Inside: Brian Van Bower on Paths and Bridges

WaterShapes

Design • Engineering • Construction

Volume 4
Number 6
June 2002
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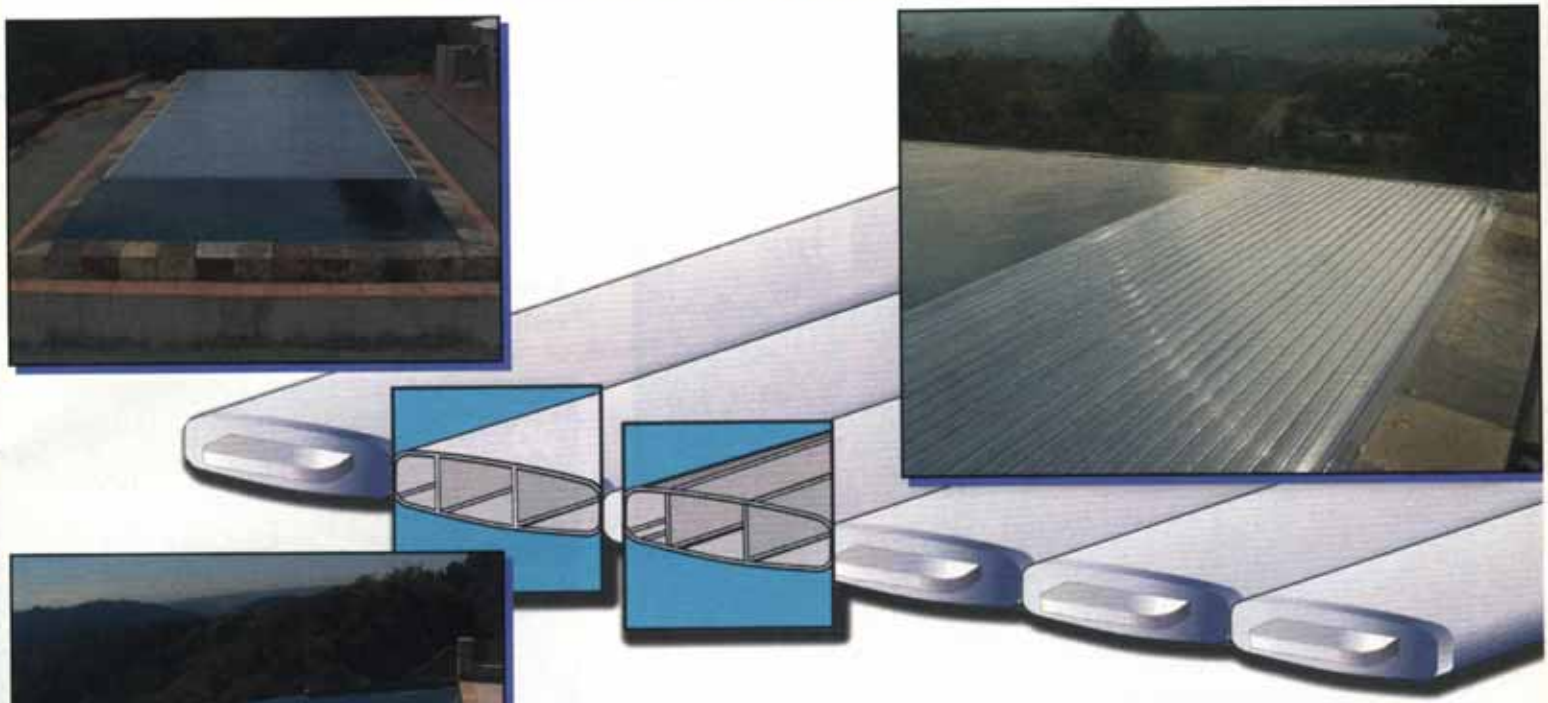

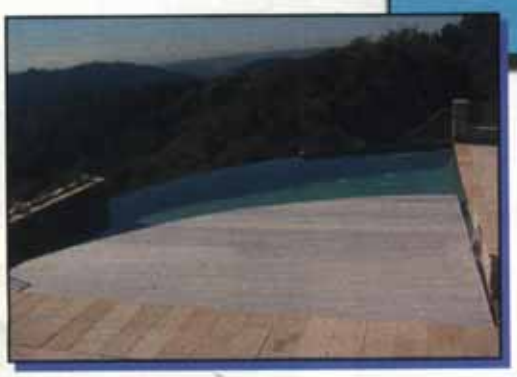

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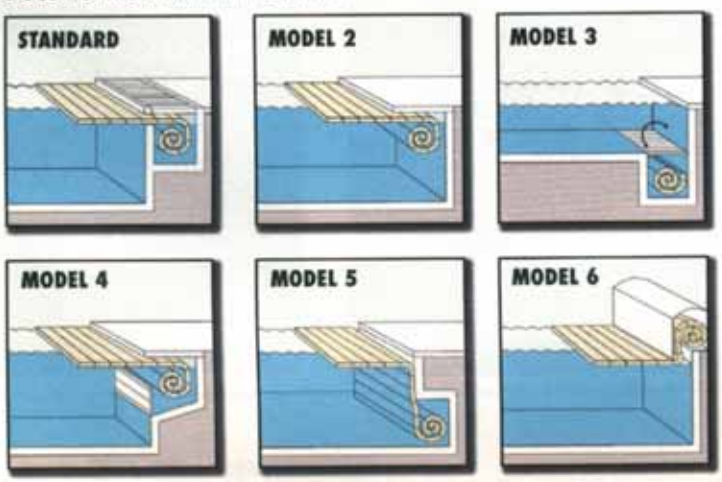

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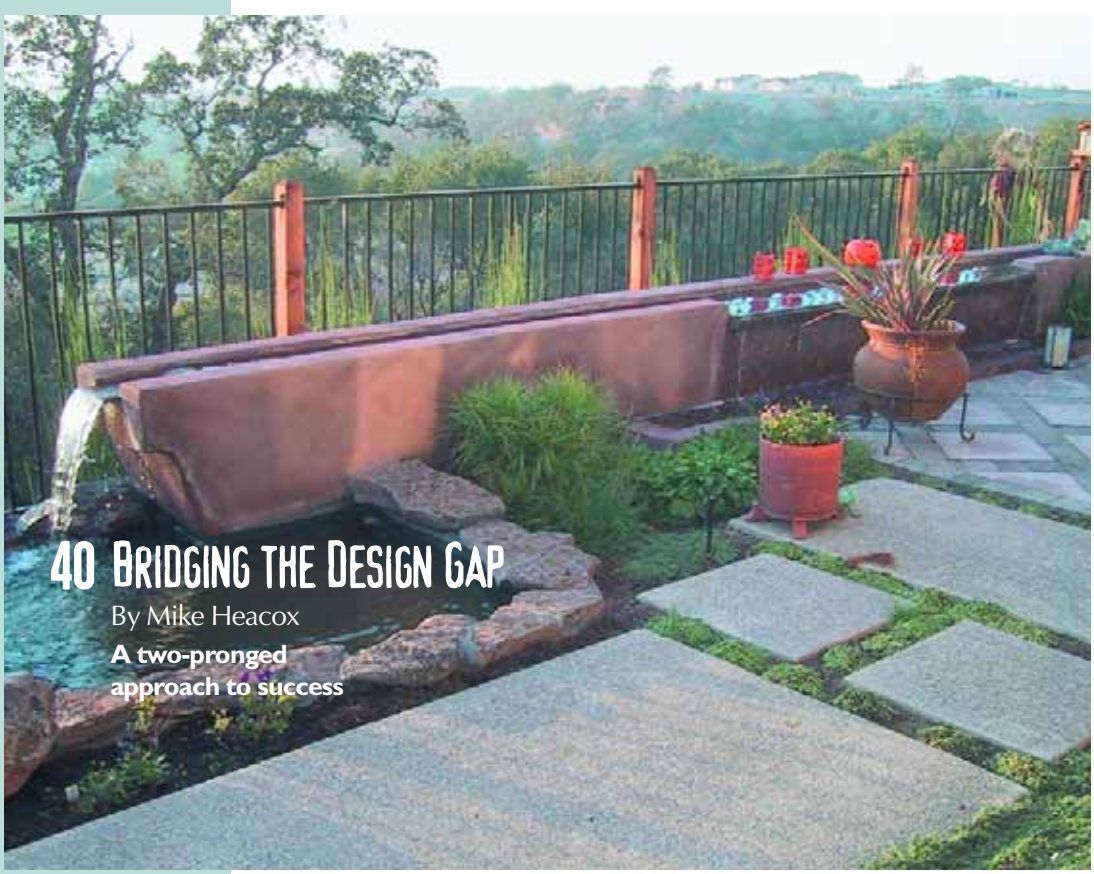

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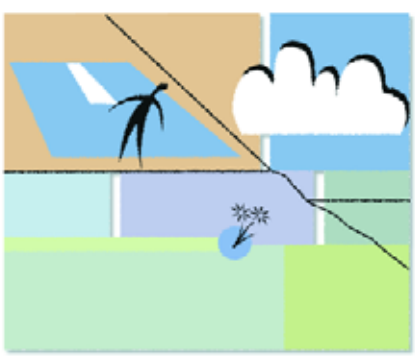

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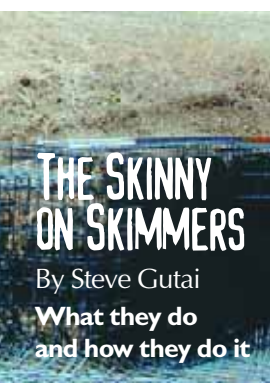

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On the cover:
Photo courtesy Randy & Martha Beard, Pure Water Pools, Costa Mesa, Calif.

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Choosing Your Path

Even with the broad variations among basic types of watershapes – pools, spas, streams, ponds, waterfalls or fountains – they are all unified by the simple fact that every project must first be designed and then built. Sometimes, the designer and builder are one and the same individual or organization. In other situations, the designer and builder are separate entities.

I bring up this fundamental duality to point out that understanding one's own role in the process is crucial for every watershaper, if only to help you orchestrate your career in a way that enables you to capitalize on your strengths and accommodate your weaknesses. As important, perhaps, understanding your own role in the process enables you to appreciate and better complement the role of others.

This is a theme that arises almost on a daily basis in conversations I have with watershapers, and exploring this topic in some way underlies almost every article we publish. So even though an understanding of the working relationship between designers and builders may seem obvious and clear, in fact it is an area that challenges the best and brightest on both sides of the equation – and will continue to generate thought and discussion and debate in this magazine and elsewhere.

One who has repeatedly expressed his viewpoint on the relationship between design and construction is David Tisherman, a provocative writer who is himself one of those rare professionals who are accomplished in both arenas. In the many columns and articles he has prepared for *WaterShapes*, Tisherman urges rank-and-file contractors from the pool industry to step up, study design, learn how to draw and elevate design skills to the level of established skills in structural engineering, soils science, hydraulics and all the other disciplines needed to execute top-flight projects.

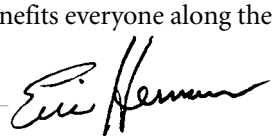
For many watershapers (particularly those who come from the pool/spa industry), this "Tisherman model" of watershaping embodies their highest ambitions.

For many others, however, it makes more sense to focus on one side or the other of the design/build coin. In this issue on page 40, for example, landscape architect Mike Heacox writes extensively about the value of recognizing limitations and the forging of alliances between designers and contractors. This article started out as a long letter challenging the working philosophy Tisherman advocates in his column and grew into a fuller exploration of the role designers (including lots of landscape architects) see themselves playing in the watershaping realm.

Balancing and resonating with the ideas Heacox discusses, this issue also offers a look at the design/construction relationship from the contractor's point of view. Beginning on page 48, accomplished pool/spa builders Randy and Martha Beard describe two projects in which they collaborated with landscape architect David Pederson, going into detail about the nature of their working relationship and the trust that can develop between designer and builder when both sides understand what's involved in making the relationship work.

From both sides, Heacox and the Beards make compelling cases for the value of perfecting your own craft – and embracing and aligning your skills and services with complementary forces on the other side.

Whether your ambition is to excel at both design and construction (as does Mr. Tisherman) or to specialize in one or the other (as do Mr. Heacox and the Beards), what you need to consider is that complete understanding of the art and craft of watershaping from concept to completion benefits everyone along the line – especially clients.



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John J. Altorio is the principal of Altorio Design Consultants/Landscape Architects in Ottawa, Ontario, Canada. The firm was established in 1981 as Altorio Associates Ltd. and has since developed a solid reputation among its clients by offering a full range of services, including detailed design and site supervision as well as feasibility studies and preparation of reports. Whether as prime consultants or part of inter-disciplinary teams, the company specializes in providing competitive, cost-effective, low-maintenance designs and has been a key participant in numerous high-profile projects in Ottawa and eastern Ontario. Altorio is a member of the Ontario Association of Landscape Architects (among other professional affiliations) and regularly serves as a part-time instructor in courses on computer-aided design and landscape design, graphics and construction at Algonquin College in Nepean, Ontario.

Steve Gutai is a territory sales manager in the U.S. southwest for Laars and Jandy Pool Products, a division of Waterpik Technologies of Petaluma, Calif. Gutai is a veteran of the swimming pool industry, having spent more than 13 years as an independent service and repair technician and subcontractor in the Los Angeles area. He spent three more years as a technical service manager and outside sales representative for Waterway Plastics in Oxnard, Calif. Gutai joined Laars and Jandy in 2000 and now works directly with contractors and engineers in designing circulation systems for pools, spas and other watershapes. He teaches hydraulics at trade shows throughout the United States and is the featured hydraulics instructor for Genesis 3's Level 1 schools.

Interested in writing for WaterShapes *on design, engineering or construction topics? Contact Eric Herman at (714) 449-1996!*

Mike Heacox is a principal in Luciole Design, a landscape architecture firm based in Sacramento, Calif. He holds a bachelor's degree in environmental studies from the University of California at Santa Cruz and a master's in landscape architecture from Cal Poly, Pomona. Heacox and his wife, landscape designer Annette Heacox, founded their firm to promote fresh, new approaches to landscape design, using ideas gathered while living and working in France for more than five years and during their travels around the world. They advocate the mixing of state-of-the-art computer imaging and CAD techniques with hand-drawn illustrations to depict designed spaces before construction. Heacox can be reached via e-mail: *mike@lucioledesign.com.*

Randy and **Martha Beard** own Pure Water Pools, a construction/service firm in Costa Mesa, Calif. They met in 1981 while both were working behind the scenes in the entertainment unit at Knott's Berry Farm. At the time, Randy also had a small pool-service business and convinced Martha (Marti) to invest in expanding the route. They purchased Pure Water Pools from another technician and have operated in the Costa Mesa/Newport Beach ever since. As the route grew, both dropped their other jobs and focused entirely on the pool business as small repairs led to big repairs, big repairs to remodels, and remodels to new construction. Each year, they've seen their projects become more creative and technically challenging. Today, the firm works with many of the area's leading architects and landscape architects to create a range of custom watershapes for upscale commercial and residential clients.

BY BRIAN VAN BOWER

Finding a Way

Simply knowing that you *want* people to move within a given space can set the tone for every other step in your design process.

One of the keys to designing effective spaces for human occupation is to create opportunities for movement from one place to another. This component of mobility adds functionality and utility to just about all spaces while keeping them vital and interesting.

In watershape design, we have several options when it comes to introducing mobility to our work, including pathways and bridges that lead to various destinations within the spaces we're asked to organize.

Footpaths can connect a home to the far reaches of its yard, for example, making use of areas that might otherwise go unoccupied and unnoticed. Or they can guide visitors to the water's edge along pathways that optimize the visual experience. Bridges work in much the same way, with the added drama of carrying visitors over the water's surface and a vast potential to create architectural interest on their own.

In either form, these features also give the designer valuable opportunities to surprise and delight onlookers with unexpected access to moving water, reflective water, interesting rockwork, unusual plantings, sculptural or architectural fixtures or even distant views. They also give us ways to lead visitors to places of respite and repose – or to places where lively entertainment is the order of the day.

So Many Directions

The neat thing about paths and bridges is that they can be incorporated into an infinite range of styles, assembled with a huge range of materials and set up to run the gamut from the extremely simple to the very complex. This frees the designer to step outside the box and tap into a vast well of creativity.

The key to successfully deploying these structures is to consider the way people will be moving within the environment from the very start of the project. In fact, simply knowing that you *want* people to move within a given space can set the tone for every other step in your design process.

One of the things design-conscious watershapers talk about a great deal these days, for example, is the visual advantage of placing watershapes off to the side of the available space. Depending on the situation, of course, there's a great deal to be gained in locating the water away from the home, not the least of which is that you can use the space between home and water to set up a pathway (or multiple pathways) that lead homeowners and their guests through the environment and toward a beautiful destination.

That's a possibility entirely cut off, of course, if your first and only inclination is to set pools five feet away from the patio doors.

Yet that's not to say you need to be working on five-acre estates to make pathways work. If you're careful and skillful, just a few yards of separation can be enough to give onlookers a varied, interesting pathway for approaching a watershape. The transition alone adds interest and delight to the experience of those who take the steps needed to reach the water.

