

Inside: David Tisherman's Final 'Details'

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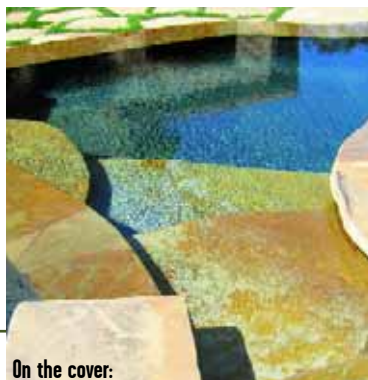
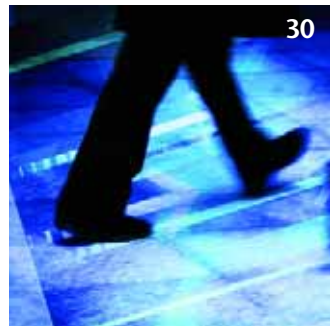
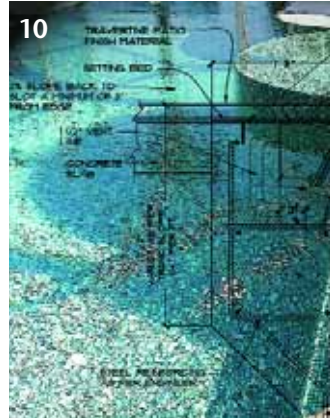
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All Good Things

It seems strange to write these words: In this issue, please find the last of David Tisherman's "Details" columns. After seven years, he has decided that these monthly discussions have run their course and that it's time to step aside.

During those seven years, David has tirelessly served what he sees as the best interests of the emerging watershaping industry. It's true that in doing so he has prodded, poked and challenged much of the industry and has found ways to aggravate many of you – but shaking things up was really his main ambition, after all.

No matter how abrasive he has been at times, through every word of every column he has championed the idea that watershaping can and should be an art form in which excellence in design and construction should and must be the hallmarks. Although he'll never meet his goal of relegating inferior design and shabby workmanship to the dustbin of history, he's certainly given it a fair shot.

I've always been impressed by the fundamental values reflected in the scores of design, construction and engineering details he's shared. It is one thing to profess a belief in excellence – and quite quite another to show how it's done issue after issue, year after year, often in breathtaking fashion.

Indeed, David's "big ideas" have always been backed up by photographic evidence: the lovely ways in which his stone drain covers blend into decks, the subtle beauty of his poured-in-place concrete copings, his harmonious use of surprising colors, the seamless ways in which materials transition within his designs, the monotony-defying spillways – and much, much more.

As I've worked with David through these many years, it's always been obvious to me that he would never be truly satisfied with any progress the industry might make. He would occasionally concede (at least to me) that things had improved in one way or another, but generally he'd take that as motivation to launch another frontal assault on what he's always seen as an industry that can't afford a moment's complacency as it seeks to realize its potential.

At times, some of you have expressed your frustration with the aggressiveness of his commentaries, but in far greater numbers, you've let me know that his messages have helped you transform your working lives for the better. (I've also suspected that those who've felt the sting of his words most sharply are among his most faithful readers.)

From the start, my collaboration with David has been filled with creative tension as we sought ways to make his columns as persuasive and powerful as they could be. In the course of our discussions, I am certain he has influenced the way I think about the industry and what it might someday accomplish. I wouldn't describe him as a muse, exactly – but it's safe to say he's had a lot of influence on the way we approach watershaping in the pages of the magazine.

I'll stop now and let David make his own farewells, beginning on page 30. As I see it, this last column is less a conclusion than it is a statement of principles that will continue to influence watershaping for years to come.

Eric Herman

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Randy Beard operates Pure Water Pools, a construction/service firm based in Costa Mesa, Calif. He was working in the entertainment industry when he started a pool service business as a sideline. Before long, he and his partner (wife Martha Beard) expanded their base by purchasing Pure Water Pools from another technician. As the route grew, they 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, the projects became 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.

Anne Gunn is a fountain consultant for Hydro Dramatics, the full-service fountain di-

vision of Missouri Machinery & Engineering Co. in St. Louis. An affiliate member of both the American Society of Landscape Architects and the American Institute of Architects, she joined Hydro Dramatics and became part of the fountain industry in 1996 after a 22-year career in industrial sales for the steel industry. The firm, a leading designer and installer of architectural fountains worldwide, is known for its work on such prominent St. Louis-area features as the Gateway Geyser (the world's tallest fountain) and fountains for the Missouri Botanical Garden and historic Forest Park. Its international credits include elaborate installations in San Juan, Puerto Rico; at Weil University in Doha, Qatar; and at the U.S. Embassy in Moscow.

Greg Danskin is principal of the firm Greg

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Interested in writing for WaterShapes on design, engineering or construction topics? Contact Eric Herman at (949) 494-4533!

Danskin Architect in Escondido, Calif. He established his practice in 1991 and through the years has designed projects ranging from re-models and custom residential homes to retail, commercial, restaurant, healthcare and religious facilities. This diverse spread of project types has built his understanding of the interrelatedness of various disciplines in the creation of both private and public spaces. Danskin earned his degree in architecture from Montana State University in 1985 and his California license in 1989. He was a volunteer in developing the city of Escondido's Downtown Specific Plan and has served in numerous advisory capacities for the Grape Day Park Foundation, Trinity Housing Group and the Buckheart Ranch for Boys. An Eagle scout, he is also involved in a variety of community groups and is a Cub Scout leader.

Steve Sandalis is founder and president of Mystic Water Gardens, an Encino, Calif.-based designer and installer of custom streams, waterfalls and ponds. Sandalis founded the firm in 2000 after several years of pursuing watergardening as a serious hobby. Since then, he has immersed himself in arts and crafts of watershaping and currently designs and installs highly detailed watershapes for a range of mostly residential customers across the United States. A former model and actor, Sandalis appeared on more than 700 covers of romance novels published by Topaz, a division of Penguin Books, and has appeared in a variety of movies, television programs and commercials. A native of Commack, N.Y., he began working in the construction trades as a child with his father and uncles – all of them contractors in the area.

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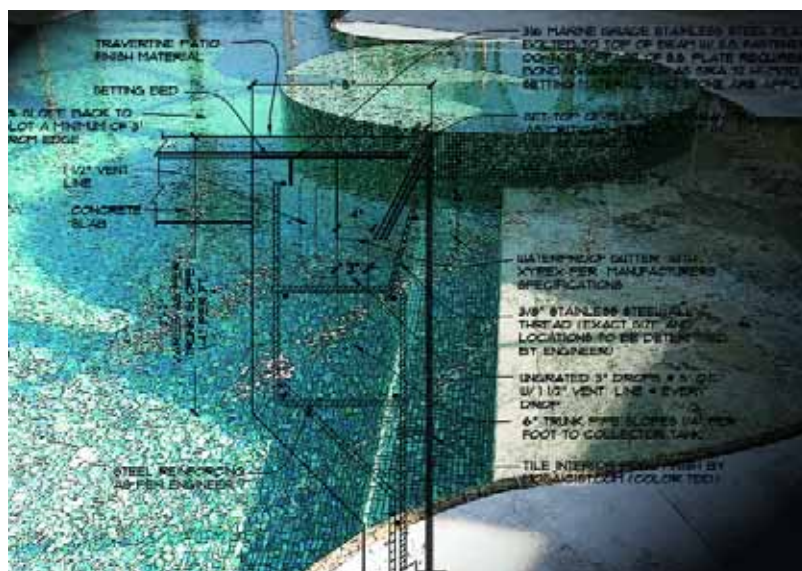
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By Brian Van Bower

An Edgy Detail

Creating a perimeter-overflow system requires tremendous skill in developing clear and explicit plans as well as expertise in forming shells, configuring plumbing systems and shooting or pouring concrete.



It's true for any watershaper: No matter how varied the work you do, it never hurts to be known for the ability to do something special – and for doing it exceptionally well.

Through the years, for example, my firm has polished its ability to provide our clients with watershapes reflecting a wide variety of tastes, styles and features, but to an extent that sometimes surprises even me, we're known among prospective clients for our perimeter-overflow systems.

And it's not only prospective clients: We've also gained this reputation within the watershaping industry, which has led a large number of you to pull me aside at trade shows or drop me e-mail messages asking me just how we design and install these features. The answer is neither quick nor simple, basically because there are many ways to execute these edges, but it's a detail I will be addressing in this column and the next.

I do so not to provide a blueprint for executing these details; rather, my aim is to give you enough information so you can make intelligent decisions about how to proceed when clients approach you with a request for your input about this increasingly popular look.

Before we begin, let me say that this is *not* a detail for beginners. It requires

tremendous skill in developing clear and explicit plans as well as expertise in forming shells, configuring plumbing systems and shooting or pouring concrete. It's also a *costly* look, so if you miss the mark in either design or installation, your nightmares are only just beginning because setting things straight after the fact can be supremely difficult without starting over.

what's in a name?

Water-in-transit effects have become incredibly popular in recent years. If you look at brochures for high-end resorts or upscale residential and commercial properties, for example, you'll almost always see a vanishing-edge or perimeter-overflow system of some type. There may be many reasons for this trend, but I think they can all be summed up by saying that these details spell *luxury* and *drop-dead gorgeous* in big, bold letters.

Ironically, one of the problems with these systems is that there's a lot of imprecision in what people call them. Consider the "vanishing edge," for example: Despite the fact that this has been the most published term used to describe these effects for more than 20 years, some people call them "infinity pools" or "infinite edges," and there are still more than a few who call them "negative edges."

Perimeter-overflow effects face the same issue: Are they properly "deck-level-overflow pools," "knife-edge pools," "rim-flow pools" or "slot-overflow pools"? The answer there is *yes* and *no*: Indeed, in my practice, none of those names is descriptive enough for our purposes, so we've come up with different terms for clarity's sake.

One of these effects, for example, we have



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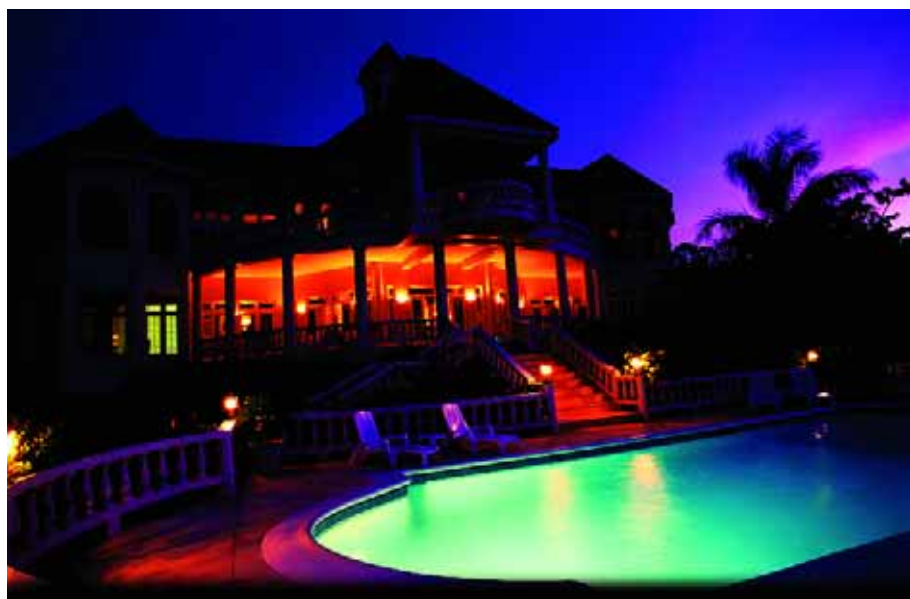
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The 'knife-edge perimeter overflow' is the most popular of the perimeter-overflow details we work with in our practice and by far the most challenging.

dubbed the "underwater-coping, perimeter-overflow slot." That's a hyphen-laden mouthful, but it's the clearest way we've found of describing a project where we press the pool into the ground and create a slightly angled coping that lets the water flow to the back edge of the coping where we conceal a narrow slot into which the water flows. Once it flows past the edge, the water is driven by gravity into a gutter concealed beneath cantilevered deck and coping material.

Or there's the "radius-wall overflow," another approach in which we raise the edge of the pool above the decking and create a radiused edge over which water flows down the side of the raised beam and through a slot at deck level to reach a concealed gutter.

Or there's what we call the "knife-edge perimeter overflow" – the most popular of the perimeter-overflow details we work with in our practice and by far the most challenging. In this detail – which is the one we'll be focusing on in this two-part discussion – water flows to the edge of the pool at deck level and spills into a slot right at the edge of a dry deck.

When you walk up to a pool with submerged coping (as with the underwater-coping, perimeter-overflow slot described just above), you look down and see wet decking or coping material at the edge of the pool. When you walk up to a knife-edge, perimeter-overflow pool, by contrast, you look down inside the pool to the full depth of water and your feet remain dry. It's a genuinely cool detail that creates a certain "wow" factor because those who know nothing about how these systems are made are mystified, intrigued and delighted by the effect.

This is also an expensive detail – one that can cost almost as much as the rest of the pool in some cases – and requires



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extremely tight tolerances. As suggested above, these pools must be done right on initial installation because the consequence of getting it wrong or having the structure fail are almost too grim to consider.

behind the edge

The key to success with any perimeter-overflow system is achieving a dead-level edge. In my operation, we call for a tolerance of plus or minus 1/32 of an inch. In doing so, we recommend use of a water level (gravity never lies), but I'd expect a laser level to work just as well.

