Inside: Brian Van Bower on the State of Watershaping

WaterShapes

Design • Engineering • Construction

Volume 9
Number 12
December 2007
$6.00

Stirring Strands

Creating drama with arches and falling water

Palm Nation

Showcasing the icons or resort-style luxury

Plus:

Getting ahead of the curve with CAD standards

Why the world's most intelligent pumps are a "No Brainer"

Isn't it great when product promises become performance realities? That's clearly the case with the new, super-efficient **IntelliFlo® and IntelliPro®** programmable, variable-speed pumps.

- Exclusive permanent magnet motors assure a "base savings" of at least 30% over any single-speed, two-speed or multi-speed pump with an induction motor.
- Digital controls and proprietary software give the ability to custom program multiple pump speeds (up to 3,050 settings per function) for additional savings...up to 90% in total.
- Typical savings range from $324 to $1356 per year. Savings based on a comparison pump running between 3.6 and 12 hrs/day at the national average of $0.15/kwh in a 20,000 gallon pool. In areas with higher energy costs, savings can exceed $2000/year.
- Plus, these intelligent pumps with built-in diagnostics detect the most common conditions for premature pump failure—loss of prime, overheating, freezing, and voltage irregularities—and automatically protect themselves.
- Finally, these are simply the quietest pumps on the planet.

No wonder new Pentair pumps are the talk of the industry. And why so many pool pro's are singing their praises. The retrofit opportunity is the biggest ever—not to mention the profit opportunity. Premium performance commands premium pricing. Like we said, **"No brainer."**

See us at Booth #1800 at the Int'l Pool & Spa Expo in Orlando, FL

Pentair Water
Pool and Spa®

800.374.4300 www.pentairpool.com

Circle 49 on Postage Free Card

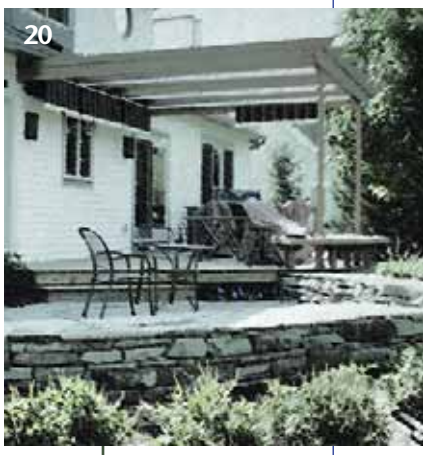
contents

December

features

WATERSHAPES
Volume 9 • Number 12 • December 2007

columns



departments

On the cover:
Photo by Garrison Wu, Garrison Wu Photography, Sunnyvale, Calif., courtesy Rick Pendleton, Artisan Home Resorts, San Jose, Calif.

WATERSHAPES (ISSN 1522-6581) is published monthly by McCloskey Communications, Inc. 6119 Lockhurst Dr., Woodland Hills, CA 91367. A controlled circulation publication, *WaterShapes* is distributed without charge to qualified subscribers. Non-qualified subscription rates in the U.S., $30 per year; Canada and Mexico $48 per year; all other countries $64 per year, payable in U.S. funds. Single copies $10 per issue in the U.S. and Canada. All other countries $15 per issue. Subscription requests must include name, job title, business location, address information and a signature and date.
POSTMASTER: Send address changes to *WaterShapes*, P.O. Box 1216, Lowell, MA 01853-9930.
Periodicals postage rates paid at Woodland Hills, CA 91365 and additional mailing offices.

By Eric Herman

Getting on the Same Page

It's no secret: More than ever before, the design, engineering and construction of custom watershapes of all sorts is a multi-disciplinary undertaking that involves project teams that might include architects, landscape architects, engineers, geologists, interior designers, suppliers, contractors and subcontractors, among others.

Certainly, there are still many of you who work start to finish on projects as solo, self-contained operations, but even a brief survey among top-level watershapers these days reveals that many (if not most) are working quite frequently as team members in close concert with other professionals.

This is nothing short of an evolutionary step in watershaping – one that carries broad implications. For starters, many have told me that the role of the watershaping consultant, designer or contractor is now frequently on par with that of other players on the team – a trend Brian Van Bower explores in his column this month, beginning on page 12. In fact, Brian points out the increasing frequency with which he's hearing about projects where watershapers are *the* driving forces behind (rather than adjuncts to) overall landscape designs. Likewise, in situations where watershapes are integral to structures, more and more watershapers are working with architects from projects' very first stages.

Yet another consequence of the team concept, especially for those who work well with others, is that these situations – where professionalism and trust are of paramount importance – become tremendous resources in generating project leads and referrals. Repeatedly, in fact, I've heard that many of the most lucrative and creative projects these days are coming not so much from clients, but more often from *professional* referrals among team members impressed by each others' capabilities.

Carried in this trend is a distinct need to communicate effectively, both in person and through project documentation. In today's world of electronic communication and computer-aided design, those who are up to speed in the use of the vast array of available tools certainly have an advantage over those who prefer not to get involved with modern CAD technology, but that edge only exists when those doing the communicating manage to find common ground.

These points are underscored by engineer and watershaper David Peterson, owner of Watershape Consulting (Carlsbad, Calif.), in "Playing by Rules," which you'll find on page 48 in this issue. This is the first in a series of discussions on the National CAD Standards (NCS), a huge, collaborative document produced by leading trade organizations, software suppliers and large architecture and design firms to define and address a range of formatting, layering and nomenclature issues that have emerged in the wake of CAD's rise to common use.

The aim here is to encourage interoperability among firms using CAD technology to pursue their projects. Those involved all recognize the simple fact that if professionals aren't using these systems in sensible, predictable and consistent ways, the chances for orderly progression of coordinated work on projects is severely hampered.

Before seeing this article, I confess that I'd never thought about this issue or of the need for a standard, but it all makes sense: The benefit of everyone literally being on the same page with their computerized documentation is crystal clear. Peterson's hope (and ours at *WaterShapes*), is that professionals who work on teams – and even those who don't, because who knows what the future may bring? – will explore the NCS, hone the skills needed for effective, consistent cross-disciplinary communication and ultimately push the teamwork concept to even greater heights.

WATERSHAPES

Editor
Eric Herman — 949.494-4533

Associate Editor
Melissa Anderson Burress — 818.715-9776

Contributing Editors
Brian Van Bower, David Tisherman
Bruce Zaretsky, Mike Farley

Art Director
Rick Leddy

Production Manager
Robin Wilzbach — 818.783-3821

Circulation Manager
Simone Sanoian — 818.715-9776

National Sales Manager
Camma Barsily — 310.979-0335

Publisher
James McCloskey — 818.715-9776

Publishing Office
McCloskey Communications, Inc.
P.O. Box 306
Woodland Hills, CA 91365
Tel: 818.715-9776 • Fax: 818.715-9059
e-mail: main@watershapes.com
website: www.watershapes.com

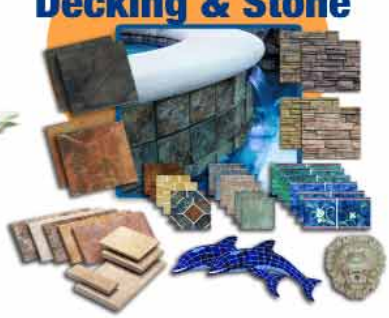
We will rock you.

Your customers' needs don't stop at the edge of the pool – neither should your profits. Contractors are creating additional revenue by installing stone on areas beyond the pool – including hardscape decking, decorative stone finishing and re-surfacing amenities such as BBQs, walkways and retaining walls. Get your business rocking and increase your bottom line by offering stone decking, coping and pavers from NPT.

Call (888) 411-TILE for information and brochures!

NPT Pool Finishes

NPT Pool Tile, Decking & Stone



NPT BBQ Islands

888-411-TILE

pt® POOL TILE & STONE
POOL FINISHES
BBQ ISLANDS

www.nptgonline.com

Pentair Water Pool and Spa™

• Anaheim, CA • Cathedral City, CA • El Cajon, CA • Sacramento, CA • Livermore, CA • Tempe, AZ • Tucson, AZ • Las Vegas, NV • Dallas, TX • Houston, TX • Longwood, FL • Pompano Beach, FL • Sarasota, FL • Norcross, GA • Montgomeryville, PA

Circle 4 on Postage Free Card

Clarifying 'Mud'

I read with interest comments by deputy inspector Richard Fehring in *WaterShapes'* October, 2007 issue (Tisherman: Detail 81, "Keeping Watch," page 22). Although much of what Fehring says is perfectly valid, I would like to offer a clarification on one aspect of his discussion that I believe distorts what happens in the majority of situations.

In the "Preferences" sidebar on page 26, Fehring builds the case that wet-mix shotcrete is superior to dry-mix shotcrete (gunite) based largely on potential flaws resulting from what I call "street mixing" of dry-mix material. What he fails to note is that street mixing is a practice limited mainly to southern California – and even in that market, fewer and fewer crews are working in this way.

In fact, throughout the country (including much of California), the vast majority of dry-mix applicators uses volumetric mixers (that is, mobile mixers) or barrel mixers (that is, ready-mix trucks) for material delivery.

Be that as it may, there is nothing at all wrong with street mixing as long as it's done properly. Indeed, there are just as many potential flaws in wet-mix (shotcrete) applications as there are in dry-mix (gunite) mixing and application – the point being that both processes work well in swimming pool construction so long as proper mixing and application techniques are followed.

Also, a point of clarification: On page 30 of the column, Mr. Fehring references ACI 506R-95, but this is an older version of a document that was revised in 2005 as ACI 506R-05. He is absolutely correct when he says that all contractors should be "well versed" in these guidelines and adhere to them as a means of increasing the odds of success in creating a sound structure, and I'm certain he would agree that it can't hurt to cite current versions of the available literature.

Ron Lacher
Pool Engineering
Anaheim, Calif.

Join the Conversation

Send Us a Letter!

AstralPool, Over 35 years of experience counts for a lot!

AstralPool offers more then just a quality line of swimming pool equipment. We offer over 35 years of experience providing innovative manufacturing techniques & professional services in over 100 facilities located in 30 countries world-wide. As an industry leader in the production of Stainless Steel Ladders & Rails, PVC Valves, Pumps, Filters, Skimmers & Main Drains, we invite you to see for yourself how AstralPool has become a world-wide industry leader.

Contact us today and find out how you can become an AstralPool supplier! **(866) 45-POOLS**

Circle* 129 *on Postage Free Card

Fina

AstralPool
Official FINA Partner

AstralPool USA
8525 Mallory Rd.
Jacksonville, FL 32220
Toll Free (866) 45-Pools

e-mail: sales@astral-pool.com
www.astralpoolusa.com

ASTRALPOOL

Leading in solutions for your pool

December's Writers

Franco D'Ascanio is co-owner and operator of D'Asign Source, a diversified family-owned and -operated firm in Marathon, Fla., that engages in home design and construction, interior design, landscape architecture and construction, watershaping, nursery and stone-supply services and audio/visual system design and installation. He runs the company, which was established by his parents in 1960, with his brothers Anthony (in charge of construction) and Amedeo (who handles the architectural department). At first, the company's range was limited to the stone-supply operation, but before long it moved into residential design and construction mostly for upscale clients in the Florida Keys. Among the company's many claims to fame, it boasts a nursery with one of the most comprehensive selection of palm species in the United States.

David Peterson is president of Watershape Consulting of Carlsbad, Calif. He's been part of the watershaping industry since 1994, when he began working for an engineering firm that specialized in large aquariums and marine-mammal exhibits. In 1998, he stepped onto to manufacturing side of things with Polaris Pool Systems, ultimately serving as vice president of engineering there before starting his own firm in 2004 to support industry professionals with design, engineering and construction-management services. He earned a BS degree in civil

engineering in 1995 from the California State Polytechnic University at San Luis Obispo and is a registered civil engineer.

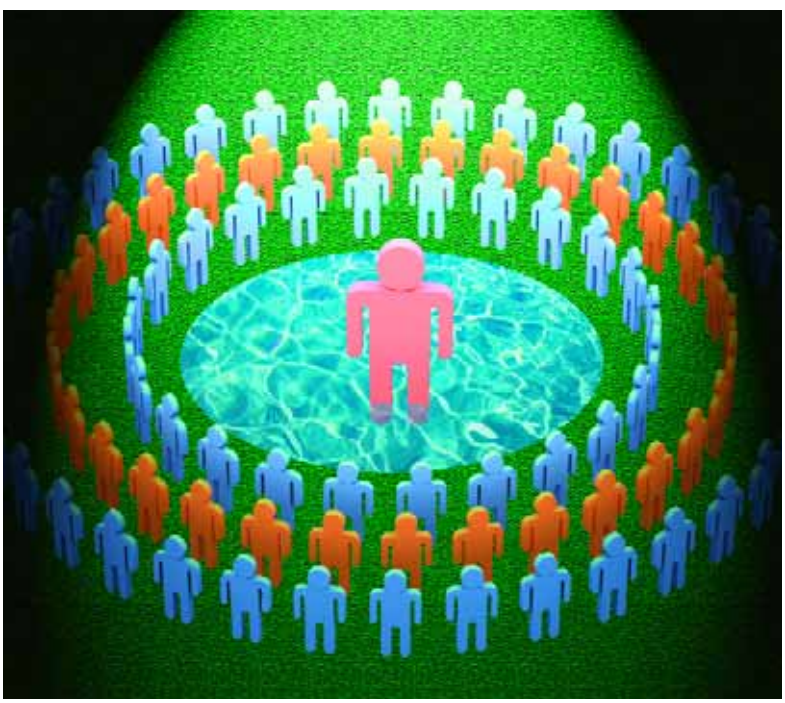
Steve Gutai is product manager for pumps, filters and valves for Jandy Pool Products of Petaluma, Calif. Gutai is a veteran of the swimming pool industry, having spent more than 13 years as an independent service and repair technician and subcontractor in the Los Angeles area. He spent three more years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

Rick Pendleton is founder and president of Artisan Home Resorts of San Jose, Calif. – a firm specializing in the design and construction of upscale residential swimming pools and watershape environments. He has been in the watershaping industry for 35 years, having worked for a number of firms in a variety of capacities. He started Artisan Home Resorts in 2004 to pursue his desire to create truly custom projects while working at the highest possible standards of creativity and construction excellence.

By Brian Van Bower

Stepping Up

The current boom of 'water-centric' projects is most promising for watershapers — especially when they find themselves working as equal partners with (or taking the lead among) other professionals engaged in the design process.



I've written several times in the past about the fact that more and more landscape architects and designers are getting into watershaping. As evidence, all you need to do is look at design-award competitions in the pool and spa industry and note the increasing number of submissions from landscape professionals: It's even getting to the point in some programs where they're outnumbering participants who come from the traditional pool and spa industry.

You'll find even more evidence of this phenomenon on the web sites of landscape-focused companies, where you'll see watershapes of all shapes and descriptions in most of their photo galleries. Moreover, many I know in the pool and spa industry have had the experience of seeing increasing percentages of their projects taking place under the auspices of members of the landscape professions.

This general trend isn't new, of course, but what *is* new, I believe, is an extension of this tendency in which landscape professionals are elevating watershapes to the forefront of their design programs and are in fact making water elements of all sorts their *key* design elements.

more is more

In my own practice, for example, I've noticed a significant increase in projects in which landscape professionals are weaving multiple watershapes into given settings. You may need to put that point in context: After all, it wasn't all that long ago that a typical landscape plan was focused primarily on planting areas, pathways and hardscape structures – with, almost as an afterthought, a single watershape in the form of a small fountain or, more commonly, a swimming pool of some kind.

Instead, what I'm seeing now are plans that could be fairly labeled "water-centric" designs. Just the other day, in fact, I received a plan from a landscape firm that has not only a pool and spa, but also a series of shallow, interconnected watershapes that are dispersed throughout the property. And I've seen others in which pools and spas are surrounded on a site by everything from ponds and streams and formal fountains to waterwalls, water-focused sculptures, reflecting pools and a range of other liquid assets.

As for the trend's origins, it's simply true that consumers love water. Whether it's a primal urge or the fact that they've seen great watershapes on their travels or vacations, whether it stems from exposure to ideas in the media or to the persuasive powers of home-improvement shows, they all want to be around water. And it seems like they want that proximity more than they ever have before.

And let's not forget that this is happening at a time when the real estate market is in pretty sad shape!

Better still, whatever the root source of this burgeoning consumer interest may be – whether it's human nature, the appreciation of beauty,


glass mosaic tile...
BLENDED GLASS™
SICIS
THE ART FACTORY
Photo courtesy: David Tisherman
CACTUS
STONE & TILE
Coming to Scottsdale
Airpark Design Center
15551 N. Greenway-Hayden Loop
Circle 60 on Postage Free Card
401 S. 50th Street ◆ Phoenix, AZ 85034 ◆ 602-275-6400 ◆ 800-528-9445 ◆ www.cactustile.com

Baby Boomers' focus on eternal youth, media exposure or any of a half-dozen other societal factors I might dredge up – it's come at a time when watershapers are more willing and able than ever before to press into increasingly creative territory in response to their clients' needs and desires.

The one thing I fear in all this is that trends come and go, sometimes with startling speed. As I see it, we have both the need and the ability to make these opportunities last!

broader perspectives

Certainly, the extent of the opportunities will vary from watershaper to watershaper, but where it seems most promising is in those situations in which watershapers are finding themselves working as equal partners with (or taking the lead among) other professionals engaged in the design process.

I am compulsive about learning as much as I can about other disciplines so I can speak forthrightly and intelligently with all the other professionals whose paths I might cross.

Of course, this represents a distinct shift in mentality for most of us who came up through the traditional pool/spa industry, where we were once relegated to subordinate roles but now must move with confidence and personal authority among highly successful architects and landscape architects.

In some heady situations, it even means we'll be called on to bring in top-flight professionals to work under *our* auspices, be they landscape architects or designers, lighting designers, civil engineers or even the architects we need to pull together great pool houses or other substantial outdoor structures.

Yes, there will be those among us who will extend the reach of our businesses to points well beyond the water and keep control of project details from start to finish, but the general trend I'm discussing reduces the need to think in those terms: In other words, this *doesn't* mean we need to become all things to all people.

Personally, I find sufficient stimulation and professional challenge within the narrower scope of watershape design and feel no great compulsion to pursue other valuable forms of expertise. What I *am* compulsive about, however, is in learning as much as I can about those other disciplines so I can speak forthrightly and intelligently with architects, engineers and all the other professionals whose paths I might cross, whose desires I need to understand or whose services I might need to seek.

In other words, I feel no need to become a lighting designer, but I certainly want to speak that language – and on a fairly sophisticated level to boot!

Continued on page 16

Your Source...

At D'Asign Source Botanicals, we specialize in growing quality palms and cycads in large containers. We grow more than 250 species of palms and 100 species of cycads and other ornamentals. Many of the species we grow are quite rare and unusual. We are proud to offer specimens that would be difficult to find anywhere else in the world.

D'Asign Source®
BOTANICALS

3221 D Road
Loxahatchee, FL
561.333.6889
dasignsourcebotanicals.com

Landscaping paradise since 1960

Visit us online for more information about Palms in Paradise, the D'Asign Source landscape and architecture tour.

D'Asign Source®
Dream. Design. Build.

