so many possibilities that the absence of annuals will hardly be noticed.

Yes, I leave open the possibility of planting a few flats of annuals immediately after the job is planted, basically to give the garden a fuller look on the final day of planting. In these cases, I might add a small amount of annual color that will look great right now – and will die off about the time the perennials and other plants fill in.

There are lots of regional variations that determine what can be done and how the palette is balanced, of course, but I tend to work with the hardiest available plants to deliver full and lingering value to my clients.

ready to sell

Doubling back to the interview that opened this discussion, let me say that a home well planted with perennials and other hardy specimens gives the impression that whoever owns the home cares about the *entire* environment, not just the home’s interior.

I may be alone in this opinion, but it seems to me that putting money into plants that last a long time makes a statement that the garden has been just as important a part of the property as its structures. It may be a subtle point, but I think it is one that favorably impresses prospective buyers.

It’s hard to think of this in such cut-and-dried terms, but I think my dislike of annuals extends mainly from the investment angle: Whether you’re fixing up a

house for sale or creating an enduring landscape, the money is better spent on plants and other features that will last for long periods of time.

Maybe it’s a lingering effect of my years on Wall Street and simply reflects good investment technique, but I fully believe that putting money into perennials is the smart thing to do. **WS**

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

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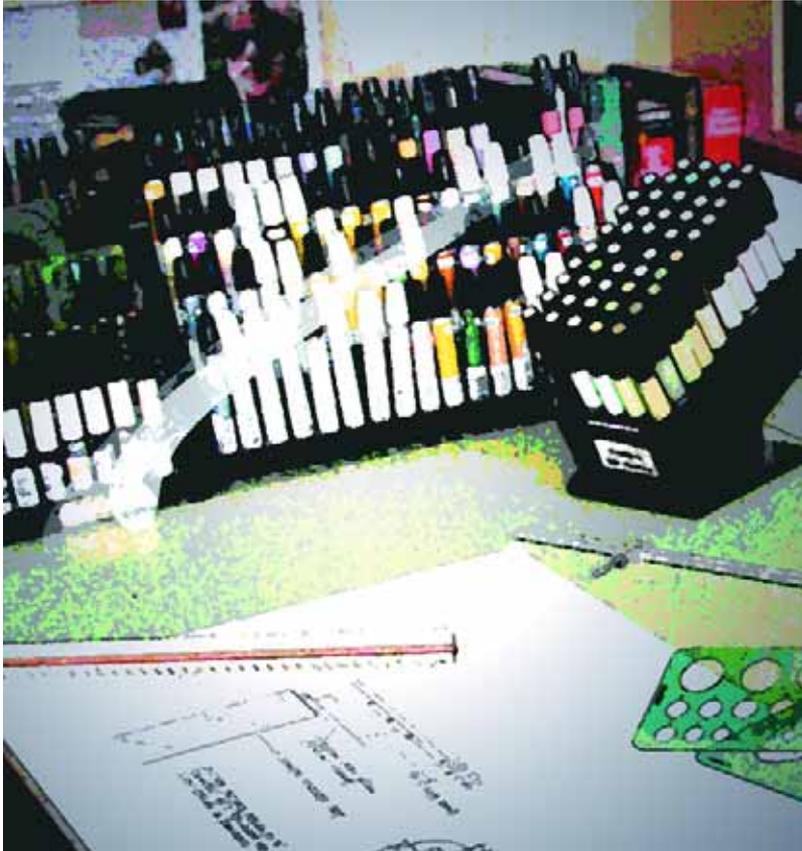
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By David Tisherman

The Designer's Environment



To my way of thinking, professional design work requires a professional workspace in which all of the necessary professional tools are available.

In fact, for the designer creating custom watershapes, I see the space in which the work actually unfolds as being critical and cutting to the very heart of what it really means to be a “designer.” I know that term is a loaded one, which is why I put it in quotation marks. After all, anyone can say that he or she is a designer, even if all they do is sit at a coffee table and run through a set of templates while scribbling bird’s-eye-view flat plans for no other purpose than selling cookie-cutter projects.

Once you reach beyond that rudimentary level, there are some details about being a designer that absolutely have to be in place. Yes, it starts with your background and experience – a point I’ve made dozens of times in these pages – but it’s also about your work environment and the tools you should have. More important, it’s about actually *using* those tools on a regular basis – to the point where they become extensions of your mind and hands and operating within your studio becomes second nature.

Think things through, because everything you put in your studio is a tool that must serve its purpose – or it simply doesn’t belong there.

making a space

Before I get to the specifics, let me note that this discussion centers on a studio to be used by someone who draws by hand.

I have and use a computer, but mostly as a communications tool. Indeed, I have always argued (vociferously at times) that there’s too much to the immediacy, warmth and creative flexibility of hand drawing for it to be seriously challenged by computer-generated imagery as a design medium. I won’t elaborate here other than to say that even those who have come to rely on computer assistance generally will acknowledge that they are at a disadvantage in working with clients day to day if they don’t also have at least a basic understanding of the art and craft of hand illustration.

That said, a design studio will always start as an empty space you select as your work area.

If possible, it should be large enough to accommodate a drafting table, flat and regular filing cabinets, a blueprint machine, a copy machine, an array of supplies and, one hopes, a large flat space for spreading out plans, catalogs, magazines, reference books and other space-eating necessities.

Having spent years in an overly cramped studio where I never found quite enough room for everything, I can attest to the importance of giving oneself enough space. In fact, when I recently remodeled my home, including a truly spacious studio with adequate storage, shelving and closets was very near the top of my list of priorities.

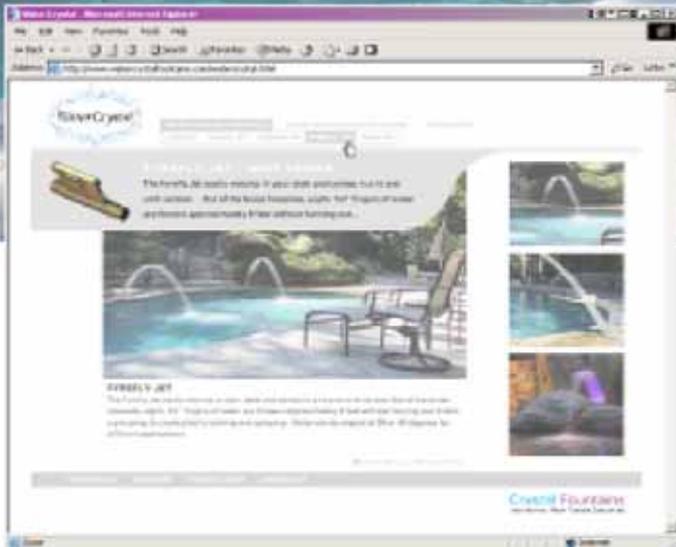
Some of the things that fill the space are basic to any office – a copy machine, for example. But even here, some special thought must be given to the selection, because you want one that allows for adjustments in the size of the output image (both blow-ups and reductions). In other words, think things through, because everything you put in your studio is a tool that must serve its purpose – or it simply doesn’t belong there.

Continued on page 22



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No selection is more critical than the drafting table. When I first started, I sat at a six-foot, eight-inch by three-foot hollow-core door covered in Borco (see just below) and propped up on a pair of wooden sawhorses. It worked like a charm and gave me the room and surface I needed.

Using a hollow-core door in this way is a great starting place so long as you remember the Borco, a specialized drafting-table cover that has a certain amount of give to it but doesn't carry permanent impressions that might telegraph into subsequent drawings. It's described as "self-healing," so you can stick pushpins in it (an important subject discussed in detail at Genesis 3's Level I and Drawing schools) and draw repeatedly over the same space and always be working on a smooth surface.

Accept no substitutes for Borco! Many otherwise good-quality drafting tables are sold these days with Masonite or Melamine work surfaces. These materi-

als are simply too hard to draw on and are simply too hard for comfortable use.

I've been using my current table (a Mayline professional model with hydraulic height and angle adjustments and a 48-inch parallel bar – something I picked up once I could afford to put the door and sawhorses to different uses) for more than 20 years. It still has its original Borco cover, and the surface is still good as new.

a specialized array

Now that we have an adequate space and a good work surface, let's fill up the rest of the studio with other tools of the design trade.

For my work, having the ability to generate technical drawings in a variety of sizes and formats is critical, so one corner of my studio is home to an old blue-print machine that enables me to run blue lines, brown lines, sepias, acetates and velums. The downside to the convenience of having the machine on hand is that it

uses an ammonia-based developer and the room must be well ventilated.

The one I have is an Ozlid #172. The company is out of business, but if you're lucky enough to come across one of these machines for sale in the second-hand market, I'd consider it a steal to pick one up for anything under \$2,000.

I also have two ordinary copy machines, both of which can use various sorts of paper in a variety of sizes. One is a digital color copier, the other black and white. Both have reduction and enlargement capabilities, which I find extremely useful in working between scales (as is often necessary).

Another important area is devoted to the proper storage of drawings and renderings. I have regular, legal-size filing cabinets for my business records and catalogs, but I also have a large, flat-file cabinet – the kind with really wide, shallow drawers. This prevents the kind of clutter I see too often in design and construction offices: I'm always amazed to

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see piles of plans rolled up and shoved in corners, because they inevitably will fall, get dirty, yellow at the edges and generally turn to crumpled mush. With a good set of flat files, you don't have any of those issues.

Now we come to the heart of the matter for someone who favors drawing by hand.

The list of drawing tools you can place at your disposal is long indeed. To me, a designer's familiarity with these items is one of the things that separate true artists and designers from the rest of the pack. From beam compasses and adjustable triangles to elliptical templates and pencil sharpeners, these are the tools that allow for generation of quality, detailed drawings.

► **Compasses:** One of the two compass types I use is the standard version that has a radius limited to five or six inches. It's a handy tool, but when I work with watershapes, I find that I need a

compass that accommodates much larger radii – even when working at a relatively small scale in setting, for example, a soft curve on a long vanishing edge. For such applications, I'll reach for my beam compass, which works on the same principle but has an extended arm that enables me to draw portions of extremely large radii.

► **Triangles:** Again, there are standard and specialized triangles. Standard versions are wonderful for applications in which I'm after the angles found in right or isosceles triangles (that is, 30, 45, 60 and 90 degrees) and I have several of these in a range of sizes. For different obtuse or acute angles, however, I keep adjustable triangles on hand, also in a range of sizes

designers defined

At a recent Genesis 3 Drawing School, I was demonstrating the use of tree stamps and completed the exercise by marking the area with color using a pale lime marker. "That's the wrong one," howled one of the students, who remembered from a Level I school that I had recommended the use of a marker in a color called willow.

It occurred to me later that this exchange goes a long way toward defining the difference between a designer who has a sense of his or her own creativity and uses the tools of the trade in creative and adaptable ways – and a would-be designer who latches onto an approach and uses it over and over again come hell or high water because "that's just the way it's done."

A designer's graphic tools can be picked up off the shelf by anyone with the wherewithal to purchase them. The true designer's art is in how these tools are used and the insight, education, skill and experience of the person who uses them – points that clearly relate to the design of watershapes!

– D.T.



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up to 14 inches. There are also triangles designed specifically for use with ink pens as well as models specifically for use with graphite pencils.

► **Circle/ellipse guides and sweeps:** I have dozens of sets of ellipse guides ranging from five to 60 degrees in a wide range of sizes. These are great for drawing precise, tight curves on a highly consistent basis. For gentler curves and softer radiuses, I reach for a French curve or for a sweep. I particularly like working with sweeps and use these long pieces of acrylic as much as any tool I have in my studio.

► **Scales:** I've always found it helpful to have multiple scale charts on hand to ensure accurate measuring and dimensioning. They come in two basic forms: *engineering scales*, which are based on the metric system, and *architectural scales*, which are based on standard measurements (that is, quarters, eighths and sixteenths).

► **Straight edges:** I use aluminum, steel and cork-backed straight edges at my



My drafting table has been a stalwart companion since 1979, when I graduated from a hollow-core door to a professional model with hydraulic height and angle adjustments. The Borco cover is the original – ragged at the edges but still the perfect surface for drawing.



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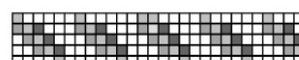
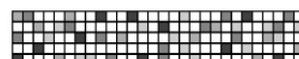
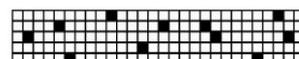
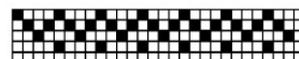
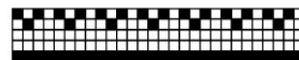


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workstation, mostly for cutting mats of various materials for use in framing my drawings or creating sample boards. On my drafting table, I use a parallel bar that attaches to the table and helps me, as the name of the tool suggests, in keeping lines parallel at any working angle.