These paths can be extremely formal in design, with crisp geometric lines moving through highly organized spaces, gardens and exterior structures. Or they can be far more naturalistic – a narrow, winding path, for instance, that leads you through lush, overhanging landscaping to a small serenity garden with a partial view of a pond, stream or

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swimming pool. Or you can create a pathway to a private nook that houses a spa or a small fountain or a beautiful piece of sculpture.

You can also use pathways or bridges to lead the viewer through elevation changes or to locations where they come within an arm's reach of moving water or a waterfall or the riffle of a shallow stream. They can lead as well to places where it's convenient to feed Koi or twist into a lotus position for yoga or meditation.

Anything You Want

Let's talk specifically about footpaths for a while.

Your options here are limitless, because paths can be made of anything from loose stepping stones or gravel or brick to mortared-in-place stonework or formed-and-poured concrete – and any combination of materials you might imagine. You can work with squares, rectangles, arcs, circles or irregular shapes – and your choices aren't limited to stone

Pathways are powerfully attractive. It's difficult to imagine that there are too many people who, upon entering this space, wouldn't feel curious about what they'll find at the other end of this simple set of stairs – and find themselves going exactly where the pathway's designer wants them to go.

or cementitious materials. In fact, some of my favorite paths have been made of tile, wood, mulch or even grass.

I'm particularly intrigued by Frank Lloyd Wright's use of linear wooden planking – a detail he adopted and adapted from his study of Japanese gardens. The angles that can be used in guiding onlookers through a space are both interesting and beautiful, and it's a look I've used on certain projects to provide a feeling that is simultaneously architectural and organic.

By selecting materials for their colors, textures and similarities to other features of a setting, you can use a pathway underfoot to create visual links between a pathway and its surroundings and between one section of a setting and another. Or you can use contrasts in materials to create visual separations. Many landscape architects I know use a pathway to create a transitional zone between, for example, the formality of a deck just outside the back door of a house and a less-formal space out near a pool or pond.

Depending on materials of construction, all of this and more can be accomplished at reasonable cost – and the potential return on even a modest investment can be a tremendous amount of interest and value added to the overall composition.

Personally, I enjoy creating spaces in which my clients can sit and relax. Simply by creating a small path to some out-of-the-way spot where I've placed a bench or some other form of seating, I've often managed to create what they'll later tell me is the best spot in the yard. Such a path might lead to a wall covered in vines or a slope where I've put a small waterfeature or some special flowering plants.

Wherever or whatever this special place might be, the fact that a journey of even a few steps is involved in reaching this secluded spot has a lot to do with the impression it ultimately makes.

In my own design work, I seek these spots whenever the opportunity arises because I know how much they mean to my clients. You may find surprising locations for such resting spots in your own work. I recently designed and built a small pond and waterfall that is located next to an estate home's driveway. One of the things we added was a very small path that leads to an elevated area where we put a bench next to a cascading waterfall. It's surprising to find serenity in the front of the home near the driveway, but it's nonetheless a beautiful place to sit and listen to the water.

Continued on page 14

The angles that can be used in guiding onlookers through a space are both interesting and beautiful, and it's a look I've used on certain projects to provide a feeling that is simultaneously architectural and organic.

Approaching the Water

Among the reasons that paths are so effective in conjunction with water is that we all love to be near water and are willing to go to great lengths to get as close to it as we can. By defining a path to the water, we as designers effectively lead visitors in a direction to which they are naturally inclined.

That is why I design paths that lead to places very near the water. On some of my lagoon-pool designs, for example – especially when there are shade structures involved – I'll set up a cantilevered deck over the water or situate the deck so that it juts right into the water, surrounding the viewer with water on two or three sides.

One of my friends and colleagues, Paul Benedetti of Aquatic Technologies in Morgan Hill, Calif., recently completed a project that includes a faux dock that juts into the shallow end of a large swimming pool. I love that idea, and in his case, Paul set it up so the dock is actually part of the pool structure and doesn't have water flowing beneath it. Still, it creates the illusion of a small boat dock and enables onlookers to walk out across the water's surface.

Another detail I love is the use of rockwork to create stepping-stones across the top of a body of water – something that brings us into the closest possible proximity to the water without getting wet. It's one of those details that delights just about anyone and brings out the child in us all.

Among the reasons that paths are so effective in conjunction with water is that we all love to be near water and are willing to go to great lengths to get as close to it as we can. By defining a path to the water, we as designers effectively lead visitors in a direction to which they are naturally inclined.

Bridges offer that same sort of interest when added to a project. Just as there's a human need to get up close enough to water to touch it, there's also a desire to move *over* water and look down into it to study reflections, ripples, any sort of motion or even the lack thereof.

I'm convinced that this basic impulse is why we see so many fine restaurants located on structures elevated above bodies of water or placed immediately adjacent to water: There is something about being elevated over water that draws our attention and interest – not something that can be explained, but certainly something that is felt by almost everyone.

And we're lucky that we don't need to develop psychological profiles of individual clients to see what works for them: If I see an opportunity to include

Photos courtesy Paul Benedetti, Aquatic Technologies, Morgan Hill, Calif.

People have a natural tendency to want to approach water. In this case, a "faux dock" that doesn't even extend over the water is an explicit invitation to come closer and have a good look.

a bridge in a project, I'll go for it every time and discuss it with clients as an option they definitely should consider.

Over and Under

Of course, there's more to building bridges than there is to laying down your average garden path. First, there are more limitations when it comes to materials for bridges – although you're by no means limited to stone or wood. Second, there are considerations and limitations related to the kind of water you're bridging.

If it's a swimming pool or the water is meant for bathers, you need to determine local codes related to overhead clearances for any bridge.

This means that, in bridging a pool, you'll often face a need to elevate the bridge, either by creating an arch structure or by using steps. This need can make approaches to the bridge a bit awkward, so I usually begin to make the pathway to the bridge rise a good distance away from the water's edge – thus elevating the path to the bridge rather than making the bridge itself do all the work of ris-

ing to its required height over the water.

This strategy also extends the bridge "experience" and can make for interesting structures, berms and elevations that themselves can be viewed from other vantage points around the yard.

I've also used this gradual elevation to orchestrate views of the water and the surrounding environment. In this way, bridges themselves can become destinations – and wonderful places to pause and gather in the view or enjoy a quiet conversation.

Bridges over swimming pools also provide fascination for those *in* the water. In fact, it's another quirk of human nature that dictates that if you build a bridge over water, whoever is swimming in that water will want to go under the bridge. Keeping that in mind, you may want to consider including some form of tile or another interesting finish on the underside of the bridge as well as on its top and sides.

As suggested above, you can get away with less-substantial structures when you're bridging streams, ponds or cascades. I particularly like the effect that is created when a large piece of flat stone serves as a small bridge. You also can achieve nice looks by

You don't need to recreate the Golden Gate Bridge to span water effectively. This simple set of angular turns, barely above the surface, does the job of moving onlookers out over the water – which is usually just the experience they're looking for when they get that close to a pond, pool or stream.

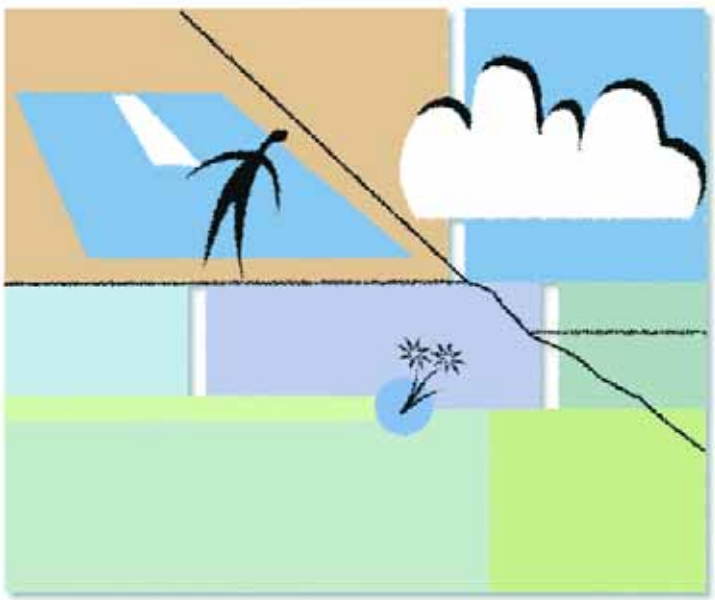
using smaller pieces of loose or set stone in paths or steps that lead to a bridge made of a large piece of the same type of stone. It's a rustic look that blends well with surrounding landscaping.

Even small concrete bridges that cross over tiny stretches of streambed can add a great deal of interest – and when you couple their use with strategic placement of pathways and deck areas, the combined affect can be truly wonderful.

As always, how you apply these "devices" in your work will depend largely on the style, setting and basic design – not to mention the desires of your clients and the extent of their budgets. But bridges and pathways are seldom far from my thoughts when I consider a new space and contemplate a new design for it, basically because they add value to the experience I'm working to create in every backyard I see. 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.

BY STEPHANIE ROSE



Slippery Slopes

Everyone knows that hanging a pool, pond, or spa off a slope can make quite a dramatic statement, which is probably why so many great watershapers love working on hillsides.

But the project doesn't begin and end with the vessel: In fact, placing a watershape on an incline also presents a range of landscape-related issues that must be addressed, whether it's a matter of aesthetics, code or safety requirements or simple practicality.

Aesthetics are always a factor in a good overall plan, while slope stability is the motivating factor behind safety and code requirements – particularly when the watershape is at the top of the incline. Practicality is especially important when the watershape is in the middle or at the bottom of the incline, where you need to consider ways to keep soil and debris channeled away from your creation.

Some of these issues are addressed through basic drainage and retaining structures, but if you use plants to help stabilize a slope, there is always a great payoff when it comes to beautifying a watershape's surroundings.

Solid Solutions

As is the case anywhere in a yard, the planting of shrubs, trees, and perennials adds dimension, color and texture that serve to enhance any watershape's appearance. When you're working with a slope, however, the most important plant is a good, stabilizing ground cover.

Practicality is especially important when the watershape is in the middle or at the bottom of the incline, where you need to consider ways to keep soil and debris channeled away from your creation.

But even ground covers sometimes need support as they get established. Through the years, I've used a number of time-tested methods for keeping everything in place through the maturation process – and developed a couple of my own.

Broken concrete. I particularly like to use broken concrete to stabilize a slope because it lets me create mini-planters at one or more levels from the top to bottom of the incline. I'll set them up in half-moon shapes and have included up to three levels, depending on the extent and degree of the slope.

These little outcroppings offer a very natural look and, more important, slow down any runoff, which gives the plants more time to take up water and nutrients. In time, these features blend seamlessly into the maturing landscape.

I typically think of using broken concrete when I know my clients are having an old deck or patio demolished as part of new construction or a remodel. If it's salvageable (which is usually the case), the decking can easily be broken up and put to new use – which saves your time and your clients' money. Recycled concrete is a versatile material, and you'll be surprised how much of it you can use without the slope looking like a stone yard.

I've had a few clients balk at using broken concrete in this way, even after I explain to them how their plants will struggle without this sort of planter structure. Once a first planting has failed, they typically agree to try the broken-concrete barriers. Within a few weeks – with care and some fertilizing – they see the benefits.

Conventional planter materials. I've been very happy with the results I get with broken concrete, but there's a range of other materials perfectly suited to this sort of application.

You can also use flagstone, bricks or railroad ties, for example, and building supply yards offer a host of oth-

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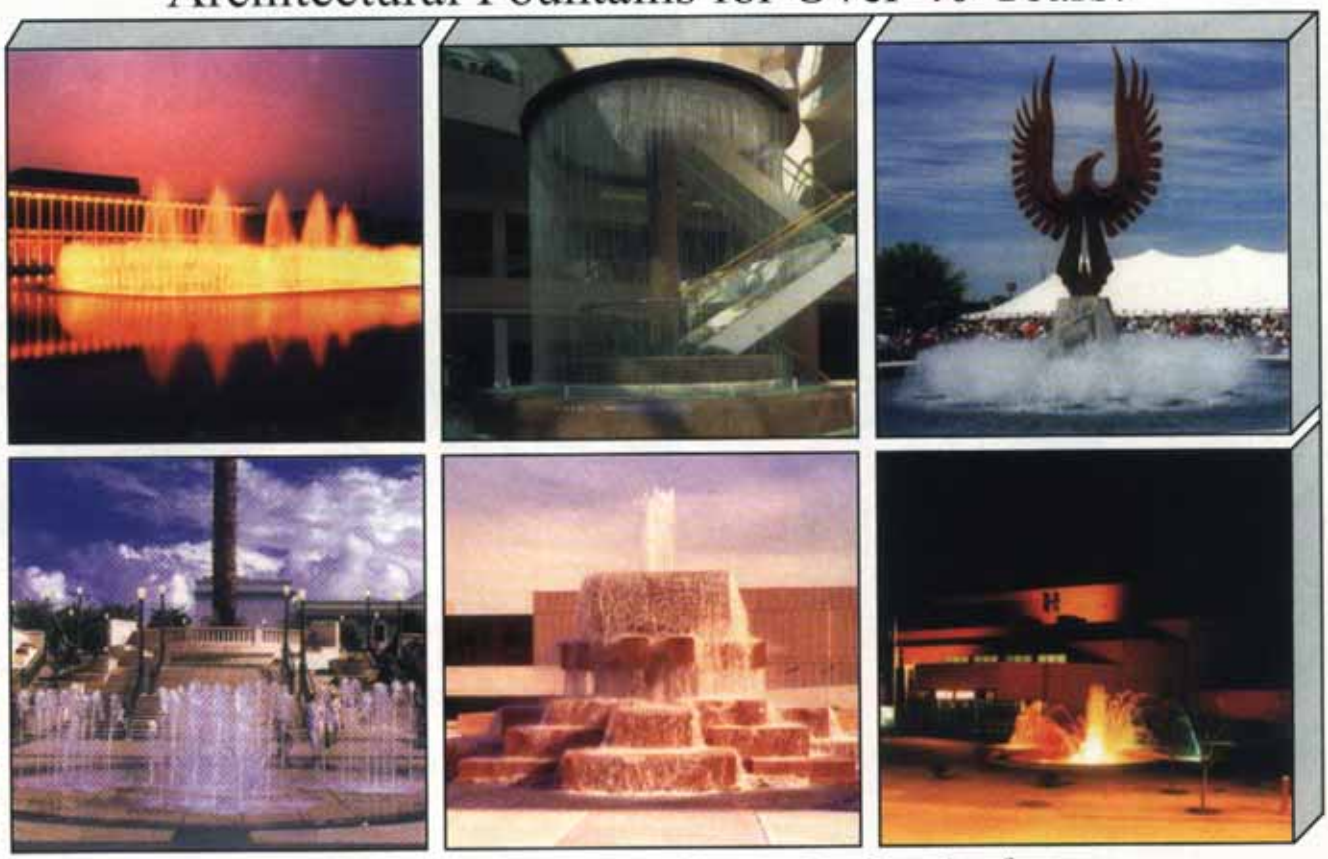

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Broken concrete can be used to create stable planting areas on slopes, from smaller planters for single shrubs to larger arcs that contain and sustain many plants. As plants mature and fill in, the concrete effectively disappears into the landscape and takes on the look of a natural rock outcropping.

er materials that will work. Whatever you choose, the important thing to consider is that some downslope erosion is bound to occur and whatever material you use must be placed in such a way that it will be stable. Placing a ground cover or some other soil-binding plant directly below the planter will help.

As a rule, the more mini-planters you create on a slope, the more stable the slope will be. As the plants get more established, they'll bind the soil better with their root systems. Planters also allow you to place fertilizers at the base of the plants without fear that these expensive treatments will run down the slope the first time you water. In fact, the planters create natural wells around the bases of the plants that hold the fertilizer and allow it to percolate in as water collects and soaks in.

Jute. I'm certain many of you are familiar with jute as a slope-stabilizing material. Jute is a natural netting material that, when laid across a slope, slows down water runoff and acts as a stabilizer while plants are getting established. In time, the jute biodegrades and disappears into the soil.

Jute also works as a deterrent to animal destruction of landscapes, as was discussed in this space in the January 2002 issue. More than that, jute acts to shelter tiny plants that would otherwise have a very difficult time collecting enough water and nutrients as they slowly establish themselves.

Terracing. A far more elaborate method for addressing slopes is

terracing them with concrete-block walls. The options here are endless, but you need to know the engineering distinctions between walls suitable for casual terracing and those required for true soil retention.

In my area, anything less than 42 inches in height doesn't require permitting.

Going Green

You can, of course, cover and stabilize your clients' slopes using nothing but plants.

If you choose this path, you need to keep the degree of the slope in mind and avoid asking plants to do the impossible. If the slope is suitable, the process boils down to finding plants that will bind the soil properly.

Generally speaking, that means using a low, thick mat of ground cover on as much of the slope as is needed to slow down the runoff – usually interspersed with other plants to break up the visual monotony.

Ground covers such as Irish or Scotch Moss, Zoysia Grass and Red Fescue are all good choices for this situation, but these are just some of the possibilities. Indeed, ground covers come in all shapes and sizes, some staying within a couple inches of the ground and others that can grow to be several feet tall. The impor-

You need to keep the degree of the slope in mind and avoid asking plants to do the impossible. If the slope is suitable, the process boils down to finding plants that will bind the soil properly.