D'Asign Source | 11500 Overseas Highway | Marathon, Florida 33050 | 305.743.7130 | www.dasignsource.com

State of Florida Landscape Architect License # LC26000251

Circle* 51 *on Postage Free Card

The interesting thing about all this is that the same language-building urge is coming at watershapers from all these other disciplines as well. Indeed, I'm finding that watershapes planned for by architects, landscape architects and landscape designers have much greater precision than ever before. It's rare these days, in fact, to see landscape plans that have the infamous "blue ghost" showing the general shape and location of a pool and labeled with the dread "by others." (This sloppy approach was once so prevalent that I often joked that I was going to rename my company "others.")

rising to the top

The world has changed, and we need to step up and greet it. To do so, we have to avoid thinking that everything is breaking our way and that all we need to do is ride the trends to reap their benefits. It's not that simple.

To communicate effectively and thoroughly these days, you need to be able to paint pictures with words using vocabularies understood by specialists.

To engage these trends fully, we need to be prepared to meet the expectations those other professional have so that, in the initial stages, we can provide detailed plans calling out materials, a variety of construction details and engineering specifications for plumbing and equipment. Familiarity with computer-aided drawing (CAD) systems is a huge plus in these environments, basically because in team situations it's much easier to follow, exchange and accommodate plan alterations using computers.

(What I've found, interestingly enough, is that not even CAD knowledge is a be-all and end-all: To communicate effectively and thoroughly these days, you need to be able to paint pictures with words using vocabularies understood by specialists. You also need to be able to draw with some facility, and it doesn't hurt to know about three-dimensional rendering techniques, whether done by hand, in clay or with a computer.)

Another facet of this elevation of watershaping that's a bit counterintuitive is that the water-centric design trend isn't limited on the consumer level strictly to the so-called "high end." As an example, I'm currently working with a client of relatively modest means who recently retired and has secured financing to revamp his home's exterior spaces. His ambition is to surround himself with water – not just a pool and spa, but also a series of decorative waterfeatures spread all around the property.

He has a budget and it's likely the project will be pursued in stages through a period of years, but that's not important to him or me. What *is* significant is that he's

not just thinking in terms of a landscape that includes water, but instead that he wants an exterior environment that is completely *defined* by the presence of water.

This water-centrism is truly infectious. Indeed, I'm working on a design for a posh nightclub, and we're talking about all sorts of watershapes indoors and out – including one in which patrons might actually get in the water. That would be a first in my reckoning, and I'm already cringing at the thought that both the building department and the health department would likely get involved.

Point is, regardless of where you perceive your business to be pegged – commercial or residential, mid-range or high-end – *all* watershapers need to be ready to step up and participate as equals in the design and planning processes or grab the reins and take the lead.

prepared for success

It's exciting to think that we're at a point where watershaping has become a true design specialty and that we have a place at the table with the traditional high-level design disciplines. More thrilling still is the fact that we are finding ourselves at the head of that table in many situations.

Ultimately, this cuts back to an essential, core value expressed innumerable times in *WaterShapes* and in the Genesis 3 programs – that is, *you must prepare yourself for success on all fronts.*

The more knowledgeable you are about the history of art and architecture, the more you know about color theory, materials selection and presentation techniques, the broader your familiarity with all the disciplines that go into good exterior design, the better able you will be to assume a leadership role as part of a design team.

To be sure, there will be many situations in which you will still be subordinate to other design professionals, and it's up to all of us to be able to work effectively in that capacity. In fact, the better job we do of assuming whatever roles we're called to play, the more likely it is that we will be seen as more than mere team players and instead will move into the vanguard in the process of designing and building quality projects.

If you're up to the challenge, the future is bright. I for one absolutely revel in the elevated station in which I now find myself as a watershaper, and my guess is that the vast majority of people in the watershaping industry will do so as well! WS

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.

By Bruce Zaretsky

Opening Up

While having clients with deep pockets and a willingness to dig deeply into them is always nice, I've always observed that having relatively few constraints also tends to make some designers creatively lazy.

I've always believed that an unlimited budget is not essential to making design magic.

While having clients with deep pockets and a willingness to dig deeply into them is always nice and allows us a bit more leeway when it comes to artistic license, I've always observed that having relatively few constraints also tends to make some designers creatively lazy.

By contrast, I've often found small-budget, small-space projects to be creatively stimulating. A couple of columns ago, for example, I discussed a project we'd been working on that posed challenges with its sunken deck footings and the need to accomplish a lot with limited resources. This time, I'd like to finish discussing that project and share my sense that working within its constraints led me to be more creative than I might have been if given greater resources.

Resetting the scene, my clients live in a typical middle- to upper-class tract of 3,000 square-foot homes shoehorned into postage-stamp lots. In the middle of the particular cluster to which we were called was a large, common detention pond that had been planted and was being maintained to look like a natural body of water found amid this part of the development.

inside out

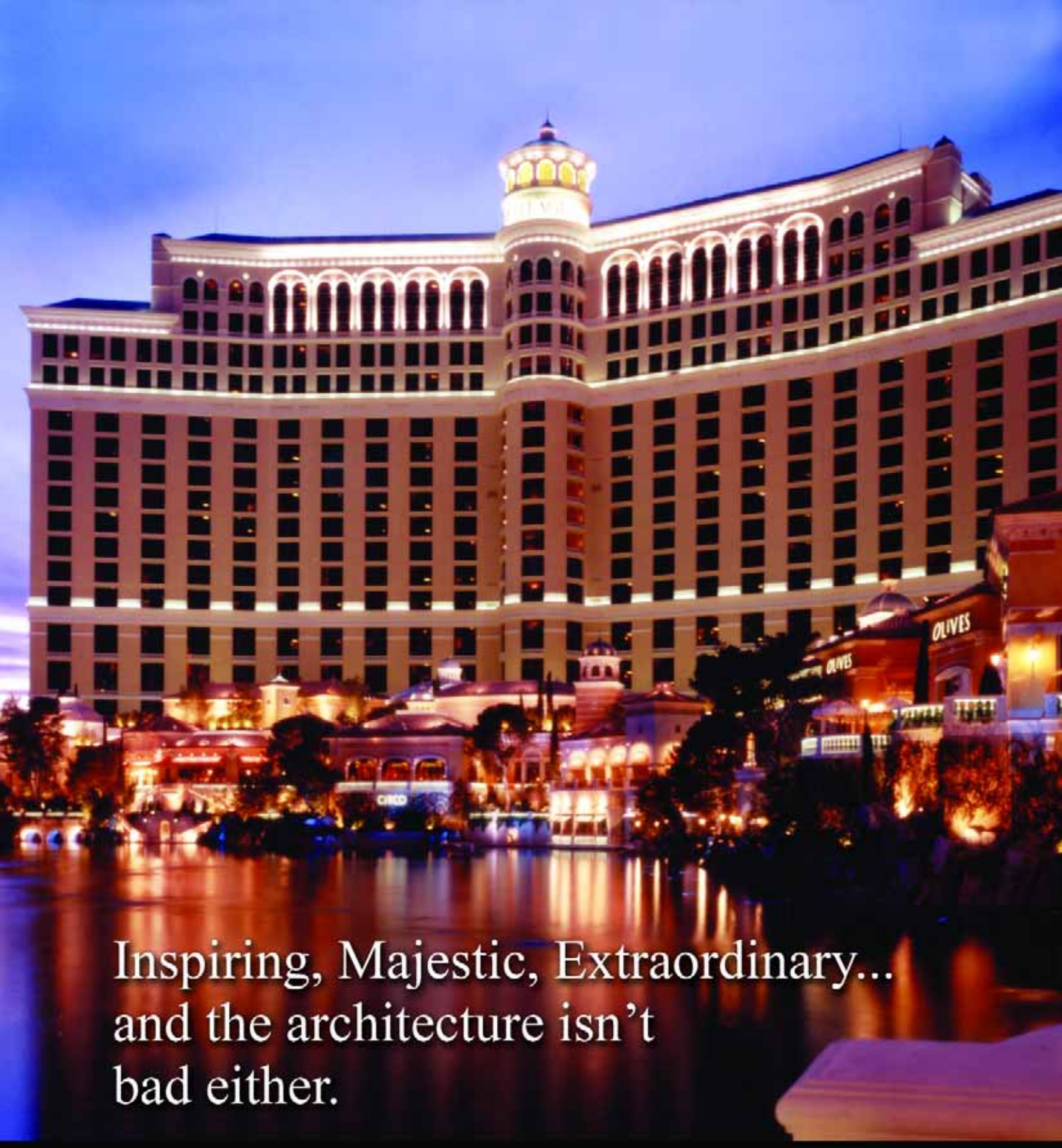
It's a picturesque view – one of which, I think, a custom-designed house would have taken greater advantage.

In this case, however, the production mentality of the developer allowed for no variation of the standard approach in which the back of the home has the typical clutch of small rooms with banks of small windows set in the usual locations, including a small opening over the kitchen sink, a couple of bedroom windows situated in this case so you *can't* see the water and a sliding-glass door leading out onto a small deck off the breakfast nook.

The back of the house also includes a formal dining room that these homeowners never used. But even here, which would seem the logical place to take advantage of the water view, only a simple window had been placed. Other than the big door in the breakfast nook, there was no easy way to enjoy the view.

The husband has a home-based business. Since they'd moved in, he'd always worked from an office in one of the small bedrooms upstairs – facing the street at the front of the house. Before we came on the scene, they'd decided to convert the dining room into his office and to expand the master bedroom above it.

Working with an architect, they'd decided to bump out the rear section of the house by three feet to expand these rooms. This may not seem like a huge step, but it represented a major change in the use of these spaces. Most important downstairs was that the bump-out was to include a door to the backyard: He wanted to gain access to the yard from his of-



Inspiring, Majestic, Extraordinary...
and the architecture isn't
bad either.

B-K LIGHTING TEKA ILLUMINATION

www.bklighting.com • 559.438.5800 • www.tekaillumination.com

Circle 126 on Postage Free Card

fice and was thinking about installing a small terrace he could use as an outdoor refuge when the weather was fair.

This is about the time we became involved and were presented with a number of issues that needed addressing. As you can see in the "before" photos, for example, the existing deck did not extend over to what was to become the bumped-out area. As built with the house, that deck was nothing very elaborate: It extended about 14 feet out from the back of the house and was about 22 feet wide.

The architect who handled the new addition didn't pay much attention to the exterior issues. All he'd done, in fact, was design a simple extension of the deck over to the new door that would look *exactly* like what it was – that is, a piecemeal addition to an already uninspired space.

integrated views

After a meeting that took an extraordinarily long time given the scale of the project, we decided to rework the deck as well as design and install a small, walled terrace that would be easily accessed from the new office while also being tied into the new deck.

I wanted to avoid the aforementioned piecemeal approach so we cut into the existing deck and integrated it with the new work by turning the new deck boards perpendicular to the existing decking and creating what amounts to an inlaid wood "carpet" that seemed like it had always been there. The additional decking amounted to no more than about 50 square feet, but by carrying a pattern over into the existing deck, we made the whole surface seem bigger and gave ourselves the opportunity to set up an elegant transition from the deck to the new terrace.

As for that terrace, I wanted to put my client out into nature (as is the goal in many of my projects).

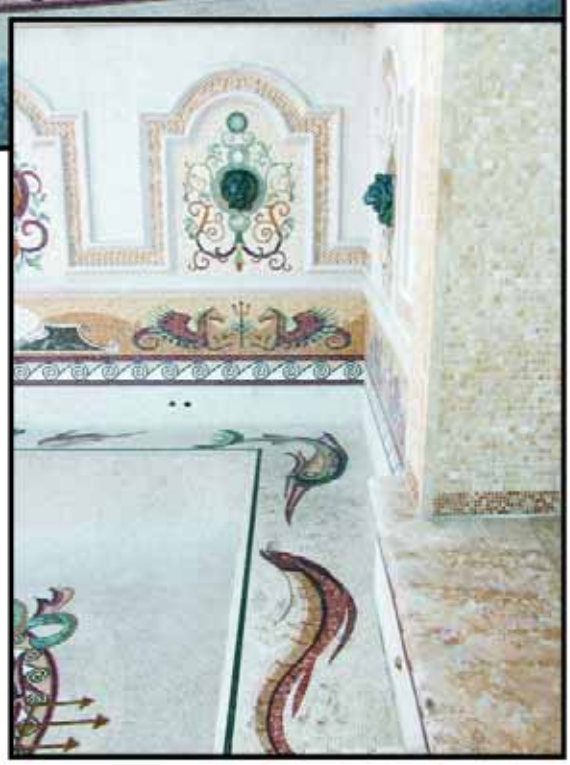
It would have been cheap and easy to set up a small patio with a few plantings and call it a day, but one of the many things I have learned through the years is that we humans tend to be a bit uncomfortable in open spaces. Much like our canine companions with their "den" mentality (which is what compels them to seek sanctuary under chairs and coffee tables), we prefer to relax within boundaries that give us a sense of security.

In this case, I wanted to create that sense of enclosure without blocking my clients' view to the water. This led me to design and build a short, 18-inch-tall stone fence around the terrace that I extended off into the garden to soften its appearance with low-level plantings while still allowing my clients to feel ensconced in nature.

I planted a single dogwood next to the terrace alongside the new office, where it is now visible through a clerestory window. This window allows light into the office while still blocking views of the neighboring house, which is just 30 feet

Classic Roman Mosaic Swimming Pool & Spa

The pool shown in these photos is rendered in the Classic Roman style. The entire pool and surrounding walls are marble mosaics. Carved limestone moldings and cast bronze water emitters are also made by Vita Nova.



VITA NOVA

The tradition continues...

Makers of fine mosaics in either classical or contemporary motifs in marble, glass, ceramics and combinations thereof. Full design services available. Simple to install.

Pool builders and landscape professionals can now become dealers.

Inquires to (818) 785-4484

Check out our web site for many more examples of our work.

www.vita-nova.com

Circle 39 on Postage Free Card

away, but now that light is dappled by leaves and branches during the day. By night, the tree is lit by low-voltage lights; in addition, we placed lights in the walls not only to show off its texture but also to provide a bit of path lighting that invites him (and others) out to the terrace and the lawn and pond beyond.

working in scale

The only element missing at this point was a bit of moving water.

The pond is a nice visual feature, but there's no movement with it and therefore no sound. To create an interesting feature on a budget, we core-drilled a boulder and placed it in a small basin, pumping water up through the hole and having it splash back down over various nooks and crannies on the boulder.

This simple feature creates just the right sound and is scaled perfectly to the small confines of the site. (We've built so many of these features for clients through the years that we've acquired our own core

Before the remodeling, a small deck opened out on an unrefined backyard. There was a great pond a short distance away – but no particular invitation to step outside to enjoy it.

We didn't add much square footage in enlarging the deck to accommodate the renovation of the dining room into a larger office space, but in doing so we cut into the original deck in a way that let us give the whole surface a stylish, integrated look.

For any pool style, shape, or design you create, Cover-Pools® covers the best.

The Professional Choice for Year-Round Pool Protection

For professionals who demand the highest quality automatic safety covers for their pools, Cover-Pools offers the most advanced technology, powerful systems and labor-saving installations in the industry.

The Save-T® 3 cover protects against unwanted entry into the pool, reduces drowning risk and saves up to 70% on water, heat and operating costs at the turn of a key or press of a button.

Freeform? Water feature? Rectangular? Vanishing edge? You'll find an option to complement whatever design you create.

Visit our website or call for details about customized pool cover options for concrete, vinyl and fiberglass pools.

THE **ORIGINAL** AUTOMATIC SAFETY POOL COVER

COVER POOLS®

Save-T® Pool Covers

1-800-447-2838 | www.coverpools.com

Circle 8 on Postage Free Card

drill, but they can be rented fairly inexpensively and these bubbling boulders – alone or in groups – make simple, dramatic, low-cost watershapes.)

In all, this exterior renovation covered no more than 800 square feet, including the 200 square feet of the bluestone terrace, the 50 square feet of new decking and another hundred or so square feet involved with the low stone fence. By anyone's definition, this qualifies as a small project.

Many designers I know of would look at a space of this sort and would either throw a cliché solution at it or, more likely, just walk away. As I mentioned in my previous column on this project, however, I find that the challenge of designing for small spaces and on small budgets and coming up with a solution as transforming as this one makes these projects as satisfying as any large project I've ever designed, installed or simply been part of.

My sense is that the availability of a large space and access to a good bit of money has the tendency of closing off important creative avenues in our brains. On some level, big projects and big budgets become shopping sprees in which we hunt down, for example, just the "right" sort of stone rather than come up with the best applications of more affordable or more readily available options.

Just off and below the expanded wood deck, a new patio draws the homeowners out to enjoy a prime view of the pond just a short distance away.

The bumped-out space – with its new windows and door – allowed our clients an easy means of getting out and enjoying the enlarged deck, the walled-in patio and the pond beyond.

What I want to suggest here is that it's easier to stay at the top of our games – maximum creativity, maximum ingenuity, maximum resourcefulness – if we look at smaller projects as workshops for the design mentality we need to make the most of our work on all levels.

I have applied this outlook for many years now, and I find that delivering million-dollar looks at a fraction of that cost to budget-minded clients with small available spaces keeps me fresh, interested and motivated. By being open to these projects, I am continuously inspired and find myself exploring new products and techniques to keep the creative juices flowing.

My pride, in other words, comes from designing and installing works of art. If that means doing it on a small budget, all the prouder I am. WS

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

By David Tisherman

Finding the Look

What I've been seeing is a latter-day Renaissance of interest in classical notions of truth and beauty and a renewed focus on artistic media and performance.

Not long ago, I was asked by a reporter from *The New York Times* to define the main difference between swimming pools now compared to what they were 20 years ago. As we talked, it became clear that she was mostly thinking about technological breakthroughs in pumps and chemical treatments and the like.

I confirmed for her that, yes, those products had come a long way. But I wouldn't let her stop there, suggesting that there was much more than a run of technical advancements behind the explosion of interest in watershapes in the recent decades.

What we've also been seeing, I said, is a latter-day Renaissance of interest in classical notions of truth and beauty and a renewed focus on artistic media and performance. It's less about pump curves and advances in automation, I said, and more about Aphrodite, Apollo, Athena and Aristotle – what I see as the A-list behind a new perception of pools and other watershapes as true, inspired works of art rather than utilitarian watering holes.

As stuffy and erudite as that might sound, what I wanted her to understand was pretty simple: At the industry's leading edge, designers and builders around the world have awakened to the fact that, at its best, our output as watershapers makes profound, meaningful and unique artistic statements.

Now, as we shift our attention in this series of columns from rough construction to finishing touches, let's start by looking at stone and tile and what it takes to establish great interior finishes for watershapes.

looking back

While speaking with the reporter, I beat what should be a familiar drum to readers of this column – that is, all watershapes exist in a greater context of which they should be no more than component parts subordinate to and harmonized with the setting, the architecture of the home (or surrounding structures) and the desires of the clients.

When a watershape works in that way (whether it's a stand-alone piece of art or a minor accent), it becomes something very special. The key to watershaping's evolution in the past 20 years – and the subtext for the reporter's questions – has to do with the fact that increasing numbers of designers and builders are operating on a higher plane where design and construction can and do indeed become *art*.