To define the edge, we typically specify a 3/8-inch thick, 12-by-12-inch granite tile with a bevel on the leading edge. These tiles are installed *inside* the gutter at an angle that falls steeply away from the pool's interior. The top of the bevel is the critical dead-level point and is the *only* part of the granite tile that will be visible.

In using this material, we butt the tiles up against one another as tightly as pos-



The construction of knife-edge perimeter-overflow pools is quite complex and leaves no margin for error, and the simple fact of the matter is that every detail related to the edge must be considered and mapped out before any work begins on site. The enclosure of the gutter system in the bond beam is just one of those many details.

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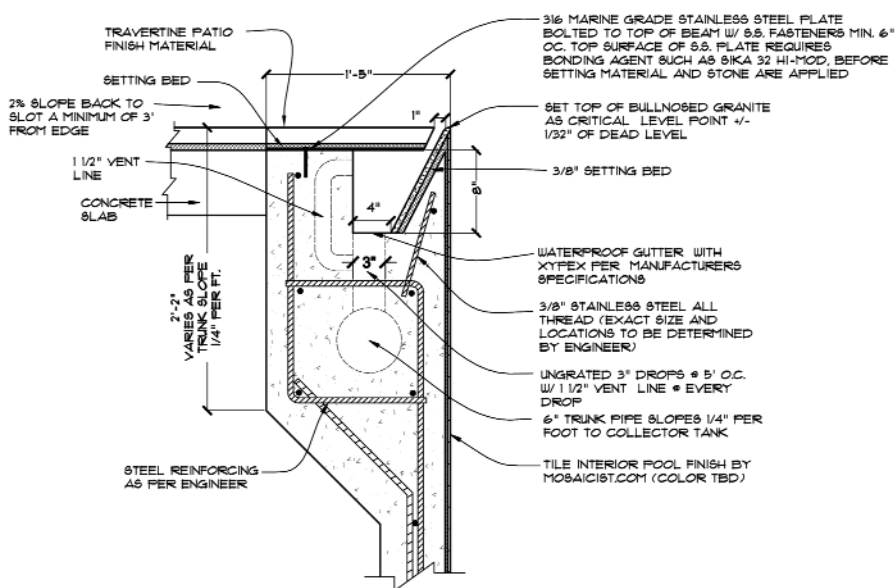
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sible. We do so because it's tough to establish and maintain perfectly level lines with grouted joints; moreover, we want to do as little as possible to disrupt the visual integrity of the knife-edge line.

In already considering that line, however, we've jumped a bit ahead of ourselves because before that tile can be placed, you need to form and pour or shoot the gutter.

This process begins with designing a bond beam that is wider than one you'd find with a typical pool. First, the beam needs to contain the angled wall falling back from the pool's interior, then it also has to accommodate the width of the bottom of a gutter that must be wider than the plumbing drops that will feed a trunk line that flows to a surge tank (an overall system that will be discussed in detail next time). In addition, the beam needs to accommodate the outside wall of the gutter and its vent or "snorkel" lines.

In most situations, these beams end up with widths in the 20-to-24 inch range,



As this plan section shows, the preparation and pouring (or shooting) of the bond beam is an intricate process involving an angled surface, a void for the gutter, some unusual steel requirements, plenty of internal plumbing and extraordinary beam width and depth.

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although one of the projects pictured here happens to have a 17-inch beam – certainly on the narrow end of the range. The beam doesn't necessarily need to extend all the way to the bottom of the pool (although it's recommended in areas where freeze/thaw conditions prevail), but with all that's contained within, it definitely needs to extend down a good way

toward the floor of the pool.

In our designs, we prefer to encase the perimeter trunk line within the beam – one reason they get so deep. We do so because these are gravity-fed systems in which the trunk line runs at a pitch of about a quarter-inch per foot in a typical scenario. As a result, the beam must run deep enough to accommodate the trunk

line at its lowest point, which in a 40-foot run would amount a 10-inch drop. Typically, this means the beam will extend downward from the edge by about two feet.

All of this depends as well, of course, on the hydraulic system to be contained within the wall, because the desired flow rate determines the size of the plumbing. And in all cases, the structural elements of these designs, including the size and frequency of the rebar and the thickness of the wall, must be specified by a licensed structural engineer in view of prevailing soil conditions and the needs of the hydraulic system.

minding the gutter

In the forming and concrete-application stages, perhaps the trickiest area has to do with setting up the gutters. There are a number of different ways to do so, and you also have the choice of either pouring them in place or shooting them with shotcrete or gunite.

Some people fashion their gutters in two pours, the first creating the pool wall while leaving rebar stubbed out on the outside of the wall where it is coated with a bonding agent. Then the crew comes back and forms the outside of the gutter before finishing the operation off with a second pour.

I've tried that approach myself, but I prefer using just one shoot or pour because I don't want to accept the risk of leaks developing at the junction of the two pours. In addition, we also come down in favor of shooting these details rather than pouring them because when you pour the system in place, the crew must come back later to build up the knife edge by hand.

There's no doubt, of course, that forming these trapezoidal gutters is a challenge. If the pool has a straight-line wall, the best and easiest way to do it is with a wooden form suspended over the bond beam's form and structural steel. You can use wood with a curvilinear edge as well, but it's obviously going to be far more difficult to do. That's why some people use Styrofoam forms suspended over the beam to form their curved gutters.

(Another critical element has to do with

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providing structural support for the wedge of angled wall that forms the forward face of the gutter to which the granite tile will be applied: We always specify the use of stainless steel rebar stubbed up at an angle or insertion of threaded stainless steel bar stock because it isn't possible to get adequate concrete coverage in this narrow section.)

Whatever concrete-application strategy you use, the plumbing for the gutter must be integrated into the forms. We typically use either three- or four-inch drop pipes to accommodate the desired flow rate and anticipated bather surge as well as the need to allow debris to flow into the trunk line and ultimately into the surge tank. (We never grate the tops of the drop lines for that reason.) We run the drop pipes at five-foot intervals, so the gutter form must have holes in it where the plumbing will be stubbed up into the gutter opening and capped, preferably under pressure.

On the drop pipes, we install tees with



The need to communicate clearly with subcontractors is of paramount importance, if only because what emerges from concrete application doesn't look like a conventional pool edge. Attaining the desired precision under these circumstances calls for clear instructions, superb craftsmanship and close supervision.

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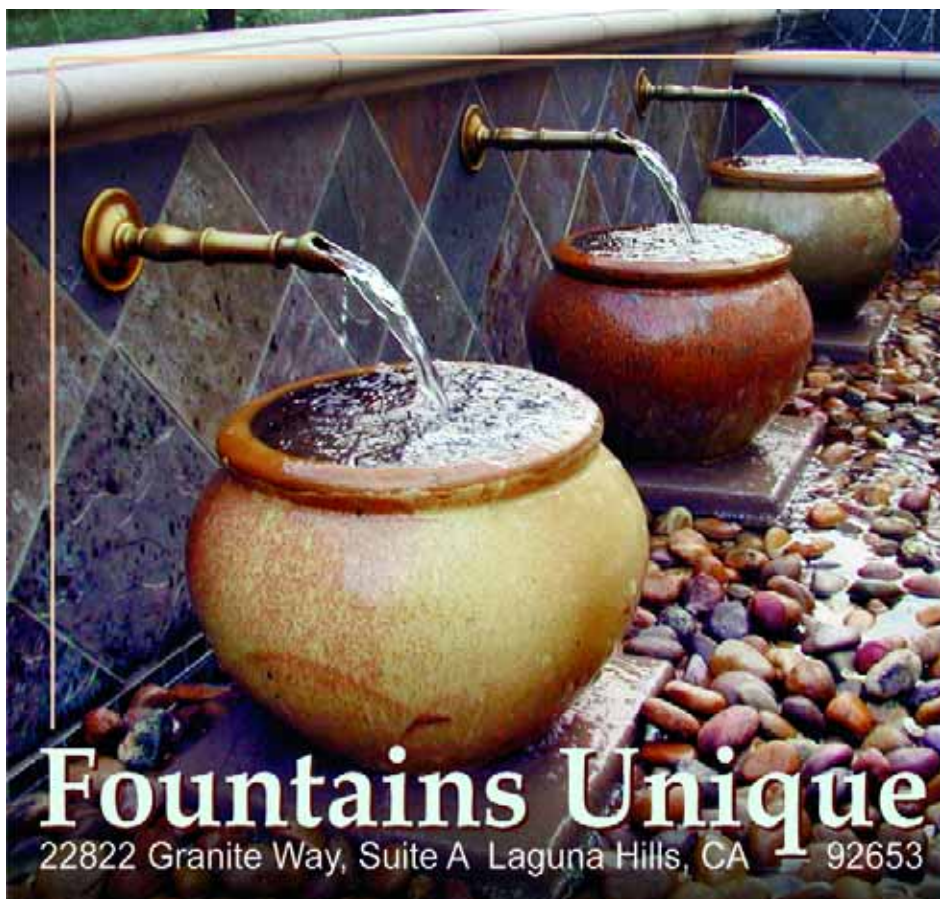
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reducer bushings that create one-and-a-half- inch lines that we elbow up and then elbow back into the side of the gutter. This creates a vent or snorkel that allows air to flow through the system, thereby reducing the gurgling noises that can be associated with perimeter-overflow systems when the water's line velocity is too fast for the piping. This is an extremely important detail: As a rule, clients who are paying tens of the thousands of dollars for this *visual* detail are not happy when the system becomes an inordinately loud *auditory* one as well.

We've also experimented with another approach in which the drop lines are installed *horizontally* in relation to the gutter. This works well, but it requires an even wider beam to contain the trunk line or, alternatively, installing the line *outside* the concrete structure. Frankly, we'll always opt for including the plumbing within the beam to eliminate any chance that earth movement will warp



Once complete, the knife-edge overflow is spectacular – and shows why this look has caught hold so strongly among clients who are after something really special.



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the line and impair its smooth, gravity-fed functioning.

water tight

Waterproofing is another important factor in installing the gutters for perimeter-overflow systems, basically because you can't afford to have them leak. Indeed, I believe in using redun-

dant waterproofing systems, specifying a concrete additive that will effect a seal (such as Xypex, supplied by Xypex Chemical Corp. of Richmond, British Columbia, Canada) then applying layers of some other type of surface waterproofing agent as well.

Again, this is critical because the wedge-shaped slice of concrete just in-

Waterproofing is an important factor in installing the gutters for perimeter-overflow systems, basically because you can't afford to have them leak.

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side the wall doesn't have adequate concrete coverage near the edge to ensure sufficient structural waterproofing – another reason why we use stainless steel bars at these points.

Another key question has to do with how you support the deck material that will be cantilevered over the top of the gutter. If you're using a material that's structurally strong on its own, you can attach it directly to the exposed top area of the beam. In the project shown here, however, we used stainless steel plating that's 3/16-inches thick and ten inches wide with holes drilled three-and-a-half inches from the outside edge to allow us to bolt it to rebar stubbed up from the outside edge of the gutter wall. Again, all of this hardware needs to be made of materials not subject to corrosion!

The top of the stainless steel plating is treated with a steel-to-concrete bonding agent. A number of suitable products are available, including Sika 32 Hi-Mod (from Sika Corp., Lyndhurst, N.J.) or an epoxy from Laticrete (Bethany, Conn.). We'll take the decking material and cut its forward edge at an angle matching that of the angle inside the gutter. Finally, we place the coping to leave a one-inch-wide slot – just enough space to allow for insertion of a hose to clear away any debris. **WS**

Next, a discussion of the hydraulic systems that make these edge details work.

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

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By Bruce Zaretsky

Making Meadows



My part of New York hasn't been hit too hard so far, but these days many regions of the United States are in the throes of sustained and (in places) severe drought. Even where I am, we're in what the meteorologists are calling a "moderate" dry spell.

This turn of events has made me determined to design landscapes requiring as little water as possible – one consequence being that I now do all I can to avoid using large expanses of grass: Lawns are not only water hogs but are also emitters of pollution (through their need for regular mowing), and I'm happy to report that they are appearing in few of my projects these days.

A case in point is the project I started discussing last month – the one for clients who had recently transplanted themselves from the mountains of Colorado to a housing development in upstate New York. The home was nice and comfortable, but for various reasons it had been surrounded by an uninspired conglomeration of cheap plants, large lawns and paving.

We saw an opportunity to change all that and take advantage of a nearby wooded area filled with protected, old-growth trees, and the clients needed us to do it with a modest (but flexible) budget.

seeking clues

You may recall from last month's column that we used a questionnaire to get inside the clients' heads. The process revealed childhood memories of hiking through wildflowers in the Canadian Rockies and prompted me to visualize a meadow in their front yard.

As the design developed, the transformation from grass to wildflowers became the focal point — and a theme for the entire site.

Most of the other homes in the development had stereotypical front lawns, but my sense was that the hilly nature of the terrain on my client's property would enable us to eliminate the lawn and turn it into a realistic mountain meadow complete with boulders and a stone walkway that would mimic the worn-bedrock pathways of the sort you see when hiking above the tree line. I also thought we could do it without making it too disruptive to the neighborhood's general look.

As the design developed, this transformation from grass to wildflowers became its focal point – and the theme for the entire site.