Sprayed-on Greenery

Have you ever driven down the freeway or by a large slope and seen something that looks like someone took a can of blue/green spray paint to it? That's hydroseeding.

It's a planting technique that involves spraying a mixture of seed, nutrients and water through a system that oddly resembles a gunite rig. It's used to seed large lawns in new construction, but it's also useful for large sloped areas that need full coverage but that would be difficult to cover with individual plants.

Used in combination with jute, hydroseeding provides full coverage quite quickly at a fraction of the cost of other planting methods. And you'll be surprised at the array of plants you can hydroseed.

–S.R.

tant thing to consider is how much you need the ground cover to work as a soil stabilizer around the watershape.

With a recirculating stream, for example, keeping soil from washing into the water (even in small amounts) is critical to the health of the system and its equipment – and this is true whether the underlying slope is naturally stable or not. Here, you want to plant materials that won't infringe on the stream as they grow, that can be maintained easily, and that will bind the soil enough to prevent movement.

Using a clumping ground cover in these situations (as opposed to a trailing one) makes the most sense. In fact, trailing ground covers spread by underground runners and tend to be invasive, so you even need to be concerned about dislodging the liner. Also, trailing plants require more maintenance than do clumping varieties.

Around swimming pools, there's the added consideration of hardiness: The plants will need to be able to withstand a trampling and cope with the occasional splash of chemically treated water.

Around swimming pools, there's the added consideration of hardiness: The plants will need to be able to withstand a trampling and cope with the occasional splash of chemically treated water.

In any given space, however, it's unlikely that all you'll be planting will be ground covers. I, for one, almost always endorse interspersing shrubs and perennials with ground covers to add interest to the design. (An exception would be an ultra-contemporary landscape with stark plantings and lots of straight lines.) Whatever your choices, make sure the plants address any stabilization or safety issues while enhancing the overall aesthetics.

A final note: Given the fact that water runoff is a big issue with slopes, one way to combat the problem is by installing a micro-spray irrigation system. These "sprinklers" shoot out a much finer spray than do conventional irrigation systems, and at a much slower rate. Water soaks in better because there is less of it to accumulate and run downslope. 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 this season in six new episodes of "The Surprise Gardener," airing Tuesday evenings on HGTV.

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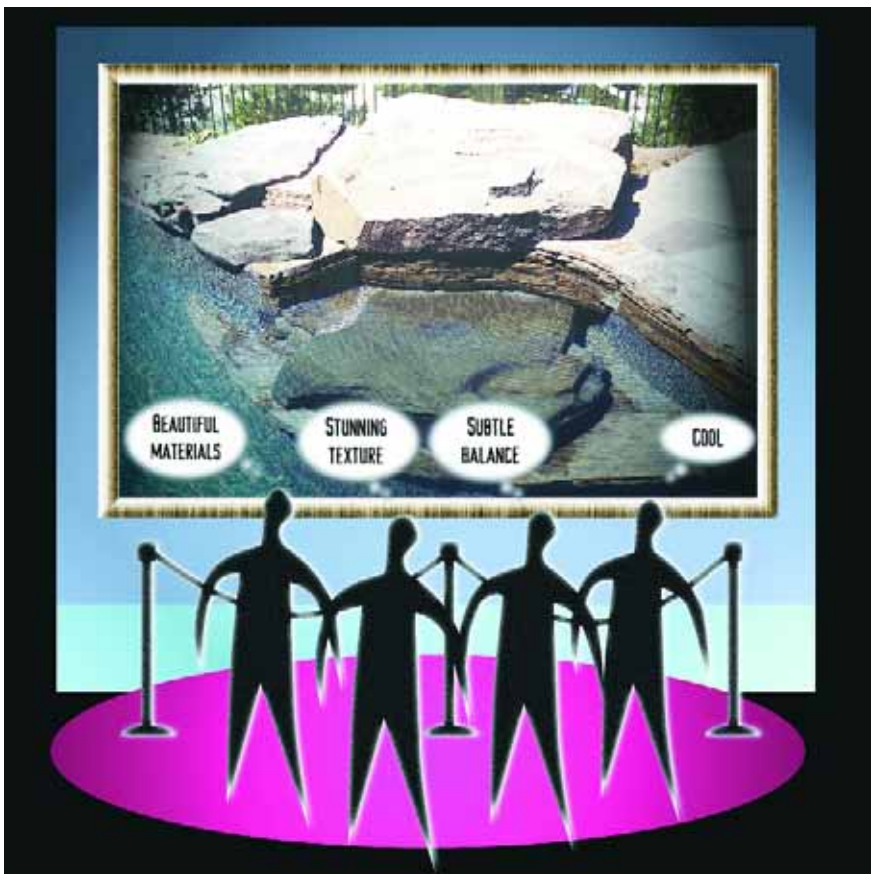
BY DAVID TISHERMAN



Visual Acceptance

In one way or another, visual acceptance is what makes our world go around.

Think about the clothes we wear, the cars we admire, the foods we eat – not to mention interior design, home and office furnishings, landscapes and watershapes. So much of our response to these and other features of our environment is based on the visual. It may sometimes be a *shallow* response, but human beings tend to like things that look good, even if they don't completely understand why some things are visually appealing and others are not.

Design education teaches us that visual acceptance is based on a variety of factors, including setting, context, scale, balance, color, texture, line, shadow, proportion and more. You can't take a pill to learn how to use these factors to your advantage: You need to get educated to do so.

The landscape architects among you have embraced academic design education, but that's something the pool industry has never seen as being particularly necessary or worthwhile. As I've mentioned before, I think this "education gap" has had a profoundly negative effect on the watershaping trades that starts with the products we use and reaches all the way through to how those products are applied in the field as part of watershape designs.

Design education teaches us that visual acceptance is based on a variety of factors, including setting, context, scale, balance, color, texture, line, shadow, proportion and more.

What we see are clunky products, hideous color combinations, mismatched textures and much worse – all of them wrapped up in ugly designs. And until quite recently, it seemed that just about everyone in the pool industry was fine with that.

Getting Involved

About four years ago, Skip Phillips and I visited Vance Gillette in Novato, Calif., which was then home to the company of which he is vice president – Teledyne Laars/Jandy, which is now known as Laars & Jandy Pool Products and has since moved to Petaluma, Calif. Vance had always struck us as one of the most forward-thinking people in our industry, and we wanted to talk to him about Genesis 3, which was in its infancy at that time.

We presented our mission statement and explained why we wanted to initiate design education within the pool industry while teaching proper construction and promoting the more effective use of products and materials. Vance immediately offered his support and sponsorship.

We could have left well enough alone at that point, but I have a big mouth and began asking Vance some questions about the design (or lack of it) of the control pad for the company's Aqualink RS remote-control system to prove my general point about the industry's dreadful design sensibility. "I think this sucks," I said, "and my clients think so, too."

As I told him, most of my clients who wanted a remote-control system did *not*

want to see the unit sticking out like a sore thumb in their homes. As a result, most wanted me to put Aqualink's indoor pad behind a curtain, in a closet – someplace it would never be seen.

I glanced at my friend and partner Skip and watched the eyes roll back in his head as though he was thinking about all the damage control he and my other partner, Brian Van Bower, would have to do to make our first sponsor happy again. But Vance *listened* (unlike some other manufacturers I'd approached in the past with similar concerns), and we talked about the complaints my clients and I had about the product.

It's too big, I told him, and it has too many blinking lights, a hideous finish color and other aesthetic defects. Why couldn't it be smaller and look more like a light switch? Why not give it a paintable finish so it could blend in with clients' interior décor? Why not give it a sleek, modern appearance?

At that point Vance said, "So fix it." With pencil and paper, I drew the touch pad the way I thought it should be – something that would fit in a two-gang box, that had three simple, square buttons and a simple LED display rather than all those multicolored flashing lights. I handed him the sketch – and the redesign of the Aqualink RS One-Touch was under way.

A Design-Driven Process

Following that meeting, Vance put me in touch with a range of technical people including Robyn Gabel, product manager for Jandy's electronics division, about developing a new touch pad. I referred her to a couple dozen of my clients who were using the Aqualink system – and she did her part, interviewing a good number of them about their likes and dislikes concerning Aqualink and the other home-automation devices they had at their fingertips.

Based on this input, Laars/Jandy fully redesigned the unit and moved product prototypes through focus groups and then through beta testing with dozens of builders and their clients. The process took more than two years. When the redesigned product was launched in 2000, I'm proud to say that the touch pad looked a lot like my original sketch, except with oval buttons rather than the square ones I'd drawn.

In June 2001, the editors of *Home Automation* magazine included the Aqualink RS One-Touch among the top 50 home-automation Products of the Year 2000 along with devices from such innovative firms as Intel, Dell, Sony and Yamaha. More important, my clients these days don't mind having the touch pad visible inside their homes – and all it took was a little bit of design knowledge to push things in a positive direction.

My point in relating this story is to highlight how valuable real design can be – and how valuable it would be if more of our manufacturers drew on the skills and knowledge of designers familiar with our clients and our needs in developing

the looks of their products. The Aqualink RS's touch pad is just one example of a product that worked in functional terms but failed miserably in visual terms. This one product has now been salvaged, but it's just the tip of the iceberg.

Many of our manufacturers have told me that they seek grassroots input from contractors and consumers in developing their product designs, but it's painfully apparent that in most cases this process moves forward without the benefit of a true designer anywhere in the mix.

For whatever reason, the pool industry has focused on functionality to the detriment of design to an extent that exceeds anything I've observed in other industries. There are some exceptions, of course, but as a whole our suppliers have moved forward without paying much (if any) attention to the aesthetics and visual qualities of their products.

It's time for the industry to step up – and more and more people in the watershaping trades are ready to demand a change, including trained designers from the ranks of landscape architects and others in the pool industry who are getting design educations that put them in a position to help find solutions. In other words, a process has started – and it's gaining momentum each day.

A Grassroots Assist

Personally, I've never been patient enough to wait for change to happen incrementally. I want to reshape the world overnight, and it's difficult for me to accept a slower pace.

That's why I keep writing about design education and my idea that making it more readily available will be a benefit to our industry: Beyond increased consumer satisfaction and greater profitability for our businesses, I see an elevated image for watershapers as an even greater upside potential.

That's why it pains me so much to run into people who see no value in design, who think it's foolish to think outside the box and who believe we'd all be better off building low-profile, unimaginative, risk-free, cookie-cutter pools.

Genesis 3 is the antidote to that bottom-feeding philosophy and springs from the thought shared by its founders and sponsors that there are a great many watershapers out there who are more than willing to get educated and find out what it takes to operate at an advanced level of design competency.

What many people don't seem to understand is that our courses are meant for everyone from the novice to the expert and offer professional-grade instruction to students from both sides of the design/construction equation: builders who want an introduction to good design, and designers who want an introduction to good construction. We've always seen lots of pool builders on our registration lists – and we're seeing increasing numbers of landscape designers and architects who want to know more about how functioning water-

shapes come together in the right way.

Another key to our programs that's often overlooked is that what we offer is a step in a process of education, not an end in itself. Our role is to get participants started on a lifelong pursuit of additional design education, whether it comes through additional Genesis 3 schools or through college extension courses or through reading about the lives and works of great designers and architects.

And as much as I believe in my own skill and ability to teach people how to draw and present their work on a higher level, even an intensive course such as the Genesis 3 Drawing School I recently taught at Arizona State University in Tempe was just another step – albeit a significant one – for the 20 professionals who chose to take it.

Unlike other Genesis 3 programs, the drawing school wasn't a lifestyle experience: It didn't feature great dinners, tours and wine tastings. Instead, it provided students with five days of intensive instruction in drawing and presentation skills.

This is something I've wanted to do for years, ever since my days as chairman of the National Spa & Pool Institute's Builders Council. I found through my life on the council that most of its members were businesspeople rather than builders. They had no design training, no interest in getting any, no ability to read plans and no capacity whatsoever to draw in three dimensions. As we at Genesis 3 saw it, the drawing school was to be yet another step beyond the limitations our industry had accepted for far too long.

Setting a Stage

I won't go into detail about the drawing school itself, because it was something that had to be experienced to be fully appreciated. Briefly, however, it was yet another confirmation of the many lessons we've learned in four years of staging Genesis 3 events, each of which has showed us that there are people out there who want to excel.

Of course, we had no certain idea of what they'd put up with to advance their skills: For five days in March, participants spent their days locked in study, demonstrations, practice and discussions about drawing and presentations. We met from 9 am until 3 pm or 4 pm each day, and the bulk of the evenings were taken up by mandatory homework assignments. (Actually, I started *teaching* at 9 am, but about two-thirds of the students were up, out of the hotel and into the classroom by 7 or 7:30 each morning.)

Those in attendance received professional drawing tools, including sets of more than 50 markers, lead pencils of various hardnesses, wax pencils, drawing pads and other essential art supplies, such as ellipse guides, adjustable triangles and circle templates – all carried in a hard-shell artist's portfolio. They were given tools used in the architectural world along

with everything they needed to create mats for their presentations.

The class was held in one of the university's studios and took on the atmosphere of an upper-division college seminar. It was a huge amount of work for everyone and as it started, I wasn't really certain how well the information and long schedule would be received.

What occurred, however, exceeded my fondest hopes for the school. Participants checked their egos and preconceptions at the door and showed up ready to work. From start to finish, questions were heaped atop other questions. As I mentioned, students arrived early to get in extra drawing time; they also worked through lunches and did their homework. And the thing that pleased me most as the instructor is that none of them was ever satisfied with his or her performance.

I started the course by evaluating work students had brought with them; by the end of the week, it was clear that improvement had come at every drawing desk.

The one distraction from the course of study was a brief field trip to Frank Lloyd Wright's Taliesin West. As they stood in that amazing facility where so many legendary designers had taken their training, it was clear that every one of the students was inspired: They'd gotten a taste, an inkling of the kind of dedication it takes to get better.

Just listening to them talk, it was clear that they were looking at their surroundings through different eyes – eyes that had begun, even if tentatively, to evaluate the environment the way a real designer looks at it. And when it was all over, they understood why they hadn't gotten diplomas or certificates at the end of the course: They knew they hadn't finished *anything*; instead, they'd only opened a door to their ongoing education.

On the Way

I've taken a roundabout way to making my point in this column: The time is coming when the watershaping world at all levels will be driven by design.

Whether it's a manufacturer deciding how a pump relates to a filter and a heater in visual terms as well as in functional terms or a builder starting to look for new ways of assembling the components of a project or a new generation of clients who've grown up thinking that good design is as essential for their watershapes as it is for their automobiles or home furnishings, a time is coming when our success will be determined as much by visual acceptance as it is now by functional performance.

As we parted ways at the end of the drawing school, a couple gluttons for punishment expressed the wish that they could take another course right away to make sure that what they'd learned in the first week had really taken hold.

To be sure, these people aren't designers yet in the academic sense of the term, but their exposure to principles of good design and their determination to im-

prove their skills has enabled them to begin a voyage of discovery in which they're seeing the world and its colors and textures and materials with different eyes. Just as important, they now have a sense of what being a designer is all about, and I'm certain some of them will be inspired to take their studies to the next level.

Learning how to take an altered perception and apply it to the work of laying out and building pools is something that will take each of them years to accomplish, but these students and others who've stepped up to the design-education plate have an edge that will become even more important in the years ahead, as more and more professionals who can truly claim the title of "designer" discover how much there is to be accomplished with watershapes.

From the time I was a kid, my mother and father reinforced the value and importance of giving back to the trade that provides you with your livelihood. This is the source of my passion for what I've done in the classroom, giving back a measure of the design education I've received to those willing to learn and take up their pencils and markers to do the best they can.

My hope is that some Genesis 3 participants will continue their educations and move along to college-level courses in drawing, architecture, design theory and art history. As I've found in my own career, being able to combine an educated design sensibility with real-world construction expertise creates a specialist who can aspire to art. And if we're lucky enough to reach a time when there's a whole cadre of learned watershapers, the results will be something to behold.

That's an ambitious and optimistic vision coming from someone who has been so vocal about the almost total lack of design expertise in the pool industry, but I'm also someone who has seen first hand what can happen when just a little light is shed on the industry's dark corners.

I have seen how powerful it is to share expertise with people who care and truly want to learn. I've watched students grow in the course of five days and learn to ask questions by the end that they never would have conceived of asking when they started. To my mind, as long as there are open-minded manufacturers and watershapers who are willing to invest in developing their skills and take a step up to the next level, there really is hope for a better future. WS

Next time: Back to the renovation project we've been covering through the past few issues.

David Tisherman operates David Tisherman's Visuals, a design and construction firm based in Manhattan Beach, Calif., with offices in Marlton, N.J. He is co-founder and principle instructor for Genesis 3, A Design Group, which offers education aimed at top-of-the-line performance in aquatic design and construction.

A Modest Monument

By John J. Altorio

The York Street Millennium Fountain in Canada's capital city is a modest marvel, a compact monument that says something about the city's history and urbanity in ways that something grander perhaps never could have done. But the scale of the fountain is the only thing 'small' about the project, recalls landscape architect John Altorio, who found the work of balancing national- and local-government interests to be a challenge indeed.

A watershape doesn't need to be immense to be either beautiful or monumental. Nor does it need to be outsized to serve its community as a gathering place or point of pride.