As with the Greek, Roman, Moorish and High Renaissance cultures before us, we've awakened to the timeless, mesmerizing beauty of great materials and are now applying them in our projects as never before. I told her about beautiful stone, colorful aggregates, pristine plaster and, as we'll discuss just below, fantastic tile – the raw stuff of centuries of great design.

In fact, some of the best examples I've seen of the use of stone in watershaping reach back more than 2,000 years.

Continued on page 30

Often imitated, never duplicated, Pebble Tec®, Pebble Sheen® and Pebble Fina® brand pool finishes help to create the kind of luxurious, durable pools and spas that provide a lifetime of inspiration and relaxation, whether you're building a new project or remodeling. A tradition of innovation in swimming pool surfacing creating a distinct, yet natural appearance - let your imagination soar with Pebble Tec. For more information visit www.pebbletec.com, or contact your preferred pool builder.

PebbleTec®
SUPERIOR QUALITY POOL FINISHES

Available exclusively through the world's finest pool and home builders. Hand-crafted by artisans who have been carefully selected, trained and licensed by Pebble Technology, Inc.

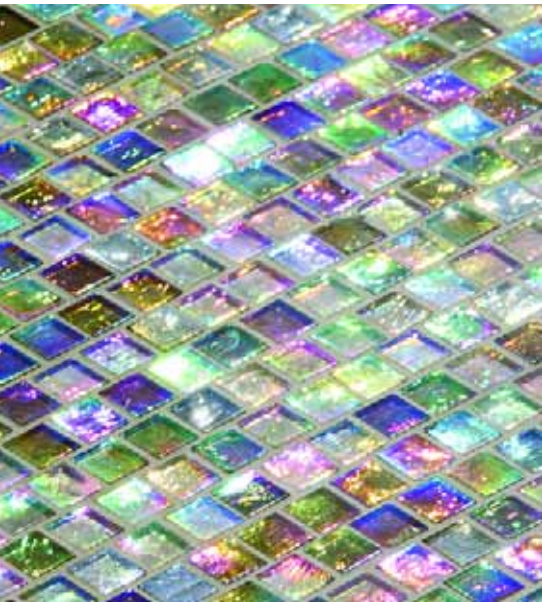
Circle* 107 *on Postage Free Card

In the ancient eastern Mediterranean city of Sardis, for example, you see spectacular reflecting pools left to us by the Greeks and Romans – vessels lined with travertine, marble, granite and other beautiful stone species. Those who built these pools used these materials to paint surfaces: When the pools held water, the stones' natural colors and textures and startling depth became apparent for all to see. Now dry and their colors muted, these pools still make fantastic visual impressions.

Stone is, of course, a natural material and is often cold in appearance. This is why so many of today's designers use it in sleek, contemporary designs: Where Black Absolute Granite generally seems out of place in the context of a Craftsman- or Ranch-style home, it's right where it belongs next to a sharply geometric home wrapped in big sheets of glass.

If you want warmth and/or bolder colors in watershape finishes, you generally need to look beyond stone. This

Echoing the pointillism of Georges Seurat, a well-selected mix of glass tiles of different colors and opacities can create watershape surfaces that come alive when sunlight hits them. The visual depth and texture of these finishes – with glass tiles from Boyce & Bean on the left and Sicis on the right – is, I think, unmatched in design terms and explains why I keep coming back for more.



is why I've always loved working with tile: The variety of these products available today is incredibly vast, from marvelous ceramic/vitreous tiles to a stunning array of glass products that are, I am unashamed to admit, my favorite choices of all.

artistic perspectives

Whether you're working in mosaic forms or creating sweeping visual fields, tile can be heartbreakingly beautiful and jewel-like. In my humble opinion, it's through the creative use of these materials that today's watershaping comes closest to being favorably comparable to the work of the ancients.

A closer and more relevant comparison for me, however, is to the work of the Impressionist painters of the 19th Century who showed the world that singular color impressions can be generated through use of many colors in the forms of dots (in the case of Seurat) or smudges (as with Monet). Spinning off their approaches, I've found it possible to make tile into a true artistic medium that reaches well beyond the familiar realm of mosaics.

Returning to the question from the *Times*' reporter, the emergence of tile as an interior finish is one element that truly separates watershapes of today from their not-too-distant forbears.

It's also a feature, by the way, that distinguishes truly custom work from the more pedestrian efforts of volume- or production-oriented firms. In my case, I've never been one to accept off-the-shelf design solutions and choose instead to apply my extensive background and training in color theory in my projects whenever and wherever I can.

It upsets me when I hear about watershapers who have clients select tile in visual isolation, as though it would never have a context in a pool. A good decision requires consideration of the tile in relation to the pool's interior finish and the color of the coping and deck material beyond the waterline. It just doesn't "work" otherwise!

Indeed, tile chosen in isolation may be pretty and even very expensive, but it is

often completely inappropriate: I can think of nothing less satisfying than having friends visit and say "Wow! That tile looks great!" when what you really want them to appreciate is the overall setting and how everything works together to make an overall visual impression.

This is why I've said many times in the past that blue is usually the wrong choice for waterline tile. It doesn't work with green, gray, black or white plaster (in fact, those colors make the tile stand out line a beacon), and it gets even worse when that band is topped by the usual red-brick coping: It's a color-sensitive person's worst nightmare!

avoiding disruption

I've always believed that a designer who strives for quality and real beauty needs to look beyond the trite answers – and that includes developing waterline solutions that take the interior finish and the coping/decking materials into account. If the tile selection is made in any other way, clients are being done a great disservice.

The result of taking the easy way out is that you end up with three or even four different materials drawing attention to the point where the water transitions to the surrounding environment. Not only is this ugly, but it also highlights the shape of the vessel in such a way that it can only make the water-shape a separate, glaring visual element within the setting no matter how much the designer or builder might have wanted it to seem harmoniously integrated into the environment.

This is no knock on today's ceramic tiles, which can be absolutely wonderful. Nor is it a blanket indictment of what was available 20 years ago, because some of those products were used to great effect by thoughtful designers and builders. My issue with past practices (and with people who persist in being careless with tile to this day) is that the material often wasn't (and isn't) used effectively.

The Impressionists knew the secret – that each color impression can be made up of many other colors. What I always try to do in my work is apply the lessons they offer by developing blends from many different tile colors and using them literally to paint a pool's surfaces.

Through experience, I've found that the glass tiles made by Sicis of Ravenna, Italy (which is distributed across the United States by Cactus Stone & Tile of Phoenix, Ariz.), are just right. At five-eighths of an inch square, they are small enough to create the stippled effect I'm after and come in such a broad array of colors, textures and surface treatments – opaque, iridescent and translucent – that I can achieve just about any visual effect I want.

Let me be clear: There's nothing wrong with combining, say, plaster with tile at the waterline so long as that tile "works" with that interior finish as well as the decking and/or coping materi-

Where business meets magic.

National Plasterers Council 19th Annual Conference

Disney's Coronado Springs Resort & Convention Center

February 13th through 16th, 2008

We invite you to come live out Disney dreams like never before during *The Year of a Million Dreams*, a first-of-its-kind event celebrating your dreams and the dream-making magic Disney Cast Members create for our guests every day.

No other meeting destination offers so much to see and do – from our world famous Theme Parks, to championship golf, award-winning dining and electrifying nightlife. So don't pass up the chance to add an extra day or two before or after your meeting with family or friends. We'll even extend your same room rate* to any nights you add to your visit. Visit www.npconline.org for more details.

Walt Disney World

Where dreams come true

Special Meeting/Convention Theme Park Tickets are available for you and your guests.

**Room rates are subject to change without notice and are based on availability. Group rates may not be combined with any other discounts or offers.*

Circle 109 on Postage Free Card

al. Heck, I use this combination of details all the time – but when I do, I always use colors that blend well and enable me to create seamless transitions from material to material. In these cases, the "traditional" approach can be used to create an elegant look that fosters continuity rather than visual separation and disruption.

high aspirations

As in most such things, quality naturally counts when it comes to ceramic waterline tile.

Happily, the range of products now available to designers is truly astonishing, and it doesn't take much hunting to find great tiles ranging from the bold to the neutral in appearance. There are wonderful patterned tiles, including revivals of the approaches and textures used at the start of the last century as well as richly textured tiles from contemporary providers such as Craig Bragdy Design (Denbigh, Wales). There are also great handmade tiles from my friends at Busby Gilbert Custom Tile (Van Nuys, Calif.). I happen to work extensively with those two vendors, but they are definitely not alone in offering watershapers great tiles for huge ranges of applications.

If I have a pointed suggestion to offer, it would be to avoid the cheap, mass-produced tiles that serve as a shortcut for too many watershapers. Yes, it takes time and effort to find the right tiles and inform your clients about them, but the easy path in this case leads to inferior, predictable, hackneyed results – the antithesis of beauty and "art."

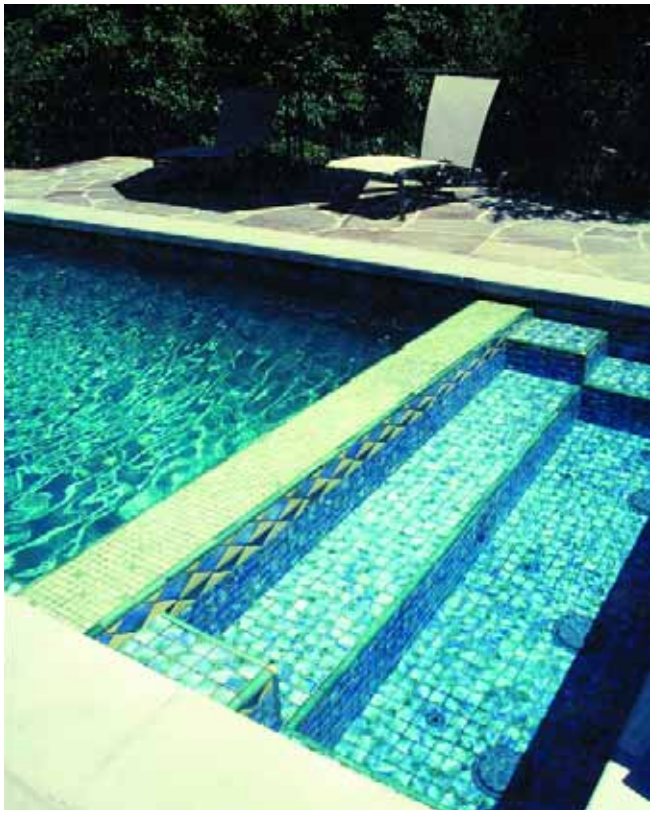
That said, there are also some fine mass-produced tiles. For example, I frequently use American Olean's one-inch-by-one-inch porcelain tile (from Dal-Tile in Dallas) to great effect. Here, mass production is actually an asset, because I can rely on the consistent coloration of the tile to make waterline tile disappear in visual terms.

And I make no bones about the fact that, no matter which tile you use, it is important to have these selections in mind *before* construction begins: You need to know the dimensions of the tile you'll be working with to set the interior dimensions of the shell, with the use of only uncut, full-size pieces as a goal.

And who's to say that those tiles need to be six-inch squares? Why not use eight-inch pieces, or 12 or 16? Why not consider rectangular options as well? The point is, you need to know this configuration, whatever it is, and factor it into the specific dimensions of the watershape if you are to be able to install the tile without visual disruptions.

That need for precision is multiplied dramatically in the event you'll be lining the entire interior of the vessel in tile. As I've discussed many times in past issues, there's an art to laying out fields of tile, but if the vessel isn't set up and contoured properly to allow that art to unfold, the opportunities for visual disruption will spin out of control.

Continued on page 36



Ceramic tile is often used to brilliant effect in watershapes, but the potential for success is greatly enhanced if you work with the best-available materials (with, for example, tile from Craig Bragdy Design on the left or Busby-Gilbert Custom Tile on the right) and stay away from the cheap, visually lifeless alternatives. Not only does this give you a fantastic array of options, but it also allows the materials to reflect your best aspirations to do quality work.

visual magic

I am passionate about great ceramic tile, but as I mentioned above, I'm *extremely* passionate when it comes to great glass tile. It's certainly not the only option I use, but the more I've worked with these products through the years, the more devoted I've become to them – so much so that I'm taking my involvement with these materials to an all new level. (See the sidebar on page 37 for more on that point.)

As with ceramic tile (not to mention stone, exposed aggregates or plaster), there are far too many great suppliers of glass tile to mention them all here. I've worked with a great many of them in the course of my career and in these pages have mentioned many who've won my admiration. It's a rich universe, and I advise anyone who's interested to be tireless in exploring the full spectrum of glass tiles now available.

In my case, this process of discovery has led me to focus mainly on the products of two key suppliers – Sicis and Boyce & Bean (Oceanside, Calif.) – whose palettes consistently inspire both my clients and me. If I were to describe myself as an artist working on canvas, these would be my paints.

Again, let me be clear: With glass tile, you almost cannot go wrong with established, reputable suppliers – companies of the sort whose products are often showcased in this magazine. In fact, getting back to the reporter's question for a moment, if I had to isolate a single material in which the emergence of fine, capable suppliers has been a force of change in the past decade, it must be glass tile. It's a rich field that rewards those who keep their eyes open.

Sicis, for example, makes beautiful products that exemplify the range of what's available these days by virtue of the fact that they offer their glass tiles in four distinct styles. Their Smalto, Iridium, Glimmer and Waterglass lines come with iridescent, opaque and translucent finishes, and I've fallen in love with all of them because I can develop blends both within and between those lines. This gives me incredible flexibility with respect to color, depth, reflectivity and visual complexity.

Using these products (and others), you can conjure the visual effects you see in diamonds, emeralds, sapphires and rubies beneath the water when the light source is opposite the viewer. When the light source is *behind* the viewer, you get an effect that's basically like the painting technique known as "pointillism," where individual tiles blend together to create stunning visual fields and remarkable color impressions.

When I blend these tiles, I like to mix various blacks, whites and blues along with reds, greens and yellows in all their opaque, translucent, iridescent and transparent forms. When you add water with its complex reflections and refractions, some of these blends become objects of almost indescribable beauty.

practicalities

As with ceramic tile, a good bit of pre-installation and, indeed, pre-construction thought must go into vessels in which glass tile will eventually be installed – especially if the entire interior surface is to be covered.

In these cases, it's important for the shotcrete crew to know the precise dimensions you're after so they can cut, trim and contour the newly applied concrete to best effect. Then, it's vital to follow their activities up with skilled glass-tile installers who know how important it is to apply the proper substrate and float to make the surfaces to which the tile will be applied *absolutely* straight and true.

This will help you avoid the pitfalls that can wreck the visual continuity of what can and should be a stunningly beautiful interior finish. It's a zero-tolerance exercise: Any bulges or depressions in walls, for example – flaws that are fairly well masked by a plaster or exposed-aggregate finish – will stand out like sore thumbs in all-glass finishes. That is simply not acceptable.

If you figure all this out and reach the level where you're asked to apply these beautiful materials to the best of your ability, you have in some measure "arrived" as a watershaper. But it's also at this point where you should already have begun to accept the fact that quality is something that is always considered from the start: The only way to ensure good results with beautiful materials is to prepare for their application from a project's first stages! WS

Next time, we'll look at some other interior watershape finishes and details.

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.

a position of advocacy

Let me start this by saying I'm not your typical pool guy: I have training and education in architecture, color theory and industrial design and owe my success to effective use of the skills I've acquired in a lifetime of study.

Given my belief in and long experience with glass tile as an artistic medium, I'm now entering an arrangement in which I'll be working with this material on a more extensive basis than ever before and am pleased to announce that I've joined forces with the staff at Cactus Stone & Tile (Phoenix, Ariz.) in offering my expertise in creating glass-tile blends to designers and builders across the country – free of charge.

Through the years, it seems I've impressed the management at Cactus Stone & Tile with the color blends I've requested for use in my projects. Not long ago, Kirk Butler (the owner) and Ron Steadman (the marketing director) asked me if I'd be willing to share what I know about color and tile blending with the industry at large.

I've worked with the company for several years in their capacity as U.S. representatives for Sicis (Ravenna, Italy), but they also distribute a range of other finish products that will give me latitude to draw on just about whatever I need to create effective blends for projects of various types and styles. And the best part of it is that Cactus Stone & Tile will be subsidizing the service and offering it free with orders that exceed a certain minimum size.

This new enterprise, which the company will be calling Blended Colors, has me very excited not only because I'll be working with a great team but will also be in a position to help spread the use of beautiful glass-tile materials well beyond the markets I serve in my own design/construction business. In addition, it will give me the opportunity to apply my knowledge of color theory and visual design to help others become comfortable with these wonderful products, helping them bring their clients the same sort of beauty that the Greeks and Romans enjoyed so many generations ago.

This is a true labor of love for me, and I look forward to helping other watershapers develop truly custom blends that push what we do further along the road to quality and artistry.

– D.T.

The Power of Transformation

For more than a decade, the Genesis 3 Design Schools have influenced the professional lives of hundreds of watershapers. It's an unfolding story of elevation and transformation best told by those who've experienced 'life after Genesis.'

Listen to What Others Are Saying About Their Student Experience with The Pool & Watershape Construction School!

'Excellent curriculum. Outstanding instructors. This is the type of education that can bring some credibility and professionalism to our trade.'
– Kevin Bradic, Torrey Pines Engineering & Construction, Carlsbad, Calif.

'I wish this had been available a long time ago. Very informative and helpful. Has made me think about how I have been performing in the past and how I will perform in the future.'
– Kirk Gillette, Kirk's Pool Corp., Redlands, Calif.

'The class was very educational and motivational and the instructors and information were outstanding. To have a group of people with the same goal of being the best in our business and to be part of that elite group is fantastic. Genesis 3 is taking the swimming pool industry to the highest level.'
– Brian Bergeski, American Pool Management, Edison, N.J.

'Excellent! I have sold over a million dollars in work in the fist six months after the initial class. It gave me great confidence!'
– Tim Spiker, Aquatic Creations, Leawood, Kans.

'It is a much needed and much appreciated opportunity: To understand why I do what I do and do it with confidence is a great feeling, and I am excited about what this will do for my business.'
– Gordon MacFarland, Development Concepts, Fayetteville, Ga.

'Fast-paced and very informative with highly skilled professionals/instructors. A great venue for meeting like-minded people with common goals and passion for their art.'
– Rick McGee, Poolscapes, Granite Bay, Calif.

'Our experience with Genesis 3 and the pool construction school was exciting and inspiring. The planning and attention to detail was excellent and made the event flow with precision. Thank you for an extraordinary learning experience.'
– Karen Miller, Millbrook Farm, Broad Run, Va.

'There isn't a person in our industry who would not benefit from this school. I wasn't sure what the school could offer to someone with almost 30 years of pool-building experience, but I found the courses to be well-structured, well-taught and enlightening. When you think you know everything, let the pros at Genesis 3 expand your horizons yet again.'
– Bud Sudhop, Aqua Vision Consulting, Doylestown, Pa.

'The Genesis 3 philosophy will not only raise the integrity level within our company but also catapult the industry's integrity.'
– Kevin Barrett, Olympic Pools, Shakopee, Minn.

'This course solidifies my belief that the Genesis 3 group is redefining the pool industry and truly raising the bar for builders everywhere. The quality of instruction and the depth and range of topics are unparalleled.'
– Drew Crowder, NVblu, Chantilly, Va.