► **Scum-X:** This is an essential tool at the drafting table. It's basically a bag of a fine, somewhat-absorbent, sand-like material that acts like ball bearings and helps keep a straight edge or parallel bar from smudging graphite as you slide either one over the surface of a drawing.

► **Lettering guides:** Not everyone who draws is accomplished at the art of hand lettering. I'm fortunate to be one of them, but there are times when I'll want to use a particular style of lettering, so I have a variety of lettering guides on hand to help me with these special fonts. These are hard to find, but inquiries at older art-supply stores often yield treasure troves of fonts. (I much prefer hand lettering to a lettering machine such as those made



This blueprint machine is a gem. It takes up plenty of space and requires lots of ventilation, but it gives me the ability to generate my finished drawings in whatever form or format is required – blue lines, brown lines, sepias, acetates or vellums.

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by Kroy, especially on a material like vellum where the background of the machine's tape comes through and, the way I see it, can compromise an otherwise great presentation.)

► **Electric erasers and sharpeners:**

The electric eraser is a great modern convenience and an absolute design-studio necessity. They remove errant marks or smudges and allow for quick adjustment of mistakes (I know it's incredible, but

even I slip up from time to time). They last for years, and I use mine all the time. As for sharpeners, I have two: an electric pencil sharpener and, more important, an electric lead-holder sharpener.

► **Markers:** Probably more than any other component of my design studio, I consider ink markers to be the ultimate tools of the designer's trade. Some folks work beautifully in colored pencil (not a great idea), chalk (best as a secondary

medium in support of markers) or watercolors (expensive and difficult to do well). For me and my clients, however, nothing offers as much color variety and quality as the inks in marking pens. Markers are not easy to learn either, but in my book they're the most flexible and efficient of all drawing media.

I must have nearly 1,000 markers in every available color and with a variety of tips (either chisel points, which is the basic version, or the rounded or fine-line versions). And I don't have just one of each: Because the market I need will almost invariably be the one to go dry at precisely the wrong moment, I always have spares at hand. It's about efficiency: I never have to stop what I'm doing to go forth in search of the tool I need.

► **Paints:** When I mix up colors for plaster or colored concrete, I use acrylic paints and water colors and have a variety of palettes I use. With a bit of practice and patience, the variety and subtlety of the colors you can achieve is almost limitless.



catalogs on parade

If you're like me, you have a lot of product catalogs on hand that you value either for basic information, occasional inspiration or sharing with clients. These catalogs are so important that I consider them all – whether they are about equipment, tile or whatever – to be key components of my studio.

I use them all the time, which is why I carefully file them away and always request

two copies, one of which I share with clients, the other of which never leaves the studio.

I've made this a personal policy for years because catalogs that travel with me are frequently damaged, lost or simply left behind – and there's nothing worse than needing a bit of information during the design process only to realize that your only copy is long gone!

– D.T.

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All of these markers, compasses, triangles, circle guides, sweeps, ellipse guides and straight edges are kept close at hand on or near my work surface – well-maintained and treated with respect because I know they are tools that facilitate effective communication with clients.

head to the store

I could easily go on at far greater length – I said nothing of the glories of X-acto knives and model-making supplies and tools, for example, and I could go on for days about the handling and storage of pencils. But this is a start and covers most of the major items.

The main point here is that to use the tools, you first need to own them and, even before that, have some idea of their purposes and roles. If you don't have a full complement of these items, common sense says that you'll never learn to use them. It's like working on a car without a properly stocked toolbox: You might come close, but you'll waste lots of time improvising around the fact that you don't have what you really need.

To this day, I love wandering around art-supply stores and asking questions about new products I see. My favorite is Graphaids, where my friends Peter and Chip have taken care of me for many,

many years (for more information, visit www.graphaids.com). I'm always aware that stocking a studio is a work in progress: There's always something new that makes a certain task a bit easier or its execution more consistent.

I'm also aware that everyone who rightly calls himself or herself a designer has a slightly different way of approaching the work and that the tools that serve me best may not be favored by everyone. Nonetheless – and starting with adequate space and a good work surface – there are certain of these items that are essentials in every studio. **WS**

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



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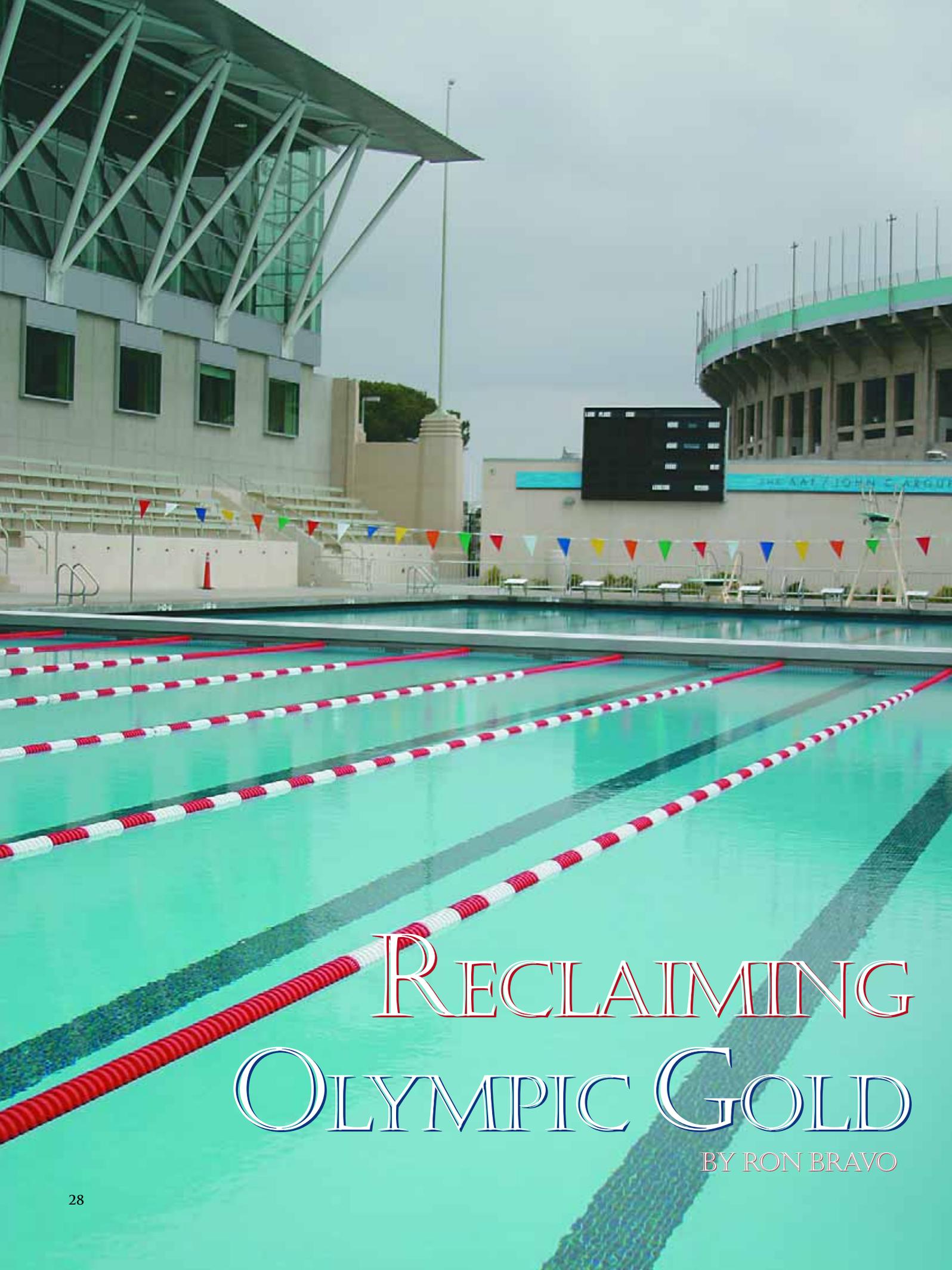
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RECLAIMING OLYMPIC GOLD

BY RON BRAVO



The swimming pools of the 1932 Olympics stand adjacent to the Los Angeles Memorial Coliseum as enduring reminders of the city's history as one of the world's sports capitals. After decades of use as a competitive venue and community recreation center, however, the facility had fallen into a state of disrepair – a condition from which a consortium of civic groups rescued it with the help of the designers and engineers at Rowley International.

It may have been in the heart of the depression, but 1932 was a good year for American swimmers: The Olympic Games in Los Angeles saw Clarence “Buster” Crabbe win gold in the 400-meter freestyle in the then-world-record time of 4:48.2 and Helene Madison win gold medals in both the 100- and 400-meter freestyle events. U.S. swimmers claimed nine medals in all, in many cases besting swimmers from the powerful and heavily favored Japanese team.

The competition was held in an eight lane, 50-meter pool positioned quite literally in the shadow of the Los Angeles Memorial Coliseum. Just as the names and records of those swimmers have faded across 70-plus years, so too had the swimming pool and its companion recreation pool. Although they had remained in near-continuous use for generations, the old vessels were supplanted when a modern swimming pool complex opened on the nearby campus of the University of Southern California in anticipation of the Los Angeles Olympiad in 1984.

Early in 2003, we at Rowley International of Palos Verdes Estates, Calif., were asked to renovate the old facility's two swimming pools. Along with support from the Amateur Athletic Federation (AAF), the City of Los Angeles set a goal that didn't involve returning the facility to its role as a high-profile venue for competition. While that was *part* of the program, what all parties primarily wanted was a multi-purpose community facility that would serve as a summertime recreational hub for the thou-

sands of inner-city children and families living in the area.

HISTORIC CONCERNS

When first conceived for the games back in the late 1920s, the facility was state of the art in every respect and had been designed to accommodate the world's highest-profile swimming events.

There were exciting innovations, including waist-deep channels built into the deck alongside the pool to allow photographers and reporters up-close views of the athletes in action. There were wonderful aesthetics as well, from the wooden diving tower to the bleachers with their Grecian-style trellises overhead. The facility also included an enormous semi-circular pool – a shallow vessel evidencing the fact that the original designers saw beyond the Olympics to the facility's future role as a community aquatics center.

By the time we became involved, many of those features were long gone and the facility had undergone numerous, apparently makeshift renovations. Both pools could still be used, but their operation was limited by band-aid approaches that had let things slide to the point of dysfunction.

A full restoration awaited the fundraising efforts of the Los Angeles Historical Society. Because the pools were listed as historic monuments, there was a strong sense that whatever work was to be done had to retain as much of the original detail as possible while still bringing the racing pool up to contem-

porary competition standards.

This became something of a balancing act, to say the least, because what was needed was so extensive. We had to rework the entire plumbing system for the 50-meter pool, for example, to include modern-style, in-floor return outlets and a new concrete gutter system, which meant removing the top four feet of the shell and cutting a big trench down the center of the floor for the length of the pool.

Furthermore, we'd been asked to add a movable bulkhead to the mix, which meant we had to knock out the entire end wall on one side and extend the shell by three feet to maintain the 50-meter length needed for competition. We also had to raise the floor in the shallow end to the 4-1/2-foot level required by international competitive standards – *and* extend that end of the pool into an L-shape for easier access.

There was so much to be done that we had serious conversations about demolishing the existing facility entirely and starting over from scratch in the same location. This would probably have worked out to be comparable on a dollar-for-dollar basis, but the various groups involved with the project remained steadfast in their commitment to renovating what was there for historical purposes.

THE LONG VIEW

Once the final decision was made to renovate rather than replace, the design team's members focused on preserving what was left of the original aesthetic

elements – specifically the façade for the bleacher structure and the styling of the pool deck and of the semi-circular recreation pool. Fortunately, all these features were well documented in contemporary photographs.

Of course, we had an advantage in our work on the 50-meter pool in that competition pools haven't changed much in appearance in the past 75 years: They're still large rectangles in white plaster with black-tile lane markers. Beyond that, however, we were extremely sensitive to the fact that the final appearance of the rehabilitated pool couldn't be too far from the original.

This added some complexity to our work on the new gutter system. The original vessel had been rigged with what was called a "sputum gutter" at the waterline – a small, tiled slot plumbed directly to waste. We needed to form, pour, cure and tile a modern gutter system measuring 18 by 24 inches in its place (hence the need

to cut away the top of the old vessel), and then cantilever a new deck over its top to conceal the gutter from view and restore the original look.

As part of the same process, we had to set up the new deck with the appearance of the original, which had been made with shallow grooves to ensure safe footing. This was not as easy as it might have seemed: In fact, the contractor had to develop a special set of trowels to recreate the precise deck pattern entirely by hand. Working that way may have been standard practice for Depression-era concrete finishers, but this was quite foreign to practitioners of modern techniques.