Those are a couple of the lessons we learned in shaping the York Street Millennium Fountain in the heart of one of the highest profile tourist areas of Ottawa, Ontario, Canada. Using an inventive approach that balanced the needs of the neighborhood, a range of national and local government officials and the general citizenry's desire to celebrate the new millennium, the project also embraced the city's own rich history.

The new fountain sits at a significant crossroads of pedestrian traffic between the Byward Market and the government district in downtown Ottawa. Indeed, the traffic island surrounding the fountain stands just blocks from Parliament Hill, the seat of Canada's national government, and was intended from the start to serve as a focal point and gathering place.

Although small and comparatively simple, the project was complicated by the need to satisfy both local and national officials, which meant we had to incorporate details established by others and provide extensive documentation that could be easily reviewed and

The traffic island that houses the small fountain stands in a most prominent spot in downtown Ottawa within easy walking distance of several key government offices and agencies and at a crossroads for pedestrian traffic in the entire Byward Market area.

understood. In addition, we needed to take the historic nature of the setting into account in settling on a new design. In short, a great deal of work was to go into creating even a small fountain for the site.

Area Experience

In this case, the design process involved working with some pre-existing conditions and requirements. We needed, for example, to work around six existing trees and their planters while incorporating them into our new design, tie directly into existing utilities and make the new features blend seamlessly into the surroundings and architecture.

There was also the fact that the fountain had a historical precedent – a simple structure where horses had been watered and local citizens had come to get potable water before the modern city emerged.

The fountain had a historical precedent — a simple structure where horses had been watered and local citizens had come to get potable water before the modern city emerged.

Fortunately, we at Altorio Design Consultants are based in Ottawa and have our own extensive history of working in the downtown Ottawa area. Past projects have given us a deep understanding of the area's character and history, and we knew fully what we were getting into in taking on the design of the memorial fountain and its surrounding space.

Previously, we had worked on site improvements at the Supreme Court of Canada, developed the landscape design for an addition to the Ottawa Health Sciences Centre, executed a streetscape design for the 340-home Longfields community and created an award-winning design for a big commercial plaza at Centrepoint Drive and Strathbury in Nepean. Perhaps most important, we'd also worked on the York Street Streetscape, a unique historical business district in the

Intuitive Technology

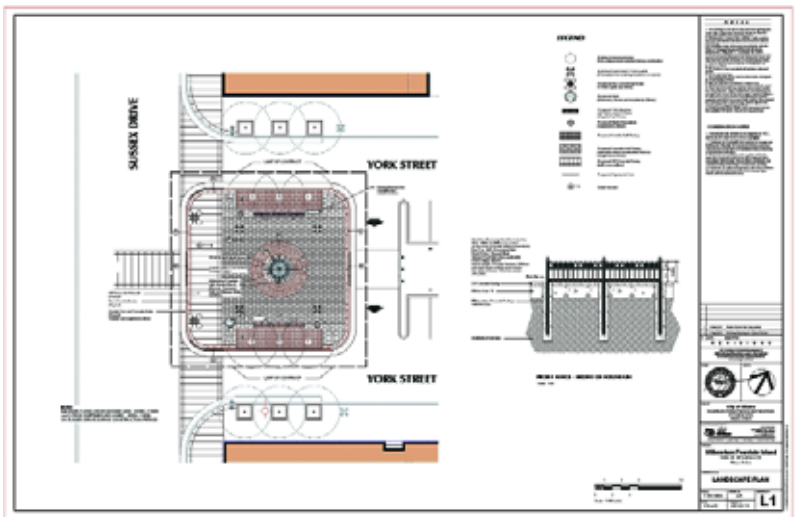
As mentioned in the accompanying text, our ability to generate significant documentation courtesy of the VectorWorks CAD software published by Nemetschek North America was a key to the success of the York Street Millennium Fountain.

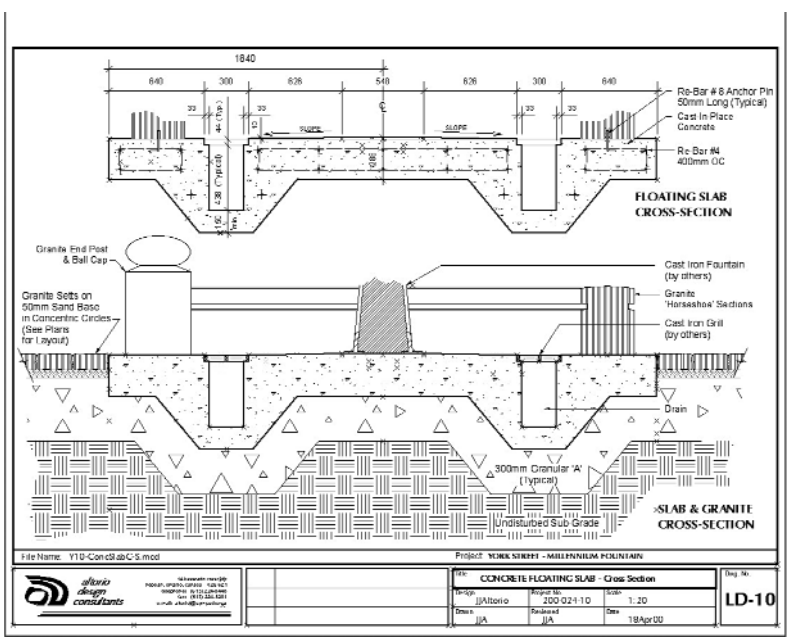
The intuitive nature of the software was a real asset. In defining geometry, for instance, some CAD packages require that the element be selected first, before the operator issues a command. Others require that the command be issued, then the element be selected. Either way, these systems take time in defining basic geometry – sometimes so much that they distract from the design process.

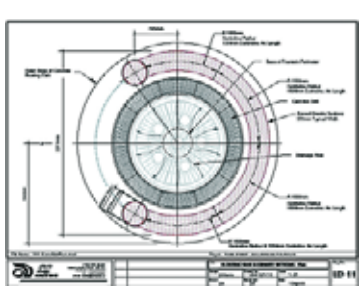
The software we used, by contrast, has a cursor function that snaps onto almost any significant geometric feature, streamlining the process of generating a design from basic geometric shapes and automatically identifying details such as endpoints, midpoints, center points, tangencies and real and extended intersections. In the case of this project, our ability to work directly with the geometry of the historical design of the fountain saved a tremendous amount of time and truly helped us stay on schedule.

The computer's job isn't to create presentation-class renderings, but rather to simplify the job of the designer by helping clients and subcontractors visualize the design. When you're dealing with multiple layers of reviewing officials, as we were in designing and executing the York Street Millennium Fountain, something that might simply be convenient in other projects becomes a true and valuable necessity.

– J.J.A.







The fact that this project unfolded on historic ground in Canada's capital city made the need for documentation of each phase and iteration of the project unusually critical. Our CAD system simplified the preparation and revision of documents of the sort seen here and provided a level of detailed information for federal and local agencies that had a lot to do with our keeping the project on track.

Byward Market area.

The Streetscape project was directly adjacent to the site chosen for the new fountain, and our involvement had definitely played a role in our selection as the landscape architect for the York Street Millennium Fountain. The earlier project had included parking, planting, lighting, paving and street furniture and had been credited with helping to revitalize an area that had become somewhat rundown – but has since emerged as a major tourist attraction.

It's really a grand neighborhood. The fountain site is close to the Canadian Prime Minister's residence, the Royal Canadian Mint, Canada's National Art Gallery, Parliament Hill and the British and French embassies – as well as the new American embassy just across the street.

Historic Setting

As mentioned above, the 60-by-60-foot traffic island had housed a fountain that provided drinking water for both people and horses. The old fountain had been dismantled approximately 100 years ago, and the new project called for recreating this old-town atmosphere in a modern context.

The new fountain is indeed fashioned after the original, with an iron basin, modest vertical plumes and a large light standard jutting above. The one major difference between old and new is that water in the new fountain is strictly decorative.

Just as with the original, the new watershape is meant to be a gathering place. The island includes benches, a kiosk, trees and decorative pavement, and the whole arrangement is intended to make passers-by comfortable as they enjoy the fountain and consider its celebratory millennial meaning.

In creating the conceptual design for the area, we worked around the six trees but chose to eliminate the planters so they would stand flush with the ground. We also placed the fountain at the center of the island to make it the obvious focal point – highlighted further by an ornamental rail fence and a radiating paving pattern.

We also used a wide range of materials on the island, including granite in the radiating pattern, concrete for the main sidewalk along one side and a horseshoe-shaped bench framing the fountain. We also set up old-style cast-iron posts with ornamental globe lights and placed commemorative plaques at strategic locations around the site.

The modest scale of the project is perfectly suited to the site's historic role and significance. In fact, the current fountain is a decorative version of the functioning wellhead that brought potable water to this area of the city at the turn of the 20th Century. This story is told on the commemorative plaques placed around the island.

Echoing forms found elsewhere in the vicinity, the paving pattern followed a look we'd developed ten years earlier in the renovation of York Street. Taking this visual shortcut helped us stick to a tight deadline in anticipation of Canada Day celebrations on July 1. (We met the schedule, but the overall project ended up being delayed due to availability of materials.)

A more significant contribution to staying on schedule was made by our use of a CAD system called VectorWorks, published by Nemetschek North America of Columbia, Md. As discussed in more detail in the sidebar on page 33, this system made it possible for us to generate drawings, incorporate changes and provide all the documentation local and federal officials needed to be comfortable with the project in matters of hours rather than days or weeks.

A Technological Boost

When we started our work on the design, we received paper drawings of the existing underground services and transferred them to CAD for layering.

We also received the island "design concept" as a computer file from the National Capital Commission – an important source, as it is ultimately responsible for historic preservation in the capital area. This saved us the time and labor that would have been involved in re-creating it in our computers from scratch.

Small as it was, the project created a blizzard of documentation, including about 20 detail drawings on A-size sheets for various concrete benches, paving around the fountain, curbing and other features. We also designed a base for the fountain as well as a donut-shaped concrete bench structure – and integrated the two pieces within the CAD program.

Contractors used all these drawings to build from in the fountain area. More important, the multiplicity of these drawings and the overall level of documentation we were able to generate was more than enough to satisfy the variety of officials and agencies who had a hand in the project's overall management.

Despite the delay in its dedication, the fountain and surrounding plaza came together smoothly – and immediately began serving their purpose as pedestrian center and meeting place. Ottawa Mayor Jim Watson dedicated the fountain August 11, 2000, on behalf of the citizens of Ottawa and the City Council.

The project was sponsored by the City of Ottawa and by the federal government through the Canadian Millennium Partnership Program. In unveiling the centerpiece fountain, Canada's Deputy Prime Minister Herb Gray said, "This fountain not only beautifies the downtown core, it also stands as a testament to the spirit and perseverance of the people who built this city."

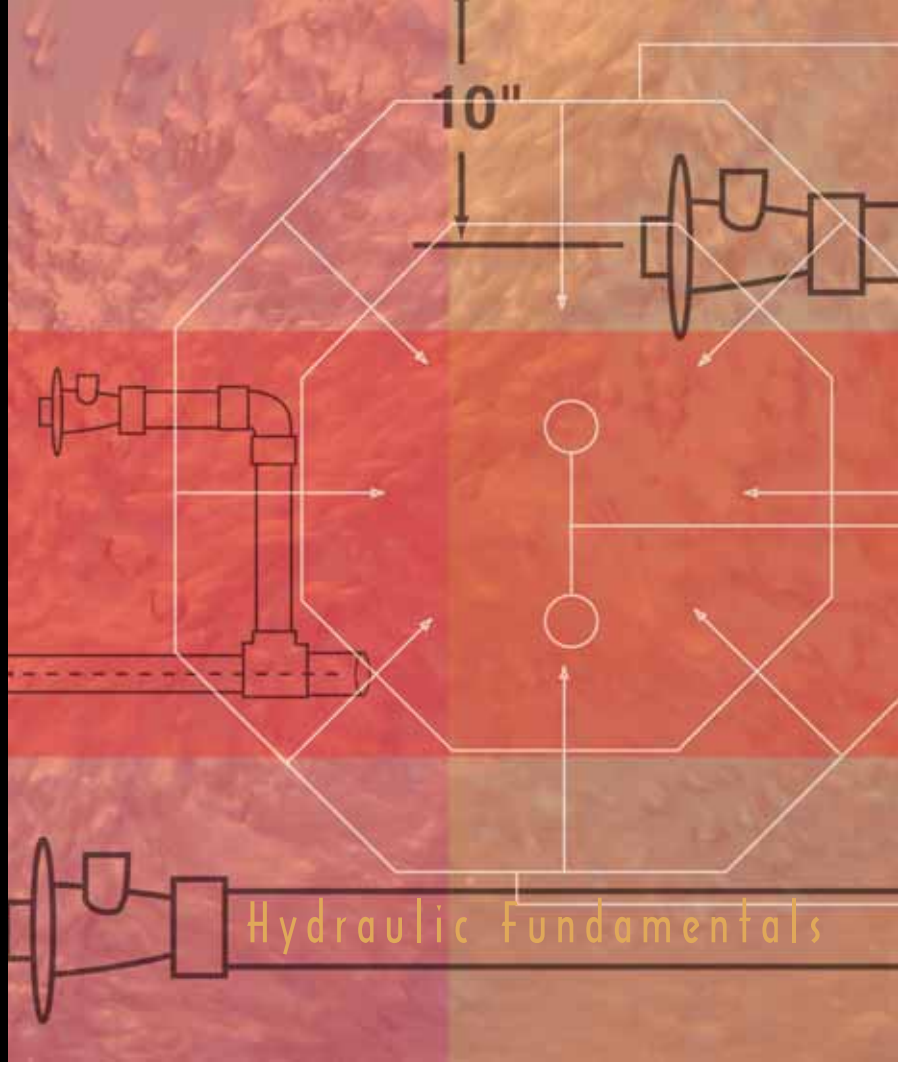
Thus proving the old adage, *Good things* do *come in small packages.*

A new point of pride in a revamped urban landscape, the significance of the York Street Millennium Fountain is indicated by the level of dignitaries – including the Mayor and the Deputy Prime Minister, among others – who turned out for its dedication ceremonies.

The Skinny on Skimmers

By Steve Gutai

A skimmer is at its best when it's set up to do a good job of removing debris from the water's surface – and your client or a service technician never has to do much more than give it an occasional cleaning. No matter how low key, however, a skimmer's role in ensuring water clarity is very important, says hydraulics expert Steve Gutai, who continues his series on basic hydraulics with a look at the function and proper installation of these devices.



Skimmers are found in just about every type of watershape imaginable, including gunite, vinyl-lined, fiberglass and aboveground pools as well as in-ground and portable spas – not to mention ponds, streams and fountains.

In each case, specific skimmers have been designed to serve the individual applications. For purposes of this discussion, let's keep things simple by sticking to skimmers' most familiar application – in gunite swimming pools.

A KEY ROLE

The main function of a pool's skimmer is removal of debris from the surface of the water. To do so, the skimmer is connected to the suction-side plumbing of the pool's pump and draws water across a weir (or a float) as a result of the vacuum created by the pump. The weir (or float) is buoyant by nature and allows only a thin sheet of water to enter the skimmer throat while preventing the formation of a vortex.

The water then passes through a basket or strainer that captures leaves and other debris before it can enter the plumbing. This stage is critical to the system's long-term performance and serviceability, because it prevents the bulk of the skimmed junk from entering the pump trap. Effective surface skimming also removes debris before it sinks to the pool's bottom, thus resulting in easier overall cleaning.

The National Sanitation Foundation (NSF) rates skimmers in terms of their maximum and minimum flow rates. These can range from a minimum of about 15 gallons per minute to as high as 75 gpm, with optimum flow rates falling in the range from 25 to 55 gpm. Information on the flow rating of any specific skimmer is available from its manufacturer and is one of the criteria used in selecting a skimmer.

The size of the pool is also an important factor in determining how many skimmers should be used. Residential pools require at least one skimmer for every 800 feet of surface area, for example, according to the National Spa & Pool Institute/American National Standards Institute document, *ANSI/NSPI #5*. These standards represent minimums, so if you reduce the surface area or increase the number of skimmers while observing the skimmer's minimum flow requirements – that is, if you use one skimmer for every 500 square feet of surface or two skimmers in a 1,200-square-foot pool – you increase the pool system's surface-cleaning efficiency.

Commercial pools use higher standards and will typically require one skimmer for each 500 square feet of surface area. These standards will vary from jurisdiction to jurisdiction, however, so you need to consult local Building or Health & Safety officials to determine a project's specific needs.

COUNTING PORTS

Skimmers come in two basic varieties: Some have a single port at the bottom, while others have two.

Aboveground, fiberglass, vinyl-liner and steel-wall pools typically use single-

port skimmers with which only one plumbing connection is made at the bottom of the skimmer. This single flow path creates a clear concern about entrapment, which is why these skimmers usually have a feature that will help divert water around the skimmer if the throat becomes blocked. In all cases, caution should be used when plumbing this type of skimmer.

Skimmers of this style are seldom used in construction of gunite pools because of the advantages offered by double-port skimmers. In fact, the vast majority of skimmers used in concrete construction have two ports, so we'll focus on these units here.