'The value of an institutional education was delivered with the highest professional integrity in a showcase setting. An orchestrated revolution in the landscape architecture and pool construction industry!'
– Ben Dozier, Root Design Co., Austin, Texas

GENESIS 3 DESIGN GROUP

Come join us at the Texas Pool & Spa Show

January 9-11, 2008

Pool and Watershape Construction School

January 11-12, 2008

General Show Track Classes

Friday, 8-9:45 am
"Job Costing for Profit versus Existence" (Brian Van Bower)

Friday, 10-11:45 am
"The Custom Market of The Pool Industry: From Presentation to Understanding Client Concerns (Open Forum featuring David Tisherman)

Keynote Speech: Friday, 12:15 pm
"Ki is Key: Developing and Maintaining a Positive Powerful Presence" (Brian Van Bower)

Saturday, 8-9:45 am
"How to Attract and Do Business With and Relate to High-End Clients" (Brian Van Bower & Skip Phillips)

Saturday, 10-11:45 am
"Hydraulics" (Skip Phillips)

To Register for the Pool & Watershape Construction School and General Track Sessions at the upcoming show, visit www.texaspoolandspashow.com or contact show magagement at 972-978-9322

Experience more of the power of transformation!

Canadian Pool & Spa Show

December 11-13, 2007
Toronto, Canada
www.poolandspaexpo.ca

Florida Pool & Spa Show

February 21-23, 2008
Orlando, Florida
www.floridapoolshow.com

Founded by: David Tisherman, Skip Phillips and Brian Van Bower

(615) 907-1274 / Toll Free: (877) 513-5800 / FAX: (615) 907-7338 / www.genesis3.com / lisa@genesis3.com

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

Circle 16 *on Postage Free Card*

Palm Passions

By Franco D'Ascanio

For nearly three decades, Franco D'Ascanio's family-owned firm has specialized in watershapes and landscapes that celebrate the tropical flavors of south Florida and the particular beauty of the Florida Keys. Critical to the firm's design style is its use of hundreds of varieties of palms, which, as he explains here, serve as true icons of resort-style luxury and are among the most useful of plant types when it comes to variety and design flexibility.

What do you see when you look at postcards, ads and travel posters designed to lure you to exotic, sunny locations? Almost without exception, there are *palms* – the omnipresent invitation to experience all things tropical. The association is so close, in fact, that it's hard to imagine a tropical resort or lagoon-style backyard pool without at least one of them in sight.

The allure of palms, of course, extends well beyond the tropics. In any location in which sunshine and outdoor living are touchstones for the good life, whether it's in the desert of southern California or on a waterfront in Hawaii, palms are almost always the finishing touch used in crafting a distinctive artistic and cultural statement. They are *the* icons of fun and luxury.

This is why it has always made sense to us at D'Asign Source – a full-service design/build firm based in the Keys at Marathon, Fla. – to use palms as our signature and offer nursery services to help spread these plants far and wide. To us, they epitomize the lifestyle we're helping our clients find both in the sun's warmth and at the water's edge.

Amazing Diversity

As familiar as they are, palms are also something of a blank to most people. Few know, for example, that there are more than 2,500 species of palms and that hundreds of them are suited to use in landscapes and particularly around pools and other watershapes. They exist on every continent except Antarctica and to this day, new species are still being discovered.

In botanical terms, this plant family is known as either *Arecaceae* or, more commonly, *Palmae* – and they stand alone: They are distantly related to grasses, bamboo and other monocots, but not to dicots such as woody trees and shrubs. In fact, although most of us call them "palm trees," that's not the case: They don't have bark the way trees do and their trunks do not grow thicker; instead, they have a fibrous structure that is anything but tree-like. Their small root balls are far more contained than the expansive root structures of most trees, they have no branches, and all you have to do is take one look at their ribbed leaf structures to understand that they are definitely *not* like trees.

This is why we refer to them in our business simply as "palms." We grow more than 300 species in our own nurseries and since 1990 have specialized in researching, importing and propagating palms from around the world. We grow so many different kinds because we've found through the years that each type has specific characteristics that excite and inspire our clients. It's also helpful that we've been at it long enough that we have mature specimens on hand to make new backyards look well established.

We grow numerous dwarf palms that rise to only six or eight feet tall; we also propagate monsters that top out at 100 feet tall. We work with palms that will survive in temperatures down to 25 degrees as well as varieties that thrive in the hottest, driest places on earth. There are palms that have multiple trunks, trunks up to six feet in diameter, trunks as skinny as a pencil, and even some that are classified as vines. The largest leaf in the plant kingdom is found on one palm variety: The raffia palm has leaves up to 80 feet long in its African homeland.

We stock palms that bear fruit and those that don't and have some whose trunks have spines and others that are smooth. We've encountered palms that are salt and/or drought tolerant

– and above all here in the Keys, we know of many varieties that are sublimely hurricane-resistant.

While some exist beautifully in desert climates and require almost no water, there are other palms that need to be completely submerged in water at the base in order to survive. Some grow quite rapidly and will reach full size in just a few years; others take decades. And some are just downright bizarre, including the lipstick palm with its multiple, bright-red trunks.

Through the years, we've learned that some palms are extremely easy to grow. We've also discovered that some are quite finicky, which is one of the reasons we have full-time horticulturists on staff to keep them alive in our nurseries.

Just Right

Beyond the image they project, palms are popular in landscapes (and particularly around water) for a number of practical reasons as well.

First, most are very clean. When their leaves die, they fall off in one large piece for easy disposal. Of course, there are fruiting palms that create large amounts of seeds, flowers and debris – most notably the famous coconut and date palms – but with so many other varieties available, it's really a simple matter of not using the messier species around water or near decks where clients might not want to deal with the consequences.

Second, although palms are often seen as being tropical-rainforest plants, many varieties are extraordinarily drought-tolerant and can be used to great effect in creating xeriscapes and entirely sustainable landscapes – a huge advantage in dry climates.

Third, I can think of no other plant that holds up so well to

Palms are frequently used to conjure the look and feel of tropical rainforests, and for good reason: Whether you use 200 species (as in A) or a relative few (as in B), the density of the fronds, their rich greens and the way the slightest breeze brings sound and motion to these settings has a way of transporting homeowners and their guests to carefree, faraway places.

hurricane or other high-wind conditions. It's fascinating to watch the leaves fold into compact, aerodynamic shapes that present very little surface area to offer wind resistance – and even more fascinating to watch their flexible trunks bend in the wind without breaking or falling over.

Fourth, many palms are remarkably salt-tolerant so when tidal or storm surges occur, these plants will survive where many other plants will not. We've always seen palms as having been designed by nature to be able to survive and thrive in situations that would overwhelm most other plants.

And there's more: As a real plus in hardscape structures around pools and in planters with limited space, most palms' root systems are remarkably compact. Moreover, only a few varieties send out roots that will damage surrounding structures. That's true even of the largest types: We use varieties with trunks in excess of 30 inches across, and we're still able to bring pavers and other decking materials to within a couple of feet of their bases without worrying at all about lifting or cracking. This also means that many types of palms are well suited for planting in groups – an approach that can give a design an extremely natural appearance.

These plants also have known, predictable life spans. Some palms are monocarpic, which means they die after finishing a brief seeding period; these live for between 12 years in some cases and 50 years in others, depending on the species. Most of the varieties we work with will live anywhere from 40 to 120 years. They are also remarkably predictable and consistent in maturity, growing to within a known (and narrow) range of heights, which helps in designing sites for specific, controllable sight lines,

The verticality of some palms' trunks makes them natural companions to many architectural styles, and we've had particular success with the visual interplay of palms with columns. But it would be a mistake to pigeonhole all palms as tall, thin design elements, because many varieties (including some with tall, thin trunks) spread out horizontally with unrivalled beauty and elegance.

proportions and scales.

In practical terms, this means you can take a palm that does well in shade and won't grow to be more than six feet tall and place it within a shade structure. A few feet away, you can select a huge specimen that will tower over the property to make a majestic statement. It's this sort of flexibility that makes these plants invaluable to us in our design work.

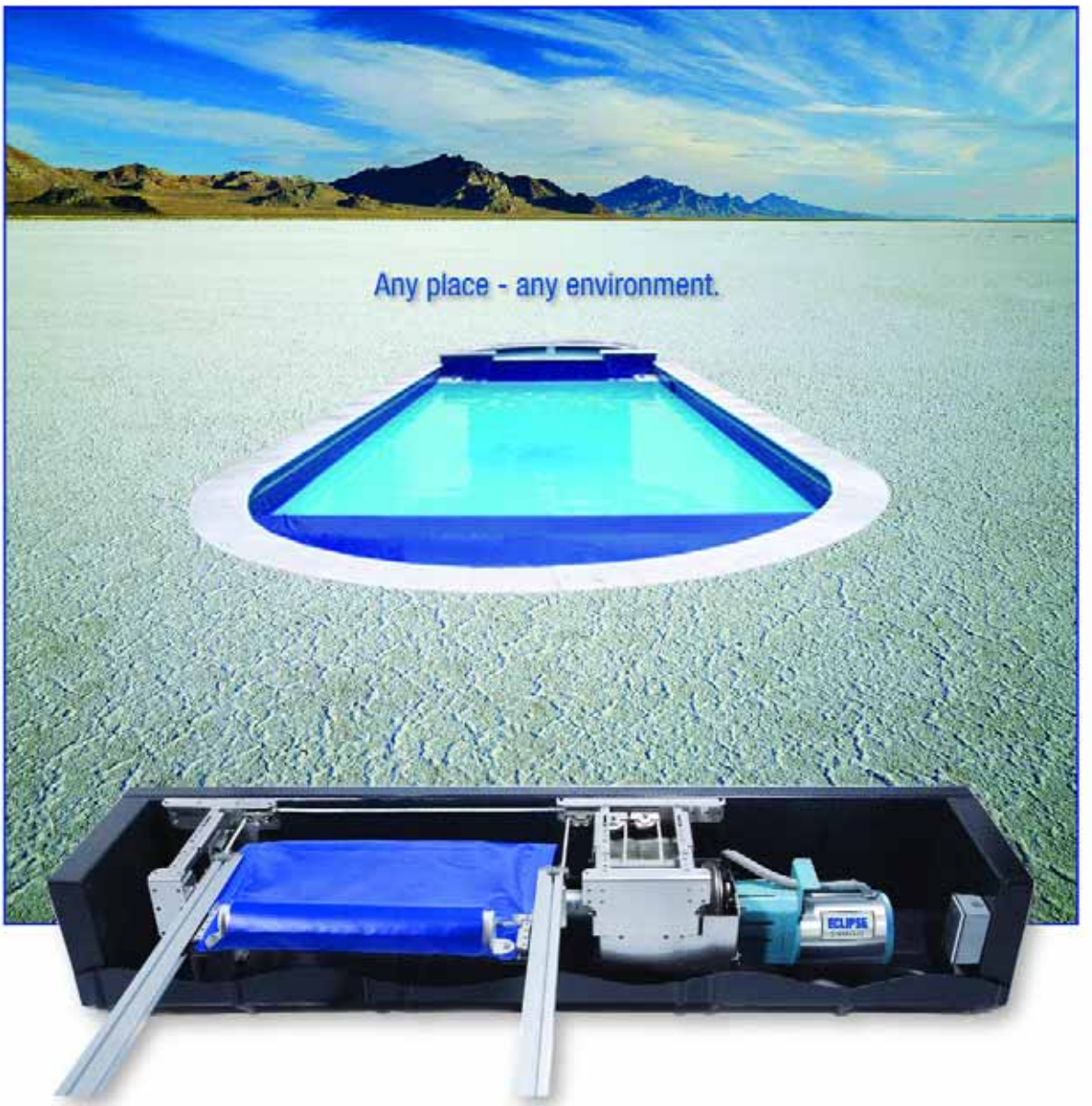
Sculptural Qualities

The physical flexibility of these plants translates beautifully to a basic design flexibility that, in my view, makes palms the most intrinsically architectural of all plants.

Whether we use them in groups or as single plants (or use a variety of types or several of the same kind), palms have distinctive lines that can be used to accent architectural structures or contrast with lush, leafy plantings. And they tend to serve the purpose for which they are originally planted for years and years, unlike trees and shrubs that need to be

The fact that palms are uncommonly 'clean' plants makes them ideal for applications in which they adjoin or overhang water. These palms with their curving trunks offer us an extreme way of demonstrating that point, of course, but it's also important to note the way their sweeping lines and drooping fronds create gateways while visually softening the hard edges of the pool below.

Engineered Reliable.



The Coverstar Eclipse™ stainless steel automatic safety cover system

Because of the harsh environments in which pool covers operate, the engineers at Coverstar have developed an automatic safety cover made to withstand the elements. With parts engineered of stainless steel, the Coverstar Eclipse is designed to stand up against the harshness of any pool environment. With larger stainless steel pulleys, a stainless steel bracket system and mechanical torque converter as well as 4,000 lb. ropes, the heavy-duty stainless steel components of the Eclipse are immune to the environmental factors and most of the problems that cause service calls with other automatic cover systems. You and your customers will appreciate the reliability, durability, safety, and savings that only the Coverstar Eclipse provides.

To arrange a demonstration of the Eclipse, call **1.800.617.SAVE (7283)** for you're nearest Coverstar distributor.

COVERSTAR™
The Highest Standard

Circle* 11 *on Postage Free Card

pruned and shaped as a matter of routine maintenance.

In our nurseries, we've taken this architectural potential to another level by deliberately growing palms with dramatically curved trunks. You'll often see palms in natural settings that have been bent by the steady pounding of prevailing winds. It's a dramatic effect that works well in many settings, which is why we grow more than 20 species in a line we call "Caribbean Curves."

On this level, the aesthetic possibilities become truly vast, particularly in response to clients who want to see something more than straight trunks in their backyards or around their pools. I won't reveal how we achieve this look, but it's an option with immense visual appeal.

Like all living things, of course, palms can fall prey to certain diseases – rare but not unheard of if the wrong palm is chosen for the wrong application. One might, for example, select a variety that will grow too big for the space or put a sun-loving specimen in a heavily shaded area (or vice versa). In that sense, palms are like other plants in that you need to research their characteristics and be prepared to make the right choices and recommendations to clients.

Happily, information about even the rarest of species is readily available from most knowledgeable suppliers, so it's really a matter of simply asking the right questions.

We've also found that most clients need a visual education, so we take them on tours to show them what can be achieved, for example, by mixing palm species or using different heights of the same species. Some of our projects have featured more than 300 types of palms, so we're ready to explore a wide range of possibilities for projects of all scopes and scales.

Most of the time, a tour is persuasive enough that we don't need to get down to reviewing the characteristics of each palm: Most clients are soon satisfied to let us put the right palms in their proper places.

Boon Companions

Our basic approach to spreading the good word on palms is all about getting our clients excited about their diversity and variety – and then swinging the discussion around to the overall mood, environment and "feel" palms bring with them.

The effect is so palpable and the joy so great that many of our clients ask us to place small rock signs at the base of each of their palms to identify the specific species, indicate its country of origin and make these plants into distinctive conversation pieces. We do so with some pleasure, because sharing information on the huge variety of palms is one of our missions.

Along the way (as I mentioned at the outset), we have found a huge gap in the public's knowledge about these wonderful plants – a familiarity typically limited to a handful of the most common varieties. It's always heartening to watch homeowners point out to guests that their backyard is filled with Formosa palms, peach palms, Moroccan palms, ruffle palms, guppy palms, zebra palms and perhaps dozens of others their guests have never before encountered. At this level, the sky's literally the limit and I start feeling a bit like Johnny Appleseed.

While educating people about palms is exciting to us, we always find our way back to the wonderful flexibility of palms in our design work. We revel in how well they work visually with other plants – everything from cycads, ferns and bamboo to cacti, begonias and bromeliads – and take real delight in how well they work as natural companions to watershapes. And it's not just with tropically themed, lagoon-style pools: We also consider and use them in formal and contemporary designs and in Mediterranean settings as well.

On every level, it's about what palms represent: The plain fact is, when people look at palms, they think of sunny vacation destinations and immediately feel happy and relaxed. When we place palms on their property as part of a well-conceived design program, they get that feeling of being at home in the tropics.

Who could ask for anything better than that?

There's nothing like a trio of palms to create the immediate impression that you've been cast adrift on a tropic isle – the ultimate in private getaways and the not-so-secret desire of many of our clients. And then there's the fact that the trunks are thin enough that they do little or nothing to interfere with the view to the horizon.

Playing by Rules

By David Peterson

Although there are still many watershapers who work primarily with pencil and paper to get their design ideas across, it's increasingly a field in which computers are essential tools in communicating with clients. Here, designer David Peterson discusses the emerging need for standardization of the way watershapers work with computer systems to keep clients up to speed while interacting seamlessly with other designers and contractors as well.

The

most important skill needed by any designer is the ability to communicate clearly.

This skill takes many forms, from verbal descriptions, well-assembled photographs and material samples to graphical depictions of concepts, details, dimensioned layouts and other drawn elements. When a watershaper is pushing design limits, in fact, he or she is often called upon to use *all* of these communication tools to convey ideas and aspire to offer something unique.

In recent years, computer-aided design (CAD) systems have become increasingly popular as a tool in preparing construction drawings. Combined with the designer's creativity, these programs assist greatly in the production of plans. Unfortunately, however, our usage of them varies greatly in style and content from project to project and designer to designer. Indeed, these variations can be so radical that some plans are not easily understood by other professionals; moreover, the exchange of electronic CAD files is not always as convenient or efficient as it should be.

This is why a group of industry experts has banded together to create the National CAD Standard (NCS), which is the core subject of this brief series of articles. That effort, which has met with limited acceptance so far, is in my opinion the key to maintaining the desired clarity of communication designers crave and of which these systems are so fully capable.

Working Together

By intention, the NCS doesn't aim to curb flexibility or creativity; rather, its purpose is to improve the efficiency of and build consistency into construction drawings while simultaneously minimizing design errors and liability issues that arise from miscommunication.

From the start of the movement in 1997, the NCS has been a collaboration among leading architecture, engineering and construction organizations, all of which recognized a need to establish a common foundation for drawing information. The latest version, NCS 3.1, was released in 2005; Version 4.0 was approved and is scheduled for release in November 2007.

In whole or part, the NCS reflects the published views of such diverse entities as the National Institute of Building Sciences (NIBS), the American Institute of Architects (AIA) and the Construction Specifications Institute (CSI), among others. The group also includes representatives from private architecture, engineering and construction firms as well as software companies that develop and support CAD-related products.

The 960-page standard is divided into several chapters and is available in a PDF format on CD-ROM. This format makes sense because many of the pages are tables of information or defined graphical information that are of limited utility to the typical user; the searchable nature of the CD-ROM enables these users to zero in on subjects without the need to flip through a ream of paper. If there's one drawback to the disk, it's that it

does not include actual CAD blocks or electronic files, which means the designer is left to set up his or her own drawings.

This is all voluntary: The NCS is not a code that CAD users must follow. Instead, it encompasses a set of recommended practices and graphical approaches built on a consensus of industry leaders. Relatively few design consultants or individual practitioners are following the NCS at this early stage, but we see signs that this may be changing simply as a matter of practical necessity.