We began out front by removing the existing concrete-paver walkway. (We stacked the pavers on pallets and hauled them back to our facility, where we placed them on the roadside for people to take. See the sidebar on page 29 for details.) Next, we excavated for the new walkway, set conduits for future lighting fixtures and built a new walkway with flagstones.

When we started digging, we found that the front of the property had been filled with a material called "blow sand" that developers often use to fill out sites because it's cheaper than topsoil. This explained why the existing lawn needed watering every day: It was a matter of simply keeping the grass alive – and wasted vast amounts of water in an area where an established lawn needs little irrigation except in times of drought. (Even when dry, a lawn hereabouts will just go dormant: If it's established, it won't die unless it goes for *months* without water.)

We removed the existing irrigation system and asked our clients' irrigation contractor to install a drip system, but the clients rejected this approach and asked for sprinklers instead. (We're all for drip systems because they use

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significantly less water with far greater efficiency; we were overruled in this case, despite our clients' basic trust in our judgment and experience, for reasons we've yet to determine.)

The presence of the blow sand led us to bring in twice the usual amount of compost (about sixty cubic yards for an area that was only 50 by 100 feet) as well as another 40 or so yards of topsoil to shape some contours and further enrich the site with organic material. Next, we used a rototiller to mix the soil and amendments to a depth of 12 to 18 inches: This set up a hyper-organic medium in which new plants would quickly thrive. We also placed about 20 half-ton boulders and installed a core-drilled boulder along the front walkway to serve as a small waterfeature.

going green

Now the meadow began to take shape.

We installed 500 Lupines, Catmint, Coneflowers and Helianthus and about



The original landscape treatment was dull and uninspired – lots of sloping lawn and an orientation that failed to take advantage of the magnificent trees just a short distance away.

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800 daisies in addition to 40 or so clumps of ornamental grasses. Along the way, we transplanted as many of the existing plantings as we could and left all established trees in place, including three Red Maples, a Shadblow and an Ornamental Pear.

We always advise clients to “wait until next year” as we install plants, but in this case, the plants looked spectacular within 12 weeks. This was testimony not only to proper soil preparation, but also to careful, diligent watering through the first season. In exchange for that care, the clients also had the pleasure of canceling their lawn-mowing service!

With the front yard under control, we turned our full attention to the back of the house. As mentioned last month, there was an uninspired backyard with a small, awkward deck and a long, straight-shot stairway down to a ground-level patio. The grade sloped down about ten feet from the back of the house, leveled off a bit, then dropped off into a conservation-



Out front, we replaced the lawn with a meadow – just the sort of thing to appeal to clients who cherished memories of hiking in the Rockies.

easement ravine.

If you’ll recall, the husband insightfully referred to the back of the house as having all the charm of a two-story, double-wide trailer – and let us know that it was up to us to figure out a solution.

I couldn’t help feeling that the builder and subsequent owners had really missed the boat when it came to exploiting the site’s potential. As I saw it, simply extending the deck out farther would put it

“in the trees” and make the setting magical. In addition, I felt the deck needed a second, lower level so we could get rid of the long stairway down to what had been a seldom-used lower patio. As it was, moving down to the lower level was akin to descending a parking-garage stairway to the next level of uninspired concrete – hardly inviting.

So we cut into the existing deck and added a wide set of steps down to a new

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level set about three feet below the existing deck. This lower deck has a “prow” that overlooks that pond and waterfall I was going to build on the slope, reaches out to the trees across the ravine and serves as a much-needed midpoint on the way down to the lower patio.

The original deck was made with Trex, a recycled material known for needing little maintenance. I wanted to remove that decking and use cedar or Ipé, a beautiful, sustainable wood from Brazil that resembles mahogany, but the budget led us to keep the Trex and use more of it on the lower level. We did, however, change all of the railings, making them from Ipé.

aquatic views

Moving along to the abovementioned pond and waterfall, our intention was to create a bit of excitement for guests accessing the deck from the driveway side of the house.

We started with an upper pond that



The augmented deck looks over a new waterfall at the same time it reaches over to the woods. Within the rock-work around the falls is a stairway that leads guests around the side of the house and across the water to the deck – or down to the patio level below the deck.



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sits right against the house between a new walkway and the deck's original upper level. To reach the deck, guests now walk across the pond using a stone slab set in the water. As an alternative approach for those uncomfortable in traversing the water, we also included stone steps that flow along the side of the upper pond and waterfall and then swing around the lower pond. From there, guests can stroll to the patio and use the deck's stairway.

The upper pond is filled from below the surface, making the water very still and reflective. It overflows across carefully selected stones and drops about six-and-a-half feet to the lower pond. This all happens in a constrained space: Indeed, the ponds cover a surface of about 20 by 25 feet in all, but the elevation change allows for a dramatic waterfall in between.

This new waterfall plays a prominent visual role for the lower deck—a potential we played up by making the falls

completely adjustable from a slight trickle to a Niagara Falls-like torrent. As is true of all my watershapes, we also built low-voltage fixtures into the sidewalls of the ponds as we set the stone, allowing for wonderful nighttime effects that meshed well with the site's overall landscape-lighting scheme.

Moving along, we installed a dry creek bed that reaches from the upper pond toward the deck. Next, beneath the deck (a space that had been a dirt-strewn eyesore), we built a creek that cascades down to another small pond alongside the lower patio. This made the patio area more interesting while visually connecting the larger ponds with the small one.

As we'd done in the front yard, we also turned the backyard into a meadow. Here, we deliberately chose alpine plants that would remind the couple of their childhood hiking. We also did what we could to soften the building's two-story-double-wide look by planting a pair of 20-foot River Birches less than ten feet

away from the house to create a simple visual barrier from the deck. These trees also provide a living arbor through which guests pass in approaching the deck or lower patio.

These trees ultimately will grow to 80 feet tall, so this is the one area where some pruning (which I usually abhor) will be necessary. As we all see it, that's a small price to pay for the overall effect.

reduced labor

In planting our meadows, we had to deal with the common misconception that planting an entire area with perennials and shrubs requires greater maintenance than a lawn. Even many of my professional colleagues think that way, believing that all of these plants will require significant ongoing maintenance, watering and weeding.

The simple truth is, while for the first season or two weeding and supplemental watering will be necessary, once the plants are established there is virtually no



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need for watering. Moreover, the grown-in plants will suppress weed growth – and besides, once established, the popping up of the occasional weed in a garden such as this will hardly be noticed.

The typical maintenance program after the second year includes cleanup in the fall and top-dressing of the mulch in the spring. Compared to running an irrigation system daily (and using significant amounts of water), mowing weekly (and polluting the air with motor emissions and dust) and fertilizing monthly (poisoning water supplies with chemicals), the approach we used here offers significant advantages in cost and long-term, responsible sustainability.

This is not the first project in which I've applied these techniques nor will it be the last, and you can rest assured that I'll be discussing similar cases in future columns: As our industry learns to cope with ongoing concerns over water shortages, envi-

ronmental stewardship and fuel costs, we all need to find ways to keep the creative juices flowing while looking at the big picture and the realities of our planet's future.

This project and others I've done are small samples that define what's possible. Put another way, they are living proof of what happens when you start thinking beyond the lawn! 

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

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Renovation of any site, residential or commercial, almost always generates substantial amounts of debris that all needs to go somewhere.

Historically, we've all just had it trucked to landfills, but this is all too often a huge waste of still-usable products. This is why in recent years we've taken to recycling as much of this debris as possible. If we're cutting or filling, for example, we try to use materials we find on site. If we're removing a patio, deck or other structure, we'll do our best to reuse the materials or give them away.

Whenever we remove a concrete paver patio or walkway, we simply stack the pavers on pallets and place them at the road with a "free" sign on them. On one site alone this past season, for instance, we placed more than 1,000 square feet of pavers from an old patio by the road in front of the client's home. On this occasion (and others), everything was gone within days.

One person's garbage really is another's treasure, and if it keeps it out of landfills (and saves the time and energy it takes to haul it to a disposal site), so much the better.

– B.Z.

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By David Tisherman

Forward Motion



There's truth to the notion that the only thing that's permanent in human endeavors is change.

For the past seven years, I've had the privilege of sharing with you scores of details, insights, opinions and descriptions of the watershaping process, always hoping that, through words and images, I might influence the way some of you approach your work. It's been a pleasure throughout, but the time has come for me to change things up, step aside and let other voices take up the cause of excellence in watershaping.

I doubtless could find more to say about what I see as a stratified industry in which custom designers and builders stand on one level creating works of art that are much in demand – and production operations wallow on another, struggling to make headway in a shifting economy. But with the completion last month of a year-long sequence of columns in which I've done all I can to pull apart and examine the foundation of my custom-oriented approach to watershaping, I think I've said just about all I can for the moment.

Before I step away from the podium, however, I want to revisit a few of the major themes that have been woven throughout this entire seven-year discussion. I'm passionate about these concepts, and as long as people in this industry will listen, I'll keep speaking up.

Unlike so many in the pool industry, I didn't come up through a pool business and had never been indoctrinated into the industry's 'traditional' ways of thinking.

from the source

When you boil it down, everything I've ever written in this space has to do with education, aesthetics and proper workmanship and construction.

For my entire career, all I've ever really done is apply formal training in industrial design to designing and building swimming pools and spas. When I first entered the industry back in 1979, I didn't know much of anything about pools beyond the fact that they were intended to hold water and were inclined to be rather ugly when they weren't being utterly bland and boring.

Unlike so many in the pool industry, I didn't come up through the service, retail or production ranks and had never been indoctrinated into the industry's "traditional" ways of thinking. This fact showed in my first experience with a pool-construction company: I'd sought the job out of desperation and was rejected at first because I demanded too much money. But when those with lesser educations and lower financial expectations who'd been hired ahead of me didn't work out, the company called me back and brought me aboard. (I should have realized right then that the industry was more about doing things inexpensively than it was about doing them well.)

Although I was well versed in architecture, art history and the principles of design, early on I wasn't too clear on the specifics of swimming pools. In other words, I hadn't learned yet that they were supposed to be done cheaply and without much consideration of design.

Suffice it to say, I didn't last long with that company: The first time I told a client that he should be using something other than white plaster, one of the partners told me to shut up and stay that way. I resigned minutes later and, always loving a challenge, decided to make a go of it with my own company in which I would do things *my* way. I've never looked back.

Continued on page 32



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And that's where my education came fully into play: When I first sat down to design swimming pools, I couldn't look at them from the standpoint of what "had always been done" because frankly, I wasn't aware of the traditions. What I had to rely on instead was my knowledge of spatial balance, line, texture, visual weight, color and myriad other design

elements I'd been taught to consider. Happily, I met immediate success in my new business and, much more important, I fell absolutely in love with pools and what I saw them as being capable of becoming – but most certainly *not* with the industry that produced most of them.

To me, there's no doubt whatsoever that watershapes of all types and de-

scriptions can and should be wonderful. They embrace an exceptional potential for pleasure and beauty, and all of us who work in this liquid medium have the opportunity to provide our clients with works of art that yield years of enjoyment. To unlock that potential, however, we must abandon the idea that standard methods, products and approaches are somehow sacred and sufficient.

worthy pursuits

From the start, I also based my operation on a wonderful quote from Ernest Hemingway: "Anything that was ever any good, you pay for."

That thought is important for two key reasons: First, it carries the concept of building value into the product – something that has not been a universal priority for the pool industry. Second is the notion that in making that valuable object, you need to offer it for a price befitting that value. This isn't to say that every body of water we create has to be priced way up in the six figures; instead, it means there's a relationship between the value of what we create and what we're paid for creating it. It also means that value and success always go hand in hand – and always will.

In my view, breaking through the constraints of "traditional industry thinking" can only happen when the work we do is informed by training in design, art and architectural history, engineering and proper construction practices. To maximize the wonderful potential of water-shaping, in other words, we must all understand the principles of design while also at least speaking the language of artisans who apply their skills in the concrete, plumbing, steel and finish trades.