As the name implies, double-port skimmers have two connections (either socket-style or threaded) on the skimmer's bottom. The back port is tied to the pump's suction-side plumbing, while the front port is tied to either the main drain line or an equalizer line. (NSF requires all commercial swimming pools to have an equalizer line.) If the front port isn't tied to a drain or equalizer line, it is plugged.

Double-port skimmers are equipped with a float-valve assembly, a trimmer valve, a check valve or a diverter valve that are critical to effective skimmer operation (Figure 1).

If the water level drops below the tile line (or if the skimmer basket becomes plugged with debris), the float assembly will divert water flow to the front port. As the valve plate drops, it opens the spring-loaded check valve, thus pulling water from either the main drain or equalizer line. (NSF also requires this check valve for commercial pools.) The check valve prevents loss of the pump's prime or any cavitation that might result from a clogged skimmer basket.

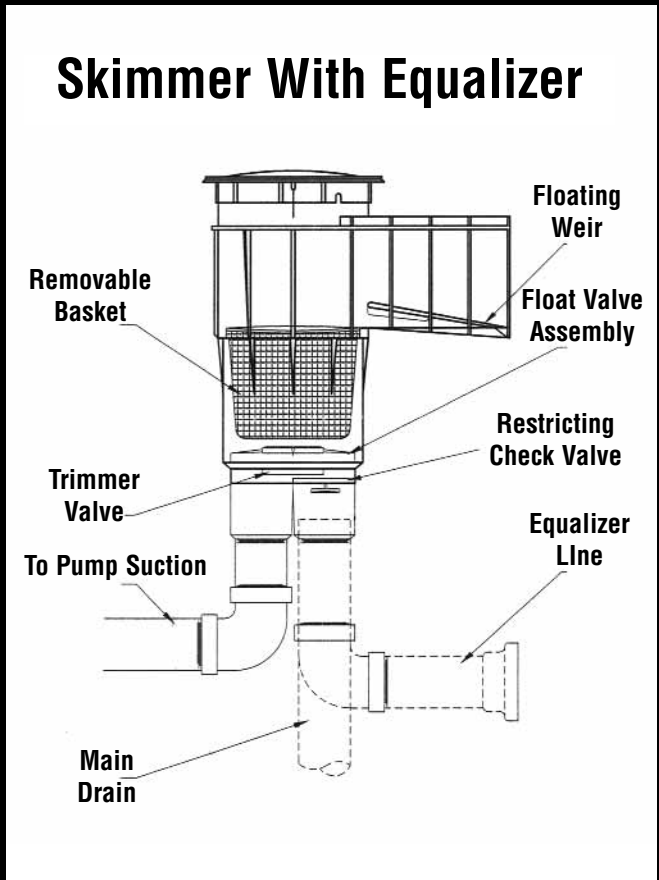


Figure 1: A typical double-port skimmer adaptable for use with either an equalizer line or a main-drain line.

IN PLACE

In deciding on skimmer placement and setting up your suction-side plumbing lines, it pays to follow a few basic guidelines:

• First, the skimmer should be placed down-wind to catch most of the debris, or you should position surface return lines to assist

Multiple skimmers are often used when a pool's configuration makes efficient cleaning by just one skimmer impossible – or when the large surface area of a pool requires it, as in this case. When the gunite is applied, these skimmers will be an integral part of the shell, fully plumbed, hydraulically balanced – and ready to go.

Photo courtesy Paul Benedetti, Aquatic Technologies, Morgan Hill, Calif.

the skimmer by pushing debris toward it.

• Second, you should always keep your line velocities in mind – generally between 5 and 8 feet per second – and remember that only part of the water will be moving through the skimmer. The ratio of skimmer/main drain flow will vary according to state and local standards, but generally you should look for about 75% skimmer flow against 25% main-drain flow.

• Finally, if you're using multiple skimmers either because of pool size or because the configuration of the vessel lends itself to multiple skimmers, always make sure the plumbing is balanced (a concept that will be discussed in depth in a future installment).

As for the skimmers themselves, most are made of ABS plastic – but the skimmer bottoms are a different story, and it's important to know whether the connections at the bottom are made of ABS or PVC.

The ports will range from 1-1/2 to 2-1/2 inches, with 2 inches being the most common. If the skimmer bottom has an ABS socket and you are plumbing PVC pipe to it, you must be sure to use glue approved for ABS-to-PVC transitions (such as Weld On #793 or #794) to reduce the risk of potential leaks. If the skimmer bottom has a PVC socket, use a PVC-to-PVC glue such as Weld On #711 or #717.

Before applying glue to the sockets, always clean the mating surfaces of all debris and residue and use the appropriate pipe primer before gluing the pipe into socket. If the connections are threaded, do not use pipe dope. Instead, use an approved RTV silicone such as silastic #732. Teflon tape of a Plasto-Joint stick are also effective for this type of joint. In all cases, be sure to use the materials recommended by the manufacturer!

In positioning the skimmer in the swimming pool's shell, you must set the top of the skimmer flush and level to the top of the bond beam, with the face of the skimmer throat parallel to the face of the bond beam. Keeping it in place requires a curtain of reinforcing steel of a size and amount specified in the pool's engineering plans. The skimmer must be *completely* surrounded by concrete in a monolithic pour. (The structural engineer should also specify requirements for cold-joint construction.)

The mounting ring and skimmer lid are installed in the finish phase of a job. The mounting ring slips on top of the skimmer body and is leveled as the deck is poured. This ring accepts the skimmer lid and can be moved to adjust for slight variances between deck and skimmer-body levels. The skimmer throat is then finished with tile or another approved surface.

Installing a skimmer in a gunite pool isn't complicated, but it takes a basic understanding of the skimmer's features and what it's supposed to do to get it right. If you know your stuff, then choosing the right skimmer, putting it in the right spot in the shell, matching it with the right pump and plumbing it in with the right pipes will all fall into place together – and that's the way it always should be.

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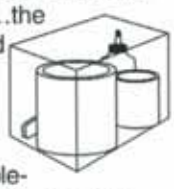

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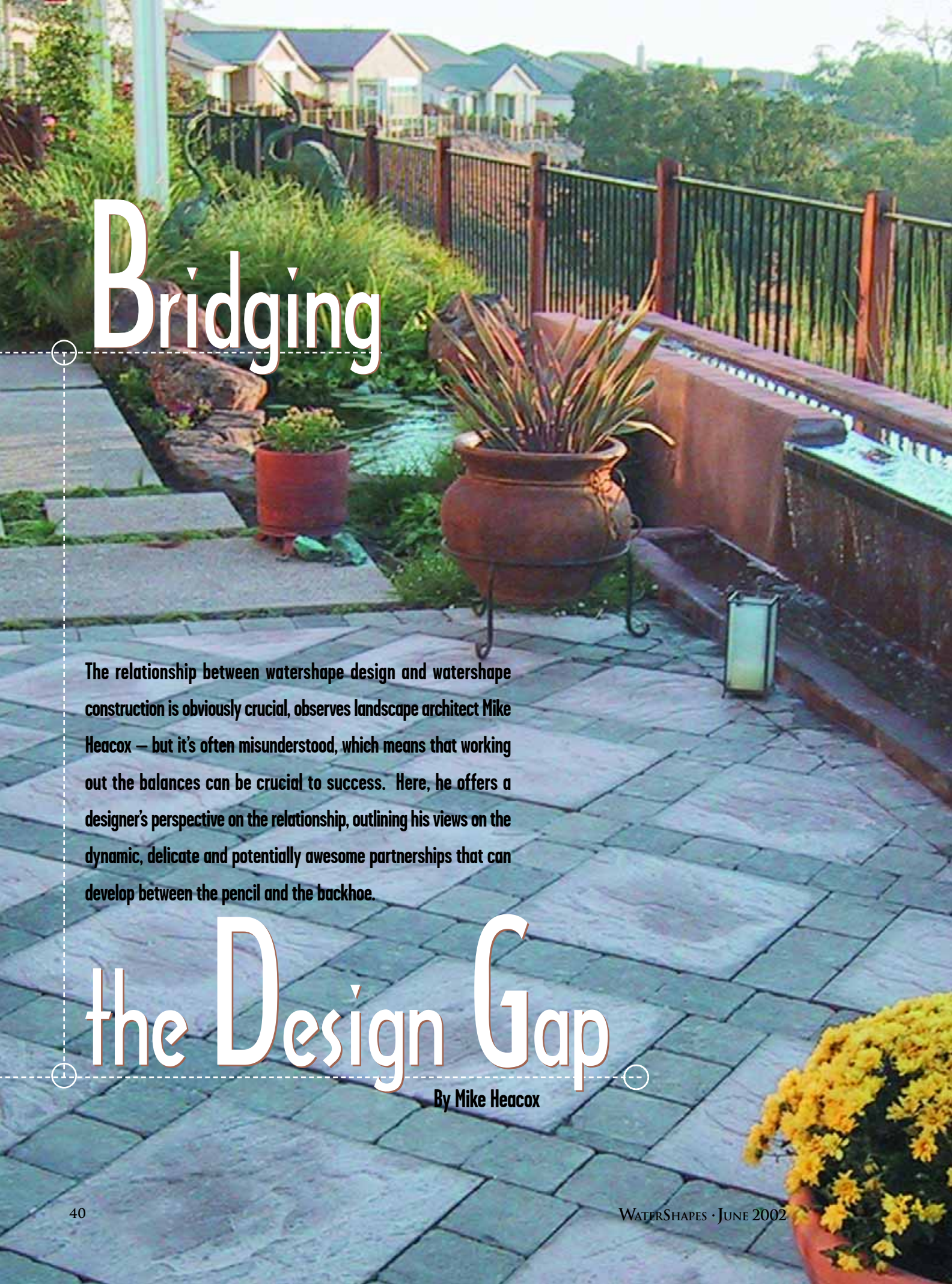


Bridging the Design Gap

The relationship between watershape design and watershape construction is obviously crucial, observes landscape architect Mike Heacox – but it's often misunderstood, which means that working out the balances can be crucial to success. Here, he offers a designer's perspective on the relationship, outlining his views on the dynamic, delicate and potentially awesome partnerships that can develop between the pencil and the backhoe.

By Mike Heacox

As a contractor, do you ever wish that you could avoid fussing with clients about design and could instead just get down to the business of building watershapes and getting all the details right? Do you ever think you're wasting the time you spend on design, because you know your prospects might go with another contractor despite the time you've spent drawing pretty pictures?

Not every watershape contractor will answer "yes" to the first question, but I'm sure most of you have at least *thought* "yes" about the second one. That's because most contractors I know don't charge for design, at least not directly. As necessary, you'll hire graphic artists to produce drawings for presentations, but in a competitive world in which other contractors usually don't charge for design, you have a hard time charging for this service for fear of losing potential clients.

More clients these days are insisting on good design work, however, which pains contractors who've been asked to perform for free – especially if it starts taking up too much of their time. In this anti-creative environment, "design" becomes little more than a sales tool – some pretty sketches not to be examined too closely, drawings that are "representations" rather than actual plans.

So what's the solution to the design dilemma? My recommendation is to find a good landscape architect or designer and pay him or her on a per-project basis. Here's why, along with information that'll be helpful in setting up a strong relationship with the designer of your choice.

The Big Picture

Truth is, no one is really good at everything, especially not all at the same time. If you're selling, marketing, designing, supervising job sites and running a business, something's probably getting shorted to make room for the rest – with design frequently suffering the most.

Most contractors recognize their limitations on the job site and hire excavators, plumbers and electricians to perform key tasks. So why not hire design experts in the same way?

For starters, landscape architects and designers are trained to deal with the whole picture. In fact, most of us would rather design the entire site than just one part of it, so there's

a good chance that we'll be able to address *all* of the client's needs, including the watershape. To us as designers, the waterfeature is just that – a feature, not the entire show.

This whole-picture approach has real value these days, because prospects are more sophisticated when it comes to design integration and are much quicker to dismiss designs that don't consider every aspect of the setting.

They're also quicker to act when they aren't satisfied: We've had a number of clients call us after a pool has been installed, asking us to link it back to the house and to the remainder of the landscape. In other words, these are clients who are so unhappy with a pool "design" that they're willing to pay a landscape architect and another contractor to re-work the site. Wouldn't it be better to take care of these issues up front with an integrated design?

Beyond integrated approaches, another thing landscape architects bring to the table is time spent in studying, applying, reviewing and (one hopes) perfecting a wide range of styles. Many of us have studied art and know about proportion and color theory, for example, and we're familiar with drawing, sculpture, art history and the work of other designers from around the world. This gives us a strong background to draw from, and because most landscape architects like to produce original work, we very often strive to create custom styles based on individual client needs.

As a contractor, you can take advantage of this by letting a designer meet the client with you to suggest approaches to the project. No designer can guarantee that a client will choose you over a competitor, but the mere fact that you have a trained landscape architect working with you gives your presentation more clout and often makes for a better fit with the client's overall wishes.

Professional designers tend to push the envelope a bit, too, so the projects often end up being interesting to build.

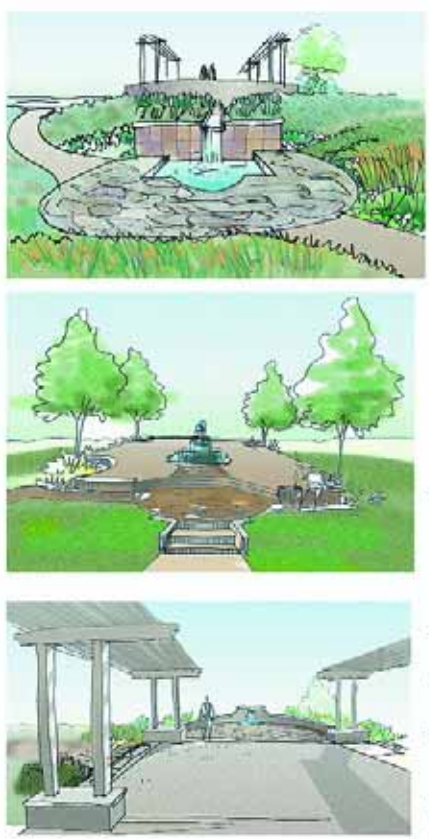
Inside Tracks

Let me emphasize a key point: This process of integrating a watershape into an overall design increases the watershape's value because the watershape "agrees" with the design; moreover, it positions the contractor to install additional hardscape structures that might not have been included in the project had the water alone been the focus.

In other words, working with fully integrated designs enables you to profit from whole projects, not just from their watershapes.

One of our recent jobs, for example, involved a client who wanted to create a contemporary, Provence-style garden on a small sloping site – vegetable garden, deck, spa, two patios, pool, waterfall, flower gardens, decorative rockwork and a pad for an RV and boat trailer – all on about an eighth of an acre.

A designer's capacity to look at the big picture and integrate a watershape with the entirety of its surroundings is an asset to any project. It's not just about the vessel: It's about trees, plants, shade structures and the way they all work together to create an environment clients will live with for a very long time.



Italian villa garden & zona tarantella

Our solution was to step the deck down around the pool, raise part of the bond beam, inset the spa into the other deck and finish everything off with natural stone, tile and plantings. The project is being bid right now: The client is happy – and so is the pool contractor who hired us, because he has the inside track on a project and design that expand his role and involve him in new areas of construction and new ways of generating revenue.

Landscape architects also can be of value when it comes to working with inspectors and government agencies. In our area of northern California, for example, two of the local design-review boards require fairly specialized drawings for approval, and this trend toward increasingly complex review processes seems to be gaining momentum around the country. One of our local boards, for example, requires full grading and drainage plans; another mandates irrigation plans that use reclaimed water.

Continued on page 44

Welcome to the 21st Century

Most landscape architects are familiar with and use Computer Aided Design (CAD) systems. In most circumstances (and with compatible systems), they make it possible for designer and contractor to exchange files via e-mail with no loss in accuracy.

With CAD, members of a project team can e-mail drawing files back and forth with everyone's ideas and notes on separate layers, site surveys can be imported directly from surveyors or engineers and the designer can use the system to rough out difficult perspectives accurately before transforming them into illustrations. And because drawings can be shared almost instantly, CAD also allows you as a contractor to work with people who are far away, giving you access to a far deeper pool of designers.