Now that it's available for general use, leading architectural firms are beginning to use the NCS for quality control within their design and engineering teams. Much closer to home, my own firm, Watershape Consulting, Inc., of San Diego, Calif., has recently adopted the standard in almost every aspect of our construction-drawing endeavors, and we've already begun reaping the benefits.

Everyone Wins

Who should be using the NCS? The simple answer is *everyone* in the design/engineering/construction world – even those who don't use CAD. In fact, of the standard's ten chapters, only two of them offer specific CAD requirements – that is, the CAD Layer Guidelines and the Plotting Guidelines. The other eight sections of the standard can be fully implemented by anyone using pencil on paper.

To be sure, however, the NCS is a work in progress and it is clear that perfection has not yet been attained. Despite these growing pains, its flexible guidelines are set up in such a way that designers are free to pick and choose the components they wish to implement. Still, it's a product of consensus and obviously will not fit every situation or please every watershaper.

For that reason, it is not my intention to cover every detail of the NCS in this series of articles, nor is it my intention to teach you all you need to know about the standards. Instead, my aim is to create awareness of the NCS in the watershaping industry and spread the word that it is based on credible input from hundreds of professionals who've worked on these guidelines for many years.

Ultimately, It's my view that implementing the standard in our own practices will help us all become more efficient and professional and that this knowledge will help us establish and maintain our rightful place at the design table with other architecture/engineering/construction professionals. To that end, let's dig in and take a closer look at one of the prime topics covered in the NCS – that is, the CAD Layer Guidelines.

This chapter in the NCS was developed by the AIA starting in 1990 to improve the interoperability of electronic CAD files – the goal being to standardize the layer-naming scheme and layer contents so that files exchanged between consultants could be efficiently managed. The architects' association continues to lead in developing these standards, but the NCS also briefly covers an International Standards Organization (ISO) Standard that suggests a slightly different but compatible scheme in a way that bridges the conceptual gaps.

Before I explain this layering scheme, let me address hand drafters by defining what a *layer* is. In effect, CAD layers are analogous to those physiology texts where sheets of clear plastic are covered with representations of different muscles, organs and bones and are peeled back one by one to get down to the basic structures hidden below. CAD systems are like that, but there are *unlimited* numbers of available layers for any given drawing – and those layers can be turned on and off in any order at any time.

A Layered Reality

The trouble with these multiple CAD layers is that designers tend to use a lot of them in whatever ways we choose and for our own purposes.

Executing this large, palapa-covered kitchen/dining area was a uniquely complicated process involving several design and construction disciplines. If we hadn't all been working with a shared, standard approach to CAD representations, there is simply no way we all could have collaborated as effectively as we did without extreme difficulty.

I keep my engineering stamp in a specific layer, for example, that is turned off until the plans are ready for a wet signature. I use other layers to control specific line weights (such as 0.65 mm), colors and screens (such as 25% of black), while others are used to determine which objects are present on a specific sheet (such as a layout plan that includes dimensions but no plumbing or a plumbing plan that includes every pipe but only a few critical dimensions).

On a simple project with only one designer, the specifics of the layering scheme are of little importance, but many of our projects involve multiple consultants. In these cases, frustration develops quickly when another member of the team receives a CAD file via e-mail but can't figure out how to sort through the layers. And it gets even more confusing when the CAD files link to other poorly organized CAD files.

In this real world, for example, it's not uncommon for us to open a single CAD file from one of our clients and find out that there are four or five other CAD files referenced into the one we've opened, everything from a topographical file or architect's base file to the landscape architect's base file or a utilities file from the Civil Engineer.

Helpfully, the CAD Layer Guidelines in the NCS organize layers in two ways, first with a specific naming scheme and then with a long list of predefined layer names that follow that naming scheme. In a nutshell, this layer naming scheme is summarized as DO-MAJR-MINR-MINR-S, where D is the Discipline designator, O is the Optional modifier for the discipline designator, MAJR is a Major group, MINR is a Minor groups (either 1 or 2) and S signifies Status.

The discipline designator (D) defines the category of the layer contents using NCS-specified terms. P, for example, designates Plumbing and E indicates Electrical and so on. There is no specific designator as yet for watershapes, perhaps because none was considered but just as likely because the standard writers saw watershaping as being comprised of elements from many different disciplines.

Parsing the System

At this point, I do not recommend that watershapers worry about splitting their construction drawings into those many predefined disciplines, if only to avoid confusion in the permit process and the additional confusion that would arise when the drawings are integrated into larger sets of plans in which other disciplines are addressed by consultants beyond the watershaper's control.

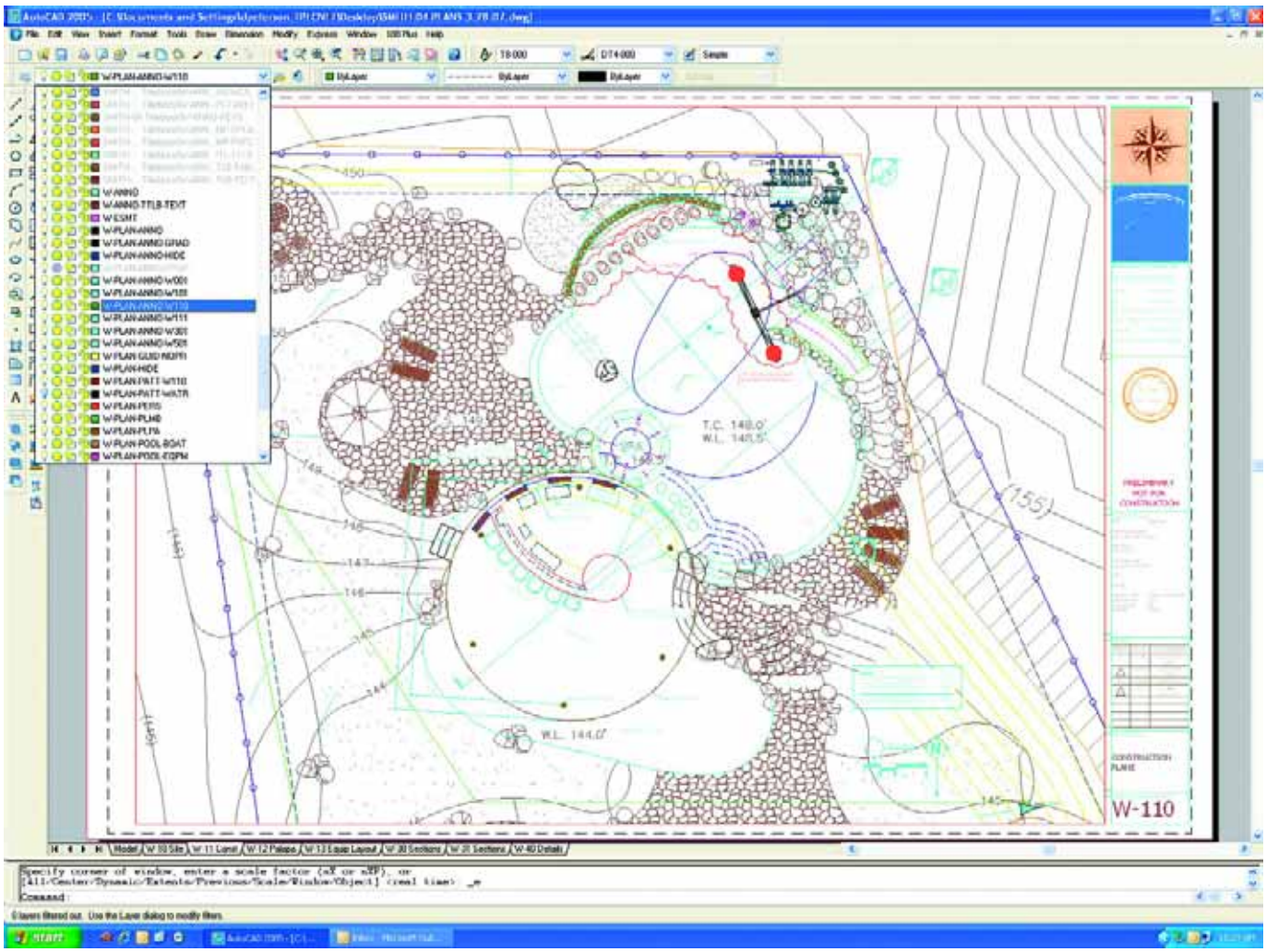
Instead, allow me to suggest that watershapers take over the letter W as their single discipline designator. It's already been assigned to "Civil Works" by the NCS, but the standard also uses C for "Civil Engineering" and says the difference is that C applies to projects occurring within a single property boundary while W refers to larger-scale projects such as highways or canals that cross multiple property boundaries.

My thought here is that W would be a safe choice: It would be a rare situation where anyone would use the W designator and even more rare that the same project would include work by a watershaper!

There's also a possibility of lumping watershapes into the L classification, where landscape work is isolated. This makes a certain amount of sense given that most watershapes are considered as landscape components, but in my own experience I've seen too much possibility of confusion: Half of my firm's work is in support of landscape architects on large commercial jobs, and most of them use L as the prefix in their layering schemes. If both landscape architects and watershapers were to use this designator, we could easily lose track of who created the layer and the information.

The next element in the layer name is the Optional modifier. This classification is used to create subcategories in each of the disciplines, including D for "Demolition," F for "Finishes" and so on. Depending on the specific project, we have used WS to represent "Watershape Structure," for example, and WP to signify our "Watershape Plumbing" layers.

Then comes the Major Group, a four-character field that defines major elements of the project. For example, PLAN is used for floor plans and ESMT represents easements – all quite logical and straightforward. But the NCS is rigid on this point: There are, it states, no user-definable Major



On an active screen, the CAD standards guide us to create successive, defined layers in our documentation, with each layer color-coded so that individual details can be worked on separately before changes are reflected throughout all unlocked layers of the document. Once all the involved disciplines have completed their reviews, final construction documents are ready for circulation among building officials, contractors and subcontractors.

Groups, and the designer is strictly limited to use only the predefined groupings. While there are several I personally would like to define, few of the published, allowable terms are used by watershapers. Perhaps this will change in upcoming versions, but for now all we can do is use the Minor Groups to define new categories.

The Minor Group is an optional four-character field used to break down the Major Groups into infinitely categorized layers as needed to organize given sets of drawing layers. In our practice, for example, we use the group POOL to define certain aspects of the pool – as opposed to RTWL for retaining walls and footings. There's also a second Minor-Group option that lets us get even more specific. We, for example, use BOND to separate bond-beam information from bench information and fully enjoy the degree of flexibility this allows.

Finally, the Status code is an optional character that defines the status of the work or the construction phase for a given layer. There are seven specific letter codes to be used here along with the digits 1 through 9. The status code F, for example, denotes "Future Work."

A Structured Approach

To put this pile of information in a practical context, let's consider the following example of a complete layer name found in our company's drawings – that is, W-PLAN-POOL-WATR.

When I open a CAD file drawn by one of our designers, I know this layer will have a polyline representing the edges of water for the project's pools, spas and waterfeatures. I know I can double-click that line to get the perimeter length and surface area with confidence that it is correct.

Now, when the architect or some other member of the design team sends us

a revised CAD file and the pool shape has *changed*, we can quickly validate the accuracy of our plan and its measurements. And when we readjust the pool shape to address a code issue or for structural reasons, the architect can see that change by referencing our CAD file back to their base.

That all may seem complicated, but believe me, the hassles encountered at this level are nothing compared to sorting out the differences, disputes and disagreements when non-standardized plans pass back and forth among members of a design team who each have their own ways of doing things.

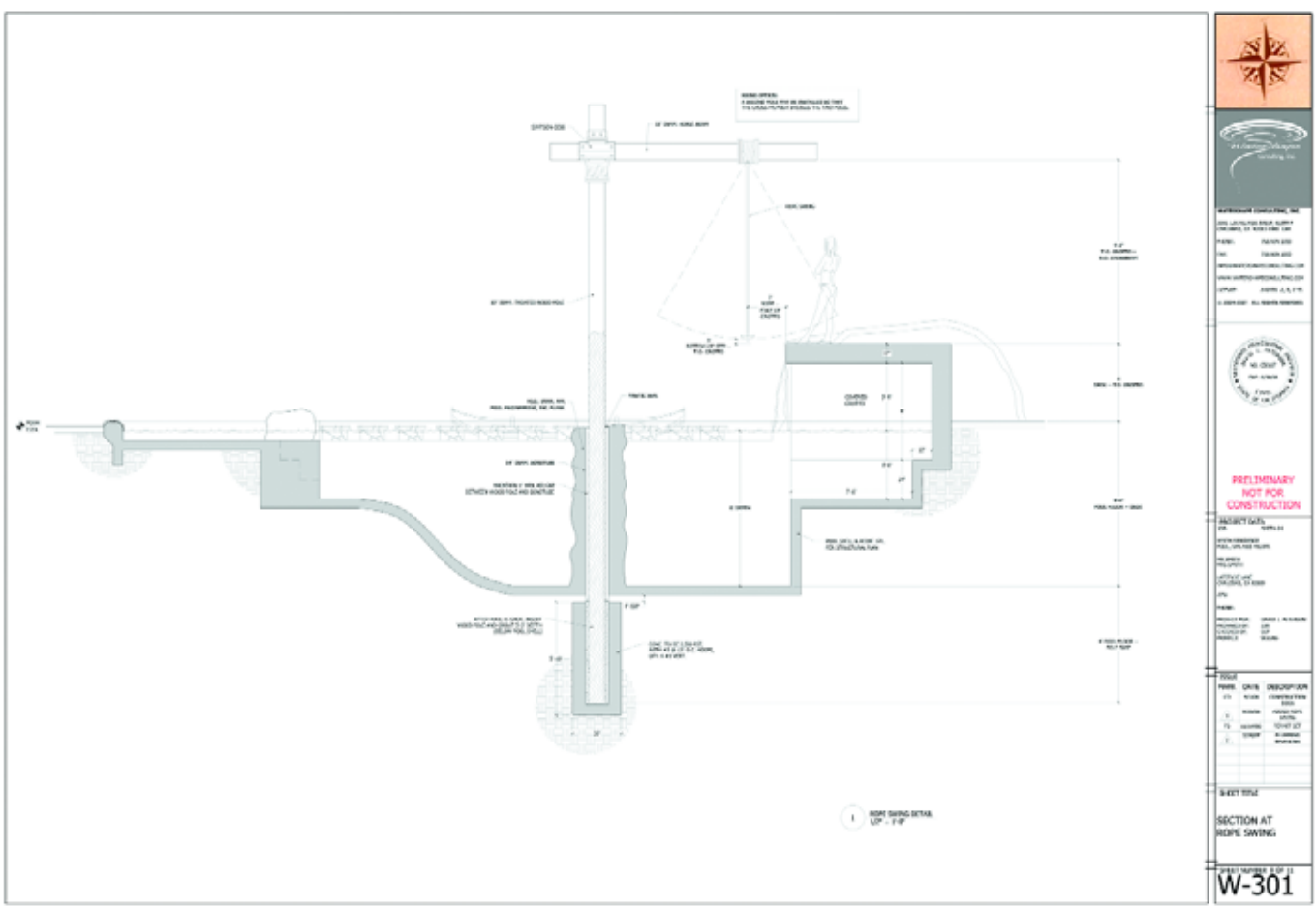
Reaching beyond this layer-naming scheme, the NCS also attempts to list specific layers commonly found in construction drawings. To that end, there are 76 pages of suggested layer names organized by discipline designator, but it's my sense that few of these will ever be used by most watershapers.

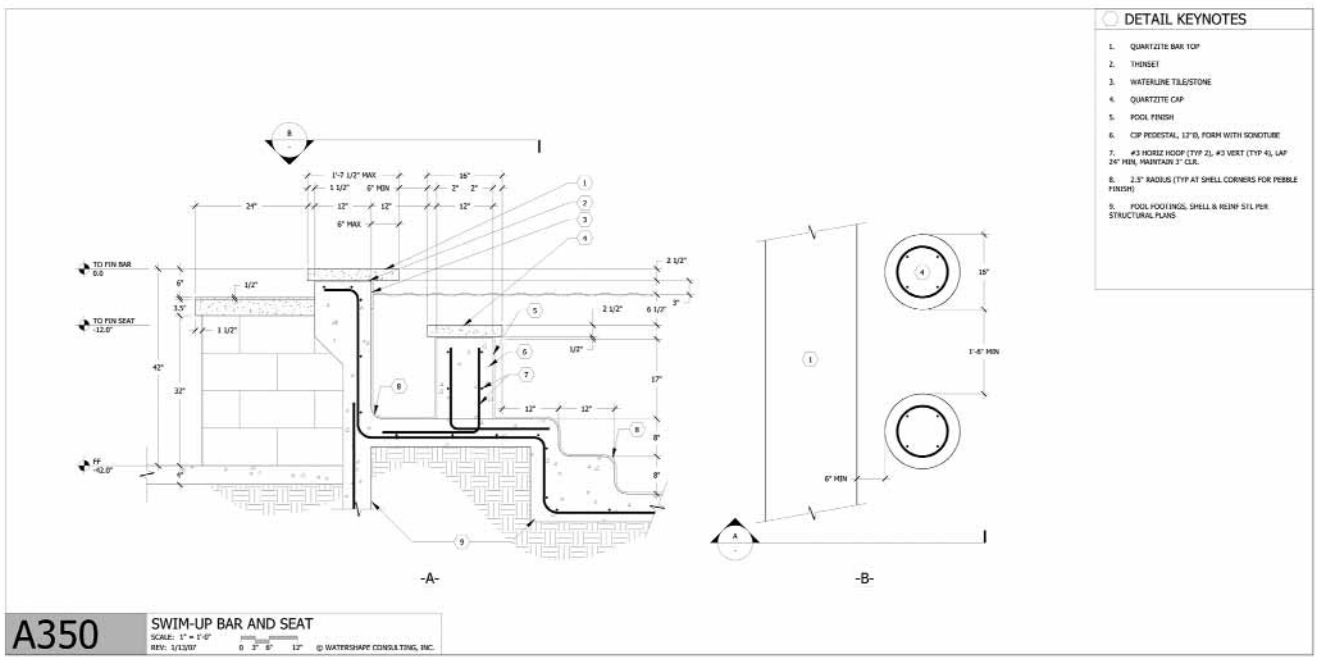
To implement such a system in any CAD-using operation, I suggest that designers who use these systems should spend a couple hours setting up a "starter file" with a base of key layers, defined lineweights and colors so that the layers are consistent from one project to the next. Even this measure of consistency will improve efficiency and drawing accuracy, save time in set-ups and open more time for work that really counts.

In my shop, for example, we recently completed design, engineering and construction for a complicated project that benefited from the exchange of CAD files among many consultants. These plans were complicated: First, the one-acre lot is intersected by deed-restricted zones that could not be touched for environmental-protection reasons. Second, the project called for a large palapa-covered kitchen and dining area that required positional setbacks from the property lines for fire-suppression purposes.

Practical Progress

Those two governing factors, when combined with many elevation challenges and a need to balance cut-and-fill on the site, made critical collaboration among several disciplines the key to project success. Without a standard approach to CAD representations, my suspicion is that the exchange of information among various consultants would have been extremely burdensome





This detail reveals the way in which we dealt with the various elevations and intersections having to do with the decks, pool, and pond – a remarkably complicated process made much easier by the fact that all of us involved in the project could easily see and accommodate what was happening as the design process moved forward and gained refinement.