For all of our careful work with the pools, however, the heaviest burdens when it came to historic accuracy and appearance were shouldered by the architect and general contractor in redesigning the bleacher section to include an indoor health club and community center behind and below portions of the old

THE COPPER QUESTION

We didn't have the benefit of any as-built drawings or documentation on construction of the aquatic center for the 1932 Los Angeles Olympics, so our work in retrofitting the competition pool turned out to be something of an adventure.

As they were cutting the 10-foot trench down the center of the pool, for example, the crew broke through the first eight to ten inches of concrete and reported that they'd hit something metallic.

We soon discovered that the entire structure had been lined with thick copper plating and that there was another shell beyond the plating. We couldn't tell whether the copper, which was apparently there as a waterproofing system, had been installed as part of the pool as first built or was part of some later work.

Whatever the copper's origins or intended purpose, it was an interesting glimpse into the work of watershapers of the past.

– R.B.



Our work on the main competition pool was quite extensive, including the removal of the top four feet of the shell to replace the 'sputum gutter' with a modern, high-capacity system we hid beneath the deck; extending the vessel by three feet to accommodate a new bulkhead; raising the shallow end to meet contemporary standards; adding an L-shaped access extension in the shallow end; and plowing out a band of the floor from end to end to install a new floor-return system. All the while, we needed to make our finished work line up with the appearance of the original as closely as possible – a remarkably intricate challenge even in small details such as deck finishes.



We had more latitude in working with the recreation pool, with the odd exception that the historical commission wanted us to preserve the sputum gutters beneath our new work for possible future restoration. We raised the floor, sloping it up toward the arc to make a beach entry; reworked the gutter system; and made our way around some features that had survived from the original construction. Attention to detail was crucial: Our concrete contractor, for example, needed to develop a special set of trowels to reproduce the anti-slip grooves in front of the gutter.

bleachers while retaining the structure's original façade.

This was a massive undertaking – and well beyond our concerns as watershapers for the project.

SEMI-CIRCULAR FUN

The recreation pool – a big semi-circle with a 200-foot diameter and depths ranging from three to four feet – must have seemed quite the modern marvel when it opened before the 1932 Olympic Games.

By the time we arrived, it was a different story. And because we didn't have any specific competition standards to meet as we did with the 50-meter pool, we had much more flexibility in bring-

ing it back up to date.

In a curious nod to history, the Los Angeles Historical Society insisted that we retain the original sputum gutters. Thus, if it were ever deemed necessary or desirable to do so at a later date, the pool could readily be returned to its original design. So we filled the gutters with a cement slurry that could easily be removed later on, then plastered and tiled over them in reworking the edge treatment.

For the new gutter system, we trenched around the outside of the existing structure to set up a deck-level system in which the water now flows over the top of the original shell. We also added four tiled warm-up lanes for use by competitive swimmers in preparing

for action in the other pool.

To make some areas of the pool a bit shallower, we built up the floor along the arc of the semi-circle, creating a broad shelf with a water depth of 18 inches. Within this shallower space, there are now eight sets of interactive waterfeatures.

This is probably the single most prominent change we made to the overall look of either pool, but there's nothing terribly dramatic in the array of sprays, falls and control mechanisms we added – basically for the amusement of children.

When the facility reopened, it was particularly interesting to see kids interact with these play structures. For the first little while, they didn't pick up on the fact

that they could manipulate the valves and levers to change flows to the jets, but it wasn't long before they began to get the idea that they could have all sorts of fun spraying and surprising each other. Now the play pool is a beehive of enthusiastic activity.

CORE VALUES

Beyond the specific aesthetic concerns, much of the work we did was not unusual for the renovation of a large aquatic facility – cutting concrete, drilling, doweling, adding new steel, setting new plumbing and electrical lines and, finally, adding new shotcrete to restore shells to working trim.

Continued on page 35

OLYMPIC TRADITION

Just in time for the 1984 Los Angeles Olympiad, a new racing pool and diving well were opened near the Los Angeles Memorial Coliseum on the campus of the University of Southern California, supplanting the facility that had been used in the 1932 Games. Our firm's founder, William N. Rowley, was in charge of designing and engineering the new pools, which were seen by hundreds of millions of onlookers around the world that summer.

Some 20 years later, those ultra-modern pools are now in need of a first round of renovations of their own. Although they still function well and play host to a variety of competitive and intercollegiate programs, small problems with leakage and the school's desire to upgrade the equipment have led to the scheduling of annual six-week maintenance and renovation periods that will see a complete upgrading of the pools through the next several years.

It's difficult to foretell if and when these pools, which still seem so new, will ever undergo the kind of total reworking that the 1932 pools have recently experienced. Our work on both sets of historic vessels, however, certainly serves to remind us that, as watershapers, even our finest, most advanced products need proper care and stewardship to meet the test of time.

–R.B.

As completed, the main pool has been fully renovated to meet modern international standards for competition. The new diving towers might not rival the reputed beauty of the wooden originals, but they make the vessel work for the Amateur Athletic Federation, which uses the pool, and for the community that surrounds the facility.

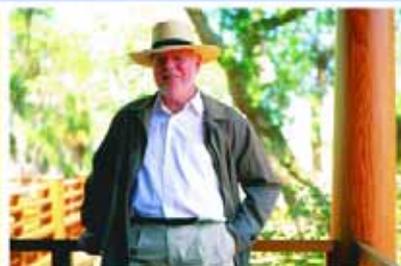


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James van Sweden

POND AND WATER GARDEN DESIGN

Presented by Anthony Archer-Wills

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Anthony Archer-Wills

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Presented by Janet Lennox Moyer

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Janet Lennox Moyer

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The recreation pool has retained its original shape and basic appearance, but much has been changed to make it a better space for the community's children. There are still warm-up lanes available when the complex is being used for competitions, but the rest of the time the emphasis is on interactive fun in a child-safe, family-friendly environment.



The fact that the work was routine, however, didn't relieve us of a great responsibility for care and attention to detail. A tremendous amount of time and energy, for example, went into preparing and executing the structural plan for tying the existing portions of shell into the new gutter system and flooring with vast amounts of steel doweled into the rock-hard existing shells.

In these places, we used a rich concrete mix with large aggregate and a high cement-to-water ratio to minimize cracking in areas where new material conjoined with old. We operated with the assistance of Martin & HBL Structural Engineers of Los Angeles – one of the best firms in the business – and left absolutely nothing to chance.

That same devotion to high standards reached into the new equipment set. The old pools were designed for ten-to-12-hour turnover rates and we needed to bring them up to today's six-hour requirement, which meant increasing the size of the pipes throughout the system as well as increasing filtration capacities.

One of the things we had going for us is that the new high-rate sand filters are less than a third the size of the filters we replaced. (The original filters, by the way, were vacuum sand filters in filter pits. Those we replaced were the rapid sand filters we found when we arrived.)

The new system brings the pool up to the current state of the art: The equipment room now features stacking Stark high-rate sand filters (made by Paragon Aquatics, LaGrangeville, N.Y.) and a completely automated chemical control system by USFilter/Stranco (Bradley, Ill.) that adds bleach, acid and CO₂ for complete sanitizing and pH control. The 50-meter pool has a single pump (Paco Pumps, Brookshire, Texas), while the recreation pool has a single circulation pump along with two smaller pumps (all by Paco Pumps) that drive the waterfeatures.

Once the work actually started, everything went well despite a few surprises (one of which is described in the sidebar on page 30). As is the case with most large renovation projects, the site looked like a war zone most of the time and there was some concern on the part of those most interested in "preserving" the site that our activities may have gone too far.

But once the shell was completed and the new gutter hidden beneath the painstakingly restored decks, it's actually difficult to tell we'd even been there – just as we all intended.



WHEN MUSIC MEETS WATER

Water that dances in time to music has come to shape the pinnacle of architectural fountain design in recent years, and for good reason: The results can be utterly spectacular. In this article, fountain designers Ken Martin and Gerald Tester take a look inside this technology while profiling a musical fountain they recently installed in White Plains, N.Y., where tuneful sprays have quickly turned a small urban park into an invigorating cultural hub.

BY KEN MARTIN & GERALD TESTER

At a time when scores of American cities are still looking for ways to revive the faded glory of their urban cores, possible approaches are as visionary (and numerous) as can be. The process has resulted in new parks, major redevelopment, architectural restorations and a long list of other solutions – including the unique watershape commissioned by the city of White Plains, N.Y.

A town with 54,000 full-time residents whose population swells to more than 200,000 during the day when office workers, shoppers and visitors come calling, White Plains made the decision to invest \$4.5 million of public and private grant money in resurrecting a small downtown park.

Appropriately named Renaissance Plaza, the park surrounds a state-of-the-art musical fountain unveiled in October 2003 for the specific purpose of luring people back to the downtown area – and it has worked. In fact, the plaza has become such a hub of activity that nearly 1,700 units of new residential housing are now under construction in its downtown neighborhood.

URBAN OBJECTIVE

First settled by British colonists who bought it from the Mohican tribe in 1683, this historically rich city located 25 miles north of Manhattan has truly been reborn, and it's with no small measure of pride that our firms, Aquatic Design & Engineering (Orlando, Fla.) and Crystal Fountains (Toronto, Ontario, Canada) played key roles in that transformation with our work on its musical fountain.

The city's aim was to create a landmark that would attract people as well as investment, renovation and new development. At the time the city agreed to transform the existing space – an overgrown and wholly unappreciated park – into a center of interest and excitement, they believed that the watershape was the key not just to the park itself, but would also serve as a visual focus for all the changes they envisioned around it.

To drive the project, the city contacted Alan Ward, principal of Sasaki Associates



(Boston and San Francisco), the internationally recognized landscape architecture/urban planning firm that is currently designing the 2008 Olympic Park for Beijing.

What Ward found in White Plains was an old park hemmed in on the footprint of a building that had long since disappeared. Measuring just 70 feet wide and 200 feet long, it was not much area to work with, but Ward and his design team were inspired by research done on the characteristics of successful urban parks and what it said about a liveliness and vitality that develops when small spaces are used wisely.

Ward accordingly planned on taking advantage of the park's unlikely setting, designing the plaza to break the high-rise monotony that surrounded it through use of a great deal of greenery and to exploit its position at the intersection of the city's two main streets with an appropriate watershape.

The water was seen as opening and maintaining clear lines of sight through the space. It was also seen, because of our natural human attraction to water, as a means of drawing people to the heart of the plaza. As they considered their options, Ward and city officials became increasingly intrigued by fountains and the potential they had to turn water into theater through use of sequencing effects.

As a first step, Ward contacted Ken Martin of Aquatic Design & Engineering (ADE), which has a distinguished record in projects for Walt Disney World, Universal Studios Florida and various Marriott and Hyatt properties – and which had worked with Sasaki Associates on the Golden Moon Casino & Resort in Mississippi.

As design engineer for the watershape, Martin suggested the use of music to animate the space even further and persuaded Ward that the water-switch technology offered by Crystal Fountains would help meet the city's lofty objectives for the park.

NO SMALL TRICK

All musical fountains are one-of-a-kind installations, but this type of nozzle had never before been used in such quantity in so small a space. We also had to work



NEIGHBORHOOD CONNECTION: Tucked into a small space amid buildings of assorted heights, the musical fountain was intended to draw people to its park – a key to the revitalization of the downtown district.



SPLASH ZONE: When the show's not running, the water in the multiple pools becomes an irresistible magnet for children, who basically do what comes naturally in taking a hands-on approach to the experience.

water from a nozzle port to an exhaust port rather than cutting off the flow altogether. A small solenoid controls the atmospheric air on either side of water flow, causing the flow to “bend” in the direction of either the nozzle or the exhaust port.

This design offers fast sequencing response without causing “water hammer,” an annoying banging sound in piping systems. Because it only *diverts* water flow, the pump and piping system experience no pressure changes of the sort experi-

enced with devices such as diaphragm valves. Perhaps most important of all with respect to reliability and maintenance, the submersible water switch has only one small moving part and comes with a 10-million-cycle rating.

We further delivered on the city's request for ease of operation and maintenance by designing the feature with completely automated systems. For example, the fountain self-regulates in response to changing environmental conditions: If the system detects increasing winds, it lowers the height of the water plumes to reduce overspray. In addition, if a pump malfunctions and the water flow becomes irregular or if a filter needs cleaning, the system notifies the operator.