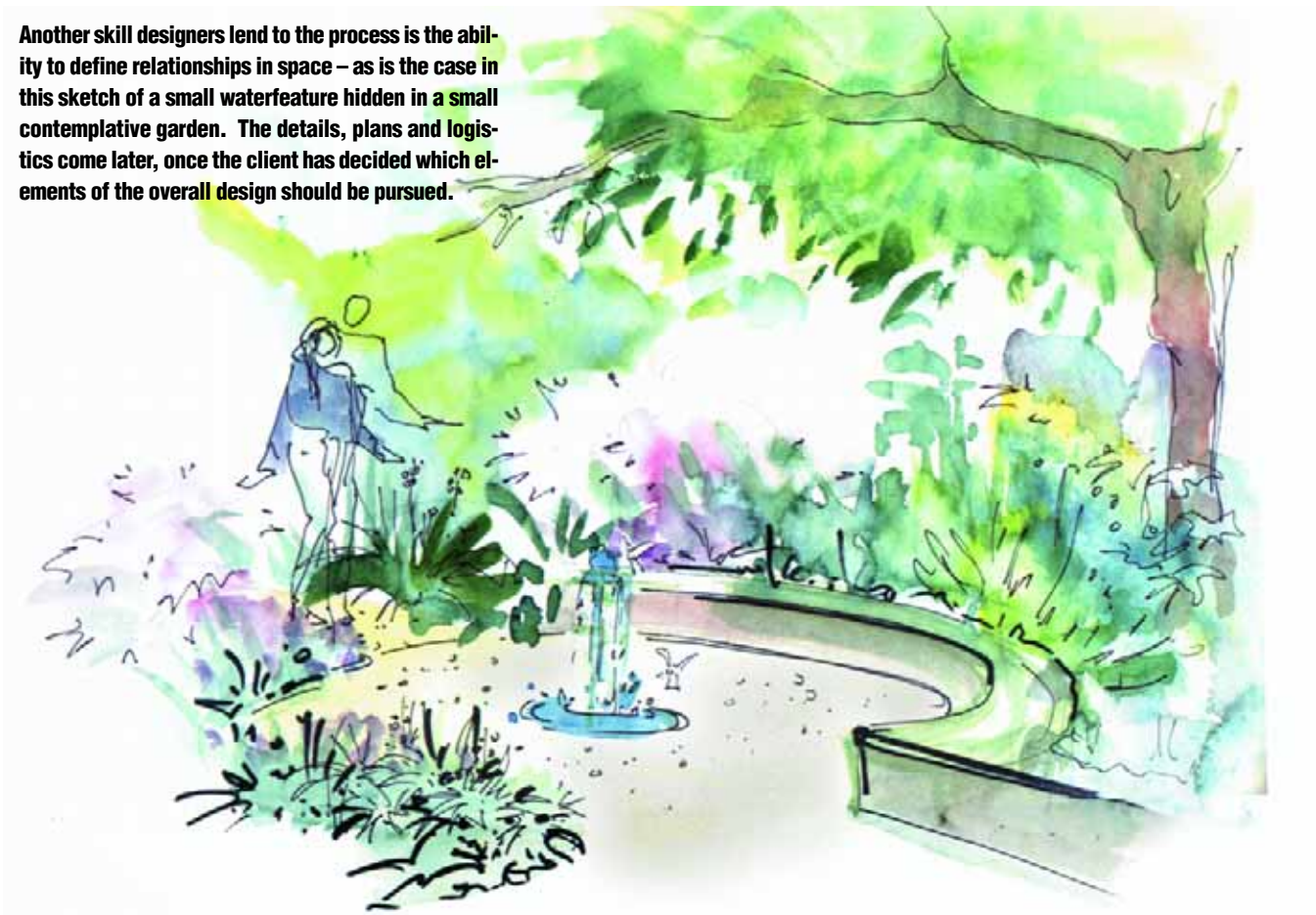
If you intend to set up electronic working relationships with designers near or far, it's a good idea to ask them which system you should get for your operation. Many designers are quite knowledgeable in this realm and can help you select software that will suit your needs.

In our business, we also sometimes act as an intermediary between a computer-savvy client and a contractor, sending drawings and sketches via e-mail or posting the latest illustrations on our web site so everyone can comment on them.

This is the 21st century, after all, and there are myriad ways to use computers and the Internet to speed communications and reduce the number (and expense) of face-to-face meetings.

– M.H.

Good designers don't need huge spaces to get the job done. In this case, a very small yard downslope from a golf course created a need for privacy that was met by setting up a retaining wall inset with a raised bond beam that creates a planter. It's an elegant look that maximizes use of a tight setting.



Another skill designers lend to the process is the ability to define relationships in space – as is the case in this sketch of a small waterfeature hidden in a small contemplative garden. The details, plans and logistics come later, once the client has decided which elements of the overall design should be pursued.

When watershape contractors approach projects in these areas, they often call on us to prepare the plans and participate in the design process. This relieves them of the chore of preparing extensive plans they're not set up to generate, and it also lets us work through the design with the client while the watershaper works out the logistics of construction and calculates costs.

At this level, it's a coordinated, cooperative effort that keeps everyone focused on what they do best.

Finding a Collaborator

When we work with watershape contractors, I like to think that we're all coming together to build something special and that everyone, from the designer to the builder and the service technician, is equally important to the project's ultimate success.

By the same token, bad collaborations most often produce bad results. Crummy designs are often hard to build, the equipment won't perform at peak efficiency and the watershapes are impossible to maintain. None of this leads to referrals!

For that reason, we're selective in evaluating builders to install our work, and contractors should be, too, when choosing landscape architects to design theirs. It really is a collaboration, and if it works, a good builder influences the design as much as a good designer influences the construction.

Probably the most important step to finding a collaborator is conducting interviews with available candidates. Ideally, this will be a long-term relationship, so everyone needs to get along. Better yet, both parties should know each other's work and perhaps have even worked together before or know people who've had good experiences with the other party.

As contractors, you also have the right to demand that any designer you interview has some familiarity with watershaping, knows something about how the equipment works and is up to date on construction techniques and materials. If you install koi ponds, for example, the designer must know about the nitrogen cycle, biofilters, dimensional requirements and other technical details. At a minimum, after all, the plans will need to show where the filters will be placed.

You also should discuss credit for the work and how it will be shared. On both sides, you need to talk about what happens if one or the other of you submits a project for an awards program or an article in the press and make certain that everyone involved in the collaboration gets credit.

In addition, it's important to discuss money during the interview. Frankly, unfair fee structuring is probably the quickest way to ruin a designer/contractor relationship. Fees should be fair to both sides, and both sides need to be involved in setting the terms. If the designer thinks

Designer or Landscape Architect?

As can be expected, designers come with differing levels of experience and training. The landscape field is no exception, but there's more confusion here than in most other fields because not everyone knows the difference between a landscape *designer* and a landscape *architect*.

As a rule, it's tougher to categorize landscape designers. They may or may not have extensive training or experience, and they aren't licensed by the state (unless they also have contractors' licenses). None of that makes them bad or good – it just means that you have to review their portfolios carefully, make sure that they're showing you their own work, and then make a decision based on the portfolio and the outcome of your interview. By contrast, landscape architects must qualify for the title.

They normally have either a bachelor's or master's degree in landscape architecture along with several years of experience in a design firm, and they've passed a nationally standardized five-part licensure test. In most states, a state board similar to the pool-contractors board does the licensing and makes applicants take yet another test to qualify. In many states, a landscape architect's license is required to design commercial spaces.

The real confusion comes in states where anyone can call herself or himself a landscape architect. Others restrict the title but not the work, so a landscape designer can work on any type of project as long as he or she doesn't actually claim to be a landscape architect. Other states have a practice act that prohibits any unlicensed person from practicing what it defines as landscape architecture.

In other words, you need to know the rules in your own state to make the right decisions about selecting designers for your projects.

And remember that this is a two-way street: Just as contractors seek out good designers, designers are always looking for good contractors who can execute their projects. Once you're accustomed to collaborating, don't be surprised if you get a great many referrals from the landscape architect or designer – projects to which you'd never have had access without connections you've made.

– M.H.

This is a case in which we remodeled a space after the pool had been installed, adding a cabana, new landscaping, new hardscape and revamped planters. This capacity to illustrate ideas in ways that help clients visualize the potential of a space is key to the services landscape architects offer – and a skill pool contractors should insist upon from their design partners.

Making the big picture come together and work in clients' backyards is often the result of profitable collaboration between a designer who sees the potential of the space in broad terms – and a skilled contractor who knows the practicalities of making watershapes work. When it all clicks, clients are delighted and everyone involved in the project reaps the rewards.

the fees the contractor wants to pay don't justify his or her time, he or she won't stick around long and you'll have to go through the whole process again. In the same way, if you think the designer is using your money to buy an island in the Caribbean, that relationship won't go far, either.

What's fair? It all depends on factors too numerous to list here, but it's something you need to work out early in the relationship in clear and unambiguous terms.

Defining Needs

Now we get to the important stuff – and some of the main reasons you want to talk to a designer in the first place.

Because ours is a visually oriented profession, you should make certain right away that the landscape architect or designer you are interviewing can actually *draw* – and make no mistake, not all of them can. You should insist on seeing graphic work, not just photos of finished projects, and you need to be sure they are proficient in drawing perspectives, because this is what clients have the easiest time visualizing.

Good drawings and good client meetings are what make projects happen and effectively communicate what you're proposing. But consider as well that landscape architects are *not* graphic designers: Where a graphic designer might make something look good, he or she isn't trained to think in three-dimensional terms and can't evaluate if what he or she draws can be built or if it will function once it *is* built.

Landscape architects bring more to the table. We're trained to arrange outdoor spaces; consider proportion, style, color, forms and levels; evaluate drainage and anticipate construction and maintenance issues. To us, graphics are a means to an end, not the end itself, and you as a con-

tractor need to keep that in mind in evaluating our skills with pencils.

It's also important in the interview to decide on the level of involvement you want the designer to have. Some designers have surveying equipment and can take care of site measurement, for example. They can also deal with base plan preparation, which is often just a matter of making a phone call to the architect to have a CAD file e-mailed to them.

The possibilities here run full spectrum: We can prepare quick sketches based on scaled base plans, create master plans or prepare detailed drawings for virtually every aspect of a landscape's installation that doesn't require an engineer. The only general rule is that the more plans you want, the more you'll have to pay.

Lots of times, we get involved after some kind of base drawing has been prepared. Sometimes it's just a quick site plan with some dimensions on it; other times it's a sketch of a pool with the name of an architect who has the original CAD files. Whatever the source material, we start by transferring information to our CAD system, clean it up, plot out a base plan and then sketch out a concept or two.

Once we're happy with the concept, we scan the drawings back into the computer and print them out so both contractor and client have copies. Once the client has made suggestions, we transfer the revised design back to CAD and produce a simple site plan with takeoffs for the installer.

Normally, the contractor presents these drawings to the client, gets their comments and brings everything back to us for final drawings. Because we have less involvement and no travel time, we don't need to charge as much for our services.

Face Time

As an alternative to the arm's-length approach just described, landscape architects can get *much* more involved. We can meet with the client, determine the layout and hand the resulting drawings over to you for installation. This happens when we initiate the project and hire a contractor; it also happens when a contractor doesn't have the time or desire to get so involved in the design process and hires us.

In cases where we work for the client directly rather than at the request of a contractor, we provide an illustrated, scaled plan with text explanations of what's already there and what we're proposing, coupled with a perspective sketch or two. From there, we get feedback from the client and finalize the drawings in CAD and the job will go out to bid.

As required, we'll prepare detailed working drawings that show dimensioned elevations and sections of proposed elements as well as planting and lighting plans, grading and drainage plans and dimensioned layouts. (There is also, of course, the X-factor of design review boards that may require more extensive drawings.)

But we only need to go this far to make certain nothing is left to chance when a project will be put out to bid: Our list of required working drawings is thinned considerably if we have a solid working relationship with the contractor who will be doing the installation.

In other words, both designers and contractors have everything to gain from combining forces and making professional relationships work. There's definitely time, effort and money to be saved in all directions.

When construction-savvy designers join forces with design-sensitive contractors, say Randy and Martha Beard, the results can be spectacularly satisfying. That's one reason they've focused so much of their work at Pure Water Pools on forming alliances with local landscape architects; another is the fact that the give and take with creative people involves them in projects that are a distinctive cut above anyone's definition of the ordinary.

Both Sides Now

By Randy & Martha Beard

The way we see it, the most successful watershapes take two participants: a visionary designer who can express the clients' desires, and an accomplished builder who can turn that creative vision into reality.

Sometimes, the designer and builder are one and the same person or organization. In many other instances, however, it is the collaboration of two professionals from opposite ends of a project that makes the difference between a watershape that is simply a watershape – and a watershape that is truly a work of art.

We at Pure Water Pools in Costa Mesa, Calif., have been fortunate through the past 20 years to have worked with many of the most talented architects and landscape architects who work in our area and have been even more fortunate to have developed strong relationships with several of these professionals. One of our most productive partnerships has been with landscape architect Dave Pedersen, a designer who serves upscale residential clients along the coast.

His signature is his remarkable ability to incorporate his clients' personal style with the outdoor structures he's called upon to design. We've worked with him on several projects through the years, and we'll be using two of them here to illustrate exactly how the collaboration has worked.

Maintaining an unobstructed view was a key goal for this backyard project – a natural given the lot's sweeping view of Newport Beach's Back Bay. The landscape architect answered the need with a set of crisp lines that carry the eye to distant views, and he was open to our suggestion for softening the chessboard look by using a wide, continuous band of poured-in-place concrete rather than a pre-cast, sectional coping.

Beauty on the Bay

Our relationship with Pedersen is a two-way street. Sometimes he'll contact us in the early stages of design development; other times, he calls after the plans have been created. We return the favor by passing his name to watershape clients in need of a top-flight designer.

In either circumstance, the focus is always on clients' needs. In fact, successful collaborations between contractor and designer always begin with clients, no matter whose door they happen to knock on first. Very often, the process starts when a couple returns from a vacation on which they saw a great swimming pool or sat in a great spa. Sometimes all it takes is a picture in a magazine. However it progresses, the idea starts with the customer, moves to the designer and then goes to the contractor for implementation.

If the designs are complicated and/or exceptional, early and constant coordination between the builder and the architect is required to ensure that the plan is mechanically feasible and still captures the illusion the architect and clients are seeking. In the case of the first project illustrated here – a set of watershapes for a home high on a cliff overlooking Newport Beach's Back Bay – we were involved *very* early.

The home had been one of the models for its development, and the owners basically wanted to start with a clean slate out back. Pedersen had already drawn up some plans that reflected his usual care in considering their personalities – in this case with clean, crisp lines that harmonized with the colors and minimalist styling of the home's interior.

He also determined that they wanted to fill a very small space with lots of functionality – a lap pool, decorative waterfeatures, a barbecue and a spa with a cascade, all in a 35-by-50-foot space and none of its structures to interfere with the view of the bay and Newport Beach through a long glass wall.

As designed, the backyard was to include a 41-by-9-foot lap pool installed slightly above grade beneath the length of the view wall. The spa and associated hardscape at one end of the yard offered a set of angular forms, mostly squares with rounded corners. The overall effect was

one of a chessboard in soft, muted tones.

From the start, Pedersen asked us for feedback and ideas. Originally, the working design had called for sections of pre-cast coping around the pool and spa that we thought exaggerated the chessboard effect. As an alternative to all those additional squares, we suggested using a continuous, double-wide strip of poured-in-place concrete to provide a smooth, unbroken line running the length of the pool and terminating at the raised wall. This would lead the eye directly to the skyline and the distant views.

Pedersen and the clients liked the idea and altered the plans accordingly.

Care in Collaboration

We also had several discussions with Pedersen about a wall that doubled as the spa/waterfeature wall and as a place to hide the equipment. The layout was a challenge because the small equipment area also housed two air conditioning units for the house.

We were really hemmed in. Between finding room for the pool equipment and working around the air conditioning units, we had to find clearances for electrical panels and setbacks from property lines. Our marching orders were to make it all fit in as little space as possible to maximize the yard. (This was *extremely* expensive real estate, after all, and the clients didn't want to see too much of it devoted to making everything work!)

Adding to the fun, the clients wanted to be able to run a series of planter-based "spitters" across the raised pool edge when the pool was not circulating. This meant that these small waterfeatures needed their own pump. In addition, they wanted five additional jets in the spa – and the extra pump that would make them work.

The space allotted on the plans was not large enough to accommodate all of this, so we went back to the plans and widened what we were now calling the "equipment wall" – which altered the weight of the Kashmir slate finish relative to the coping and threw things out of visual balance.

Pedersen suggested raising the wall's height to compensate for the added width along with the addition of a decorative precast cap to match the coping cap. This ad-

The wall rising behind the spa serves to hide the home's air-conditioning units as well as all of the pool and spa equipment – and became bigger as new features were added to the project. Maintaining visual balance was a challenge solved by making the wall a bit higher than originally had been intended and by giving it some finish details that picked up on the style of the coping.

justment enabled us to maintain the balance and clean lines while giving the clients all the bells and whistles they wanted.

Participating in this sort of creative give-and-take is a powerful, heady brew for contractor and designer alike, and it takes time to develop the comfort level and trust needed to keep things moving forward. We've reached that level with Pedersen and have found that one project leads naturally to another – as was the case with another collaboration with him, this one in a nearby upscale neighborhood known as Newport Coast.

Both the Back Bay and Newport Coast lots offer phenomenal views of the Pacific Ocean and surrounding hillsides, but the similarities basically end there. Where the Back Bay project was on level land, the Newport Coast parcel was a corner lot with elevations that dropped off dramatically from about the midpoint of the yard.

Multiple Layers

The Newport Coast homeowners had few basic demands, but even their simple requests tended to ratchet up the difficulty of the project by several turns at once.

Take the specimen palm tree in the middle of the yard: It wasn't to be touched, which severely limited available options for pool placement. They also wanted the pool to take up as little of the yard as possible – but it had to be big enough for the children to have a good time swimming. And they wanted a grass area, a barbecue, a bar – and maintenance of the unobstructed view, of course.