– if not completely impossible.

Our firm handled the grading plans, utility-improvement plans and the design of the palapa and a set of watershapes that included a pool, a spa, a slide, a grotto and a pond beneath the palapa's deck. All of this was for clients who wanted a backyard that would look like the Grand Wailea Resort on Maui – their favorite vacation destination.

We tackled the design by merging the grading plans we developed with the architect's house plans and the surveyor's topographical CAD file, using those background files to analyze views and optimize spatial relationships among key design elements. After establishing a base plan of the watershapes and palapa that included detailed elevations, we forwarded the file to the landscape architect for completion of the design of the surrounding areas. Once he had completed his plans, the files were sent back to us to address minor coordination issues; next, they moved along to the surveyor, who laid out key elements of the yard, and to the landscape contractor, who started at the same time work began on the watershapes and the 10,000-square-foot house.

The detail shown above ultimately was used to coordinate the many elevations and dimensions that link the pool's swim-up bar to the kitchen within the palapa – factors that reach far beyond those specific details to influence decking, stairs and positioning of the pond beneath the palapa. (In a future article, I'll get into specifics of how this sort of detail comes together.)

The result of all this effort was a coordinated set of construction drawings that accurately defined every element so that we could build the pool at the same time the landscape contractor worked on the surrounding areas without any conflicts or coordination problems in the field.

That's where we've found the greatest benefits of standardization: By imposing a truly integrated sense of organization on projects from the planning stage forward, observance of the standards has opened our projects to clear communication and an unmatched level of efficiency in the field, where it matters most.

Next time: We'll look at two more fundamental components of the NCS – how drawing sheets are indexed and how the information on those sheets is organized using CSI's Uniform Drawing System.

Of all the remarkable things about this project, the one that stands out most is the fact that, once the construction drawings were ready, it was possible for us to build the watershapes at the same time other contractors were working alongside us on site. This level of integration and organization was truly helpful – and it was all made possible by a standardized approach we agreed to use with our CAD files.

Pick Up a Copy

The National CAD Standard can be purchased at the online stores of the National Institute of Building Sciences (NIBS – www.nibs.org), the American Institute of Architects (AIA www.aia.org) and the Construction Specifications Institute (CSI – www.csinet.org), among others.

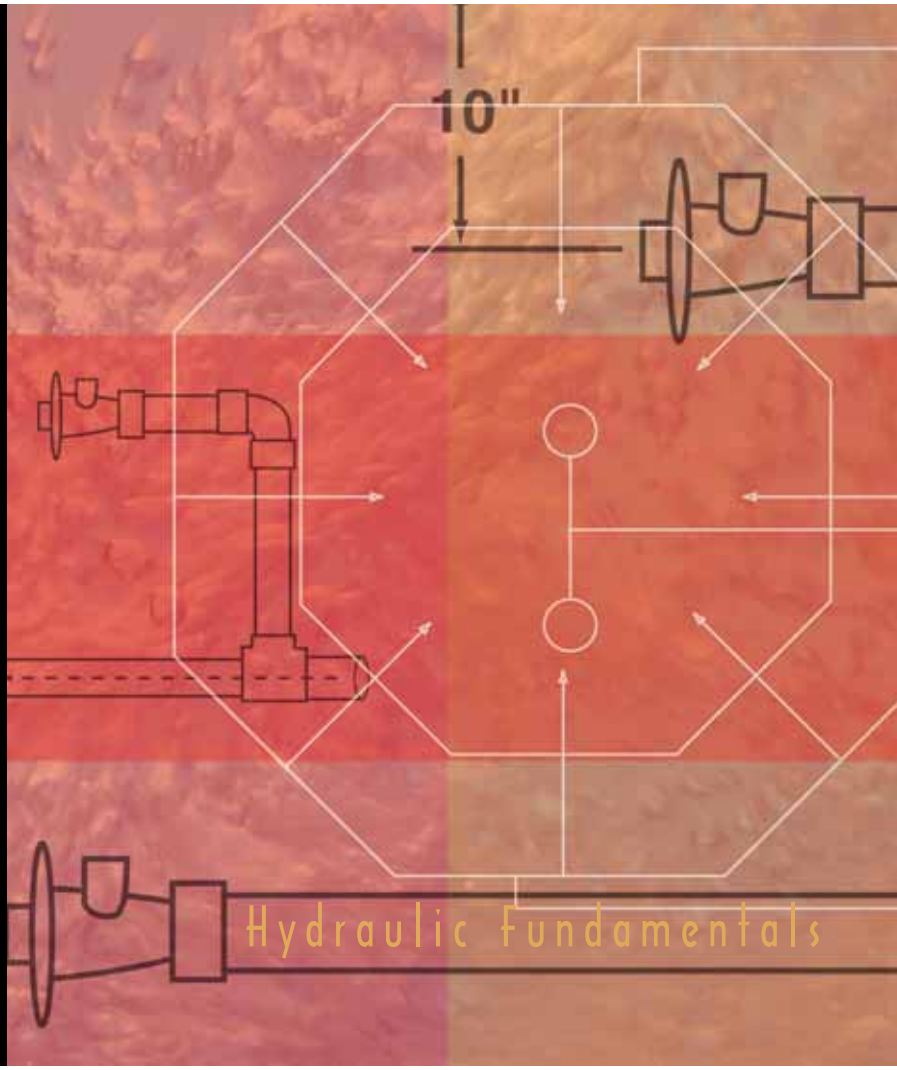
The cost is approximately $350, but membership in one of the sponsoring organizations will save you about $100. The current standard is Version 3.1; Version 4.0 has been approved and should be available by the time this article reaches print.

– D.P.

Motive Power

By Steve Gutai

At the heart of almost every watershape system, says hydraulics expert Steve Gutai, is a motor that drives a pump of some kind. Understanding a few key points about that motor is essential if your goal is maximizing a watershape's energy efficiency and ensuring its proper hydraulic performance, he adds, highlighting a connection that opens a key sequence of articles on equipment selection.



Designing watershapes of any sort is becoming more and more challenging every day.

Where not all that long ago consumers were happy if a pool or spa or fountain or pond simply looked good and operated reliably, there's a new generation of consumers who are much more interested in how these vessels are built and, more specifically, in knowing about how energy efficient they are.

This trend is being driven on the one hand by the inevitability of rising utility rates and on the other by legislation such as California's Appliance Efficiency Code (Title 20) – a rule that's attracting the attention of code writers across the country because of the overwhelming importance these days of reducing energy consumption.

With that backdrop, this article takes a look at a watershape's main energy consumer and the most basic of all its many components – that is, the motor that drives the hydraulic pump and thereby moves water through the system. We'll start with a look at basic motor types and technologies in this piece; next time, we'll dig into practical and appropriate applications of these devices.

BASIC PHYSICS

It will come as no surprise to anyone who has read my articles in *WaterShapes* through the years that I'm a firm believer that equipment choices related to watershapes of all kinds should always be determined by the hydraulic requirements of the job – with an eye, of course, on project economics.

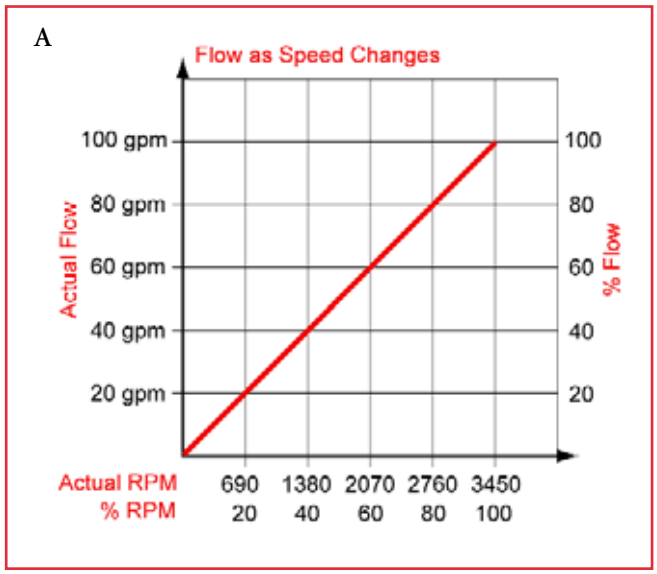
With motors, however, there's an additional point to be considered: As electrical devices, they are a key determining factor when it comes to a system's overall energy consumption, meaning we must also consider them in light of the degree of energy reduction we're trying to achieve for our clients.

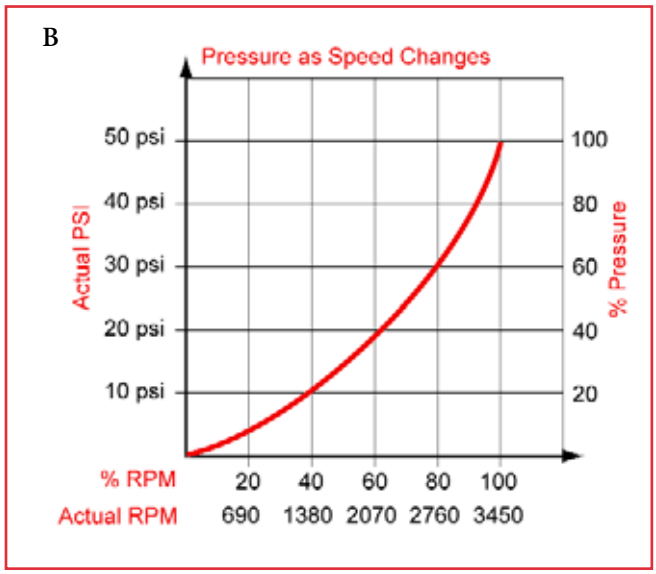
To evaluate this point effectively, we need to know something about motor technology, but we also need to be aware of the physics involved in the way motors consume energy and familiar on some level with the Affinity Law, which defines the relationships among the motor shaft's rotation, the flow of water, head pressure and power consumption.

This Affinity Law is, in fact, the core concept behind the science of motor speed and energy consumption. It states that the relationship between a shaft's revolutions per minute (rpm) and water flow is uniform – that is, a motor generating a flow of 100 gallons per minute (gpm) 3,450 rpm will generate half that flow (50 gpm) if the shaft's rate of rotation is reduced by 50 percent to 1,725 rpm.

(It is important, of course, to note that these relationships are theoretical: They do not take motor or pump losses of efficiency into account, but those are topics for a different discussion.)

Continuing with the Affinity Law, the relationship between *head* and shaft rpm is different: If the motor drops 50 per-





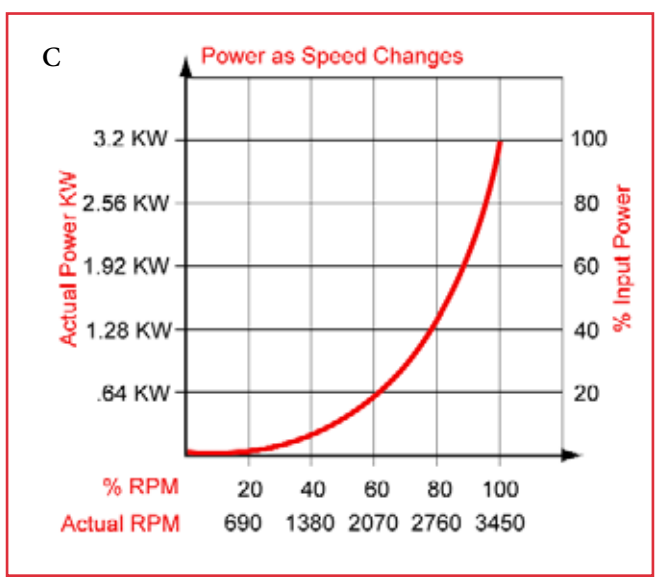


Figure 1: Charting the Affinity Law for flow vs. rotation speed (A), pressure vs. rotation speed (B) and power consumption vs. rotation speed (C). (*Note:* These charts illustrate the Affinity Law as applied to three different sized/horsepower motor/pump combinations.)

cent from 3,450 to 1,725 rpm, instead of dropping by half (as did flow), pressure actually drops by 75 percent, falling from 60 feet of head all the way down to 15 feet – just a quarter of the original pressure/head relationship.

Where things get truly interesting (at least in discussions of energy efficiency) is that the relationship of shaft rotation to *power consumption* involves an even more pronounced difference – that is, if the shaft rotation drops from 3,450 to 1,725 rpm, the motor's energy draw drops to just one-eighth of the original consumption level – a drop of nearly 88 percent! That's a huge difference, and it's no wonder we're all being forced to pay attention to these relationships as never before.

Bottom line, this last relationship is why the industry is pursuing multi- and variable-speed motor technology so diligently: The single-speed pumps we've used for generations all turn in a band of rates around 3,450 rpm in the high range of energy consumption, while multi- or variable-speed pumps offer obvious opportunities for energy savings based on the fact that they perform their functions at lower rotational rates. (See Figure 1 for a full charting of the Affinity Law relationships.)

MOTOR TYPES

If you take nothing else from this discussion, it's that the decisions you make about motors are important – despite the fact that most of us grew up in the watershaping industry thinking of them as an adjunct product a supplier attached to the dry ends of their pumps as interchangeable commodities.

Those days are gone, and if your clients are as interested as I know they are in energy efficiency, you need to apply almost as much care to motor selection as you do to your options among other system components. To arm you with the information you need to make the right choices, let's review basic motor types and define how they fit into the energy scheme of things.

Single-speed motors: As mentioned above, these devices have been at the heart of circulation systems as long as there have been water-recirculating vessels, and they remain the most common type of motor used to this day. Nowadays, however, they're available in two forms: There's a "standard" model, which is the basic, old-school technology, and a "high-efficiency" model. The latter features a higher "power factor," using a lower amp draw and thereby creating slightly higher efficiency through lower power consumption: When attached to a pump, in other words, these motors produce more flow in gallons per minute per unit of power consumption.

In either form, these motors are still in high use because of their low cost, wide availability and smaller fixed-plumbing sizes – especially in systems where constant-flow requirements make them particularly suitable. They operate at a single rotation speed of around 3,450 rpm and, once the motor gets the attached pump impeller up to speed, maintains that level as long

Figure 2: A typical AC Motor.

as it draws on an electrical current. That level is called the pump/motor's *operating point* – usually somewhere between 3,300 and 3,600 rpm.

In basic electrical-design terms, these devices are known as alternating-current (AC) induction motors and can be single- or three-phase (Figure 2). The higher-efficiency types of single-phase motors are "permanent split capacitor" (PSC) and "cap start/cap run" (CSCR) motors. Both designs maximize efficiency, but a PSC motor is switchless and has a capacitor in the run windings, while a CSCR motor has a capacitor in the start *and* run windings and is characterized by having a higher start-up torque. By contrast, three-phase motors do not use capacitors in the start or run portion of the circuits.

As mentioned above, these motors are at their best when used to operate systems at fixed speeds – that is, with laminar jets, as booster pumps for spas or pressure-side cleaning systems or as the driving force behind vanishing edges. Their primary disadvantage is also their fixed speed: You can't adjust them to customize flow rates unless valves are used and as a result they can be relatively energy inefficient and costly to run.

Two-speed motors: These are also AC induction motors and, like their single-speed cousins, are single-phase devices running with PSC and CSCR designs. These motors are not currently available in three-phase models, but they nonetheless have the advantage over single-speed models of being operable at two fixed speeds.

Once the motor powers up its attached pump, the hydraulic system can run at either a high (3,450 rpm) or low (1,725 rpm) flow rate. The real benefit to running at low speed is the fact that you can take advantage of the Affinity Law discussed earlier: A two-speed pump can run at half the flow rate for twice as long and *still* save a significant amount of energy (Table I).

At high speed, for example, a turnover rate of 100 gpm for six hours can be achieved in low speed by the same pump at a rate of 50 gpm for 12 hours and save in the range from 10 to 30 percent in terms of energy consumption. This allows two-speed pumps to comply with California's Appliance Efficiency Code (Title 20) as multi-speed pumps.

These motors have all the advantages of single-speed motors with respect to cost, availability and fixed plumbing sizes, but they have the obvious additional advantage of having two speeds – one with a relatively high energy-consumption profile and the other at about one-eighth that level that can translate into as much as a 65 percent savings on energy. In a typical application, a swimming pool might have to be run twice as long to achieve a desired turnover at the lower speed, but with the energy efficiency defined by the Affinity Law, it *still* results in a savings of approximately 10 to 30 percent.

The main disadvantage with two-speed pumps is the lack of ability to adjust them to achieve custom flows. In other words, they offer two fixed speeds and that's it. Also, there is a drop in relative efficiency (or power factor) at the low speed – something motor manufacturers are currently working on to increase overall efficiency.

On the legislative front, it's worth noting that the use of two-speed motors is mandated by Title 20 of the California Building Code – and it is likely this requirement will catch on nationwide with respect to watershapes' primary circulation/filtration motors. The way the code is written, however, you'll still be able to use single-speed motors in booster-pump applications for any purpose.

Variable-Drive/Multiple-Speed Motors: Although these units have been in use for decades in various industrial applications, they are relatively new to the watershaping realm. There are typically two types of systems offered, each of which has two basic components: the motor and the electronics used to change the speed.

The first type – the variable-frequency drive (VFD) – includes an electronics package attached to a three-phase induction motor that changes its speed by varying the input power and its frequency. The second type adds what is known as a pulse-width modulator (PWM) to the VFD. Here, in addition to having the ability to change the motor's speed by changing the frequency, the PWM also rectifies the incoming AC

Table I: Charting of the proportional relationships defined by the Affinity Law.

	High Speed	Low Speed
Shaft rpm	3,450	1,725
Flow	100%	50% (1/2)
Head	100%	25% (1/4)
Power Consumption	100%	12.5% (1/8)

A.O.SMITH

eMod®

A. O. Smith eMod®

SVRS

SVRS Approved

A. O. Smith eMod passes the ASME A112.19.17 SVRS standard.*

ASME A112.19.17-2002 SVRS (Safety Vacuum Release System) Compliant

- Full body entrapment release protection
- Compatible with all flow rates
- Available on motors up to 3 horsepower, both single and two speed

Easy Installation

- Self calibrates, no field calibration required
- A better pump system by simply replacing the pool motor
- Meets the legal requirement for safety vacuum release system (SVRS).