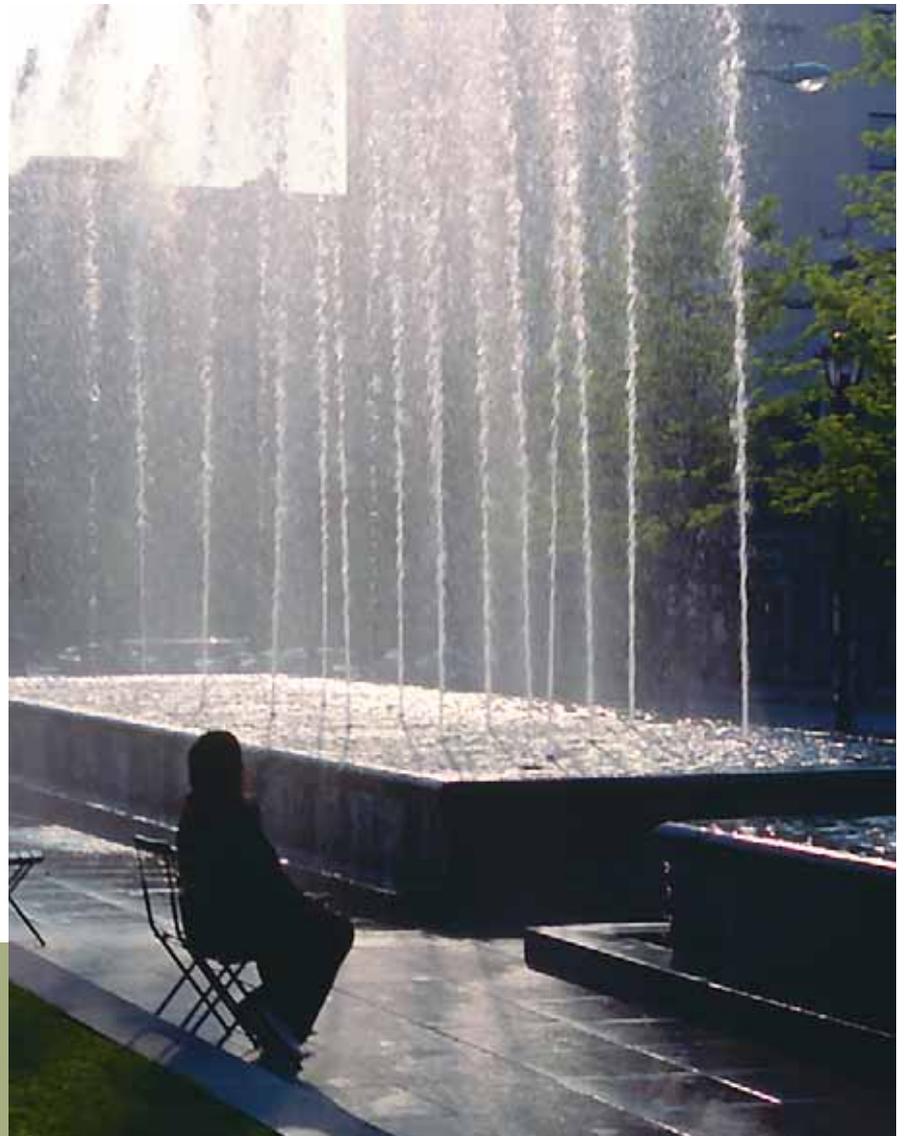
Similarly, given the huge number of un-

with winds that whip around the high rises in such a way that cars passing on the busy streets wouldn't be splashed. And finally, there was the timeline: We were commissioned to do the design and engineering in December 2002, started construction in March 2003 and had to be ready by October of that year.

Breaking the project down into tasks was the only way we could ensure that each phase would go smoothly. We immediately tackled the hydraulic engineering, knowing that excellent piping designs, trouble-free nozzles and easy operation and maintenance would all be crucial.

The water switch selected for the project pulses at a rate of 10 times per second – a critical requirement when the goal is choreography to music. Each switch is mounted directly to the fountain nozzle in the vessel and provides fast, dynamic sequencing patterns without complicated pneumatic and hydraulic controls.

The switch itself is actually a water diverter; meaning it changes the path of



MAJESTIC HARMONIES: The fountain and its music invite people to sit, relax, watch and listen, just as intended. The control system responds to prevailing wind conditions, lowering the height of the jets to limit overspray.

derwater lights in the White Plains feature and the fact that they're not so easily changed, we reduced maintenance time by recognizing the fact that bulb life is shortened by repeated on/off cycles. Instead of using on/off switches, we put the lights on dimmers (1% to 100%) so that when light patterns change as part of the display, no lights are actually turned off. As a result, the lights are turned on only once per day and turned off at midnight, extending the life of the bulbs and reducing costs.

WISDOM TO SHARE

With the various technologies in place at least on paper, it was time to make certain that everyone involved with the project shared the same vision of the finished watershape.

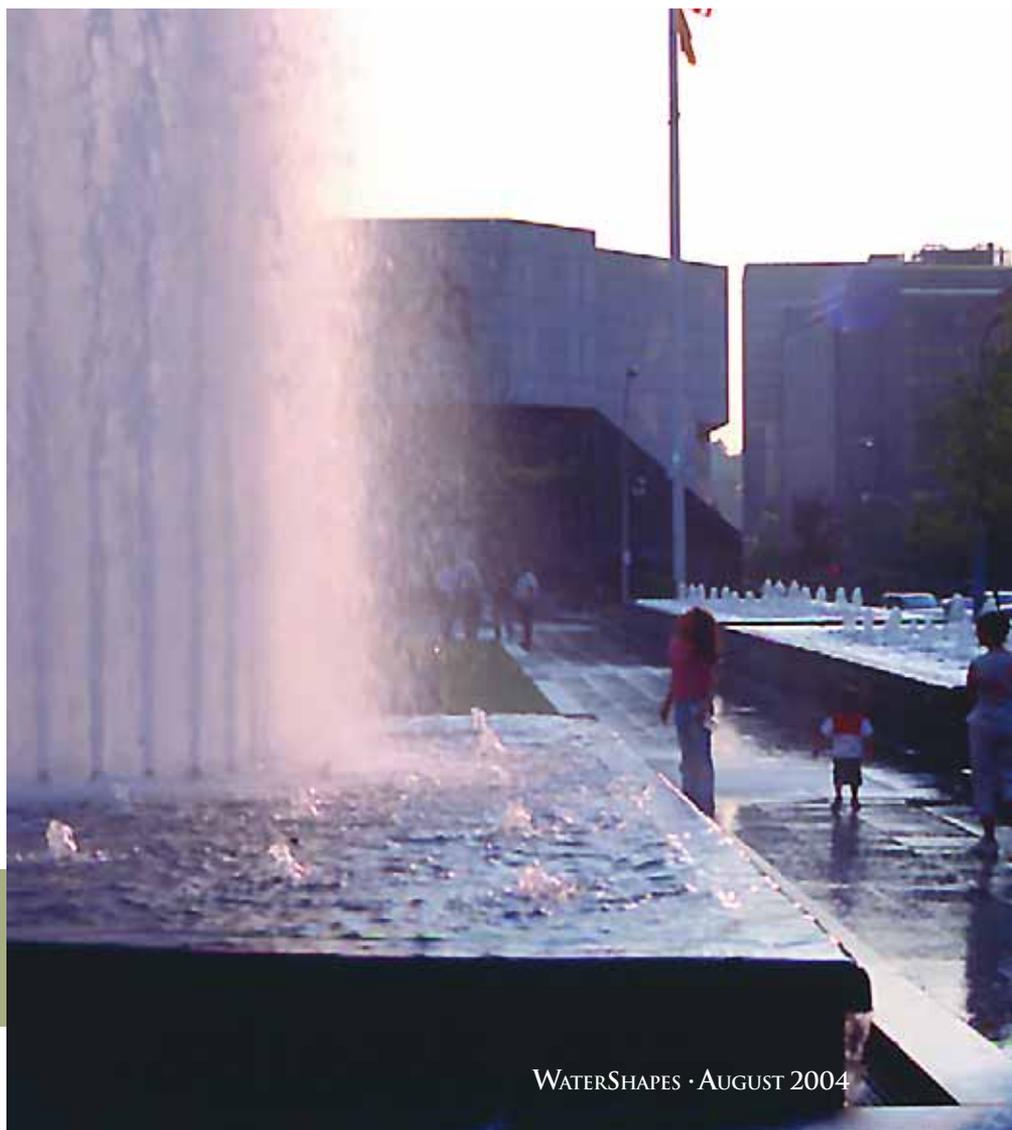
On this project, we secured that vision through joint effort of the client, the design team and the engineers, all working together. We showed video clips of the water-switched nozzles in operation and reviewed past projects (particularly those on which ADE and Crystal Fountains had worked as a team), but the key, particularly for the client, was playing music along with the moves of other waterfeatures – a preview that gave the city a vivid look into its future.

This step was also important with respect to managing client expectations and making certain they were expecting what we could effectively deliver. With this shared vision, we were all working toward the same goal.

The scale of the Renaissance Plaza fountain is similar to those typically found with hotels or casino properties, but we all had the feeling this was something special because of the unique urban setting. The fountain features four shallow, raised pools with pedestrian paths in between. Indeed, people can walk into the heart of the feature and can't see the nozzles or other fountain equipment, all nicely hidden under six inches of water.

The fountain system operates with a

LOOKING GOOD: In full flow, the fountain's impressive display dwarfs all onlookers, some of whom don't seem concerned by the possibility that overspray is likely to give them a bit of a soaking.





NIGHT VISION: When night falls, the fountain kicks into higher visual gear courtesy of the 160 lights arrayed throughout the basins – a reward to those who venture downtown after dark for a bit of music-accompanied shopping.

total of 48,000 gallons of recycled water. Seventy-five jets spout water 15 feet in the air, two dozen more shoot up 25 feet and three superjets propel water as high as 60 feet into the air – higher than any of the immediately adjacent buildings. There are also 13 giant leaper jets that shoot water from one pond to another as well as a fog machine, more than 160 lights and six water pumps.

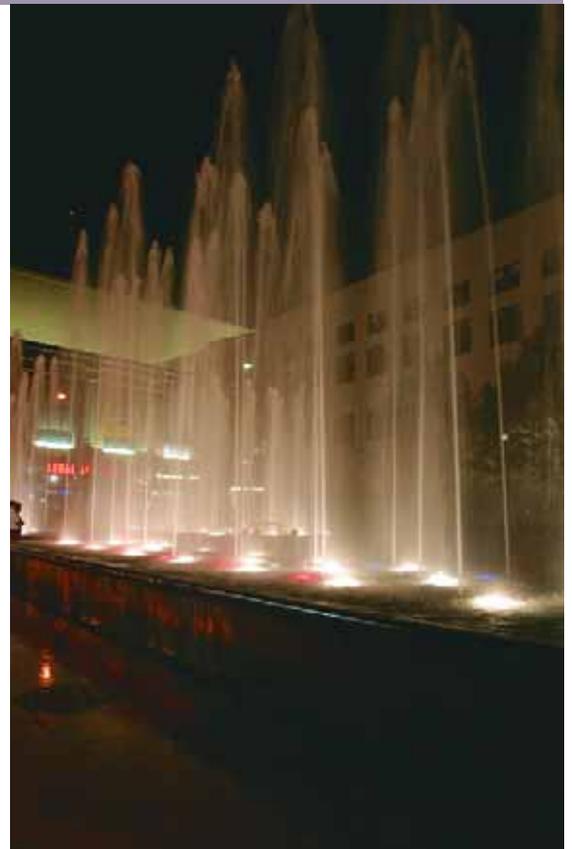
It's been described by many observers as a "tactile" fountain. Children especially love to touch the water, and there's a lovely reflecting pool that overflows into troughs, producing a gentle sound when the jets are at rest. It's a peaceful environment at those times, but when showtime comes, it's an entirely different story.

The fountain has a regular schedule of water shows during lunch hours and each evening. The shows last from three to five minutes and run every 20 minutes. Since it's been in operation, we've been told that the patriotic songs in the repertoire have been known to move veterans to tears.

THE SCIENCE OF CHOREOGRAPHY

When the proposed number of songs increased from the original four to 20, we had to stare down an unbelievable programming task. Integrating all of the nozzles and the potential different looks and varied rhythms fell to Crystal Fountains's choreography and programming team, which delivered routines of tremendous power and finesse.

It helped that Crystal Fountains supplied all of the technology and equipment for the musical fountain, including the sound system, computer controllers, lighting technology and fountain components. The choreography and programming team knew the technologies inside and out, which great-





MAGIC MOMENTS: The City of White Plains was after a watershape that would become a focal point for downtown pride and energy, and water moving in time to music seems to be working exactly as hoped and planned.



ly accelerated the process of delivering results on the plaza.