Although this parcel has a bigger yard

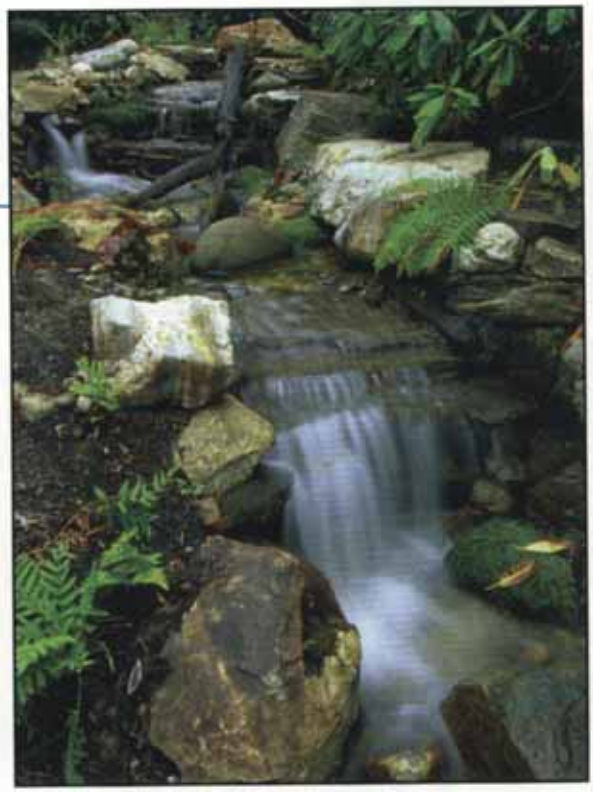
One of the extra elements that expanded the equipment space was this set of "spitters" – little jets of water that emerge from the small planters that run between the glass wall and the pool. These jets operate independent of the other systems – and so needed a pump of their own.

GENESIS 3 A DESIGN GROUP

How Good Do You Want To Be?

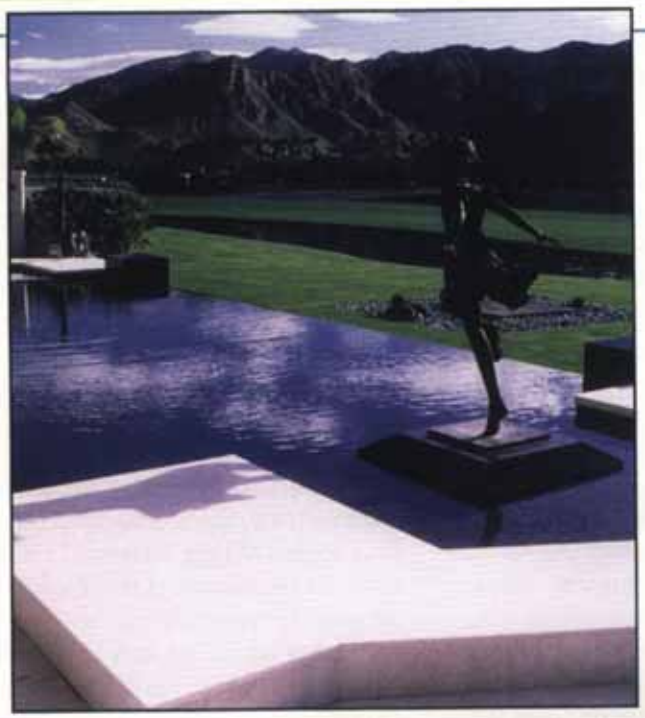
Genesis 3 Schedule, Fall 2002

This fall, David Tisherman, Skip Phillips and Brian Van Bower are hosting two very special Genesis 3 events: The group's first-ever Pond School and the latest in the series of increasingly popular Level I Schools.



October 3-6, 2002
Miami, Florida
Genesis Pond School

An in-depth exploration of the art and science of pond design, this program begins with an inspirational look at history by renowned designer Anthony Archer-Wills before moving on to discussions of practical issues of ecosystem management, biological filtration, concrete vs. vinyl lining and more. Open to all applicants, the course also features presentations on plants, water quality and the care and feeding of fish.



November 6-10, 2002
Morro Bay, California
Genesis Level I School

The flagship school in the Genesis 3 program, this school focuses on design, engineering and construction of watershapes, drawing techniques and the Genesis 3 philosophy. Open to all applicants, this is the access point to advanced Genesis Family programs and demonstrates what it takes to operate at the highest level of expertise – including up-close and personal familiarity with the lifestyles of high-end clients.

For more information, contact the Genesis 3 office, toll-free, at (877) 513-5800
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The owners of this hilltop home gave us a challenging lot to work on, with a steep slope picking up about halfway through the yard. As if that wasn't enough, they also wanted to leave this palm tree right where it was. We all worked around the obstacle, which had a strong influence on both design and construction.

than the Back Bay lot, the space is still small when you consider that half of it is consumed by unusable slope.

The obvious starting place in designing for a sloping lot with an ocean view is a vanishing edge, but given the slope, accommodating the trough would have pushed the pool too far back into the yard to make the clients happy.

So instead, Pedersen used the lay of the land to inspire the shape, incorporating its curves and contours while abandoning the vanishing edge altogether. The result is a combination of short lines, sharp corners and a large arc across the vista. An extended seating bench runs from the shallow steps and around the circular pool overhang, ending at the raised spa. This seating area provides a wonderful place to absorb the view and creates a strong visual boundary that encloses the pool.

The shallow end of the pool was set at grade by the family room entrance and side walkway. As the lot slopes up toward a walkway on the other side of the yard, the hardscape passes through a series of concrete terraces, planters and swatches of lawn. Each terrace level's configuration is determined by underlying topography, and the various elevations are highlighted by changes in materials.

These variations in materials and looks create the illusion of changing environments with each step up or down from one level to another. And because the variations are handled with the designer's deft touch and sense of colors and textures, it all hangs together visually.

But all those benches, sections, levels, terraces and transitions had to be specified and built – and that's where we enter the story.

Tricky Integrations

Pedersen's eclectic plan aligned perfectly with the clients' desires, but the various angles, shapes, styles and textures brought their share of trouble to us in turning the vision into reality.

In other words, we were left to incorporate the proper colors and materials to complete the design experience and make it work. In addition, we had to fig-

ure something out for the pool, whose silhouette wasn't conducive to swimming for any distance and whose entry steps seemed to get in the way of fun and splashing. We made some suggestions based on our observations and moved forward.

The level changes along the pool's coping created another technical problem, as it meant the bond beam would have to change levels many times. The slate on the high walls at the back used 12-by-12-inch pieces, so that space filled up nicely. But as the beam dropped, there was room left for just a single line of 6-inch waterline tile that had to stand on its own while complementing the slate triangles.

We elected to break away from the linearity and go with a pattern of curves and swirls to contrast with the stone on the seating wall and the other raised sections, flowing with the contours of the shell rather than with the slate's angularity.

Softening the angles further, we set up a cascade that sheets from the top wall into the spa and flows through the spa spillway before falling into the pool. The result is a diversity of vertical walls at various levels playing off the unusual flow of the pool/spa combination – all within the scope of what the customer wanted to do with the available space.

As we plotted our course with this project, Pedersen stayed in steady contact and asked us questions that sharpened our ideas as well as his understanding of the constraints under which we were working. Once again, it was a two-way street: If we ran into something that moved us away from an agreed-upon concept, we'd call him to discuss the specifics and reach a sensible conclusion that fit within his vision.

Confidence and trust that move in both directions from designer to contractor and back again are what this collaboration is all about, and it's a working relationship we treasure. The way we see it, we're all working from our strengths – his as a designer who understands what construction is all about, ours as contractors who buy into design concepts and turn vision into reality.

The landscape architect's design features lots of levels, changes in materials, variations in textures and a large number of complex angles. Turning his vision into reality was far from simple, but the collaboration was truly a two-way street and we were able to develop practical solutions that made it all work, visually as well as functionally.

Of Interest

The following information has been provided to WaterShapes by product suppliers. To find out how to contact these companies, look for the Product Information Card located at page 58.

Path Lighting

Circle 100 on Reader Service Card

HADCO offers the CPL series of path lights. Made from die-cast aluminum, each unit has an engineered reflector for high efficiency and a removable twist-lock cap that allows for re-lamping from the top. The 12-volt units come with 20-watt T3 lamps in black, bronze or speckled-stone finishes. There are also six roof options: cone, dome, flat, flat/curved, flat/curved with ridges and cone top with ridges. **Hadco**, Littlestown, PA.

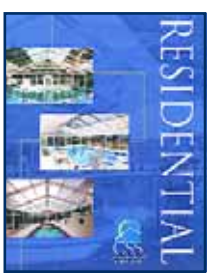
Pond Equipment and Services

Circle101 on Reader Service Card

ADVANCED AQUACULTURE SYSTEMS specializes in the design of pond and waterfeature systems. Since 1984, the company has developed many propriety products and designs, including maintenance-free Aquacubes and Perma-Bead media as well as hundreds of other dependable components. The company also offers design and technical-support services for all projects. **Advanced Aquaculture Systems**, Brandon, FL.

Pool Enclosures

Circle 102 on Reader Service Card



CAROLINA SOLAR STRUCTURES offers custom pool enclosures and pavilions. Made with coated tubular-aluminum frameworks, the structures feature internal connections that are non-corroding and stand up to the moisture and chemicals associated with indoor pools. Motorized, opening roofs are available, and the glazing provides passive solar heating and bright light transmission. **Carolina Solar Structures**, Arden, NC.

Venetian Glass Tile

Circle 103 on Reader Service Card

KOLORINES manufactures Venetian glass tile that is durable, beuatiful and resistant to weather and chemicals. The tiles come on paper mounting sheets and can be set up as solid colors, color gradations or random color blends. The available palette ranges from subtle earth tones such as honey, amber or wheat to bright, vivid hues including vermillion, turquoise or dark cobalt. **Kolorines**, Cuernavaca, Mexico.

Massaging Spa Jets

Circle 104 on Reader Service Card

WATERWAY PLASTICS offers two new jets. The Power Storm Galaxy jet releases an array of bubbles for a more relaxing massage sensation; the Galaxy Massage is similar but adds gentle pulsations for increased relaxation. Both are offered with smooth or five-point scallop escutcheons in gray, sterling silver or black and have several different jet bodies from which to choose. **Waterway Plastics**, Oxnard, CA.

Walk-on Cover Lids

Circle 105 on Reader Service Card

COVERSTAR makes systems to support walk-on lids for a flush-deck look with its line of automatic pool covers. Designed for use with lids made of stone, concrete, brick, aluminum or any other common decking material, the trays or support brackets are customized to the specified load and may be made of stainless steel, aluminum or galvanized or coated steel, depending on need. **Coverstar**, West Provo, UT.

Decorative Fountains

Circle 106 on Reader Service Card

HADDONSTONE (USA) LTD. offers a variety of fountains for use in upscale landscapes, including Neapolitan Fountain C370A. This free-standing fountain features a boy-holding-dolphin centerpiece (with the dolphin's mouth as the fountain spout) that is supported on an ornate base with a rounded shell as the fountain bowl. The shell is 37 inches wide; the overall height is 55 inches. **Haddonstone (USA) Ltd.**, Bellmawr, NJ.

Built-in Pool-Cleaning System

Circle 107 on Reader Service Card

A & A MFG. offers QuikCleanMax, a built-in pool-cleaning and circulation system that takes care of cleaning the pool floor as well as benches, swimouts, loveseats, spas and other hard-to-clean areas. System enhancements include venture-powered skimming for superior surface cleaning and an in-line canister that captures leaves, sand, insects and other heavy debris before they reach the pump. **A & A Mfg.**, Phoenix, AZ.

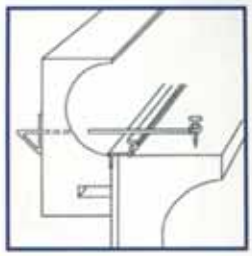
Cross-Brace Ladders

Circle 108 on Reader Service Card

S.R. SMITH has introduced a new cross-brace ladder for commercial pools. Built with all-welded stainless steel construction for durability, the ladder also features deluxe non-slip steps for safety and is polished to a smooth finish. Made with two, three, four or five steps in 24-, 30- and 36-inch lengths, the ladders are built to accommodate a wide variety of installations. **S.R. Smith,** Canby, OR.

Cantilever Forms

Circle 109 on Reader Service Card



STEGMEIER CORP. makes a wide range of forms for use in setting up cantilevered edges for pools. Designed for poured-in-place applications, the forms allow for installation of profiles including rounded bullnose looks, squared shapes with rounded-over corners, shapes set up as hand holds and step ledgers. There are also forms designed for use with stamped concrete finishes. **Stegmeier Corp.**, Arlington, TX.

Pond Liners

Circle 110 on Reader Service Card

FIRESTONE BUILDING PRODUCTS makes PondGard liners for decorative ponds and waterfeatures. The EPDM product is flexible, stable, long-lasting, easy to work with and safe for use with fish and aquatic plants. Available in a variety of lengths and widths, the liners can be quickly and securely seamed to make larger liners or meet the requirements of special features such as waterfalls. **Firestone Building Products**, Carmel, IN.

Special Piping

Circle 111 on Reader Service Card

DURA PLASTIC PRODUCTS offers a catalog on its special piping components. The 16-page brochure highlights manifold systems; 3/4-inch hose fittings; compression couplings, tees and adapters; flexible PVC fittings; a range of clear schedule 40 fittings; and items including anti-theft couplings, micro-sprayer adapters and more – all of which come with three-year limited warranties. **Dura Plastic Products**, Beaumont, CA.

Continued on page 60

Product Information Card

For more information on advertisers and/or products featured in this issue's Of Interest *section, circle the corresponding Product Information Number on the postage-free card opposite this page.*

Reader Service Number

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MISSING ANY?

We have limited supplies of most back issues in stock, so go ahead: Build your collection of *WaterShapes*..

❒ **February 1999** (Vol. 1, No. 1)
Tisherman on working in difficult soils; **White** on edge treatments; **Lacher** on expansive soils.

■ **April 1999** (Vol. 1, No. 2) SOLD OUT!
Hopkins on designing with large rocks; **Hare** on basic hydraulics; **Straub** on shell curing.

❒ **June 1999** (Vol. 1, No. 3)
Phillips on water and decks; **Parmelee** & **Schick** on soils and geology; **Anderson** on water sounds.

❒ **August 1999** (Vol. 1, No. 4)
Anderson on stream design; **Adams** on community waterparks; **Gutai** on spa hydraulics.

❒ **October 1999** (Vol. 1, No. 5)
Holden on aquatic-design history; **Mitovich** on dry-deck fountains; **Tisherman** on site geometry.

❒ **December 1999** (Vol. 1, No, 6)
Finley on Japanese gardens; a roundtable on pools and landscape design; **West** on color rendering.

❒ **January 2000** (Vol. 2, No. 1)
Hart on designing for model homes; **Zaretsky** on retaining walls; **Chapman** on hydrid pool finishes.

❒ **February 2000** (Vol. 2, No. 2)
Hersman on lighting design; **Macaire** on faux-rock installations; **Andrews** on glass mosaics.

■ **March 2000** (Vol. 2, No. 3) SOLD OUT!
L'Heureux on project management; **Long** on steel cages; **Forni** on installing and maintaining lakes.

❒ **April/May 2000** (Vol. 2, No. 4)
Schwartz on garden access; **Anderson** on streambeds; **Nantz** on watershapes and architecture.

❒ **June/July 2000** (Vol, 2, No. 5)
Holden on fountain-design history; **Bibbero** on large stones; **Anderson** on making streams work.

■ **August 2000** (Vol. 2, No. 6) SOLD OUT!
Tisherman on basic shapes; **Lucas** on watershapes for wildlife; **Ryan** & **Medley** on the vertical axis.

❒ **September 2000** (Vol. 2, No. 7)
Davitt on designing for small spaces; **Altvater** on the importance of aeration; **Hetzner** on sheet falls.

❒ **October 2000** (Vol. 2, No. 8)
Lampl on natural design; **Anderson** on finishing streams; **Rubenstein** on kinetic water sculpture.

❒ **Nov./December 2000** (Vol. 2, No. 9)
Arahuete on John Lautner; **L'Heureux** on stretching laminar flows; **Benedetti** on satellite surveying.

❒ **January/February 2001** (Vol. 3, No. 1)
Holden on a retro-look design (I); **Fleming** on upscale approaches; **Gutai** on pump technology.

❒ **March 2001** (Vol. 3, No. 2)
Moneta & **Farley** on site-specific design; **Benedetti** on fiberoptics; **Alperstein** on golf-course water.

❒ **April 2001** (Vol. 3, No. 3)
Jauregui on inspired clients; **Dirsmith** on frosty fountains; **Tisherman** on deluxe finishing.

❒ **May 2001** (Vol. 3, No. 4)
Reed on sculpture gardens; **L'Heureux** on sequenced water; **Brandes** on restoring riverfronts.

❒ **June 2001** (Vol. 3, No. 5)
Winget on fun-inspired waterforms; **Holden** on survey formats; **Schwartz** on classic stonework (I).

❒ **July/August 2001** (Vol. 3, No. 6)
Rugg on pond basics (I); **Ruthenberg** on perimeter overflow; **Schwartz** on classic stonework (II).

❒ **September 2001** (Vol. 3, No. 7)
Rugg on pond basics (II); **Urban** on energy savings; **Pasotti** on interactive waterplay.