A.O.SMITH
ELECTRICAL PRODUCTS COMPANY

A DIVISION OF A. O. SMITH CORPORATION

www.aosmithmotors.com/eMod

531 N. Fourth St. • Tipp City, OH 45371 • Tel: (937) 667-2431 • Fax: (937) 667-5030

Contact the A. O. Smith eMod Technical Hotline at (866) 567-3879 for Any Questions or Additional Information

** eMod will not prevent evisceration, hair, object, or partial limb entrapment and is designed for suction lift applications.*

Circle 114 on Postage Free Card

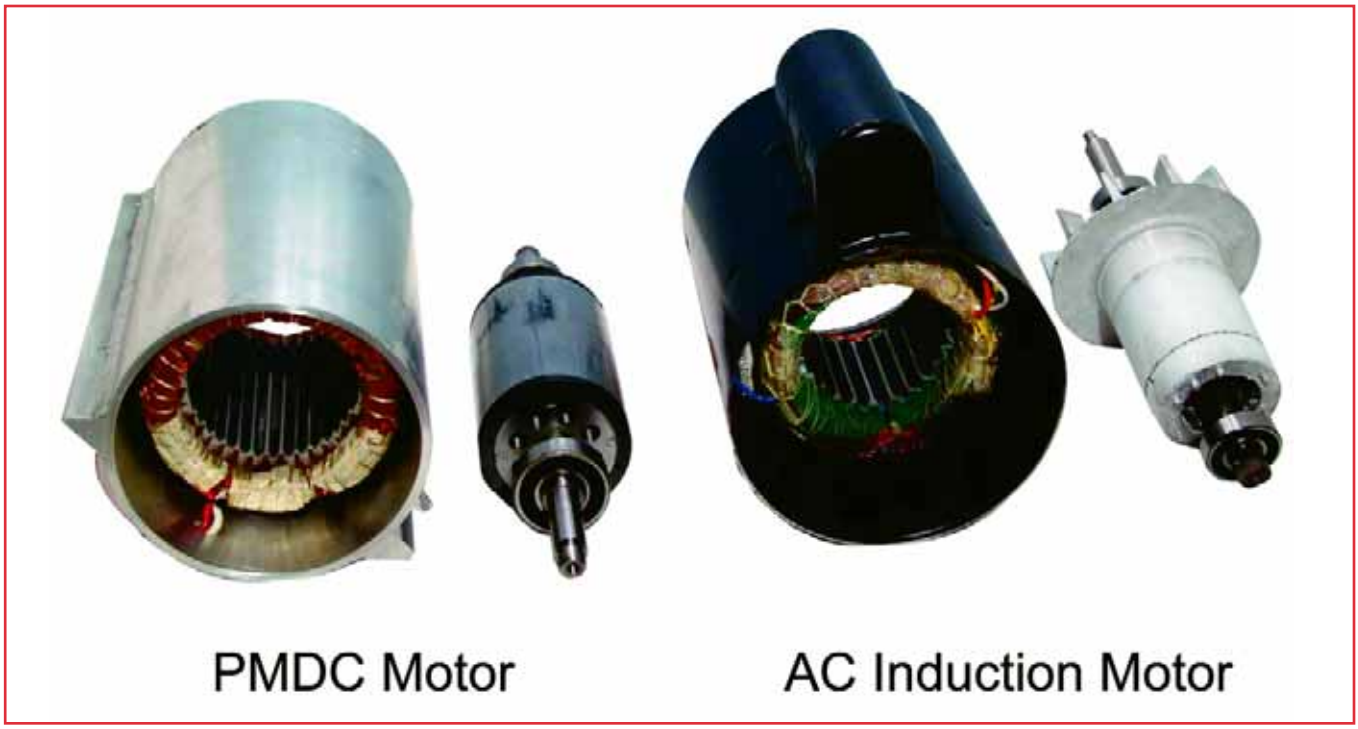


Figure 3: Internal views of a PMDC motor (at left) and an AC induction motor (at right).

voltage, giving the drive the ability to vary the speed of a permanent-magnet DC motor.

Three-phase AC motors typically have high power factors and efficiency, but they require a magnetizing current. By contrast, a permanent-magnet DC (PMDC) motor does not require that current, so it offers higher efficiency and power factors over a wide range of motor-shaft rotation rates (Figure 3). Moreover, PMDC motors are also available with totally enclosed, fan-cooled (TEFC) technology, which adds to motor life by managing heat and sealing the motor against moisture.

In either case, the drives allow for adjustment of the rotation rate of the motor between one and 3,450 rpm (with 400 rpm constituting the functional low end for most applications). This offers advantages in your ability to make custom adjustments to flow and lowers energy consumption by allowing motors to run in lower shaft-rpm ranges – big news when it comes to working effectively with the Affinity Law (Table II).

Indeed, when these motors are used in conjunction with properly designed hydraulic systems in appropriate applications, the cost savings can be dramatic. Those benefits come with a downside, however, in the higher initial cost of the pump and controller and the added cost of the larger plumbing required by the oversized drive.

◗ **Load-Sensing Motors:** This is one of the newest technologies in the marketplace. Typically, load-sensing motors do two things: They either correct flow or can be used as suction-vacuum release systems (SVRS).

Flow correction occurs when the pump holds a fixed flow rate as the system curve changes. By contrast, an SVRS has the sole purpose of preventing suction entrapment by sensing dramatic changes in vacuum level and shutting off the system in response. By law, all SVRS units must comply with the

Table II: Applying the Affinity Law to multi- and variable-speed devices.

Speed (rpm)	Flow (gpm)	Head (feet)	Power (kw)
3,450	100	60	2.2
2,800	81	40	1.2
1,725	50	15	.54
1,000	29	5	.26
600	17	2	.12

ANSI/ASME A1.12 19.17 standards – an important point to ascertain before applying one of these systems.

Although their manufacturers have been vocal about the risks of suction entrapment and see their products as the only solution to the problem, there are many in the industry who counter that the combined use of proper flow rates, split main drains and anti-vortex drain covers is a more reliable approach.

APPLIED TECHNOLOGY

Before we move on to the next article in this series and cover the specifics of motor and pump selection, let me end this one by amplifying a key point: When approaching the choice of motors and pumps, it's important to consider not only the constraints of line velocity and the equipment you need to drive water at the desired rate, but also the basic compatibility of the components at hand.

This is a factor to which we'll return time and time again as this sequence of articles unfolds in the year to come. In that context, selecting appropriate motor/pump technology will become a relatively simple process for a wide range of hydraulic systems including (with swimming pools and spas, for example) the primary filtration array, a spa's booster system, an automatic or in-floor pool cleaner, a solar heater and various water-in-transit effects including vanishing edges and perimeter overflows.

At the same time, it's important to note that there are no automatic or blanket choices here: No single motor type will be the right choice for all applications, so as you move into the selection stage, you need to be aware that your choices should be driven less by habit or familiarity than by the specifics of the hydraulic applications and the economics of the tasks at hand.

It takes some insight, but once you know which factors to weigh, it all becomes clearer.

> With motors there's an additional point to be considered: As electrical devices, they are a key determining factor when it comes to a system's overall energy consumption, meaning we must also consider them in light of the degree of energy reduction we're trying to achieve for our clients.

The author gratefully acknowledges the assistance of Howard Richardson, Director of Pump Product Engineering for A.O. Smith (Tipp City, Ohio), in preparation of this article.

Falling Arches

By Rick Pendleton

Watershape designer and installer Rick Pendleton is passionate about using watershapes and landscapes in executing designs uniquely inspired by given settings and the personalities of his clients. In the project covered here, for example, he took a cue or two from the homeowners, borrowed a motif he found in the home's architecture and combined them with a top-flight approach to construction in delivering the unique look his clients craved.

For me, hitting the high notes in watershaping and landscape design is a product of careful observation, boundless imagination and detailed visualization. These factors drive the design process, after which I transition into the more practical phases of the project with reliable engineering and quality construction.

The early, creative phases can definitely be tricky, because they require many of my clients to take great leaps of faith, especially when what they're after is a highly customized environment – something truly *unique*.

In those cases, we're aware that we at Artisan Home Resorts (San Jose, Calif.) are asking clients to visualize something nobody's ever seen before: No matter how well we represent our ideas on paper or on a computer screen, the outcome will, to a certain degree, remain an abstraction until everything is finished and working.

When everything finally comes together (as we believe it did in the project illustrated in this feature), a vision is realized and the payoff can be extremely rewarding, both for the clients and for those of us who worked hard to see the process through. Here as in few other projects we've done, however, even *we* weren't precisely sure how things would look until we fired up the system for the very first time.

Classic Meets Modern

The property is located in an upscale neighborhood just outside Fresno, Calif. – a bucolic setting with rolling hills and beautiful Live Oaks, rock formations and creeks that wind their ways through an ancient landscape, all with the majestic Sierra Nevada mountains looming in the distance.

The 5,000-square-foot house sits on five acres and was about three years old when we arrived. The architecture was basically modern, but I detected a number of classic touches. I also noticed that the surrounding homes, although upscale, included very few yards that had gone beyond the development's initial detailing; indeed, there were few of what I would call "customized landscapes" of the sort associated elsewhere with affluence and luxury.

The clients wanted to jump out of that rut. They came to me through a referral from a common friend, and right from the start told me they wanted an environment that would be perceived as distinctive – something that would have a resort-like elegance and echo the blend of modernism and classicism seen in the home's design.

It was clear from the start that they had the space and the wherewithal to get what they wanted. They also knew what they *didn't* want: They didn't want the pool and the landscape to compete with the natural setting, so any sort of naturalistic design with rocks, streams and waterfalls was out of the question. They also didn't want anything boring: They were after a built environment that made a statement that would complement the setting – perhaps something, they suggested, that would contrast subtly with the natural setting, such as structures with vertical profiles?

As is the case with many designers, I began the process by listening carefully to what the clients were saying and by looking for clues in the home to find out what made everything tick. Right there at the front door was a dramatic set of columns that framed the view from the threshold over to large windows that opened onto

Photos by Garrison Wu, Wu Photography, Sunnyvale, Calif.

the rear yard.

Quite frequently, I find the key to my designs by linking interior details such as this one to the work I'll do outdoors. It's a simple way to generate the sense that the home is one with its landscape and creates a perception that the outdoor "living area" is fully integrated into the home's design – a concept that clearly had potential in this case.

So I made several notes and returned to my studio, where I began formulating ideas that would take into account the general design program the clients had outlined. Given the setting, the home and their preferences, I immediately headed toward ideas of a certain grandeur, a certain drama – and I kept coming back to those columns behind the front doorway.

The structure rises like an ancient ruin, and some of the walls are decorated with classically inspired mosaics with beautifully arching forms, but it's equipped to move into the 21st Century whenever the homeowners actuate the controls and make the water flow.

Over and Outward

Before long, I was thinking of *arches*.

I've always been intrigued by the sort of ruined structures you see in Italy, Greece and elsewhere around the Mediterranean, especially where landscapes are defined by freestanding columns that support arches – as in the ruins of ancient aqueducts. My thought here was to design a structure that suggested that kind of classical impression without copying any one source in particular.

As my thinking progressed, I eventually lit on a set of four columns at eight-foot intervals supporting a trio of arches that would rise to a combined height of 15 feet above a geometric swimming pool we'd place in the foreground.

The clients had also signaled a desire

Through Good Times and Bad, The Smart Choice Since 1956

DISCOUNT TO NPC MEMBERS!

Our new PTO driven hydraulic mixer and pump – smarter than ever!

- Both pump and mixer run off truck's PTO
- Pump and mixer both have REVERSE
- All mixer controls clustered for fingertip operation
- 16 cu. ft. mixer mixes batches faster and better
- Wear parts easy to get at and work on
- Optional wireless remote

WE ALSO SELL TOOLS!

Big Inventory, Same Day Shipping!

Hoses, Nozzles, Fittings, Trowels, Step Tools, Spike Plates, Brushes, Spray Wands, Booster Pumps, Boots, Gloves and more!

For more than 50 years we've been leading the industry with innovations starting with the first pool plastering truck. Maybe that's why some of the biggest pool plasterers in America standardize on our equipment. Maybe that's why we've been Putzmeister's Dealer of the Year.

We sell complete packages: pumps and mixers on trailers or trucks. We service all pumps and mixers, sell parts for most pumps and mixers and a variety of tools.

See us at Booth #1036 at the Int'l Pool & Spa Expo in Orlando, FL

MACALITE EQUIPMENT, INC.

www.macaliteequipment.com

1-877-MACALITE

4510 East Kerby Avenue • Phoenix, AZ 85040

(480) 967-0770 • FAX: (480) 967-7050

National Plasterer's NPC COUNCIL — We have supported NPC members for over a decade!

Circle 63 on Postage Free Card

for moving water as part of the environment, so I began to think about rigging the arches with arrays of nozzles that would create delicate curtains of water. This would serve the dual purpose of generating the soothing sounds of falling water while at the same time it would draw attention to the arches and the views beyond.

From that point forward, other components of the watershapes soon fell into place, including a geometric pool with all sorts of internal contours dedicated to a variety of purposes (including steps leading to a raised area behind the arches). Next there was an expanse of stone decking, and then a fractured, ruin-like wall behind the arches through which a creek would flow into the pool. All of this was to be visible from the house with a slightly off-axis view so that the new structures wouldn't interfere directly with the distant views.

I worked up some sketches and shared what I had with the clients. They offered a few suggestions but by and large loved what they saw, so we moved forward. Now it was time to engineer the design, procure the materials we had discussed and plan the construction process.

The biggest challenge came, not surprisingly, in designing and engineering the column/arch structure.

Right As Rain

As specified, the columns were to surmount pilasters in the deep end of the pool.

The pilasters were made with galvanized steel I-beams that we tied into footings at their bases. For their part, the columns and arches were fabricated from pre-cast concrete finished to resemble sandstone. (These were expertly manufactured to extremely low tolerances by the staff at Architectural Façades in Gilroy, Calif.) The entire composition is designed to withstand seismic loads as well as high winds.

The rain-jet arrays were produced by the Los Angeles-based firm, Fountain Supply Co. I've worked with them a number of times and know they are familiar with this sort of large-scale, custom project. Each arch has 84 hidden nozzles as well as concealed, low-voltage lighting fixtures along with the requisite conduits, plumbing runs and manifolds.

Whether seen at sunrise, at the height of day or in the evening, the arches' rain curtains lend a special quality to the space – a sense of delicate motion paired with a gently splashing sound that transforms and softens the arches, making them much more than a simple architectural statement.

The need for precision with the column/arch fabrication came from the fact that these features needed to line up exactly with the supporting pilasters. Architectural Façades did its part with the former, while we attended to the latter on site. But even with all our planning and preparation, I have to concede there were some tense moments as the various pieces were being craned into place. It all fit perfectly, but we were all supremely aware that any dimensional error would have resulted in a *huge* setback.

What we saw as these components took their places was dramatic and impressive – and a case study in the value of having great partners to work with in this sort of precise collaboration. It probably didn't hurt that, in coordinating everything, we kept everyone focused on the fact that absolute perfection was the goal.

Also critical was the hydraulic design of the rain effect – a process much simplified by our use of a variable-speed pump motor from Pentair Water Pool & Spa (Sanford, N.C.) – and our use of big pipes to feed the system. The layout features a four-inch return line that runs under the pool and center-feeds lines that flow to both sides of the arches.

This arrangement balances the flow to the rain jets, but it also has the effect, when the system initializes, of activating the streams from the outside in with a sort of "closing curtain" effect. The variable-speed pump motor also allows the homeowners to control the flow: everything from a soft trickle to a vigorous downpour depending on the mood they want to set.

Each arch also has seven recessed-lighting fixtures provided by BK Lighting (Madera, Calif.). These operate with dimmers – a secondary method of mood management we offered our clients for nighttime enjoyment.

Natural Transitions

The elegant look of these arches, of course, had to harmonize with the surroundings, including the swimming pool and the hardscape details.

With a coordinating nod to classicism, we finished the pool's interior with a silky, polished, pearl-white exposed ag-

gregate marked by square, randomly dispersed stone inlays. The main drain grates are made of a beautiful golden-brass alloy chosen to make a bold yet distinctly old-fashioned statement.

Beyond the water's edge, we harmonized the hardscape to the arch structure through the materials we selected, lending the decks a classical feel with a hand-cut, cantilevered coping made of an ashlar stone supplied by Peninsula Building Materials of Sunnyvale, Calif.

The decking material is a beautiful Turkish Travertine we obtained from a Los Angeles importer. The stone originated in the Scabas region and features soft honey, cream and gray tones. The skimmer lids are covered in this stone – an important touch that avoids the breaks in visual continuity invited by using plastic lids in the midst of beautiful decking materials. And we didn't grout the stonework, enhancing the suggestion that the homeowners and their guests are walking across an ancient Greek plaza.

Although it has its own Grecian air about it, the pool also includes distinctly modern touches. It's a large vessel at 50 feet long, 24 feet wide at its greatest extent and nine feet deep beneath the arches. There's also a large, shallow and thoroughly up-to-date lounging area in the end opposite of the arches that transitions into a three-and-a-half-foot-deep play area via an array of shelves, benches and steps – almost a spiral staircase that leads in and out of the pool.

(On the pool's left side is a semi-circular alcove with four bar stools. These were set up in anticipation of another project phase that will include installation of a swim-up bar and an outdoor kitchen/fire pit area.)

The four-and-a-half-foot-tall wall behind the arch is also finished in Travertine and includes a six-inch stone tile mosaic that we picked up at the waterline inside the pool. We also created a four-foot wide "crack" (centered behind the central arch) that leads the eye into the landscape behind the arches. (Eventually, Phase II will have the natural-looking stream that now flows through the gap to become a winding slide that will spill into the deep end of the pool.)

Time To Reflect

Away from the water, we dispersed 130 tons of large Bouquet Canyon Granite boulders throughout the landscape. By locating several of them in the area immediately around the deck and then placing others in strategic locations in the near distance – particularly on the slope behind the arches – we established another set of visual transitions that weave scenes in the foreground together with the mountain views in the distance. (We also used some of these boulders to conceal the equipment vault in the slope behind the arches.)

The equipment we selected is right in keeping with our company's policy of delivering excellent water quality: We see it as a means of accentuating the beauty of our designs and as a means of inviting people into the water. In this instance, we chose to treat the water with a saltwater chlorine-generating system that works in conjunction with a chemical-feeding system for trouble-free algae management, enhanced water clarity and scale prevention.

Obviously, this was a tremendously involved project and I feel fortunate to have worked with top-flight professionals in making it all come together for clients who believed in the vision from start to finish.

When it was all in place and we finally turned on the rain jets, it felt like graduation day for me: All of the visual joy that we had imagined came gently but majestically to life, and to a person we were impressed by how the effect took on different qualities at different times throughout that first day. It may be at its most spectacular at night, when the lights come into play, but it's particularly beautiful in the early morning hours, when the arches stand against the beautiful backdrop like silent sentinels in the morning mist.

Above all, it's *exactly* what the clients were after – just the sort of satisfaction we most love to deliver.

Premiere Party

Not long after the project described in the accompanying text was finished, the clients hosted a benefit dinner for the National MPS Society. (MPS is the abbreviation for Mucopolysaccharidosesis, an incurable genetic disease that causes tremendous suffering, particularly in young children.)

Attended by more than 200 guests, the entire event (including a silent auction) was held on the pool deck, with the falling water and arches serving as the backdrop for the evening. Although the gathering was about serious support of an extremely worthy cause, it was gala affair and I was gratified throughout the course of the evening to hear positive comments and praise for the home and, more particularly, our handiwork in the backyard.

It was a great way to enjoy the evening – and the fruits of lots of hard work!

– R.P.

Framed by arches that mark the home's own architecture, the pool's arches and the decks around them become a near-irresistible magnet at night, when the sight and sound of falling water have perhaps their greatest effect on the setting.

Of Interest

The following information has been provided to WaterShapes by product suppliers. To find out how to contact these companies, look for the Product Information Card located on page 76.