To illustrate the amount of work involved, it took the team a total of 14 24-hour days to choreograph all of the songs and then program them into the fountain system. The process was not unlike preparation for a major theatrical production, where weeks and even months of planning

go into seamless on-stage performances.

In fact, we began the process by “storyboarding” the songs, planning the look of each stanza by sketching the roles of each jet. To stretch the show-business analogy just a bit farther, it’s like preparing for a ballet or opera in which the jets are the dancers and we’re guiding their steps. We directed when the jets were

used, their frequency, speed, heights and interactions with other jets, and we always, *always* had to consider how long it would take the water from the jets to respond so they’d appear to be moving in time to the music.

To that extent, musical fountains are 50% about the water and 50% about the timing. We’d pore over musical scores and spent hours listening to recordings, over and over and over again. We tried different things, ran through permutations and combinations of possible effects and worked until we had what we saw as the best possible results – a process complicated by the fact that all the final work happened on site *and* by the fact that the space was small and everything was being seen in such unusually close quarters.

All in all, watching water perform is truly amazing, and we all see creating musical fountains as taking an already beautiful art form to the next level. Yes, it’s an *expensive* art form, but the proof is in the pudding: Once you see such a fountain and perceive how much the sound enhances the experience, you’ll be as hooked as we are by these tuneful combinations of music and water.



KEYS TO SUCCESS

There were many keys to making the project described in the accompanying text come successfully to fruition, including the availability of the water-switch technology; our awareness that we had to avoid any high-maintenance devices; a shared vision that saw everything having to do with the fountain as being an artistic expression; and a common understanding that the nature of the project meant long hours.

Perhaps most important to our ultimate success, however, was the fact that we had in the City of White Plains an ideal client, one who trusted and empowered the entire design team. In this case, the city had been on a quest for some years for a fountain feature that would put White Plains back on the map. Civic leaders wanted a reason for people to come downtown and brought a level of commitment to the project that helped it move forward quickly and easily.

In addition, citizen groups joined in and helped get the entire city excited about what was happening downtown. Their enthusiasm definitely helped motivate us – something we needed in order to complete such an elaborate project in just about five months!

– K.M. & G.T.

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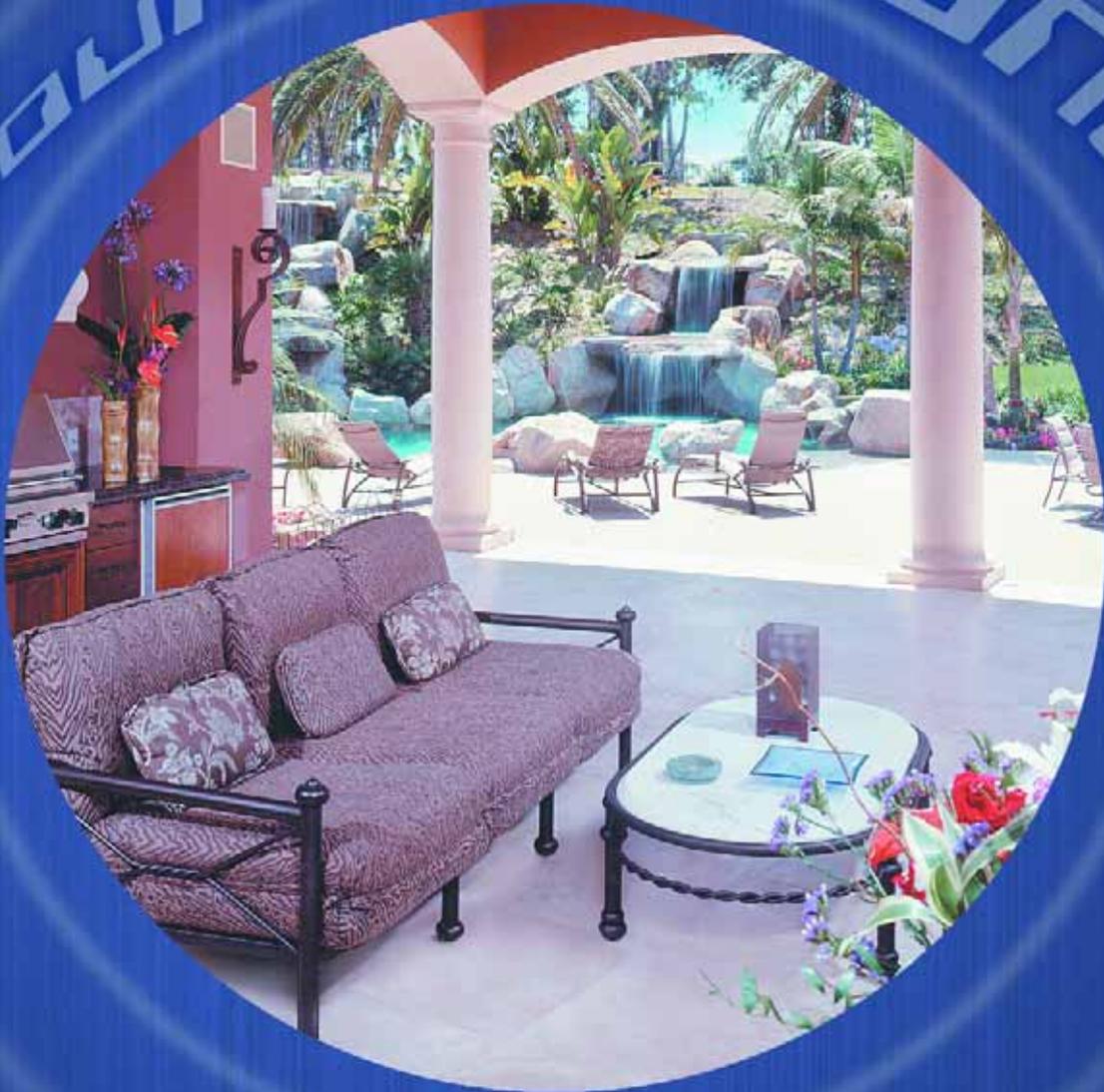
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Sound Options



An amenity once found almost exclusively on major commercial properties, sophisticated outdoor sound systems are becoming increasingly popular in today's residential landscapes and gardens. In fact, says audio specialist Scott Sylvester, modern speaker systems are adding all-new dimensions to exterior spaces, giving watershapers and others the opportunity to provide their clients and guests with a complete outdoor sensory experience.

By Scott Sylvester

From the striking miniaturization and power of today's portable playback devices to the satellite radio found in more and more homes and automobiles, the ways we receive music, information and entertainment through our ears have increased dramatically in the past two decades.

With these technologies becoming more and more available and affordable, it makes sense that more consumers than ever before are including quality sound systems in their outdoor environments – and it doesn't hurt that sound-reproduction technology has gotten fully up to speed in making those exterior systems sound better and better.

Thanks largely to the pioneering efforts of engineers working with or for theme parks, restaurants and resort properties, outdoor systems have been around a long, long time. In recent years, however, that technology has been transferred to products scaled to residential applications. That's great news for watershapers and landscape professionals who know the value of shaping their clients' total outdoor experience – and even better for those who keep a few key considerations in mind as they sit down at the drawing board.

Heard Not Seen

Even if you've never dealt with an outdoor sound system before, it doesn't take much background to recognize that delivering good sound to the great outdoors is both different and more difficult than it is to recreate a concert hall in a family room or home theater.

For starters, the components are different. Indoor speakers, for example, are not made to withstand the elements and will not survive outdoors for the long haul, even if you take unusual measures to protect them. The basic materials from which the cones of indoor speakers are made, for example, are not com-

patible with high-moisture environments, and there's also the fact that they simply are not set up in such a way that they will provide a full range of sound outdoors.

Several companies such as ours – Sonance of San Clemente, Calif. – are now offering various products designed specifically to perform under harsh outdoor conditions. These companies manufacture high-fidelity loudspeakers that deliver high-quality sound from the guise of common landscape features such as rocks, pedestals, flowerpots, and other outdoor fixtures or natural elements.

The key to making exterior sound systems stand up to the challenge of the great outdoors is giving them more power to work with.

The quality and visual adaptability of these housings has improved in recent years, making it increasingly possible for people to enjoy music outdoors without ever seeing where the sound comes from – thus giving the designer an unprecedented amount of flexibility in planning for sound.

When camouflage isn't needed, several of these same suppliers offer unobtrusive speaker models for in-ceiling, in-wall and on-wall mounting. No matter the placement, it's *critical* to verify the weather-resistance of both the speaker *and* its enclosure. And it's not just about rain and sprinklers: Direct sun can be quite damaging, and saltwater is much more troublesome than dew – ample enough reason to make certain that warranties cover a speaker's electronics as well as its housing.

Seamless blending of interior and exterior experiences when it comes to sound reproduction is a goal made possible by today's audio installations, with speakers distributed throughout backyard spaces and hidden, for example, in walls, architectural details and artificial boulders.



Sound systems can be wired for entire environments or for more intimate spaces (such as a spa or a lounge area) with a quality that was once reserved for theme parks and upscale resorts.

But durability isn't the only issue or even the main one: The big challenge with outdoor systems has to do with the nature of the space in which the speakers are placed and the fact that the outdoors seem to swallow sound in unappealing ways.

Where interior rooms contain and contour sound, outdoor areas tend to make music sound soft, hollow or unnatural. It makes sense: All sounds dissipate more rapidly in open spaces, both because there are fewer hard, reflective surfaces and because there tends to be plenty of soft greenery to absorb and muffle sound. There's also competition with traffic noise – and even the pleasant, soothing sounds of waterfalls or fountains.

Making It Work

The key to making exterior sound systems stand up to the challenge of the great outdoors is giving them more power to

work with. In other words, you combat dissipation by playing music at a higher power level than is needed indoors, simply to generate acceptable volume across the listening area.

This is all why most exterior-sound specialists recommend selecting speakers that handle higher power levels – at least 50 watts in most applications, which is a good bit more than most indoor speakers require to produce good sound. And this doesn't mean that high-capacity outdoor speakers will be so loud that the neighbors will complain!

Another feature of outdoor speakers is that they are designed to deliver sound in either single-direction or omni-directional patterns. This affords the designer an enhanced ability to plan and control the areas to be covered by sound – and avoid areas that will not be set up for sound, a big plus in multi-use areas, small spaces or environments with a variety of large structures, plantings or el-

evation changes.

A directional speaker, for example, would be recommended for use near foundation plantings or placed close to or against a wall or fence or dividing line from which you'd want the sound to travel in one direction and not another. By contrast, an omni-directional speaker would work well on a patio or other place where people might take places anywhere around the speaker.

This all leads to a most important point: Speaker layout is one of *the* key issues in developing an effective outdoor sound system. Certainly, the number of speakers to be deployed depends on the needs of the space and the speakers, but as a general rule, positioning speakers from six to 15 feet apart in the area to be covered is recommended.

Too much space between speakers means loud and quiet spots in your sound field and a failure of sound imaging, while too little space is a money-wasting form of sonic overkill. This is why it's recommended that you walk around and listen to how an array of speakers sounds before mounting any of them in place or burying their cables.

For all outdoor applications, you need to use speaker cable that has been designed for burial as well as weather-resistant wire connectors. Burial cable has a tough outer housing and internal stranding for greater strength and will offer decades of trouble-free service. (Note that in commercial settings, these cables may need to be carried in conduits, depending upon local codes.)

If the cable runs will be moving through hardscape, a bit of planning can go a long way. Installing runs of conduit before deck installation, for example, is easy to do, while finding places to bury cable around hardscape perimeters after the fact can be extremely difficult. Also, sub-deck conduit runs facilitate replacement of cabling if any problems arise down the line.

In Control

Another point to consider in laying out speaker arrays is that some residential clients may want different music in different areas – very often the case with commercial installations and something

that can be done in any backyard courtesy of multi-zone systems.

These multi-zone systems allow you to distribute audio – either from the same source or a different one – to more than one area at the same time. You can have pop music playing out by the pool, for example, while news or a jazz station plays on the patio or indoors. Or you can have the same music playing in two or three different areas simultaneously, so a stroll through a Japanese garden, for example, can be enhanced with the same music throughout.

The concept of zoning opens up the subject of control, and the fact of the matter is that just about anything can be accomplished if the right technologies and products are applied. There are two keys to making the backyard entertainment environment as pleasant as can be: control of music selection and volume – both without the need to run inside to play with switches and dials.

One approach, in cases where you have a protected area or a weatherproof enclosure, is to set up outdoor controls that are similar to what you'd find indoors. These systems are easy to use and can be made even more convenient through use of hand-held remote controls.