As I mentioned above, I fell in love with all of these processes. I've kept my eyes open, designed some products (including Jandy's One Touch and Oreq's Tishways), learned how to execute new design details on every project (and developed a few of my own, including neck ledges, new approaches to color blends with tile and new ways of looking at plaster colors) and amassed an ever-expanding understanding of the construction side of things as my confidence and repertoire have grown. And I'm certain that as long as I'm work-

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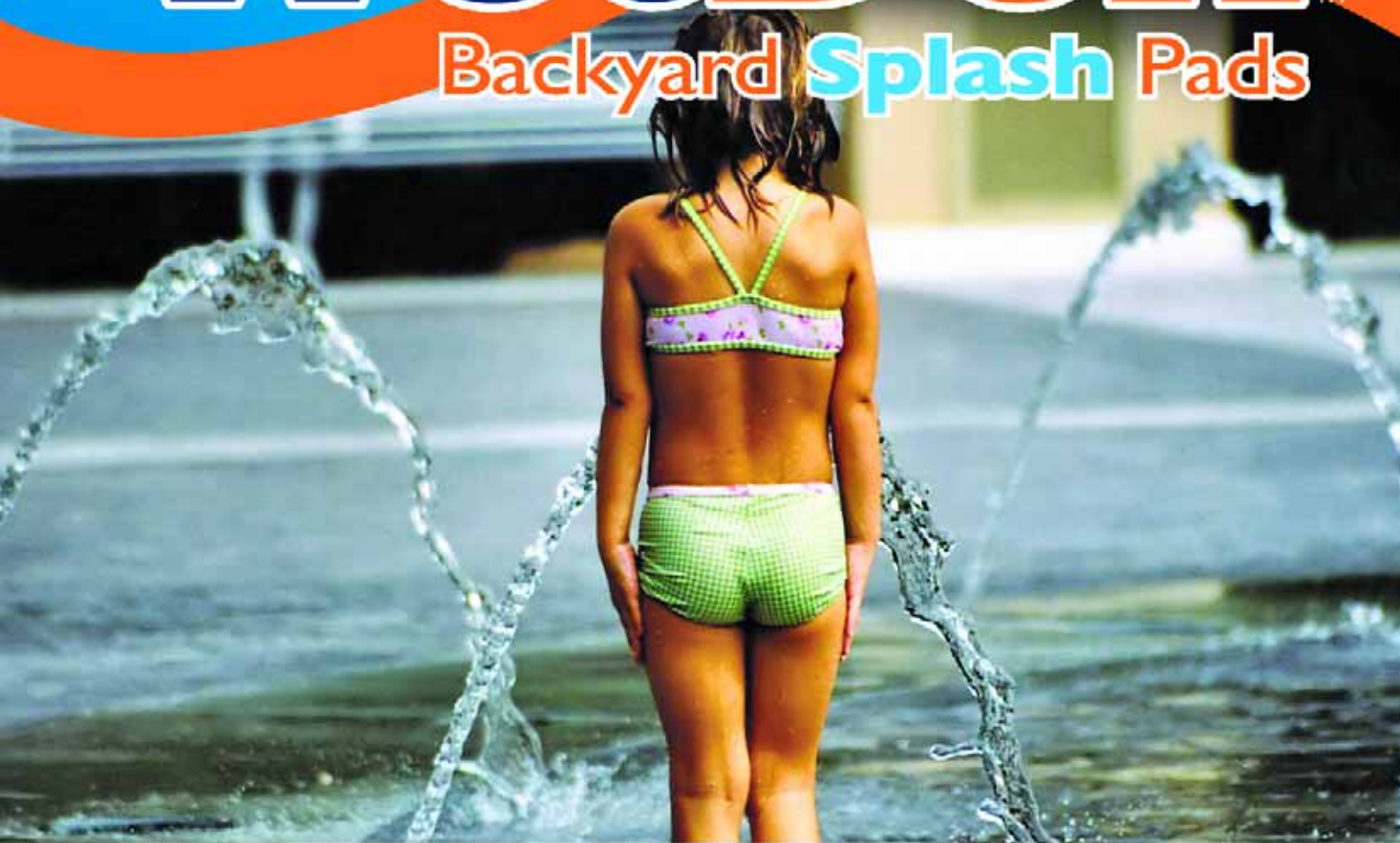
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ing in this field, I will continue to learn and understand more and more.

As I mentioned above, however, I was long on design education and short on practical construction knowledge when I started my company. To address that gap, I made it my business to learn as much as I could about the trades I was directing. I tied steel, built forms, laid plumbing, drove a backhoe, applied shotcrete and set stones, picking up all I could about these crafts. Along the way, I also learned the value of working with the best of all available subcontractors.

As I've mentioned countless times in these columns, the crews I work with are like family to me. Most have been with me for more than 20 years, and many of them now travel with me all over the country (and even overseas) to execute my projects. I know deep down that I couldn't design the way I do without the information I've gleaned from them through the years, nor could I build projects that stretch the boundaries of design



Disappearing drain covers – January/February 2001

without being able to rely on their attention to detail and quality.

Their skills enabled me to press against the creative limits I encountered when I started my company. Ultimately, they helped me become known for building reliable structures off the sides of mountains and for devising swimming pools that exist in the realm of architectural art.

And none of this would have happened without my years of study and pursuit of relevant practical experience.

a different approach

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wealth) is a big part of why I participated with my friends Skip Phillips and Brian Van Bower in starting the organization known as the Genesis 3 Design Group.

I won't speak for Skip or Brian, but somewhere deep inside I was also motivated to establish this unique educational entity because I felt a need to respond creatively to the challenge carried in another of my favorite quotes, this one from a member of my own industry: "Why would you ever want to learn about Frank Lloyd Wright? He's dead."

Hearing that statement was a signal moment for me and is largely responsible for the aggressive ways in which I've pressed my pro-education agenda in the years ever since. This one clueless builder (and, in their own ways, others too numerous to mention here) taught me in a flash that, back in those bad old days, the mainstream pool industry was in the business of creating exterior environments without giving a tinker's damn about the architectural contexts in which

they were being placed.

Moreover, there was no interest in the lessons to be learned from the masters of the architectural arts in which we supposedly were participants. To me, it was unfathomable then (as now) that anyone could even begin to design a pool or fountain without understanding the principles that defined the greatness of indi-

viduals such as Wright or John Lautner or Louis Sullivan or Richard Neutra or of design groups such as Archigram.

It was this information gap that made the idea of establishing educational programs that could advance the industry so attractive to me.

In the ten years since we ran our first school, I've always been gratified by the



Neck-friendly spa-edge detail – October 2001

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response to our programs and by seeing how they have influenced people in this industry to reach for the stars. And truth be told, that reach involves some simple steps, such as dignifying the process by charging for design work; offering professional presentations; and leaving clients with a choice having to do with something other than price. But I can't say that this

progress has come as a huge surprise, because I've always known just how powerful education can be in helping people see into realms of greater possibility, and just as important, in letting them know how to turn big ideas into realities.

As things stand today, Genesis 3 may be the only resource in this industry for such education, but my hope is that this will

change someday and that, finally, water-shaping will be part of the formal design curriculum for architects and landscape architects and that classes in water-related design and construction will take root in major colleges and universities. Until then, I'm proud of the trail we've blazed, very proud to have advanced the industry and happy to see so many people come to the conclusion that education reshapes and transforms the ways they think about what they do.

course by course

In developing courses for Genesis 3 and establishing the parameters for membership in the Society of Watershape Designers, we've always seen the need for three separate tracks – an ABC approach encompassing Aesthetics, Business and Construction. So far, we've focused on A and C; someday, we'll get to B as well.

My great, personal passion has always, *always* been on the Aesthetic piece of the puzzle and design education, basically because I've seen it as the most direct, positive, productive way I can respond to the question of why we should care about Frank Lloyd Wright. And if you pool guys need any more motivation to pay attention, bear in mind that architects and

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landscape architects already “get it” and are increasingly seeking education through Genesis 3 and the Society of Watershape Designers that gives them specific insights into issues that drive the pool industry. Often, they’re motivated to crack the books by dissatisfaction with the performance of pool builders; just as often, they’re captivated by what they see as a ready way to generate revenues.

What those professionals have that lots of pool builders lack is just the sort of information Genesis 3 offers in its four core design classes – on art history, design, color theory and drawing.

► *The History of Water in Architecture* is taught by Mark Holden, a talented landscape architect and watershaper whose work should be familiar to readers of this magazine. To my way of thinking, this course is radically important because it helps participants place their work in the context of the history of art and architecture rather than within the mindless “traditional industry thinking” that has limited pool design and execution for generations.

When you walk into a home and see a Rothko proudly on display or something by Matisse or Seurat or Miro or Picasso,



you know a good bit about a client’s tastes and personal style without having to ask any questions at all. This course, in other words, gives you by extension a vocabulary that allows you to converse easily and intelligently with clients about what they’d like to see in their backyards.

As a practical example, in many of my designs I raise the edges of pools out of



the ground. It’s a detail I’ve borrowed directly and shamelessly from baths built in Turkey by Hadrian, a Roman emperor who lived nearly 2,000 years ago. It’s not an original idea, but my familiarity with this tiny slice of art history enables me to recycle it whenever it’s appropriate and to speak about what I’m doing in terms that both dignify and clarify the de-



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sign/build process for my clients.

► *Elements of Design* is taught by my New Jersey-based partner Kevin Fleming and by top-notch designer/builder Steve Wilson of Houston – well-educated professionals who have spent years absorbing the nuances of working with texture, balance, line, proportion and scale. This is fundamental information that liberates watershapers to create pools that fit seamlessly within their contexts and helps them avoid the folly of thinking in terms of freeform blobs with heaps of rock at one end.

When you visit someone's home armed with the knowledge of why spaces look and work the way they do, you can recognize design elements in the structure and décor and perceive what your clients are most likely to expect and accept. Too many pools I see bear no relationship whatsoever to their surroundings and show no evidence that the person who pieced the design together had the slightest idea of just how inappropriate their

Custom tile blending – December 2005



work would be as a design solution for the space at hand.

It's appalling that salespeople still get away with walking onto a site, pulling out a template and doing all they can to persuade a client that what they're holding is magically suitable either to the site or the home's architecture. If you want to get

away from that abominable approach, this course offers valuable insights into the process of shaping and positioning water-shapes and establishing settings in which line, scale and balance work together.

► *Color Theory & Design Application* is taught by Judith Corona, an instructor at

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Otis College of Art & Design and UCLA, a fellow of the Whitney Museum in New York and one of the premier colorists in the United States. In this course, she introduces participants to the profound and often dramatic ways in which colors influence people's reactions and relate to their basic feelings about built spaces.

Many people I've run into raise their eyebrows at the inclusion of this course in our curriculum, but as I see it, understanding color theory and becoming aware of how it can be used is the key to creating designs that make deliberate, purposeful artistic statements. This is an all-new set of information for the traditional pool industry, but it's this sort of insight that's led me through the years to design some of my most visually effective projects – including the notorious Red Pool as well as a range of less-controversial (but no less striking) green pools.

► *Design Communication: Measured Perspective* is led by Larry Drasin, a peerless industrial designer, and Milt Dorsey, an amazingly gifted graphic artist, who use their years of experience as instructors at UCLA in teaming up to teach participants how hand-drawn illustrations can be used to get messages across to clients as well as contractors, subcontractors, crews and suppliers.

Yes, we're now surrounded by technology that helps those who don't know how to draw, but whether you're doing hand renderings or using CAD, you still need to know about the basics of visual representation to be certain you're accurately representing to others what you picture in your mind. And think about it: What good are fantastic CAD skills when you're seated at a client's kitchen table trying to explain *exactly* how key design elements will look and work together? How much time does that take with a pencil and paper compared to a computer?

This is, quite simply, a wonderful course that opens eyes not only to the value of drawing skills, but also to the importance of a basic understanding of the processes and parameters of design.

constructive learning

From the beginning, our ambition with these four core courses was to give participants a sense of what formal training in



Effortless material transitions – October 2006

design is all about. Each takes 20 hours to complete (and there's also a test or practicum at the end of each that must be passed to gain credit toward membership in the Society of Watershape Designers), but in every case, these courses are designed not as ends in themselves, but as keys to unlock doors that lead to a lifetime of ongoing, continuing education, study and pursuit of knowledge and insight.

Another huge educational component of the SWD program has to do with construction – the execution side of the design process. To us in Genesis 3, this is just as important as developing skills on the design side, because creativity is severely limited when you lack knowledge of how things are built.

I won't go into this side of the course work in detail here (don't want to overstay my welcome!), but suffice it to say that I'm a radically firm believer in the fact that understanding such diverse disciplines as geology, structural engineering, materials science, workmanship and hydraulics is the key to making design knowledge worthwhile. (A tip of the hat here to Skip Phillips, who has taught me just about everything I know about hydraulic systems and how they work in the real world. He's the driving force behind the Construction Schools we've developed.)

I also firmly believe that designers and builders are complementary creatures: What is designed must be understood to be built, and to build it, one needs to understand the true essence of the de-

sign. Everything, in other words, goes hand in hand: As watershapers, we must be able to work with both the left and right sides of our brains and fluidly integrate the practical with the aesthetic, the art with the engineering, the imagined with the real.

What encourages me more than anything else (and lets me set aside this column without tremendous pangs of guilt) is that there are already many professionals in this industry who have successfully undertaken the journey I've been recommending for so long. And what they all have in common, no matter their backgrounds, is a shared belief in the value of education.

I've beaten this drum in my monthly *WaterShapes* column for seven years now and will leave you here with one last thought: If you want to step up, it's time to get off your butt and get moving. If you see doing things the way they've always been done, good luck. If you don't, I'll be seeing you – and *soon*. **WS**

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



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Imagination



As a watershaper who frequently executes designs based on unusual requests, Randy Beard knows the role clients' daydreams and cherished memories can play in the process. In the project discussed here, for example, he helped a young couple turn their travels and spirit of adventure into a design that accommodates a variety of recreational activities for their children – and rollicking fun for themselves as well.

By Randy Beard

With every new project, we always strive to create unique watershapes that reflect particular clients' wants, needs, dreams and imaginations. What this means, given the fact that every client is an individual, is that no two pools we create are ever quite the same.

In the case described in this article, for example, the clients' distinctive personalities led us to create something that's more like a waterpark than a residential pool/spa combination. In a very real way, it reflects their personalities and a sense of the magic they find in certain chapters of our history – a special space for them to enjoy with their children.

The clients purchased the newly built home on a hill overlooking the ocean in Newport Beach, Calif. Almost as soon as they took possession, they began rebuilding and expanding the home itself, then shifted their attention to the backyard with an eye to making it unlike any other they'd ever seen.