❒ **October 2001** (Vol. 3, No. 8)
Tisherman on hilltop views; **Hagen** on natural stream work; **Schwartz** on classic stonework (III).

❒ **Nov/December 2001** (Vol. 3, No. 9)
Straub on Kansas City's fountains; **McCloskey** on the Getty Center; **Tisherman** on Fallingwater.

❒ **January 2002** (Vol. 4, No. 1)
Phillips on Hearst Castle's watershapes; **Bower** on the Raleigh Hotel pool; **Roth** on Katsura Rikyu.

❒ **February 2002** (Vol. 4, No. 2)
Marosz on project integration; **Moneta** on spa-edge details; **Affleck** on sculpture and water.

■ **March 2002** (Vol. 4, No. 3) SOLD OUT!
Holden on a retro-look design (II); **Morris** on wild water; **L'Heureux** on fountain lighting (I).

❒ **April 2002** (Vol. 4, No. 4)
Oliver on multi-level flows and transitions; **Gutai** on pump basics; **Dews** on hiding headwaters.

❒ **May 2002** (Vol. 4, No. 5)
Anderson on pond essentials; **Pasotti** on interactive waterplay; **Gibbons** on "stellar" fiberoptics.

Please note: These listings represent only partial contents of these issues.

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RUBBER-TRACKED LOADERS

Circle 112 on Reader Service Card

CATERPILLAR has announced Models 267 and 277 multi-terrain loaders. The compact, rubber-tracked machines are designed to be productive in soft, wet soils and on sloped terrain. With high traction and low ground pressure, they're alos suited to work on sensitive surfaces (such as turf) without causing significant damage. The units also feature quick couplers for easy tool changes. **Caterpillar**, Peoria, IL.

RESTYLED POOL CLEANERS

Circle 113 on Reader Service Card

AQUA VAC SYSTEMS has revamped its line of rim-to-rim automatic pool cleaners under the Shark Zone banner with new names and new looks. The company's residential products – MakoShark, MakoShark 2 and TigerShark – join its commercial products – KingShark, KingShark 2, KingShark 2 Plus and TigerShark 2 and two HammerHead models for service professionals. **Aqua Vac Systems**, West Palm Beach, FL.

BROCHURE ON RENOVATIONS

Circle 114 on Reader Service Card

PENTAIR POOL PRODUCTS has published "Recapture the Magic," a 12-page, full-color booklet that familiarizes current pool owners with the many options available for turning aging pools into inviting backyard oases. Coverage includes interior finishes, tile and coping replacement, deck resurfacing, depth modification, equipment, lighting and control upgrades and more. **Pentair Pool Products**, Sanford, NC.

LANDSCAPE LIGHTING

Circle 115 on Reader Service Card

RUUD LIGHTING manufactures the Luma After-Sunset system of landscape lights to take on all of the challenges of outdoor illumination, from high in the branches of trees to walkways down below. The low-voltage fixtures provide graceful dayform appearance and are available in black or verde to offer distinctive accenting, highlighting, silhouetting and uplighting along with increased safety and security. **Ruud Lighting**, Racine, WI.

Pool-Financing Program

Circle 116 on Reader Service Card

PARAMOUNT POOL & SPA SYSTEMS offers a nationwide program to make it easier for builders installing the company's products to arrange financing for pool buyers. The terms are flexible with credit approval, including such options as 100% financing, no money down, no payments for six months and more. The client completes the application for submission by the builder. **Paramount Pool & Spa Systems**, Tempe, AZ.

Telescoping Tool Carrier

Circle 117 on Reader Service Card

BOBCAT offers VersaHandler, a telescoping tool carrier that gives small skid/steer loaders the reach of a larger front-end loader. The boom and bucket are controlled with a loader-style joystick enhanced with a thumbwheel control that extends or retracts the boom. The balanced mainframe design offers superior digging ability and allows the unit to lift as much as heavier machines in its class. **Bobcat**, West Fargo, ND.

Pool/Spa/Fountain Pumps

Circle 118 on Reader Service Card

SYSTEMS INDUSTRIAL has introduced Quiet Pump, a patented pump design that offers energy efficiency, recycles pump-motor heat and eliminates the noise usually associated with pool, spa and fountain pumps. The water-cooled motor and pump are weatherproof, can be installed in underground vaults and are protected from failures due to dust, debris, moisture or floodwater. **Systems Industrial**, Chandler, AZ.

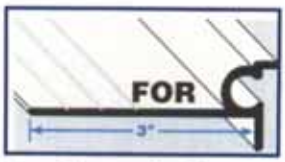
Cement/Polymer Resurfacing

Circle 119 on Reader Service Card

SURECRETE DESIGN PRODUCTS offers materials for concrete restoration and architectural resurfacing. Non-toxic, water-compatible and stampable, the system features a multi-component polymer resin-based cement that is resistant to chemical attack and weather degradation. It adheres to substrates with tenacity but great flexibility, providing permanent overlays of great durability. **SureCrete Design Products**, Dade City, FL.

FIBEROPTIC TRACK

Circle 120 on Reader Service Card



MODERN POOL SYSTEMS makes receiver track for fiberoptic lighting installed on gunite pools. Designed for use with Super Vision SV42, Fiberstars FS-CABL-49, Polaris AD79 and other compatible fiberoptic cables, the units come in 8-foot straight, 8-foot notched and 6-inch radius sections. Exit pieces and step kits are also available, and the products come in white or black. **Modern Pool Systems**, Columbus, MS.

RETAINING WALL SYSTEM

Circle 121 on Reader Service Card

VERSA-LOK offers the Mosaic, an interlocking retaining wall system. Units come with varying heights and widths to achieve the random pattern found in natural stone walls and feature the company's unique hole-to-slot pin system to ensure installation simplicity as well as structural integrity. All units undergo a special weathering process to reproduce a rustic, old-world appearance. **Versa-Lok**, Oakdale, MN.

POOL/SPA PUMPS

Circle 122 on Reader Service Card

WET INSTITUTE offers the A-R Series of pumps for pools and spas. Designed for long service, the high-performance, extra-high-head pump is ruggedly built with a brass and noryl pump and strainer system that is both quiet and energy efficient. The one-piece volute and hair/lint trap assembly is all brass and features an integrated diffuser with a closed-face impeller for high performance. **WET Institute**, Piru, CA.

TELESCOPING FOUNTAINS

Circle 123 on Reader Service Card

FOUNTAINS FOR POOLS manufactures Aquascope, a telescoping fountain that comes in four fountain patterns and transforms pools and spas into fountains during non-swimming hours. Easily installed at depths from 8 to 108 inches, the fountains retract flush into the pool or spa bottom and do not protrude when not in use. The fountain is powered by the pool's pump, so no other pump is needed. **Fountains for Pools**, Tarzana, CA.

Solar Heating System

Circle 124 on Reader Service Card

ENERSOL PRODUCTS offers the S-1000, a solar-heating panel system designed to withstand extremes of hot and cold temperatures as well as abrasion and oxidation. Unaffected by pool chemicals, UV radiation or ozone, the panels will not rust, corrode, rot or crack while extending the swimming season. They also feature a modular design that allows for easy installation and maintenance. **Enersol Products**, Campbellville, Ontario, Canada.

Automatic Pool Cleaner

Circle 125 on Reader Service Card

POLARIS POOL SYSTEMS offers the Vac-Sweep 360 automatic pool cleaner. Designed to clean typical in-ground vessels in less than three hours without the need for a booster pump, the unit vacuums, sweeps and scrubs the bottom and walls of pools of any size or shape. It also features a large bottom opening to pick up large debris and a back-up valve that keeps the cleaner from getting stuck. **Polaris Pool Systems**, Vista, CA.

Hopper Spreaders

Circle 126 on Reader Service Card

ELKIN MFG. introduces the PHS hopper spreader. Designed to fit in the bed of any make or model truck, the hopper spreaders offer a 1.5 cubic yard material capacity and an 8.5 horsepower engine as standard equipment along with three adjustable deflector shields that control the spread pattern. Options include top screens and chute and side extensions. Larger sizes are also available. **Elkin Mfg.**, Indiana, PA.

Commercial Pool Products

Circle 127 on Reader Service Card

PARAGON AQUATICS has published a condensed catalog about its lines of commercial pool equipment. The eight-page, full-color brochure covers starting platforms and their anchoring systems, diving towers, diving boards, grab rails, built-in steps, lifeguard chairs, vertical ladders, underwater windows and more – including the company's filters and custom rail-fabrication capabilities. **Paragon Aquatics**, LaGrangeville, NY.

UNDERWATER LIGHTING

Circle 128 on Reader Service Card

VISTA PROFESSIONAL OUTDOOR LIGHTING makes Model 5127, an injection-molded, glass-reinforced luminaire for use underwater. The 12-volt unit's housing offers strength and high UV stability in bronze and black finishes. The lens is a flat, tempered, shock- and heat-resistant clear glass gasketed for a watertight seal. Optional colored lenses are also available. **Vista Professional Outdoor Lighting**, Simi Valley, CA.

COMMERCIAL EQUIPMENT CATALOG

Circle 129 on Reader Service Card

ASTRAL PRODUCTS has published a buyer's guide to its line of products for commercial pools. The 44-page booklet covers filters and accessories, pumps, gratings, valves, ladders and handrails as well as stainless steel accessories, deck equipment and maintenance necessities. Technical data and basic specifications are provided for each item, along with information on warranties. **Astral Products**, Jacksonville, FL.

MISTING SYSTEMS

Circle 130 on Reader Service Card

MISTAMERICA offers TrueFog, a high-pressure misting system designed to expand outdoor living spaces through the hottest summer days by lowering ambient temperatures up to 30 degrees Fahrenheit. Ideal for patios, pool decks and other outdoor settings, the ultra-fine mist cools the air while creating interesting fog effects with landscapes, waterfeatures, fountains, rockwork and more. **MistAmerica**, Scottsdale, AZ.

CUSHIONED FLOORING SYSTEMS

Circle 131 on Reader Service Card

VITRICON manufactures Vitriturf, a cushioned, seamless flooring system designed for use around and under water, from zero-depth waterplay areas to amusement-park pools. The product is non-slip under wet conditions and comes in porous and non-porous forms: When the system is porous, the water flows through to sub-base drains; when it's non-porous, water drains to slope-determined areas. **Vitricon**, Hauppauge, NY.

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WATERSHAPES

Floor-Mounted Fans

Circle 132 on Reader Service Card

HUNTER FAN CO. has introduced two outdoor, floor-mounted ceiling fans to maximize outdoor air circulation and provide optional patio lighting. The Cascade (permanently mounted) and Nomad (portable) models both offer galvanized tubular steel construction and corrosion-preventing coatings in black, white or bronze along with weather-resisting features to protect fan components. **Hunter Fan Co.**, Memphis, TN.

Deck Drainage Systems

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W.R. MEADOWS offers the Sealtight Deck-O-Drain system for concrete pool decks to collect water and carry it away quickly. Made of long-lasting PVC, the easy-to-install system resists wear, is non-corroding and also serves as an effective expansion joint. A unique non-directional design eliminates the need for right and left fittings, and a flat contour allows for a tight fit against any wall. **W.R. Meadows**, Hampshire, IL.

Coatings-Application Equipment

Circle 134 on Reader Service Card

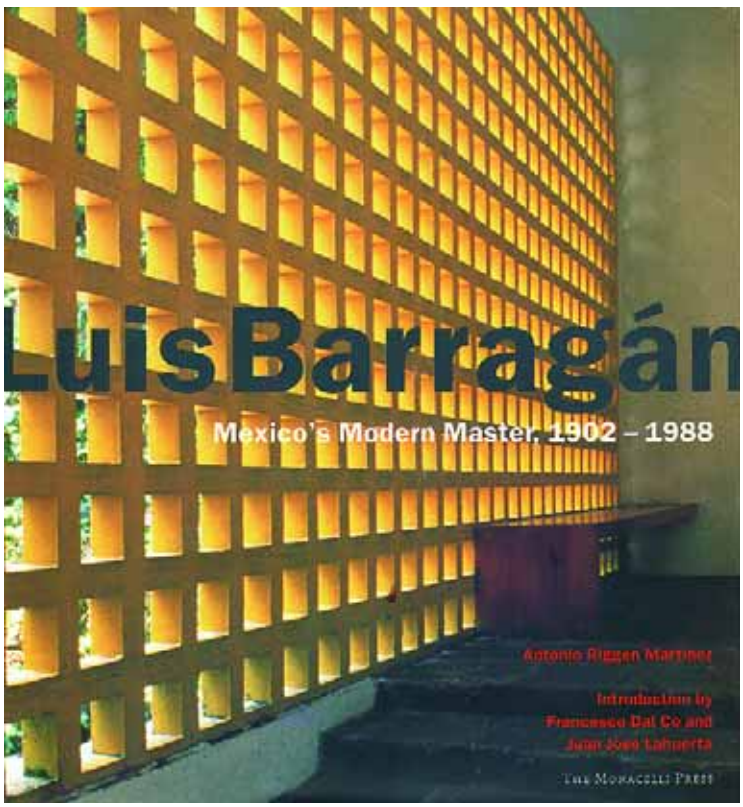
PERMA-TECH has introduced the Blue Machine line of coatings-application equipment. The high-pressure, high-volume, plural-component spray systems are designed for application of specialty coatings over any substrate, including concrete, wood and steel in aquatic settings. The line includes four models with product-delivery capabilities ranging from 18 to 45 pounds/minute. **Perma-Tech**, Cleveland. OH.

Rock Spillways

Circle 135 on Reader Service Card

WATERFALL OASIS offers two models of faux-rock waterfalls with sheer-descent looks. Model RWLG is a low-profile, lightweight boulder available with a 12- or 18-inch spillway. Model RWXL is a higher-profile boulder that features a 12-, 18- or 24-inch spillway. Both models are compatible with non-plumbed faux boulders to fill out a landscape, and all products are available in three natural colors. **Waterfall Oasis**, Murrieta, CA.

BY MIKE FARLEY



A Mexican Master

In his column for the November 2001 issue, David Tisherman mentioned a number of designers who have influenced him through the years. Even with my degree in landscape architecture, I have to concede that I was familiar with only about half the people to whom he called our attention.

One of the designers I was unfamiliar with was Luis Barragán, so I picked up *Luis Barragán: Mexico's Modern Master, 1902-1988* (published by Monacelli Press Inc. in 1996 and written by Antonio Riggen Martinez) to find out something about him.

Barragán is now world famous, but that wasn't always the case. In fact, it wasn't until a 1975 exhibition at New York's Museum of Modern Art that he became widely known among designers in this country for his work in Mexico City and Guadalajara. His distinct, colorful style puts him on a plane with Ricardo Legoretta, another well-known Mexican modernist with whom Barragán briefly worked toward the end of his career.

Color and water were the two elements most prominent in Barragán's work, and there were also periods in his long career during which he focused entirely on landscape architecture. His work is tough to describe, but it's so distinctive that there's no question of recognizing it when you see it.

The broad stucco surfaces and shapes are unmistakable, for instance, with their bright purples, reds, pinks and yellows. Then there are the massive, flat, shallow watershapes set adjacent to large walls whose vivid colors and angular geometry reflect and play on the water's surface. And into these reflecting pools, which often measured in the hundreds of feet, he would send single, torrential sheets of water, creating sound and lending texture to the water's otherwise calm surface.

Where art historians call him a modernist, Barragán thought of himself as a traditionalist and classicist who was simply translating existing ideas into a contemporary context. However he's categorized, his career was very much influenced by what he saw and absorbed. He traveled extensively in France and Spain, where he was influenced by Le Corbusier, Ferdinand Bac and the other giants of 20th Century architecture and design.

He valued solitude and silence and spent a great deal of time contemplating his work – in some cases spending weeks or even months simply thinking about a project before committing any pencil to paper. When he did, he began with simple sketches that later took shape in the three-dimensional models he used in preference to flat renderings.

He also was known for making significant alterations to his design during construction – a practice that I'm sure was maddening to contractors but was necessary to Barragán because he believed that there were aspects of design that could only be truly mastered by working in the actual setting in three dimensions at full scale.

The text covers a large number of Barragán's most famous projects, including the sprawling Egerstrom residence in Mexico City and the home of movie director Francis Ford Coppola. Also included are some of the large housing developments and the public spaces and parks that surrounded them.

To that extent, the text serves as a useful way to learn about this enigmatic master. But there's a frustrating lack of insight into the reasoning behind Barragán's work, perhaps because he preferred it that way. As he put it himself, "Beauty is conquered not through reason, but by capturing the senses."

So enjoy the intuitive quality and warmth of Barragán's work. It may be difficult to describe or quantify, but it is utterly inspiring, provocative and evocative when experienced with open eyes and an open mind. WS

Mike Farley is a landscape architect with 20 years of experience and is currently a design/project manager for Leisure Living Pools of Frisco, Texas. 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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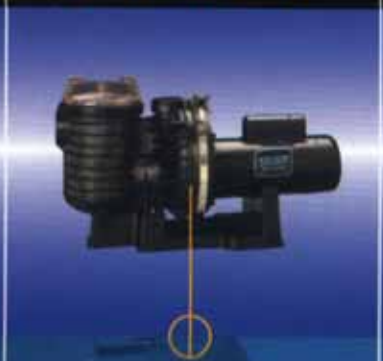

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