If there is no good outdoor space for such a control system, there are radio-

The ability to hide sound sources in a landscape is an important design criterion and is being met in a number of different ways, as with this speaker hidden within a planter.

frequency remotes that can transmit signals through walls, offering your clients the convenience of changing channels or CDs without having to leave the comfort of the hammock. In fact, there are waterproof remotes, so they won't even have to get out of the pool or spa.

The systems that generate the sound delivered by the outdoor speakers can range from standard home-entertainment systems to professional, rack-mounted arrays with separate amplifiers and pre-amps for various speaker runs. These are the same products used for all-indoor systems, and coordinating location is a factor because the outdoor speakers must be linked to the amplifier with cables.

This cabling can become extraordinarily complex – so much so that when multi-function or multi-zone systems are being installed, manufacturers generally recommend hiring a sound expert or low-voltage-system contractor.

New Ground

There are professionals in the sound business who can handle any and all



jobs, from the simplest to the most complex. That said, the placing of speakers, the running and burying of speaker cables, the making of connections to the audio source and the programming of volume, source and remote controls are all relatively simple tasks that should be within reach of most contractors.

In the event you want to call in a professional, look for someone with Custom Electronic Design & Installation Association (CEDIA) certification. CEDIA is the trade association for custom audio/video installers and provides special training and continuing education on installing this type of wiring and equipment, indoors and out.

Whoever sets things up, the beautiful thing about outdoor sound systems is that they can be used in a variety of settings, from the most elaborate resort-like spaces for estate homes to average backyard gardens – and everything between. To get started, watershapers certainly do not need to become audio experts: All it takes is recognition that outdoor sound systems bring you one step closer to providing your clients with the *complete* outdoor experience.

Stereo Phonics

One of the issues that invariably arises in discussing outdoor sound systems with clients is the issue of “stereo” sound and how it translates to exterior spaces. This results from the way home sound systems have been marketed for more than a generation and has left many consumers with the impression that *stereo* means *quality*.

Basically, stereo reproduction involves the distinct separation of sound between left and right channels and was developed to create a sense of a live performance in a home or theater. In stereo mode, sound emanates from “point sources” at one end or side of the space.

Outdoor settings, however, generally don't lend themselves to conventional left/right speaker placement or provide a suitable environment for recreating the stereo image you get indoors. To address this concern, you need to explain that high-fidelity outdoor speakers come with either single-channel or stereo inputs.

The *single-channel* mode is used when stereo separation can be achieved outdoors at a satisfactory level. The *stereo* input combines information from both left and right channels, meaning *all* of the sound comes through the same speaker. This is the right approach, for example, along a walkway, where the speakers create an even sound and the conventional left/right configuration would sound incomplete.

–S.S.

Style Council

San Diego-based landscape designer, watershaper and artist Melanie Jauregui has spent a career taking inspiration and clues from her clients, specific settings and her own explorations of the realm of art and design. As a result, she says, each of her projects is different from the others – and a reflection of a collaborative approach that enables her to bring a range of styles to bear in meeting the distinctive needs of any project.

By Melanie Jauregui

I'm steadily reminded of one key point: No matter how talented any one of us might be, the work ultimately is not about us.

For intensely creative people equipped with the necessary measures of self-confidence and ego, that point can be tough to accept and absorb, but it's true: For all our skills, we nonetheless work with our clients' visions, and the reality is that creating sympathetic designs for them takes time, patience and lots of effort.

As a result, I'm passionate about uncovering what my clients are truly after in their gardens and watershape designs. It's an investment of time and energy at the onset of the relationship that always pays dividends by directing the creative decisions I make as a project unfolds. It's also, I believe, liberating to me as a designer.

Indeed, this is the most exciting aspect of landscape and watershape design for me, this freedom I have to move across a spectrum of ideas and influences to come up



with something fresh and unique for each and every project – something to which I can apply my own signature while keeping faith with client's objectives and the requirements of the setting.

Sometimes these turns of style are subtle; other times they're quite distinctive. In all cases, I follow the clues and signposts I find, using my own preferences and background as a compass. To demonstrate what this philosophy means in the real world, let's review four recent projects, each with its own character.



I: Organic Undulations

The clients on this first project – in Alpine, Calif. – had a long wish list and lots of general ideas about what they wanted. This gave me a starting point while leaving plenty of room for interpretation when it came to specific design decisions.

When we first met, they said they wanted something natural, even mountainous, to give what was otherwise a drab, flat-as-a-board space a rustic feeling. Their lot was a big square, quite typical of

those in the subdivisions of East San Diego County these days.

As I do with all my clients, I closed in specifically on what they meant. Through the entire conversation, we kept returning to the same set of ideas: They wanted lots of plants, plenty of mounding and an overall sense of undulation in the landscape – a “voluptuous” setting, so to speak – to go with a pool, spa, waterfeature and built-in barbecue.

Staying Flexible

As we kept exploring and reviewing books and magazines, the clients were also (surprisingly) attracted to some highly formal elements (including an arbor allée) that can be tricky to fit within a natural style. Fortunately, we were

working with a large project area that made it possible to create distinct spaces that could be blended and held together by picking up plant and stone material, for example, and working with them from zone to zone.

In this case, low walls surfaced in Cameron ledger stone were key integrating elements. It all starts with the pool and a raised portion of the bond beam that extends well beyond the pool and gradually disappears in the rolling contours of the garden. All of the extended walls were laid out with sweeping curves that gracefully reinforced the impression of undulation.

I’ve used this extended-wall detail on other projects to lead the eye into a garden while integrating a watershape into



the scenery: There's a wonderful unity that rises where a pool isn't separated from its setting – and in this case I think it works quite well.

In shaping the undulations, we took the spoils from the swimming pool dig and piled them up in several places in low, gentle contours. Nothing was too drastic by way of elevation changes, as we didn't want it to look like we'd "buried dead horses" all over the property and topped them with symbolic tombstones of rocks or plants: The whole area is very softly graded.

The pool itself has a freeform shape. The foreground spa is set down in the pool itself instead of serving as a large, separate statement. Nearby is a water-feature – a small Koi pond designed not to compete with the spa, but rather to function visually as part of the pool itself while being operationally separate from it. (The effect works because of the small bridge that separates the vessels while leading onward to a large raised deck and shade structure that overlook the pool.) There's a small waterfall with the Koi pond that provides aeration for the biological system as well as a soothing set of sounds.

The pool and spa interiors are finished in fine, dark-gray and black pebbles that pick up the dark veins in the Cameron stone. Here as in many of my other projects, I relied on the skill and color sense of my hardscape/swimming pool installer, Goran Kirovski of Triton Pools & Spas (Escondido, Calif.). He's a genius with hardscape color, giving me the freedom to design a spectrum of subtle, custom looks right on site.

Planting Ideas

Given the clients' desire for lots of greenery, developing the planting plan for this project was a great deal of fun. The space was large, so they wanted a

The homeowners wanted a natural, 'voluptuous' backyard setting that we delivered by adding soft elevation changes to their flat lot and by establishing sweeping lines and undulating curves throughout. Not even a formal element such as the arbor allée disrupts the impression made by these rolling contours.

The bridge marks the functional division between the ledger-framed swimming pool and the rustic-looking pond, but the overall free-form shape carries over onto both sides of the span.

scheme that would be easy to maintain. They also wanted a great deal of screening on both sides of the property, with breaks to maintain and frame portions of views in certain areas.

For primary trees, we selected Liquidambar and Deodar cedars – trees well suited to the large lot and a beautiful combination, especially in the fall. The Liquidambar develops deep-burgundy leaves, while the cedars look blue; when these trees mature, they should be truly spectacular.

The arbor allée was planted with climbing white roses. We used lamb’s ears for their gray foliage alongside Mexican feather grass and a variety of other grasses. For the screening, we used clumping bamboos – a plant that I love for a number of reasons, a key one mentioned below.

Fragrance was another item on the clients’ wish list, so we used honeysuckle and its wonderfully sweet smell to go along with the roses as well as patches of rosemary, creeping thyme and sage.

The clients also specifically requested a park-like concrete path that would move through the yard as defined conduit for moving kids through the space. The path moves in and out of garden spaces, through a “bamboo grove” and the trees, past the arbor allée and around a grove of fruit trees at the back of the property.

They were also very concerned about sound, which is one of the reasons we included the waterfall with the Koi pond and why we used the clumping bamboo, which make a fantastic rustling sound when the wind blows and makes the canes tap into one another.

The clients installed a sound system, choosing rock speakers that sound terrific but that don’t harmonize with the aesthetics, so I’ve selected plants to hide them. For setting nighttime moods, we went with moonlighting in the trees to light the pathways and create interesting shadow patterns.



Blight Avoidance

I often try to talk clients out of built-in barbeques, and when I can’t, I at least look for ways to de-emphasize their visual role in the garden.

The constant challenge with these popular amenities is finding ways to blend them successfully into an overall aesthetic scheme. The best solution seems to be using materials borrowed from other places in the barbeque area, but I generally also try to place them in blind spots a bit off to the side where they are still both functional and convenient.



– M.J.

II: Artfully Crafted

This project – one of my personal favorites – is an example of using a distinctive architectural style as the basis for an exterior design. The home, built in the early 1900s and renovated in the 1980s, is a beautiful, two-story cross between the signature Mission influences of the famous San Diego architect Irving Gill and the early Craftsman style that was just becoming popular at that time. The residence is located in the gorgeous (and very urban) setting of San Diego's Mission Hills district.

In visiting with the clients, I saw their fantastic collection of Arts & Crafts furniture and eclectic artwork, all with a distinctly warm, feminine flair. Right away, I noticed a chair made by Charles Rennie Mackintosh, the famous Arts & Crafts designer who used a graphic pattern known as the Mackintosh Rose on many of his pieces.

When I recognized this detail, the clients were pleased and excited – and I had a strong feeling the job would be mine. As we continued our conversation, I noticed that much of the rest of their furnishings picked up the Mackintosh Rose or similar patterns, and I knew right away that I had a visual motif that I could repeat in the garden.

Marching Orders

The scope of the work here was to replace all of the hardscape, give the existing pool a major facelift and rework all the plantings.

For the hardscape renovation, we used (mostly) a teal-green slate set on concrete along with sand-blasted, natural-gray concrete with saw-cut joints, gray stucco and lots of teal-green and gold glass tile. I picked up the Mackintosh Rose in the scoring patterns of the decking and pathways and in the layout of the stepping pads.

The swimming pool was basically in good shape, so our main work was cosmetic: We replaced all the waterline and raised-bond-beam tile with the teal-green and gold glass tile and added, in the bot-



We used soft greens and grays throughout the space in slate, concrete, stucco and glass tile, picking up elements of the Mackintosh Rose when and where we could to tie the exterior design to the home's Arts & Crafts-inspired interior.



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The pool itself was in reasonable shape, so our work with it was mainly cosmetic. A key addition was the mosaic rendition on the floor of the pool of the Mackintosh Rose in black, green and purple tiles.

Leaf Sizing

Ultimately, designing with plants is really about juxtaposing one form (and/or color) against another to create both resonance and contrast. If you look at some planting designs closely, however, there are times when it seems like everything should work, but there's just something wrong or missing.

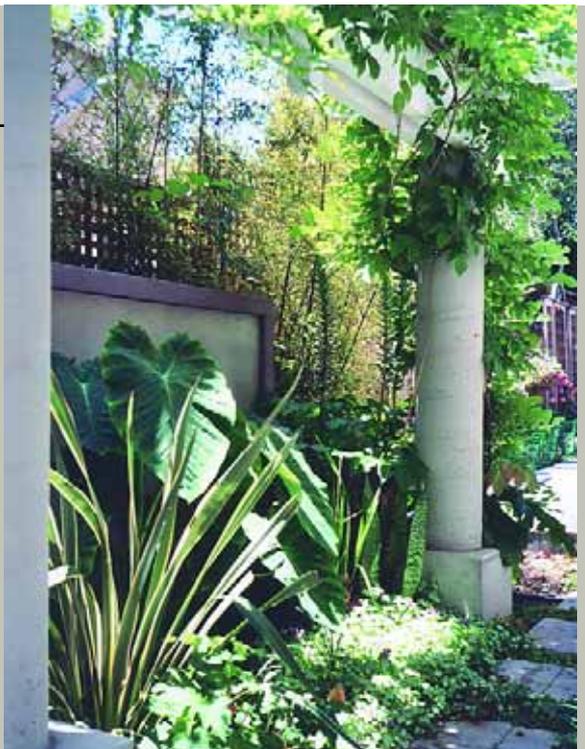
I've run into this realization in my own work from time to time, and I've invariably found that the problem is quite simply that the leaves are all the same size.

This is a common mistake and causes problems by creating a texture that is annoyingly homogenous. This is why I always try to select plants that, among many other considerations, have different-sized leaves.