As soon as we met them, we were fascinated by the creative spirit that dominated their thinking. We also picked up on their love of history and the way they personalized the romance of days gone by. In their home office, for example, we couldn't help noticing old suits of armor and antiquities associated with the legends of King Arthur and the Knights of the Round Table. Moreover, the front entry featured a pair of New Orleans-style gas lanterns that shed their light on a life-size bronze boar.

Romance and Antiquity

In their travels around the world, the couple also had collected antique guns, cannons and other unusual artifacts. Some of the cannons were authentic and had been salvaged from centuries-old shipwrecks in the Caribbean. One of these full-sized artillery pieces is permanently stationed outside the front door, a spot from which it guards the property's gate. On the side of





The home had a distinctly romantic air about it, with its stone finishes inside and out and a generally fort-like appearance – just the sort of backdrop for authentic cannons and modern-day piratical adventures.

this cannon, you can see a large dent where it was hit by an enemy cannonball, possibly during the skirmish that sent its ship to the bottom of the sea.

As a result, we weren't completely surprised when, in trying to define for us the theme he wanted for his yard, the husband told us to "think *pirates*."

This was clearly a fellow who had thought things through, so we hired a videographer to follow us as we moved methodically around the yard. There was so much going on inside his head that this was the only way we saw to understand what he truly wanted in a way that would let us build it.

In watching the tapes later, we reflected on the thought that

most of us have big kids locked up somewhere inside us, and in this case we were being given the opportunity not only to create an environment in which these adult clients could have fun, but also had been offered a chance to indulge our own inner children in blowing the doors off basic conventions of what backyard watershaping is all about.

What they wanted was an environment where they could come home after long days at work and have fun with or without the kids. What emerged from this desire is a complex of four water-shapes that cascade, overflow and intertwine with one another. There are also wide edges, lots of benches and stepping-stones, large boulders and a variety of places where water-in-transit effects spill

over the rocks to create interesting scenes, sounds and motions.

The structures are all finished in a Wyoming stone marked by deep rusts, browns, grays and reds. We selected this particular stone to harmonize with a rustic faux-stone finish that covers much of the home's exterior and interior. Not incidentally, we also figured it would complement the rusted look of the iron cannons.

At one end of the yard, a large spa occupies the highest elevation (at about four feet above grade). It spills over a wide, curving edge into a three-foot-deep children's play pool set up with wide stone benches and steps for easy access as well as for play. Indeed, this small pool is the perfect place for leisure, comfort, kids' play and family relaxation.



The spa rises about four feet above grade and spills easily into a shallow pool rigged with a variety of platforms and benches for active children at play.



Separated from one another by a rock pathway suitable for walking or platform jumping, the play pool flows over into the deepest part of the large swimming pool. This transition is marked by a quarry-like stone wall that reaches all the way down to the main pool's full 11-foot depth.



Serpentine Shapes

Next to the shallow pool is a stone footpath broken into pads that allow water to flow down into the deepest part of the main pool. This passage provides either step-down access to the play pool on one side or the ability to jump off a rock into the large pool on the other.

This section of the main pool is 11 feet deep just for that purpose and is known as the quarry pool: It was built to resemble the deep, water-filled quarry in which the husband swam as a child. To simulate that look, we stacked stone down the pool's inside walls all the way to the floor. The rough stone creates an amazing visual effect when ripples cover the pool's surface.

Everything about the space is serpentine, with flowing water, sweeping curves and winding pathways passing among and effectively linking the various structures together – even though they have distinctly different functions. There are

multiple vanishing edges as well, all flowing back toward the house into a broad catch basin that itself plays a part in the visual drama by serving as a foreground foundation for the overall composition.

The trough flows visually into another area adjacent to the spa that we filled with sand to recreate a sandy beach. It's not a "beach entry" in the usual sense, instead serving as a transition to steps that lead up to the wading pool and the spa. As such, this sandy area had to be shallow enough for wading, yet deep enough so the kids could safely jump down into it from the spa above.

The common trough for the vanishing-edge and spillway effects lends a sinuous foreground to the entire composition. It slopes gently toward the spa end of the structure, where the water reaches a sand-filled area (partly dry, partly underwater) guarded by a bronze boar.



The story behind the sandy area illuminates how imagination and the clients' experiences came into play in this project: The husband had once visited the Grand Wialea Resort in Hawaii and fell in love with the sand there. When it came time to build his own pool, he ordered sand from that specific beach and shipped it in for his personal use. To elaborate on this tropic-isle concept, a second life-size bronze boar stands guard over the pile of sand and access to the spa.

There's also the fact that the husband himself went to Wyoming to hand-pick the large boulders that surround the pool and spa. A rock climber himself, he selected stones that offered good surfaces to serve as platforms for jumping into the pool from different angles. And it's not all about the kids: *He* loves jumping into the pool so much that he actually tried to create a "pirate's plank" from the upper story of the house—a plan his wife's common sense brought to an abrupt end.

Two Touches

The entire property is full of wonderful details that expand on the visuals established in the pool area, with winding, modular pathways that harmonize with the stepping pads and coping on the pools, and large boulders scattered throughout the landscape, decking and planters to echo the pools' wall design. There's also an outdoor barbecue area that picks up these stone details.

One of the more elaborate of the echoing features stands adjacent to the front door, where a waterway flows over and through old pots and a briskly flowing waterfall weeps from a low planter wall. It's a special space we established to allow the husband to pan for gold with his kids—an activity he loved when he was younger.

As a final touch (and perhaps the truest display of the clients' sense of humor), another full-size cannon stands by the glass fence at the corner of the yard near the deep pool. It's there to "protect" the backyard, he says, and is permanently aimed at a nearby shopping mall.

It's plain in this case that some of us never lose a child's sense of humor—or forget what it's like to be a kid who dreams of being a pirate, if only on warm, summer afternoons.



Another small watershape on the property allows the homeowner and his kids to splash around and pan for gold—a favorite activity from the homeowner's own childhood and another indication of his rich imagination and intense desire to share fun with his family.

Making It Work

As is true with the decorative program, the engineering and mechanics behind these interlinked pools was also a feat of the imagination.

The entire complex is basically one large vanishing-edge pool in which water pours over a succession of rocky stone edges across three pools to become a foreground "river" that flows over to the beach by the sandy play area.

Each of the three upper pools has its own pump, and there's a fourth for the sandy area to keep the sand out of the other three systems. This fourth system moves its water to a dedicated underground tank that has enough capacity to handle whatever surge passes through the system.

The yard isn't very large, so the six-by-15-by-eight-foot-deep tank was buried in a side yard. Atop that tank is the equipment pad, with a pump, heater and filter for the quarry pool; a pump, heater and filter for the play pool and spa; a booster pump for the spa jets; and a pump and filter for the vanishing edge and sand beach.

—R.B

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The Architect Connection



By Greg Danskin

As watershaping becomes an independent design discipline, says architect Greg Danskin, there's increasing cause for watershapers to interact with and more fully understand what architects do and how they do it. Here, he offers the first in an occasional series of articles aimed at building that familiarity, starting by defining the nature of his profession and exploring the common ground upon which watershapers and architects operate.

Those of us in the design and construction industry are engaged in a singularly complicated human endeavor. To make things work, it's common for many technical disciplines to come together, including soils and structural engineers and contractors and subcontractors as well as architects, interior designers, landscape architects, lighting designers and watershapers – all working in concert to bring form to the goals and aspirations of the clients.

These professionals unite in designing spaces that people use and occupy – a simple yet profound thread that ties all of us engaged in any given project together. Through our combined efforts, we change and influence lives by virtue of the ways we conceive, organize and realize these spaces.

When we truly succeed, it is because we have been able to integrate *everything* – the needs of the client, the natural and artificial constraints of the project and our individual creative visions – in ways that become an inspiring physical reality our clients and those who visit them will experience on a daily basis for years to come.

That's a lofty vision, and I believe it happens only when all participants in the process understand one another and can communicate about a design solution that coalesces in service to a client. It's an exercise that takes effort and dedication; unfortunately, it's also one that relatively few in the building business see as necessary or as benefiting the bottom line.

In this occasional series of articles, my aim is to help change that situation and start building bridges that will help more of us understand and respect each others' missions and goals. Personally, even if this understanding didn't add to the bottom line (which it most definitely does), I'd still compose these articles simply because I would rather spend my time and energy working in cooperative environments rather than doing battle with misperceptions that too often lead to results that aren't everything they should be.

Photo by Allen Karrasco, Oceanside, Calif.

Setting a Stage

These days, at a time when watershapes are commonly being integrated into the designs of buildings of many types and sizes, it serves our interests as architects who incorporate water into our thinking to make certain watershapers — that is, those who've chosen water as an artistic medium — know what we do, the processes we employ, the language and terminology we use, our project goals and, most important, our interest in fostering positive working relationships with watershapers.

Of course, just *wanting* such a discussion doesn't make it particularly easy, mainly because there are as many approaches to projects as there are individual architects and ways of practicing the profession. Just as in watershaping, some of us specialize in commercial work, others in residential projects; some generalize across styles, others focus on certain genres; and some work in huge companies with stratified layers of responsibility while others are sole practitioners.

For all that functional diversity, there are certain commonalities shared by all architects, and what I want to do here is communicate with you about that common ground by way of helping you work with any of us on any given project.

If the objective is building a hospital, for example, and your task as a watershaper is to design and install a fountain, your contact will likely be an architect who is part of a large firm. It is also likely that many other people within the firm will be involved, in which case the person with whom you are mainly working may have to answer to higher ups when it comes to issues of design intent, scheduling and budget.

On another project, by contrast, you may be dealing with homeowners who have hired an individual architect to whom they have entrusted all design considerations related to a single property. In some cases, the budgets are modest; in others, they may be huge beyond belief. Either way, the one-on-one shape of the working relationship is likely to be more direct and less cumbersome — depending, of course, upon how well the two professionals communicate.



This thoughtful blending of watershapes and architecture was achieved by designer Skip Phillips of Questar Pools (Escondido, Calif.) and realized by contractor Torrey Pines Pools (Carlsbad, Calif.) — a composition that sublimely balances structures, water, materials and poolside amenities. As an architect, I might envision something along these lines to accompany a project, but in practical terms, I'd need to collaborate with a watershaper who knows enough about water-in-transit systems, 'floating' concrete pads, fire effects, lighting and fine finishes to bring a program this ambitious to fruition.

Considered separately, the general scenarios outlined above define the need for two distinct approaches not just for the architect, but also for the watershaper. This simple recognition is a good starting place: Understanding the fact that each professional brings preconceptions to the process and that those preconceptions need to be tempered by the project at hand is essential if the project is to become the team exercise it should be.

Professional Nature

In addition to project type and scale, personalities are also factors in establishing relationships and often express themselves in less-than-predictable ways. Understanding the character of architects and the way they see their profession is the key — and can make your work as a watershaper more effective on site and more enjoyable all around.

Architects, as with other professionals, consider their work to be an extension of themselves; in doing so, they can seem set in their ways and unwilling to bend, but the simple truth is that prejudging them based on stereotypes is as haz-

ardous here as it is in any other pursuit.

Architects do indeed come in many shapes and sizes — as any of you who've worked with more than a few will know. Each approaches a project in his or her own unique way, and it's no accident that people say if you put three architects in a room and present them with a design challenge, you'll get at least five different solutions. The reason for this diversity of their responses is simple: Each project involves many elements, and solutions will vary depending on the way the design team looks at the possibilities.

In all we do, however, we ultimately work with that simple principle mentioned at the outset of this article: No matter whether it's a hospital or a one-room addition to a single-family home, our job as architects is to create space for human activity. It's a conceptual exercise in which our aim is to assemble components in such a way that we create symphonies in which the whole is greater than the sum of the parts.

But that's enough of the philosophical background: What this bridge-building is really all about is language, termi-



Photos by Allen Karrasco

nology and the basics of communication as they relate to architecture, architects and those who interact with them.

Look at it this way: Architects are in the business of designing spaces to meet a need, satisfy a stated program and build an environment that serves a client while giving expression to an artistic mindset. This is why, in the design process, architects seek to explain what they're after in ways that give a project its form. The "language" they use is at times a set of drawings, but on other occasions it involves models or words – tools they have revised and refined over time to communicate their ideas about built environments.

Walking the Talk

The language we're discussing constitutes the common ground on which watershapers and architects *should* meet – but often don't.

That's ironic because, although the me-

dia we use and the settings in which we use them may be different, the processes we pursue with our clients are much the same. Once we leave the world of modular or cookie-cutter solutions behind, we enter a custom realm in which small things have major effects – a realm where project success depends on our ability to communicate about ideas and processes without getting bogged down by language barriers.

Architects approach their clients in ways that help those clients achieve their perceived project goals. This approach will vary between residential and commercial projects and from restrained to flamboyant owners. For their parts, clients hire architects because they like what they've seen. By extension, architects are like jazz musicians in that they play to the room and need everyone else on the design team to pick up and play the same tune.

In these cases, the client places trust in

the architect; in turn, the architect finds other professionals with whom to entrust key portions of the project. Not to beat the musical analogy too hard, but much of a project's cadence and style are determined by the relationship built between architect and client.

As an example, in my practice I aim to set things up in such a way that design flows seamlessly into construction. I do so because I know my clients have hired me to make certain everyone on the design/build team works together to create a unified, integrated outcome. To succeed and make the process enjoyable, everyone involved must approach the project as a unified team.

In guiding that team, I am fully aware that others have knowledge I don't have – and that I have knowledge they might lack. How much one or another of us knows is really beside the point: What's important is using our knowledge appropriately to produce the best possible results.

What I'm discussing here should be familiar enough: As custom watershapers, you know that your projects work best when everyone involved, from the excavation crew to the finish applicators, lines up and approaches the project with similar attitudes and ambitions. Just as you find opportunities and constraints and discover ways to meet clients' goals, we architects define directions, set broad frameworks and rely on team members to understand where we're headed and how programs can best be implemented.

The Heart of the Matter

On that level, it's *all* about communication. In cases where you're working with someone for the first time, the importance of establishing open lines of communication is both obvious and essential if you are to achieve an outcome that pleases the client.

In other words, successful projects are no accident. Success happens when design and construction professionals infuse far more into a project than could ever be captured or conveyed by a set of drawings and specifications. It happens when we also recognize that our work as architects, landscape architects and watershapers (and anyone else who gets involved) is incomplete and ineffectual unless it is integrated with the work of everyone else who's involved.

A lack of communication is at the root of most failures because it leads to lapses in teamwork and undermines everything that supports team performance. And the great difficulty is simply this: Once things go wrong, it's very difficult to adjust them in ways that make them right again because the tasks at hand are so complex.

And things are only getting more complex these days as we continually push the envelope of possibilities with new materials, new technologies, new techniques and new expertise. This is why it's so difficult to go truly solo these days: There are too many fields to master, and the best of us often need help in carrying off programs to the greatest possible result.

We are, in other words, all operating in an environment in which we are frequently called upon to participate as members of a team. Doing so requires each of us to use our communication

skills to convey our intentions to the rest of the team and at times correct the paths being taken by other team members. It also calls on us to respond and adjust the plan as challenges arise.

When architects are involved in a project, they typically take a central role in identifying what we call a project's Program Requirements. This encompasses a clear delineation and evaluation of the site, any relevant regulatory constraints, any client preconceptions or desires – and a declaration of how an overall design will overcome obstacles and meet objectives.

On that level, it's up to architects to understand the framework within which every other team member operates. Also important these days, it's necessary for team members to be responsive not only to the team leader but also to know how their work relates to other team members wherever operational intersections occur.

United Fronts

In the most practical of ways, what all of this points to is the fact that traditional boundaries between building professions (and professionals) are being eroded by all of this team activity involving architects, landscape architects, watershapers and others. This functional integration affects everything from project scheduling and on-site management to distilling and producing the essence of the design itself.

On that level, none of us can operate in isolation in endeavors marked increasingly by innovation, specialization and integration. We each exist in realms in which technological innovations alone are occurring faster than we can process. This leads in turn to specialization in design and construction fields, which in turn leads to a supreme need to integrate activities and encompass not only traditional design fields but also new ones.

More than ever before, in fact, *integration* is the key word in the design/build process. On your part as watershapers and on mine as an architect, we both need a working knowledge of all these other design disciplines and their vocabularies in order to plan and execute effectively.

And it's even more complicated these days by the desire of clients almost every-

where to have exteriors flow as extensions of interior spaces. The only way this can happen is with integration and the open communication it requires across various disciplinary lines.

In other words, none of us really operates in isolation these days. If one starts with the architecture of a home as an example, the interior must be integrated with exterior spaces – and this will only happen if the project is conceived as a unified whole. Yes, each discipline still pursues specialized functions, but the program requirements influence every element of the project, forcing all of us to communicate and interact.

This requires not only clear paths of communication, but also something of a chain of command. Situations in which, for example, a subcontractor works out a solution with the owner without consulting either the general contractor or the designer of that particular detail are recipes for disaster – not because the solution is necessarily bad, but because the implications of that small



decision may affect the overall design in ways that must be understood.

And when those decisions have to do with a watershape, the inherent complexity of the structure typically amplifies the seriousness of each independent move.

Boiled Down

On a recent project, my design called for a building to be placed immediately adjacent to an existing pool that was undergoing a thorough remodeling, including relocation of the equipment. This sort of construction can get quite



Photos by Steve Dallons, Pacific Pools, Alamo, Calif.



This project – designed by Helena Arahuate of Lautner Associates (Hollywood, Calif.) and executed by Steve Dallons of Pacific Pools (Alamo, Calif.) with the assistance of a broad range of consultants of every conceivable sort – is a classic example of what can happen when everyone on a design/build team buys into a singular vision. In this case, in fact, it's safe to assume *none* of this would have been possible without amazing levels of communication and collaboration.

complex, but we made it work with relative ease because we saw the need up front to communicate on *everything* – and the result was a success, both for the client as well as for the building team.

In order to make these relationships function at their best, clients must be persuaded to form project teams as early in the process as possible.

This enables me as an architect to get a clear sense of what watershapers and others bring to the table with respect to expertise, experience and their understanding of design and construction as related to a specific site. At the same

time, it gives the watershaper a clearer understanding of the architect/team leader's approach as well as cues to the needs and desires of the client and the nature of the setting under discussion.

Actually, most of what I'm proposing here about communication and teamwork should be familiar to readers of this magazine. For years, in fact, I've been impressed by how many contributors have written about their participation on design teams and how they've used those relationships to establish watershape designs that harmonize superbly with their surroundings.

You've heard those suggestions from the watershapers' perspective; what I offer here is consideration of the process from the team leader's perspective and a suggestion of the value to be found in taking inspiration from the context an architect sets in designing the primary structures on a property. Bottom line: Isolation is counterproductive in this new design world in which we find ourselves. It's a place where, quite simply, the ways you integrate your efforts as a watershaper with the efforts of other experts is becoming the single greatest key to success.



Local Pride

When a St. Louis-area developer wanted water to be a prominent part of a new project in nearby St. Charles, Mo., says Anne Gunn, it made sense for him to contact Hydro Dramatics, a local firm that has created an impressive list of fountains and other waterfeatures throughout the region. In this case, the need was for a set of floating fountains to set the tone for his development while linking it to history – and a pair of famous rivers.

By Anne Gunn



Sometimes finding just what you need is as easy as looking in your own backyard.

That's what happened for Greg Whittaker of Whittaker Homes, one of Missouri's largest home builders, when he began searching for the right partner to provide dramatic watershapes for New Town, an innovative community in St. Charles, Mo., a suburb of St. Louis.

Situated on the site of what had been a farming community, New Town is intended to invoke and embody a comfortable lifestyle for the 21st Century. Parklands filled with water were the key to Whittaker's vision not just for aesthetic and thematic reasons, but also for basic stormwater management.

While visiting St. Louis' Forest Park, a venerable civic treasure, Whittaker saw the beautifully restored and refurbished fountains, pools and jets in the park's Grand Basin and Jewel Box. Not long before, Forest Park had undergone a \$90-million facelift to address more than a hundred years' wear and tear caused by hikers, bikers, walkers and picnickers from around the globe (see *WaterShapes*' May 2004 issue, page 34, for details).

As a result of that tour, Whittaker came to believe that our St. Louis firm, Hydro Dramatics, was a natural choice to help with watershape design and implementation. As he saw it, we'd developed just the sort of signature look for the Grand Basin in Forest Park that he was seeking for New Town.

A Small Town Feel

As we reviewed the possibilities, we came to agree with Whittaker's assessment – mostly because he'd assembled a stellar design team that included Marina Khoury, project manager for the Miami-based urban planning firm of Duany Plater-Zyberk & Co.; Tim Busse, vice president and director of architecture for Whittaker Homes; Bruce Corban, principal of Toronto-based Corban and Goode Landscape Architecture and Urbanism; and our staff at Hydro Dramatics.

This group decided early on that water was to be not only an integral, interactive focus for New Town, but also a unifying thematic and visual feature as well. After all, the development is cradled between two of the most significant rivers in North America – the Missouri and the Mississippi – and sits in a city that played a key role in the opening of the West in the 19th Century. As far back as 1801 – well before Napoleon contacted him about purchasing the Louisiana Territory

Photos by Larry Duffy, Whittaker Homes, St. Charles, Mo.



– Thomas Jefferson was already on a quiet quest to find a water route to the Pacific Ocean. After the Louisiana Purchase brought a slice of the Midwest from New Orleans to Montana under U.S. dominion, Lewis and Clark launched their “Corps of Discovery” explorations from the banks of the Missouri River in old St. Charles. What they found ultimately triggered thoughts of Manifest Destiny and the country’s great western expansion.

All of this history influenced the planning of New Town from the beginning – a fact expressed by the overall focus on water. Indeed, by the time Whittaker Homes broke ground in 2003, fully 80 acres of the 638-acre parcel had been dedicated to scenic lakes and a canal, all in public spaces.

Three floating fountains provide the focus for the Grand Civic Basin, lending a backdrop to a 2,500-seat amphitheater. And coming up with a basic look for these features was simple: What Whittaker want-

ed was something that specifically reminded him of the fountains he’d so admired in his walk around Forest Park’s Grand Basin.

New Town’s Grand Civic Basin has a central fountain with an 89-inch float, a stainless steel spray ring and a 20 horsepower pump that sends water 35 feet into the air through a four-inch geyser nozzle. The spray ring has eight two-inch geyser nozzles that shoot water 20 feet high, and the lighting system consists of three 1,000-watt and eight 500-watt underwater lights.



Day and night – in times set aside for either contemplation or celebration – the floating fountains in the Grand Civic Basin set the tone for New Town. In sight and sound, they are easy on the eye, soothe the spirit and play a key role in the community by inviting homeowners to come to the water’s edge to socialize with neighbors.





The extensive system of lakes, canals and basins is designed as a well-planted habitat for fish and waterfowl, but it's also intended for human use. Whether it's kayaking or splashing around in rowboats, whether it's fishing or regattas of radio-controlled sailboats, the water is less a scenic backdrop than it is a resource for civic fun and recreation.



At full thrust, the system moves about 1,000 gallons of water per minute.

The two flanking fountains are on 63-inch floats, each of them boasting a seven-and-a-half-horsepower pump, six 500-watt submerged lights and a four-inch geyser nozzle that shoots water in a spray pattern that reaches to 25 feet. A pump house contains all of the electrical systems and panels as well as lightning arresters and a programmable logic controller (PLC) that reads wind speeds, controls spray heights and performs time-clock functions.

Inner Workings

Helpfully, floating fountains are among the easiest of all watershapes to maintain.

The fact that they are either tethered to underwater anchors or tied to the shoreline with cables makes them significantly easier to work on than a typ-

ical fixed fountain. If, for example, a light or lens needs changing, a technician simply rows out in a boat to make the exchange. And they are self-contained, so if serious work needs to be done, they can just be brought to shore, where their exposed systems and structures can be tended to with relative ease.

For these particular floating fountains, we were concerned with the occasional gusty winds that blow through the area. That in mind, we installed two-stage wind-sensor controls driven by an anemometer that meticulously tracks wind speeds in the area.

If the wind gets too strong, the sensor sends a message to a panel that controls the system's variable-frequency-drive pumps and slows them down to shorten the sprays. If the winds exceed that preset level, a second one shuts the fountains down completely. The control sys-

tem then continues to monitor the wind, firing the pumps back up to the appropriate level when conditions change – or keeping the fountains in the “off” mode.

Of course, the systems we installed in the basin were tested in our outdoor testing yard well before we installed the final versions of the fountain packages. Tim Busse of Whittaker Homes was with us the day we fired up the fountains for the first time in our ten-foot-deep, 15-square-foot test pool – always an exciting process and one that, in this case, worked out extremely well.

There's only one issue with floating fountains: They need to be run 24 hours a day, seven days a week in the cold winter months to prevent surface ice from forming on the basin and possibly cracking the float – and to keep ice from forming on the streets from the fountains' overspray. For the most part, however,

Innovative Spirit

Everything that's happened in New Town (and will continue happening for the foreseeable future) is a Midwest manifestation of a style of urban planning and architecture called New Urbanism by some and Traditional Neighborhood Development by others.

This movement had its start in the community of Seaside, Fla., in the 1980s, where Andres Duany of Miami's Duany Plater-Zyberk & Co. was the architectural director. Since then, his firm has planned three projects in the St. Louis area – including New Town, which is located just north of the city in St. Charles, Mo.

New Urbanism is a reaction to sprawl as well as sky-high land costs and a perceived need for human-scale connections. This is why the neighborhoods of New Town are so focused on pedestrians and zoned for mixed use: It's all about giving residents easy access to local gathering spaces, cafes and shopping. This is also why the streets have sidewalks and the homes have front porches: Everything is designed to get residents to turn off their televisions and join their neighbors outdoors.

As is true of the historical orientation of the watershapes as a tribute to the Missouri and Mississippi rivers, New Town also has been built in accordance with another principle of New Urbanism to fit in with its surroundings and harmonize with the architecture and layout of the historic district of St. Charles, Mo.

Developer Greg Whittaker, the owner of Whittaker Homes who has long admired Seaside, held as closely as he could to New Urbanism's credo, which advocates reduced reliance on cars



through encouragement of public transportation and liberal provision for bike trails, walking paths. He's also a big believer in the use of energy-efficient and sustainable building products.

The 5,500 planned homes for New Town will be completed in multiple stages through the next 15 years and ultimately will include five mixed-use neighborhoods, a town center at the intersection of Highway 370 and New Town Boulevard and homes ranging from cottages to stately custom homes. According to Whittaker Homes, the development is now about 15 percent complete and has a population of about 2,000 living in 800 dwellings.