I especially enjoy the effect you can achieve with large leaves, such as *Agave attenuata*, Elephant's Ear, Bronze Flax or cannas. As one looks across the planted area, the eye will stop on the large leaf and enjoy its bold, sculptural quality before moving on to subtler and more nuance visual elements all around it.

It took me quite a while to figure out what was going on here through my own observations, but once I learned that I could gain control of observers' visual progression by using large-leafed plants in this way, my work took on a whole new dimension.

— M.J.



tom of the pool, a large, mosaic version of the Mackintosh Rose using glass tile in black, greens and purples.

A big portion of the project involved reworking the side yard seen primarily from the dining room. The space had little by way of landscaping, which was bad enough, but worse was the fact that beyond the fence in plain view was an unsightly, utility-laden portion of the neighbor's house.

For this area, I designed a large pergola (classic Irving Gill) with a tall screen of Black Bamboo as a backdrop and to obscure the view of the neighbor's wall beyond. The columns for the pergola are made of sand-blasted, poured-in-place concrete – basically round columns on raised pedestals that rise about ten feet to support a series of wood beams across the top. We included a six-foot-tall, gray-block-and-stucco screen wall with detailing down the face suggested by a photograph of a Charles Rennie Mackintosh headboard he'd designed for his own home.

Right outside the dining room window, we placed a small waterfeature, just a simple, square, tiled basin with a small spray jet that sends a delicate stream of water just a couple of feet into the air. Above the fountain on the wall, I designed a tile detail that suggests a wall fountain, even though it's completely dry.

Green Scene

The plantings throughout this project are lush and too numerous to list. We used mostly moisture-loving plants with dense foliage and leaves of differing sizes, textures and colors to add interest.

In the side yard are lots of gray highlights and white flowering plants to establish a "moonlight garden" in which white blossoms and light foliage create highlights that are visible at night, the time of greatest use of the adjacent dining room.

In the front, there's a particularly lovely plum tree graced with spectacular purple leaves. Against the basic green of the plant palette and the gray of the house, its colorful foliage provides a fantastic and intriguing contrast. Other colorful plants include angel's trumpet, scaevola, a ground cover with blue flowers, iceberg roses and lots of lamb's ear – among much more.



The small space outside the dining room was designed to mask the view of the neighbor's utility connections and is enhanced by the sound of moving water generated by a small fountain. The glass-tile backdrop looks like a water wall, but it is actually dry.

III: Snaky Sleek

These clients had spent a lot of time and money remodeling the inside of their home, mostly removing walls to create a large, continuous living space with clean, crisp, simple lines. There was wonderful modern art on the remaining walls along with a lot of cool colors and a clear preference for stone and natural materials.

The fact that their stylistic aims were so clear was a big help in this case, because the couple was from Israel and, at first there was a little trouble in communicating through a language barrier. This was somewhat complicated by the fact that they had differing priorities. The husband was a bottom-line kind of guy whose outdoor space had to be all about function, while the wife was primarily concerned with art.

This was no real problem from my perspective: It was so obvious what they wanted in terms of style that my “homework” was really quite simple.

Balancing Views

To carve a path between their differing agendas, I kept everything straightforward when it came to the main elements. The resulting garden is all open space with no pathways or niches, and the rectangular swimming pool serves as the main visual focus for the space.

Around the pool, we used a dazzling Chinese blond quartzite called Golden Ray for the decks. We also used a seeded exposed-aggregate concrete with Salmon Bay pebbles to add accents to the overall hardscape.

The most elaborate design feature is the tile snake mosaic in the bottom of the pool, which also functions as a lap line. The snake is located off to the side on the pool’s floor, running almost its entire



This backyard is distinctly about clean, crisp, uncluttered lines – all open space with the rectangular pool serving as the centerpiece in a deck of beautiful blond stone.



The snake mosaic at the bottom of the pool is the yard's most elaborate feature. It seems to wriggle across the pool's floor whenever the surface water is disturbed.



The hard lines of the decks, walls and pool are softened by plantings at the yard's edges, but the understated colors and textures don't compete for control of the space's overall character.

length. It's done in black tile with small gold glass tiles that make it sparkle.

Along the length of the pool, we installed deck-mounted steam sprays that arc over the snake. Our thought here was to use a rippling water surface to give the snake a sense of motion; it serves the purpose, but truth be told, *any* time the water surface moves, even in the slightest breeze, the snake really "wiggles."

The snake, by the way, was inspired by a picture I found of a Balinese garden that featured a snaking waterfeature at the center of a rectangular garden. It was so compelling that I picked it up here to add interest to the otherwise clean minimalist space.

We went with something of a mixed planting palette, focusing on grasses and succulents to soften the hardscape while sticking to a minimalist spirit. We also used black bamboo, silver berry, Japanese boxwood, Canna Tropicana, society garlic, agapanthus, day lilies, angel's trumpets and blue fescue to accent the large lawn. The grass runs to an edge of the property that falls away down a slope toward a golf course – a neat way to connect the backyard with the hues of the distant view.

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IV: Classy Modernity

For this project, my clients wanted something classic and warm but with simple shapes and lines and plenty of open space. They also wanted a spectacular swimming pool as the absolute centerpiece of the project.

Ultimately, photographs of pools on the Spanish island of Majorca inspired the pool/deck design, with the influence seen in the rectilinear geometry and patterns and the ease of pilasters to frame the view. We stopped short of full Moorish influence, however, by not picking up the classic tile embellishments

that would have been appropriate in a more ornate design.

Under Control

The pool is some 60 feet in length with a vanishing edge and an attached spa. Its lines are clean and simple, but there are striking details including the intersecting rectilinear elements in the shallow alcove and extensive step details.

The surrounding hardscape is done in a beautiful limestone material known as Three Rivers stone and actually looks like a carpet around the pool with its color-

fully complex patterning, swirls, striations and points of variation and visual interest. This decking, in fact, is the key to the whole design and keeps the pool from overwhelming its setting.

The pool's tile – on the dam wall and edge detail and at the waterline – is all a deep-plum glass tile that shimmers like jewels in the sunlight. The interior is finished with a custom-colored, polished exposed aggregate, again created on site by Goran Kirovski.

The deep wine color is unlike anything I've ever seen. Without water in



This broad pool was inspired by photos of Spanish watershapes, but we shied away from the ornamentation that would characterize a more overt Moorish design influence.



The materials make all the difference in the impression made by the watershape, with the exceptionally textured stone decking, deep-plum-colored tile and rich interior finish making the water take on the appearance of a fine Spanish wine.

it, the surface looks almost pink or magenta, and there were some tense moments at the start of the application process when we wondered if we'd gone too far. When filled, however, the pool takes on a rose color that deepens in hue as the depth increases. At the steps in particular, you can see a gradation in color that's quite dramatic in the right light. (We've since named the color Majorca Rose.)

The rectangular shape of the pool gives the design its classic feel, abetted by the pilasters that frame the vanishing edge with their pre-cast concrete bowls and fire effects. Finished in stacked stone, the pilasters are large – three by three foot cubes – and highlight the edge detail while engaging the eye in distant views of rolling hillsides.

There's not much landscaping here beyond the lawns. The desire was to extend the simple line of the pool and emphasize the expansiveness of the deck with out interrupting the sense of open space. And the project might have seemed overly cool and austere if it wasn't for the vivid colors and fine textures of the decking and the pool finish – colors and textures that might have been too bold in a more complex setting.



The pre-cast bowls light the evening with fire effects and frame the long vanishing edge 24 hours a day. Everything works together to lead the eye to the vistas beyond the clients' backyard.



GRANITE SPAS

Circle 135 on Reader Service Card



ALLSTONE GROUP offers granite spas in three basic models. Each spa is hand-carved and polished from a single block of granite. All come pre-drilled for easy plumbing and are available in eight colors, including Sierra Gray, Mojave Gold, Charcoal, Desert Yellow, Blue Pearl, Coral Reef and more. In addition, spas can be custom-designed according to specific client needs. **Allstone Group**, Fayetteville, AR.

TWO-TIER FOUNTAIN

Circle 136 on Reader Service Card

POOL SHOT PRODUCTS has introduced a two-tier fountain. Designed for temporary use or for permanent installation, the fountain lends the gentle sound of flowing water to social events indoors or out. Molded from polyethylene, the pre-plumbed product comes in white or gray, resists scratches and scuffs, cannot rust or harbor mold and is both lightweight and stable when placed. **Pool Shot Products**, Ashtabula, OH.



POOL/SPA PUMPS

Circle 137 on Reader Service Card



WATERCO offers Hydrostorm pool/spa pumps. Designed for demanding applications that include such features as heating, in-floor cleaning, fountains, vacuum cleaning and swim jets, the pumps come in five models ranging from 3/4 to 3 horsepower, have large hair and lint pots and have diffuser/impeller designs that provide increased performance, faster priming and high energy efficiency. **Waterco**, Phoenix, AZ.

PREFABRICATED WATERFEATURES

Circle 138 on Reader Service Card

REPLICATIONS UNLIMITED has introduced the Caribbean Waterfall Group, a new series of ready-to-install waterfeatures for use with swimming pools. Developed from real rock formations, the one-piece units range in size up to 8 feet wide and 4 feet high. There are six different models in the series, with four companion boulder models designed to be installed around the edge of the pool. **Replications Unlimited**, St. Louis, MO.



LANDSCAPE LIGHTING CATALOG

Circle 139 on Reader Service Card



KICHLER LANDSCAPE LIGHTING has published a catalog covering its professional lines of products. The 84-page, full-color booklet divides the company's products into lighting families – styles, sizes and finishes that coordinate with each other and other compatible lighting products and accessories. Highlights include new all-brass fixtures for use in harsh climates. **Kichler Landscape Lighting**, Cleveland, OH.

POOL FINISH

Circle 140 on Reader Service Card

FLORIDA STUCCO offers Florida Gem Pool Finishes with the look and feel of smooth, luxurious natural stone. Virtually indestructible, color-fast, slip-resistant and non-abrasive, they are also resistant to stains, etching, blemishes, dirt and harsh chemicals. The material is available in ten colors, including white, bone, blue, sky, aqua, aqua clear, black, Hawaiian, French and lagoon. **Florida Stucco**, Boca Raton, FL.



HEAT PUMP

Circle 141 on Reader Service Card



RAYPAK offers the model RHP 115HC heating and cooling heat pump for use with pools and spas. Designed to heat the water in cooler months and cool it down in the summer, the unit features a copper-jacketed/cupronickel-interior heat exchanger, large air coils, a durable, coated-steel cabinet, dual pool/spa thermostats, a digital temperature display and an array of LED status lights for user friendliness. **Raypak**, Oxnard, CA.

PLASTER/MORTAR MIXERS

Circle 142 on Reader Service Card

STOW CONSTRUCTION EQUIPMENT offers five new plaster/mortar mixers and three new concrete mixers that feature significant upgrades beyond their predecessor models. All eight mixers have tough, tubular-steel frames that give operators improved wheelbarrow clearance on the job. In addition, all models feature new forklift pockets for improved transport stability. **Stow Construction Equipment**, Carson, CA.



CHLORINATION SYSTEMS

Circle 143 on Reader Service Card



POLARIS POOL SYSTEMS now offers the AutoClear, AutoClear Plus and Pure & Clear automatic chlorination products formerly marketed by ClearTech Automation. These saltwater chlorine-generation systems produce all the chlorine needed to keep pools with capacities of up to 40,000 gallons sanitized with none of the skin or eye irritation often associated with liquid or tablet chlorination. **Polaris Pool Systems**, Vista, CA.

CHEMICAL CONTROLLER

Circle 144 on Reader Service Card



ACU-TROL offers the AK110, a microprocessor-based controller designed to monitor and control all chemicals in pool and spa water. Measuring everything from pH and ORP to ppm levels and temperature, the device also has proportional feed capability; the ability to set missing times and cycle times; overfeed lock-out times; acid/base feed; and up to 30 days of data recording at two hour intervals. **Acu-Trol**, Auburn, CA.

WATERPLAY SYSTEMS

Circle 145 on Reader Service Card



WHITEWATER WEST manufactures AquaSpray activity elements, individual waterfeatures designed for smaller facilities or budgets. Model AS-901, for example, is a multi-level series of steel or fiberglass troughs in which water flows from one runnel to another, fed by a small pipe fall with an optional, interactive valve that enables participants to control the water's flow.

Whitewater West, Richmond, British Columbia, Canada.

GUTTERS AND GRATES

Circle 146 on Reader Service Card



RENOSYS offers DuraTech pool gutters and grates, including an indoor-use, all-PVC gutter system; stainless steel or PVC-covered trench gutters; and complete, stainless steel, integral perimeter supply-and-return systems. The systems come in several standard configurations – trench, open, roll-out, semi-recessed, fully recessed or deck-level – and custom options and design services are also available.