—A.G.



In creating a town based on water, the planners, architects and designers followed the lead of European cities such as Bruges, a Belgian city famous for the number and variety of its bridges. These are both visual and physical links that bring residents of New Town together in ways that are both picturesque and fully functional.



that year-round functionality is a big virtue: After all, who doesn't love the sounds of splashing water, which soothes and invigorates any day of the year?

Those sounds (and the sensations they conjure) were among the main reasons Greg Whittaker was so interested in focusing his project on water – right alongside the role the waters of the Missouri River had on the history of St. Charles as a community. New Town's water – whether in the form of a canal, lake or fountain – is easy on the eye, relieves stress and creates an invitation to socializing. The fountains in particular have become a peaceful accompaniment to wedding photos and other rite-of-passage events in the growing community.

Urban Insight

Throughout the development process, the New Town design team has regularly convened to discuss ways to broaden the role, enhance the character and increase the functionality of the property's 80 acres of lakes and canals.

Pursuant to those discussions, Bruce Corban of Corban and Goode Landscape Architecture and Urbanism will be developing a shoreline planting plan using aquatic and embankment plantings to create an ecosystem that will help maintain water quality, augment oxygenation and serve as an aquatic habitat to support fish and attract waterfowl – all contributing to the sustainability of New Town's water resources.

The lakes also will have recreational

potential, so there will be provisions for a harbor for people-powered watercraft such as rowboats and kayaks as well as sand beaches, swimming access and boardwalks. In addition, site plans call for European-style bridges of the sort found in Bruges, a Belgian city famed for such picturesque spans. Sites for outdoor sculptures are planned as well to accommodate art displays on a semi-permanent and rotating basis.

New Town at St. Charles is a special place, and we've taken an unusual level of local pride in having set the tone with the watershapes we custom-designed and installed. This may be Greg Whittaker's dream, but it's now becoming a reality for lots of lucky St. Charles families.

Mining Their Dreams

Pond and stream specialist Steve Sandalis has a penchant for creating dramatic watershape settings for residential clients who want something well beyond the ordinary. His firm's expertise is on full display in this challenging project, which features a steep cascading waterfall, a stream and a pond suitable both for fish and for swimming – all executed in a confined space at the bottom of a narrow canyon.

By Steve Sandalis

Dream jobs seem to come in bunches for watershapers: If you do the best work you possibly can, apply your education, stand by your work and, most of all, leave your clients happy, then the nice things that happen with one job seem to lead almost inevitably to other great jobs.

That's exactly what happened with this project: I was led to it by satisfied clients who became my best salespeople and told all their friends how delighted they were with the work we'd done and how much they were enjoying the results. By the time I actually met this new client, there was no question about us having the inside track; indeed, we just jumped right into the job's specifics.

From the start, we were given tremendous creative freedom, there was no big concern about budget and the work was all about collaboration. We didn't need to focus on nurturing trust, because it was built into the process. All we had to do was live up to our reputation, meet expectations and produce spectacular results – and accomplishing the latter wasn't all that difficult given the nature of the setting.

Clearing a Canyon

The client, a highly successful production designer in the movie industry, is not surprisingly a person of substantial

Photo by Marilyn J. Galosy Photography, Los Angeles



personality and tremendous creativity. His beautiful Beverly Hills, Calif., home is hidden in a deep, wooded canyon, and his ambition was to create a distinctive oasis in the midst of urban sprawl.

When I visited the site, he led me over to the slope and pointed down to the very bottom of a canyon that's part of his property. The house sits well above that level on one side of the canyon, but "down there," he said, is where he wanted me to work. The only problem, as I saw it, was that the area he was pointing to was filled with a cluster of small buildings that had been placed down there through the years to serve a variety of purposes.

I was taken aback somewhat, because I don't usually approach spaces with so many obstacles in the way of my watershapes. When I expressed concern that there wasn't much room for a pond in the available space, "no problem," he said, because his idea was to demolish all the buildings and start with a clean slate in which a large pond/waterfall/stream composition would take shape. When I was done, he said, he would follow up and create a scene around the water's edge.

Interestingly, during this period I spoke with another local contractor who'd also seen the site who said he'd been so overwhelmed by the fact that the space was full of structures that he had no capacity to visualize things without them. Happily, I didn't have that problem once I knew the buildings were going away. My sole adjustment was that I had to include a demolition phase within the project's scope.

And demolish we did, bringing in a big bulldozer and going to town with the structures. (In fact, I discovered a new passion: If I weren't already deeply engaged in creating elaborate ponds and streams for a living, demolition would be another endeavor I might enjoy.) Most of the buildings were fairly insubstantial and fell over like houses of cards, but even so, there was something enormously gratifying about being paid to knock stuff down while knowing as well that we were clearing the decks for something beautiful.

So we cleared the site, hauled away the refuse and found ourselves standing in a fresh space where the watershapes would be the first new element in what was shaping up to be a spectacular scene.

But the decks weren't *completely* clear: We left a number of mature Eucalyptus trees in place because the client was including them in his plans. We slowed down around the trees and took care in reshaping the space (in consultation with an arborist) to make certain we did no harm to the trees' root systems in establishing the footprint for the pond.

Like a Charm

The thought of building a large, naturalistic watershape in the cleft of a canyon makes perfect sense, of course: The space we were working in – approximately 200 feet long by 80 feet wide – was just the sort of place you might expect a real body of water to form over time.

We had to take that possibility into account in our planning, knowing we had to accommodate runoff during big rainstorms while finding a way to keep this accumulation from swamping the entire site. In this case, the solution involved installation of a three-inch overflow line attached through the skimmer: It flows directly to the city's storm-drain system, which was accessible about 300 feet away.

With that key issue settled, any other



The steep terrain upon which we installed the waterfall required us to be aware of every move we made with boulders that weighed up to a ton. In a completely different way, working with the bulk of the large, one-piece liner made us aware of every *other* site constraint as we wrestled it into place along a roughly hourglass-shaped space between mature (and untouchable) trees.

concerns we might have had about placing the pond in its intended spot simply evaporated: Everyone involved saw this as an absolutely perfect place to locate a large pond. It all made sense.

The client envisioned this body of water nestled amongst mature trees in a completely private setting. He wanted beautiful water quality so he could stock the pond with an appropriate population of fish and make it attractive for swimming. He also had plans once we'd installed the watershapes to dress the area

up with new structures, decks and an array of decorative touches.

The pond is approximately 100 feet long by 50 feet wide (at its widest point) and is about five feet deep at one end. A large waterfall structure feeds a stream and a large, wetland-style biological-filtration area that flows to the pond, which is pinched in the middle to give wide berth to two big Eucalyptus trees. Various rock structures crop up around the pond's edges, reaching up into the surrounding space and also extending into the water

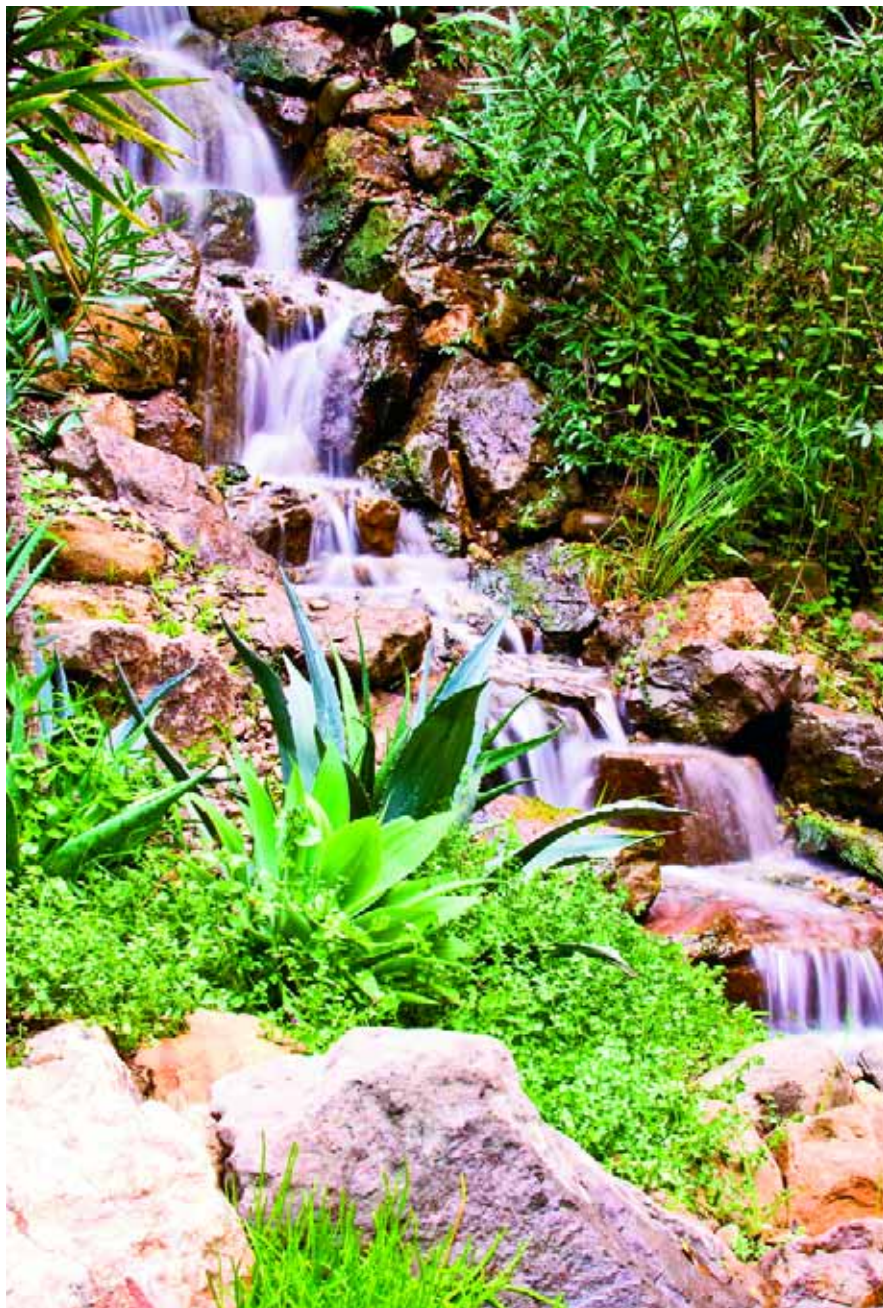
itself, where nooks and crannies have been set up to give the fish shelter from sun and predators.

The biggest challenge offered by the site had to do with steep slopes, tight spaces and limited access—issues complicated by the fact that we were building a relatively large structure with a huge liner, tons of boulders and a large plumbing system.

It was big work in a small space, but there was no leeway: Our client's sole demand was that we take the space and turn it into something beautiful.



As hard as it was to work on the steep slope, the waterfall came together beautifully. We focused our attention on tuning it visually and aurally, worked in an abundance of plant material and paid careful attention to getting the visual details just right. Our goal throughout was to make everything look as though the watershapes had always been there.



Photos by Marilyn J. Galosy Photography

Tight Spaces

From the first time I ever saw the site, I knew access would be an issue and that the job would require not just careful attention to logistics, but also a special focus on making everything seem perfectly natural. Through it all, the client trusted that we could do it – even though I knew none of it would be easy.

The waterfall system was the toughest part of the job: It was located on the wall of the canyon opposite the house so the client would always be able to enjoy the drama of moving water even if he didn't feel like venturing to the canyon's base. The system starts at the top of the slope and drops 30 feet in elevation over a cascading course about 60 feet long. You don't have to be good at geometry to figure out we were working on an *extremely* steep slope.

To complete this structure, we brought in large boulders from a quarry in the nearby Santa Monica Mountains, with the biggest specimens weighing in at just



At the base of the waterfall, the cascade joins a stream flowing easily across the canyon floor. Once together, they flow over to one end of the pond.



over a ton. In other projects where access isn't an issue, we often use pieces four or five times that size, but here we had no choice and had to work with the limitations imposed by the site.

We took great care to dig the waterfall channel far enough back into the slope that we were able to half-bury the largest pieces. This served the dual purpose of creating a more stable structure and of making the work look more natural – as though the rocks were part of an underground geological structure that had been exposed by centuries of erosion.

We wrestled these boulders into place after we'd laid down the liner, using a large excavator to which we strapped each piece to aid us in what was a supremely laborious process. It was slow-going for good reason: Safety was a huge concern as we fought gravity and lifted large rocks up the slope, so I spent a lot of time reminding my crew to think carefully about where they were relative to the rocks as they were being moved and placed.

Obviously, we never wanted anyone

Following the stream, you move along to the amazing, Balinese-style structures the homeowner added once we finished our work on the watershapes. It's another world down here – a slice of southeast Asia translated to a property in Beverly Hills, Calif.



Photos by Jarod Carey, Los Angeles



The pond that forms the centerpiece of this languid fantasy world is quite large and has been well stocked with fish. But they won't be alone in enjoying the water, because we set things up in such a way that the water will be crystal clear and difficult for swimmers to resist.

standing directly downslope of the boulders as they were being placed because of the risk one might break free and tumble to the canyon floor. But in a confined space with noisy machinery and hard work involved, communication can suffer. We knew this, so we carefully orchestrated every move and made sure ahead of time that everyone knew what to expect and, more important, where to be as the process unfolded.

Clean and Clear

Taking our time with this boulder-setting stage of the process is, of course, second nature to us anyway: With waterfall and stream work of this sort, the placement of the boulders is what makes or breaks the look, so we always proceed with care and invariably enjoy the improvisational aspect of the work. This meant that, at several points on this job, we just stopped what we were doing,

backed up and assessed what was happening from a variety of angles.

This process of adjusting rock placements is the real art in rock and stream design, and if something doesn't look quite right, we move rocks or fine-tune their positions until everything is perfect.

In this case, the quest for perfection involved lots of running up to the main house to see what was happening on the canyon's opposite face. Beyond being good exercise, reaching this vantage point gave us the literal distance and perspective we needed to approach the tasks at hand like artists. It also gave us a spot from which we were able to appreciate the beauty of the structure that was taking shape across the way.

The waterfall flows into a short stream that feeds a biological filtration bog. The system is set up so the waterfall can be turned off for service, but the bog runs constantly to circulate water in the pond.

The effective area of the filter bed is eight by 12 feet, with the return manifold situated beneath layers of gravel.

The movement of the water around and through aquatic plants is another resource ensuring water clarity, as is the fact that water that has passed through the filtration system wells up through gravel in yet another natural filtering action.

When working with this approach, it's critical that the return manifold be configured in such a way that water flows evenly and slowly through the gravel medium. In this case, we used a perforated, cross-shaped manifold that released water laterally instead of having it flow straight up. We also placed four aerators in the pond and set up numerous planting pockets to ensure maximum water clarity and superlative water quality.

That crystalline clarity enhances the



Photos by Jarod Carey

views available beneath the water's surface, so we created a variety of shelves and underwater rock formations to give the pond a more natural appearance. That clarity also allows for easy viewing of the fish and makes the water quite attractive for swimming.

A Fresh Setting

A big part of the story here involves what the client did *after* we finished our work on the watershapes. As mentioned at the outset, he's a production design-

er in the film industry and an immensely creative person. Even though I was prepared for something spectacular to emerge, I have to admit being surprised by the transformation that took place under his direction.

First, he built a two-story structure right next to the pond with a small deck cantilevered out over the water. The building has been painted a deep red and has a variety of interesting architectural touches that evoke the Balinese style. Then he complemented the building

Liner Time

The set of watershapes discussed in the accompanying text is lined with 40-mil polypropylene protected by a nylon underlayment. We used the 40-mil liner because it enabled us to cover the pond's entire 100-by-50-foot expanse with just one piece, which is always my preference because it lets me avoid seams.

The sheet arrived as a bulky, 2,500-pound package, and it took several hours (not to mention lots of strong backs) to unfold it and gradually spread it into place. Once we were into it, we discovered that we couldn't pass the liner through the narrow pinch between the trees, so we had to use an excavator to lift and twist the liner through the trees before we could finish unfolding it.


—S.S.

with a series of decks, pathways and outdoor furnishings along with an array of sculptures, columns and works of folk art. Finally, he placed lanterns, torches and candleholders throughout the space to create an incredibly romantic ambience when the sun goes down.

All of this brings up an interesting point. Because we worked with what was essentially a clean slate (except for the trees), we didn't have to work around existing decks, shade structures or planting areas. This freed the homeowner to develop his structures around the water (rather than the opposite sort of process in which watershapers typically engage), making it seem as though the water had always been there and the structures had been added.

The result is a setting of great intrinsic beauty — one frequently used by commercial photographers and as a set for movies. This also left us with another very satisfied client who someday might just refer us along to our next "dream job."

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	Current Systems (pg. 12) (866) 372-8886	www.contractors.current-systems.com
5	D'Assign Source (pg. 41) (561) 333-6889	www.dassignsourcebotanicals.com
106	David A. Spencer Natural Stone Water Sculptures (pg. 8) (585) 267-7237	www.naturalstonewatersculptures.com
29	Diamond Spas (pg. 24) (800) 951-7727	www.diamondspas.com
71	EasyPro Pond Products (pg. 18) (800) 448-3873	www.easypropondproducts.com
122	Firestone Specialty Products (pg. 32) (800) 428-4442	www.firestonesp.com/ws2
64	Fountains Unique (pg. 19) (949) 305-7372	www.fountainsunique.com
126	GC Tek (pg. 28) (866) 712-7007	www.gctek.com
16	Genesis 3 Schools (pg. 71) (877) 513-5800	www.genesis3.com
	Gilderfluke & Co. (pg. 34) (800) 776-5972	www.gilderfluke.com
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111	Hydro Dramatics (pg. 21) (877) 988-7867	www.hydrodramatics.com
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96	Jandy (pg. 76) (707) 776-8200	www.jandy.com
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66	Praher Valves (pg. 29) (800) 461-4915	www.prahervalves.com
78	Quaker Plastic Corp. (pg. 36) (717) 285-4571	www.quakerplastic.com
51	Regal Plastics (pg. 28) (800) 444-7755	www.regalplastic.com
72	Rock & Water Creations (pg. 14) (866) 466-7625	www.rock-n-water.com
56	Roman Fountains (pg. 16) (800) 794-1801	www.romanfountains.com
24	S.R. Smith (pg. 33) (800) 824-4387	www.srsmith.com
121	Siena Marble & Mosaic (pg. 37) (239) 435-7875	www.sienamarble.com
61	Speck Pumps - Pool Products (pg. 49) (800) 223-8538	www.usa.speck-pumps.com
35	Spray Force Mfg. (pg. 27) (800) 824-8490	www.sprayforce.com
42	Standard Bronze (pg. 26) (201) 339-1351	www.standardbronzeco.com
52	Stegmeier (pg. 35) (800) 382-5430	www.stegmeier.com
131	TXI Riverside Cement (pg. 12) (909) 635-1800	www.txi.com
1	Vastec U.S.A. (pg. 34) (888) 282-7832	www.vastec-usa.com
	Wall Whale-GABco Products (pg. 34) (866) 888-8778	www.wallwhale.com
114	Waterplay Manufacturing (pg. 17) (800) 590-5552	www.waterplay.com
119	Waterway Plastics (pg. 7) (805) 981-0262	www.waterwayplastics.com

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POOL-EQUIPMENT CATALOG

Circle 135 on Reader Service Card



WATERWAY has published its 2008 Pool Equipment Buyer's Guide. Covering the company's extensive line of jets, filters, valves, fittings, skimmers, drains, pumps and white goods, the 172-page catalog also includes information on replacement parts and warranties; brochure lists; and technical details on blower sizing, jet selection, hydraulic system design and much more. **Waterway**, Oxnard, CA.

ROBOTIC POOL CLEANER

Circle 137 on Reader Service Card



AQUA PRODUCTS offers the Aquabot Turbo T, a self-contained robotic pool cleaner that scrubs, power washes, vacuums and filters any pool up to 50 feet in length – regardless of shape or finish treatment – from the floor to the waterline. The device has no hoses and needs no booster pump or filter connections: All that's needed is to place it in the water and press a button. **Aqua Products**, Cedar Grove, NJ.

ORP/pH SENSORS

Circle 139 on Reader Service Card



CAT CONTROLLERS has introduced the CAT Pro30 pH and CAT Pro35 ORP sensors. Designed for long service and low maintenance and backed by a three-year warranty, the devices feature a flat tip design that reduces the need for cleaning and maintenance, will upgrade a wide range of pH/ORP controllers and are fully compatible with salt-chlorine generators. **CAT Controllers**, Rockville, MD.

POND/WATERFALL PUMPS

Circle 141 on Reader Service Card



ATLANTIC WATER GARDENS offers TidalWave 2, a line of asynchronous pumps designed for pond and waterfall applications. The units are compact and may be submerged or run in-line; contain no oil, making them safe for fish; and deliver efficient, low-maintenance, high-volume performance in four models providing flows of 1,900; 2,400; 3,700 and 6,000 gallons per hour. **Atlantic Water Gardens**, Mantua, OH.

LANDSCAPE LIGHTING FIXTURES

Circle 136 on Reader Service Card



ORBIT/EVERGREEN has introduced the Model B610, a solid brass uplight for landscape lighting installations. Offered in five finishes (antique bronze, antique brass, natural brass, aged green and architectural bronze), the fixtures are designed to enhance landscape plans with contemporary styling and have an adjustable knuckle key that allows for targeting the light for optimal illumination. **Orbit/Evergreen**, Los Angeles, CA.

2008 POND CATALOG

Circle 138 on Reader Service Card



EASYPRO POND PRODUCTS has just published its 2008 wholesale catalog. The 156-page, full-color book covers the company's complete line of pond-related products, including aerators, water treatments, check valves, water dyes, filters, fountains, fittings, valves, liners, monitors, plant accessories, pumps, lighting systems, pond kits, UV systems, waterfalls, netting and much more. **EasyPro Pond Products**, Grant, MI.

BATTERY-OPERATED POOL CLEANER

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WATER TECH has introduced a commercial-grade version of its battery-operated Pool Blaster. Fitted with heavy-duty components, the device is suitable for use in both concrete and vinyl-liner pools, uses no hoses and features a rechargeable battery and a self-contained underwater vacuuming system that's strong enough to collect everything from algae and sand to large leaves and debris. **Water Tech**, East Brunswick, NJ.

'GREEN' BROCHURES

Circle 142 on Reader Service Card



PENTAIR WATER POOL & SPA has published two brochures for use in promoting the company's Eco Select brand of environmentally friendly swimming pool and spa equipment to consumers. Both 16-page brochures include product guides and explain the company's commitment to helping consumers save money while making ecologically responsible product choices. **Pentair Water Pool & Spa**, Sanford, NC.

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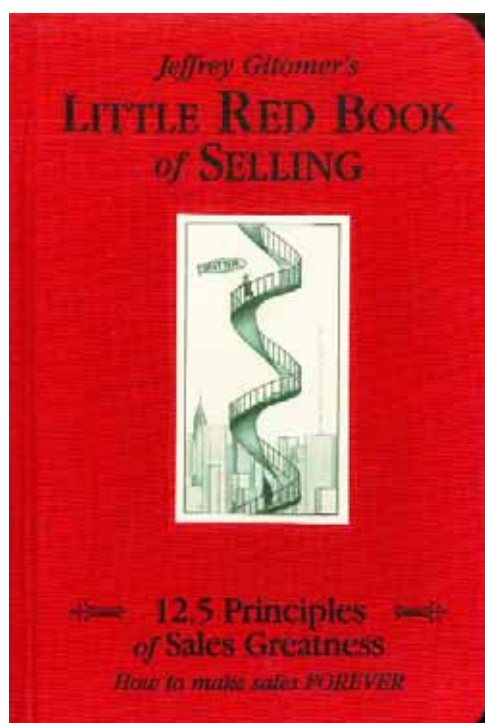
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By Mike Farley

The Color of Sales



As a rule, I've resisted the temptation to cover books about sales in these columns.

I've read a great many of those books through the years, and I've always tended to think of them as buffets where I pick up useful insights, wisdom or motivation – and ignore suggestions that don't seem as useful. But no single book I've run into has proved to be so helpful that I've felt compelled to share it with you here.

At last, however, I've found an exception – a wonderful book by emerging sales guru Jeffrey Gitomer called *Little Red Book of Selling* (Bard Press, 2004). I picked up a copy of this compact 220-page volume two years ago at an airport bookstore (and have picked up a couple more since then), and I see why Gitomer is becoming one of the leading voices when it comes to sales. He may not have reached the same status as Zig Ziglar or Dale Carnegie (both of whom I admire greatly), but his star is clearly rising.

I decided to break with tradition and cover this book only after attending one of Gitomer's seminars, during which I had the opportunity to rub elbows with an amazingly broad spectrum of sales professionals. It was a terrific experience for me mainly because I'd read several of his books (the one listed above being my favorite) and was impressed and pleased by the way he ex-

panded on his key themes.

His writing is remarkably concise. He avoids long preambles and philosophical meditations, choosing instead to jump right in and get to the point. It's also the kind of text that enables you to read and absorb a key thought in a couple of minutes, a convenience that's been enhanced by sizing the book in such a way that it easily fits in a briefcase or purse. I find myself reading passages while I wait for appointments – a quick refresher that gets me fired up for the meeting to follow.

In a nutshell, Gitomer's approach to selling boils down to a single mantra: *Serve the customer*. He repeatedly asserts that if you do so, success will follow.

In *Little Red Book*, he breaks his discussion into a dozen sections that cover such topics as networking, branding, humor and creativity – the latter being of particular interest to me as a watershaper. Throughout, he offers (mostly) commonsense advice – but does so in ways that make the ideas both easy to grasp and inspiring.

As an example, Gitomer spends a fair number of pages on the value of creating your own personal brand. As he points out, lots of us describe what we do in uninteresting terms. To change our ways, he challenges us to write brief descriptions of our work (or our company's) that will prompt a listener to ask further questions – simple yet powerful advice.

What impresses me most about this book (and his others) is that he's developed a foundation for sales that applies to so many different types of selling. Yes, what we do in the watershaping industry has idiosyncrasies that take us far beyond any generalizations. But even so, good ideas are good ideas, and if all that's involved is bending or expanding on the touchstones he offers to make them directly applicable to what we do, I'm all for putting them to work. **MS**

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



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Photo: One of 25 all-tile swimming pools at Jade Mountain Resort, St. Lucia. Each pool is tiled in one color of Lightstreams Glass Tile.

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