Renosys, Indianapolis, IN.

Continued on page 64



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COMPACTION RAMMER

Circle 147 on Reader Service Card



MULTIQUIP offers the Mikasa MT-84F, a unit designed specifically for compaction work with trenches, retaining walls and pads. With 3,950 pounds of impact force and an 11-by-13-inch shoe, the hard-hitting device weighs 185 pounds, is driven by a quiet, fuel-efficient gasoline engine and is ideal for the compaction of cohesive, granular and mixed soils at rates of up to 2,000 square feet per hour. **Multiquip**, Carson, CA.

HEAT PUMP

Circle 149 on Reader Service Card



JANDY has introduced the AE 1000 heat pump for use in heating the water in swimming pools. Standard features include a digital control panel, a titanium heat exchanger and an auto-heat system. The automation-ready device connects easily to pool/spa automation systems, automatic valve systems and remotes, and a chiller/hot-gas defrost option is available for the 109,000 Btu model. **Jandy**, Petaluma, CA.

chiller/hot-gas defrost option is available for the 109,000 Btu model. **Jandy**, Petaluma, CA.

DIVING BOARD FOR ATHLETES

Circle 151 on Reader Service Card



S.R. SMITH has added the Frontier IV diving board to its line. Designed specifically for adult athletes weighing up to 400 pounds, the board is made of hand-laid fiberglass with an

acrylic skin and resin roving and is intended for installation on the company's "U-style" and steel meter stands. The diving board comes in an eight-foot length in a radiant white color to complement any aquatic facility's décor. **S.R. Smith**, Canby, OR.

BUTTERFLY VALVE

Circle 153 on Reader Service Card



ASAHI/AMERICA has introduced the Pool-Pro Type SP Butterfly Valve. Designed to withstand complete immersion in chlorinated water, the easy-to-install valve's durable, lightweight,

PVC-constructed body and disc offer high corrosion resistance. The valve comes in sizes from 1-1/2 to 12 inches and has a self-gasketing seat design that eliminates the need for mating flange gaskets. **Asahi/America**, Malden, MA.

SLIP-RESISTANT SURFACING

Circle 148 on Reader Service Card



NATARE offers NataTread, a slip-resistance technology for use on the horizontal surfaces of stainless steel swimming pool components where slip-resistance and sure footing are required. The surface is made by punching the underside of stainless steel panels using a special tool that does not penetrate the surface, but instead produces a pattern of small, dimple-like, non-abrasive protrusions. **Natare**, Indianapolis, IN.

WIRELESS CLEANER CONTROL

Circle 150 on Reader Service Card



WATER TECH offers a wireless, radio-frequency remote control for its automatic pool cleaners. The control allows a facility or service professional to drive the robotic cleaner, turning it right or left and running it in forward and reverse. The control also offers a four-hour stand-by delay and has two cycle times as well as algorithms for pool types and the time the cleaning process will take. **Water Tech**, New York, NY.

WATER-BASED CONCRETE STAINS

Circle 152 on Reader Service Card



SUPER-KRETE INTERNATIONAL offers water-based stains in 16 colors. Designed to bring the same transparent colors to concrete as do acid-based stains, the environmentally safe and user-friendly colors can be blended as needed or diluted to increase transparency. Non-yellowing and UV-resistant, the stains can be spray-applied to new or existing concrete, including pool decks. **Super-Krete International**, El Cajon, CA.

EFFLORESCENCE REMOVER

Circle 154 on Reader Service Card



RESTORE USA offers Concrete & Masonry Cleaner, an environmentally safe, fluid-applied product that removes efflorescence (that is, calcium/lime buildup) from brick, block, concrete, paver stone and other stone surfaces.

Formulated to perform basic surface preparation as well as deep cleaning, the product is safe around plants and animals in applications with brick walls, pool decks and sidewalks. **Restore USA**, Orlando, FL.

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Genesis 3 at the Aqua Show November 8-11, 2004

Mandalay Bay Hotel, Las Vegas, Nevada

Genesis 3 returns to the Aqua Show to bring the design/build segment of the pool industry to Las Vegas starting with a full-day perspective-drawing class taught by David Tisherman and followed by three days of seminars included within the show's educational program. Genesis 3 will also have a prominent role on the show floor, with our own educational/exhibit space. And don't forget the Genesis Family Reunion!

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Those who have attended our Genesis 3 schools, seminars and programs and have accumulated sufficient credits are encouraged to contact us about the Association of Professional Watershape Designers (APWD) — an organization filled with professionals who share a common goal of advancing the quality of our work through education.

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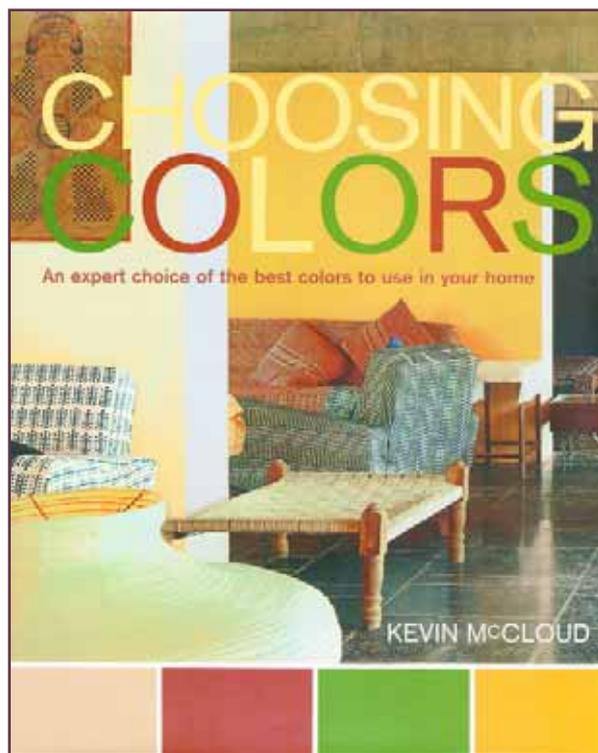
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GENESIS 3 - THE INTERNATIONAL FORUM FOR CONTINUING EDUCATION FOR WATERSHAPE DESIGNERS

Circle 16 on Postage Free Card

By Mike Farley

Colorful Potential



One of the characteristics I’ve noticed among watershape designers is a tendency to stick with what works. Nowhere is this more pronounced than with the often-tricky issue of working with color: It’s almost as if there’s an unwritten rule that a very small palette of very familiar colors are all that is appropriate – especially for pools and spas!

I believe that this lack of color creativity extends to some degree from familiarity with certain key products and their standard colors, be they tile, plaster or exposed-aggregate materials. To a much greater extent, however, I think the cause is a lack of basic education in color theory.

I speak from experience on this subject, because for all of my own efforts to grow as a designer, one area that has long eluded me is the vast world of possibilities that reside in the creative use of color. To help fill the gap, I recently turned to an introductory text about color theory, history and style entitled “Choosing Colors” (Watson-Guptill Publications, 2003).

Written by Kevin McCloud, a man renowned in the United Kingdom as an expert on architectural styles and residential interior design, this 190-page, beautifully illustrated text offers a wonderfully informative look at the subject of color selection. Although it was written with residential interiors in mind, the ideas at play in the book can effectively be translated to our work in designing exterior spaces and watershapes of all kinds.

He approaches his subject by breaking it into six basic categories, starting

with what he calls the “pure” colors, meaning the primary colors plus green. He also covers in great depth the colors closely associated with significant historical periods, using the examples of Middle Eastern tile, Greek pottery and Roman mosaics on his way to consideration of colors associated with modern aesthetic movements such as Art Deco. Moving along briskly, he spends time with natural palettes (mostly subtle earth tones), simple color palettes, complex palettes and, finally, vibrant colors.

In all, McCloud covers 64 color palettes, offering a variety of examples and insights having to do with why the groupings of colors work together. In just one pass through the book, I learned more about color theory than I did in any and all of my art classes back in school.

McCloud makes a big point in the text that the book itself was printed using a “hexachrome” or six-color printing process, a fact that he uses to make the point that modern technology is making a wider range of colors available to designers in a variety of fields. He also makes the key point that color, and particularly the creative use of color, can be extremely evocative on an emotional level – and is indeed similar to the sense of smell in its ability to stir memories.

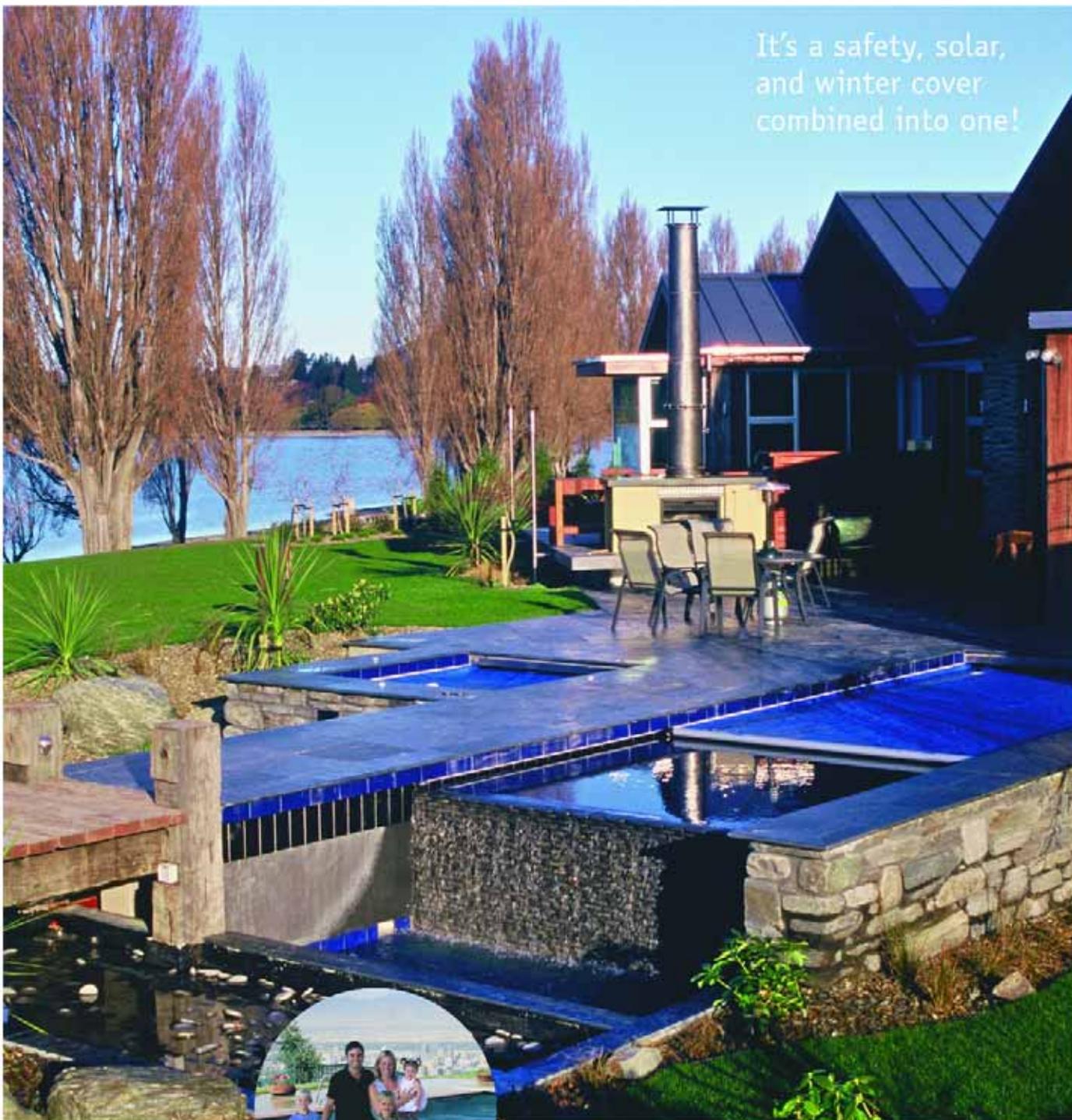
Perhaps most helpful of all, the text concludes with a fantastic listing of other books and resources available to anyone interested in advancing his or her understanding of color theory, history and selection. (I’ve already ordered a couple of these for my own collection.)

As is the case with most basic texts on complex subjects, you will not come away from this book as an expert by any means. But in this book in particular, you get a great start. For my part, I found McCloud’s treatment of the subject to be both practical and inspirational, so much so that from now on I know that I’ll be looking beyond the familiar sets of color choices to zero in more fully on ways I can give my clients the very best in their watershapes and exterior spaces. **WS**

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

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