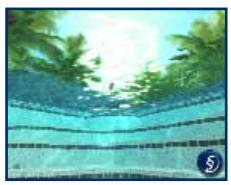
Residential Pool Pump

Circle 135 on Reader Service Card

STA-RITE has introduced the SuperMax pump. Featuring commercial-grade one- or two-speed motors from 1/2 to 2-1/2 horsepower for top performance in residential applications, the quiet, economical, easy-to-install unit has a lid that locks and unlocks with a simple quarter turn, unions that allow for drop-in installation and a thermoplastic resin exterior that withstands temperature extremes. **Sta-Rite,** Sanford, NC.

Software Upgrade

Circle 136 on Reader Service Card



STRUCTURE STUDIOS has added new features to its Pool Studio software that allow the operator to customize presentation speed – all with new 3-D visuals including underwater and light-reflection effects for sun, fire, pool and landscape lights. There's also a new file-export system that makes it easy to share and save files, screenshots and even templates from one computer to another. **Structure Studios**, Las Vegas, NV.

Waterfall Spa

Circle 137 on Reader Service Card

FOX POOL offers the WaterFall Spa – a graceful waterfall and hydrotherapy spa that also becomes a wading pool for children when outfitted with a special toddler insert. Made from high-strength textured acrylic for lasting performance, the unit comes with 25 jets at various stations for maximum hydrotherapy and is available with white or gray granite finishes to match deck and pool treatments. **Fox Pool**, York, PA.

Multi-Tiered Fountain

Circle 138 on Reader Service Card

HADDONSTONE USA offers the Eton College Fountain. The original stood in the Cloister Court of Eton College at Windsor: The badly eroded original was replaced by this replica, including ornate pedestals supporting three decorative shell bowls surmounted by a naturalistic bud. The overall height is 74 inches, with the top shell at 18 inches across and the lower shell at 37 inches across. **Haddonstone USA**, Bellmawr, NJ.

Cement Tiles

Circle 139 on Reader Service Card

GRANADA TILES offers the Echo collection of cement tiles. Made by pouring pigment-colored cements into various sections of metal molds to a depth of 1/8th of an inch and then pulling the molds while the layer is still wet so the material moves together without disrupting the colors, the tiles are available in 8-, 6- and 4-inch squares and in 4-by-8-inch pieces in a range of patterns and colors. **Granada Tiles**, Los Angeles, CA.

Pool Enclosure

Circle 140 on Reader Service Card

PLASTIMAYD has introduced the Space Arena, an affordable enclosure for swimming pools. The air-inflated dome is made of a new, all-clear, durable, ultraviolet-resistant vinyl specially formulated so it won't discolor or lose resiliency in varying climates. It also has a transparent wall design that provides an outdoor atmosphere and straight-up sides that allow for full deck use. **Plastimayd**, Oregon City, OR.

Waterfall Filters

Circle 141 on Reader Service Card

ATLANTIC WATER GARDENS has upgraded its Big Bahama Pro Series of waterfall filters. Available in three models (BF1900, BF2600 and BF3800), the units feature heavy-duty top grates to support camouflage, dual filter mats for superior biofiltration, one-piece flanges for leak-free liner attachment and rolled upper rims that provide clean lines and greater structural strength. **Atlantic Water Gardens**, Mantua, OH.

Deck-Drain System

Circle 142 on Reader Service Card

DECK-O-SEAL offers Signature Series Redwood, a line of drains, joints, drain replacement tops and expansion-joint caps that enhances projects with the look of wood. Featuring ultraviolet stability, exceptional durability in outdoor environments and superior chemical resistance, the products retain their color and mechanical properties with long exposure to sunlight, moisture and heat. **Deck-O-Seal**, Hampshire, IL.

Continued on page 74

Product Information Card

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

Advertiser Index:

Let your suppliers know where you found out about them: Mention code WS1207 to identify this issue when contacting them by phone or the Internet

Reader Service Number

Of Interest Index:

Pool Fencing

Circle 143 on Reader Service Card

EVOLUTION FENCE CO. offers powder-coated aluminum fencing for use around waterfeatures, swimming pools and spas. The material resists warping, cracking, shrinking, buckling, splitting and twisting and is secured with a unique Fusion-Loc system that joins fence pickets to rails and assembled panels to posts without screws, creating a rigid, durable, "no-rattle" barrier. **Evolution Fence Co.**, Hauppauge, NY.

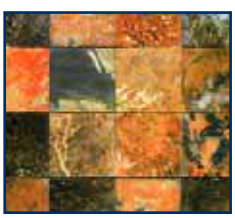
Field-Wiring Guide

Circle 144 on Reader Service Card

ALLEN CONCEPTS has published a field-wiring guide for its TightWatt2 pool controllers. Printed on a waterproof polymer "paper" that resists damage under the worst weather and storage conditions, the booklet covers wiring configurations for most common pool pumps and accessories and features a visual wiring style that makes it easier to use than conventional wiring schematics. **Allen Concepts**, Chandler, AZ.

Gauged Slate

Circle 145 on Reader Service Card



AMERICAN SLATE CO. offers a variety of slate material with even thicknesses that allows it to be thinset. The easy-to-clean material is durable, non-flaking, non-slip and doesn't require sealing. It's available in sizes from 12 to 24 inches square (with custom sizes on request) and comes in a wide range of colors, from Midnight Black and Jade Green to Amber Gold and multi-colored forms. **American Slate Co.**, Walnut Creek, CA.

Pool Cleaner

Circle 146 on Reader Service Card

WATER TECH has introduced Blue Diamond Pro. Designed to clean 25-by-75-foot pools in four hours or less, the unit navigates using a mathematical algorithm to change cleaning directions and cover every square inch of a pool – thereby eliminating the extra hours required by cleaners that use random patterns. It also features an infrared obstacle-detection system and a remote control. **Water Tech**, East Brunswick, NJ.

Pond Liners

Circle 147 on Reader Service Card

CANADIAN GENERAL TOWER now offers vinyl sheeting for use as pond liners. Intended for use in the full range of settings from golf-course waterfeatures to backyard ponds, the liners are non-toxic and support the growth of fish and vegetation. And unlike standard liners, the vinyl material can be printed, embossed and laminated to produce a variety of looks. **Canadian General Tower**, Cambridge, Ontario, Canada.

Grounding Components

Circle 148 on Reader Service Card

FCI-BURNDY offers an extensive line of grounding products for use specifically with water-shapes, including the BurndyWeld exothermic grounding system for welding copper to copper and other materials without an external power source, and the HyGround Irreversible Compression Grounding System, which includes an array of connectors for taps, splices, ground plates and much more. **FCI-Burndy**, Manchester, NH.

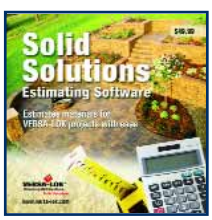
Pond-Water Treatments

Circle 149 on Reader Service Card

EASYPRO POND PRODUCTS has introduced four water treatments for ponds: a water conditioner, a water clarifier and products for adjusting pH up or down. The conditioner removes chlorine, destroys chloramines, detoxifies heavy metals, adds essential electrolytes, replaces slime coats and reduces stress, while the other treatments clear murky water and help keep it in balance. **EasyPro Pond Products**, Grant, MI.

Wall-Estimating Software

Circle 150 on Reader Service Card



VERSA-LOK has released its Solid Solutions Estimating Software. Designed to ease the process of estimating and selling the company's retaining walls, columns and stairs, the system automatically calculates the number of units and pins (as well as geogrid and aggregate) required for a project while taking dimensions of each feature and relevant site conditions such as soils and grades into account. **Versa-Lok**, Oakdale, MN.

Continued on page 76

Glass Filter Medium

Circle 151 on Reader Service Card

ECOSMARTE offers Glass Pack, a medium for slow sand filtration that uses recycled glass to clean swimming pool water. Usable with any sand-filter platform, the material compares favorably with diatomaceous-earth systems and provides filtration through the entire depth of the filter bed compared to sand or zeolite, with which filtration occurs in just the few top inches of the filter bed. **ECOsmarte**, Richfield, MN.

Commercial Pumps

Circle 152 on Reader Service Card

PENTAIR WATER POOL & SPA has expanded its line of EQ Series pumps. Designed for commercial aquatic facilities and large, high-end residential pools, units are now available with 575V, 3-phase motors for high-performance with low noise levels and come in 5-, 7-1/2-, 10- and 15-horsepower models. All feature closed impellers for long motor life even under higher loads. **Pentair Water Pool & Spa**, Sanford, NC.

Themed Fountains

Circle 153 on Reader Service Card

RAIN DROP PRODUCTS has introduced The Big Leak, a baseball-oriented product that's the first in a series of themed water-features. The bat-and-ball model stands more than 8 feet tall, has a realistic wood appearance and is available either with misting action or water flowing between the bat and ball. All models will work with the company's Omnipod system for design flexibility. **Rain Drop Products**, Ashland, OH.

UV-System Seals

Circle 154 on Reader Service Card

SENTRY ULTRAVIOLET has introduced a quick-disconnect system for ultraviolet water-treatment systems that takes much of the time, effort and expense out of quartz-sleeve removal and cleaning. The long-lasting, easy-to-use, triple-seal device features a thumb-screw design and can be ordered with new Aqua Guard UV units or can be retrofitted to older systems already in service. **Sentry Ultraviolet**, Blairsville, GA.

UNITED STATES POSTAL SERVICE

Statement of Ownership, Management, and Circulation (Requester Publications Only)

1. Publication Title: WaterShapes	2. Publication Number: 1 5 2 2 - 6 5 8 1	3. Filing Date: 24 September 2007
4. Issue Frequency: Monthly	5. Number of Issues Published Annually: Twelve	6. Annual Subscription Price (if any): $30.00

7. Complete Mailing Address of Known Office of Publication (Not printer) (Street, city, county, state, and ZIP+4®): 6119 Lockhurst Drive, Woodland Hills, CA 91367 — Contact Person: James McCloskey — Telephone (Include area code): 818-715-9776

8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not printer): As above

9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor (Do not leave blank)

Publisher (Name and complete mailing address): James McCloskey, As above

Editor (Name and complete mailing address): Eric Herman, As above

Managing Editor (Name and complete mailing address): Eric Herman, As above

10. Owner (Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.)

Full Name	Complete Mailing Address
James McCloskey Judy Sanoian	
Michael Aster Y.H. Rutenberg	
Susan McCloskey & David Kelley Stephanie Behrens	6119 Lockhurst Drive, Woodland Hills, CA 91367
Eric Herman Bernadette McCloskey	
R.A. & E.S. Werber Nancy Sanoian	

11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box ☒ None

Full Name	Complete Mailing Address

12. (Must be completed if the publication title shown in item 1 is a publication published and owned by a non-profit organization.) The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes. (Check one)

☐ a. Has Not Changed During Preceding 12 Months

☐ b. Has Changed During Preceding 12 Months (Publisher must submit explanation of change with this statement)

PS Form 3526-R, September 2006 (Page 1 of 3 (Instructions Page 3)) PSN: 7530-09-000-8855 PRIVACY NOTICE: See our privacy policy on www.usps.com

13. Publication: WaterShapes — 14. Issue Date for Circulation Data: October 2007

15. Extent and Nature of Circulation	Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (Net press run)	16,025	16,575
b. Legitimate Paid and/or Requested Distribution (By Mail and Outside the Mail) (1) Individual Paid/Requested Mail Subscriptions Stated on PS Form 3541. (Include direct written request from recipient, telemarketing and Internet requests from recipient, paid subscriptions including nominal rate subscriptions, advertiser's proof copies, and exchange copies)	15,515	15,783
(2) Copies Requested by Employers for Distribution to Employees by Name or Position Stated on PS Form 3541	0	0
(3) Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid or Requested Distribution Outside USPS®	0	0
(4) Requested Copies Distributed by Other Mail Classes Through the USPS (e.g. First-Class Mail®)	200	200
c. Total Paid and/or Requested Circulation (Sum of 15b (1), (2), (3), and (4))	15,715	15,983
d. Nonrequested Distribution (By Mail and Outside the Mail) (1) Nonrequested Copies Stated on PS Form 3541 (include Sample copies, Requests Over 3 years old, Requests induced by a Premium, Bulk Sales and Requests including Association Requests, Names obtained from Business Directories, Lists, and other sources)		
(2) Nonrequested Copies Distributed Through the USPS by Other Classes of Mail (e.g. First-Class Mail, Nonrequestor Copies mailed in excess of 10% Limit mailed at Standard Mail® or Package Services Rates)		
(3) Nonrequested Copies Distributed Outside the Mail (Include Pickup Stands, Trade Shows, Showrooms and Other Sources)	183	550
e. Total Nonrequested Distribution (Sum of 15d (1), (2), and (3))	183	550
f. Total Distribution (Sum of 15c and e)	15,898	16,533
g. Copies not Distributed (See Instructions to Publishers #4, (page #3))	127	42
h. Total (Sum of 15f and g)	16,025	16,575
i. Percent Paid and/or Requested Circulation (15c divided by f times 100)	98.84%	96.67%

16. Publication of Statement of Ownership for a Requester Publication is required and will be printed in the December 2007 issue of this publication.

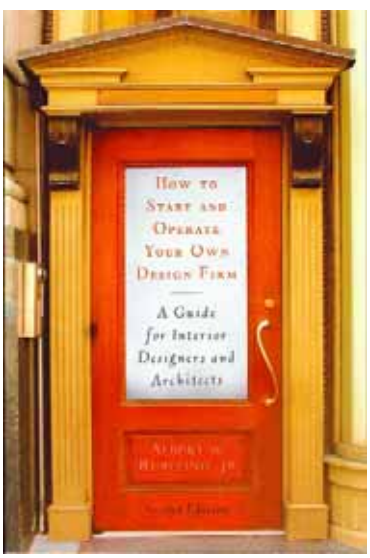
17. Signature and Title of Editor, Publisher, Business Manager, or Owner: (PUBLISHER) — Date: 24 September 2007

I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanctions (including fines and imprisonment) and/or civil sanctions (including civil penalties).

PS Form 3526-R, September 2006 (Page 2 of 3)

By Mike Farley

Hanging Out a Shingle



If there's one thing most designers of all types have in common, it's that we tend to possess built-in senses of personal independence. I believe that's why most of us, at some point or other in our careers, consider taking the big step of going out and starting our own practices.

I haven't done that as yet, and a big part of the "why" has to do with knowing that a great many of those who *do* hang their own shingles wind up failing – often sooner rather than later. Yet even though I enjoy the security of working for a company rather than running one myself, I must confess that, for a long time now, the idea has intrigued me – if for no other reason than I want to know what it takes to make a go of it.

That's how I came to pick up a copy of *How to Start and Operate Your Own Design Firm* by Albert W. Rubeling, Jr. (2nd edition, Allworth Press, 2007). This 240-page text offers a wonderfully thorough discussion of the challenges I'd always imagined, and I think it would be of use even to those who are already up and running in addition to those who are only contemplating or curious about taking the plunge.

The author obviously has a clear understanding of the designer's mindset and points out right away that there are just two basic reasons people strike out on their own: They've either been forced to because the companies they were working for have gone out of business, or they want to be doing something different from the work they're doing for their current employers.

He then drives home the point that most designers have no clue what it takes to beat the odds and see their new businesses survive past the first two years. As he points out, we designers may be extremely talented in our areas of design expertise, but as businesspeople we are generally unprepared.

Early on, he offers a questionnaire that asks readers to reflect on their goals and think through some basic plans and possibilities. He then breaks things down into a series of extremely practical considerations of financing, marketing, partnerships, employees, facilities and a range of other important issues.

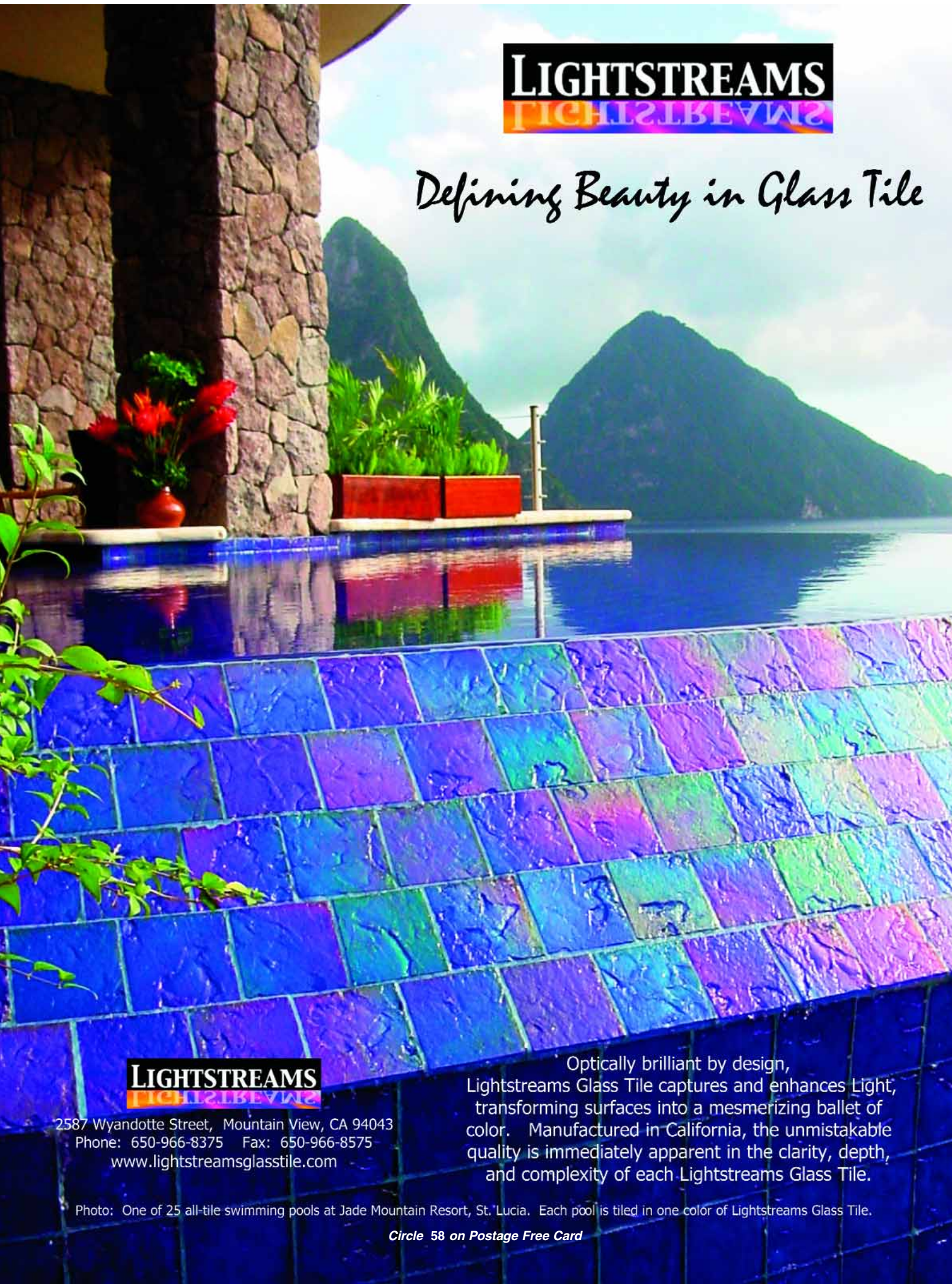
Next and most helpfully, Rubeling deconstructs all of those areas with in-depth discussions of what you need to encompass in your planning before you take the leap. In the chapter on partnerships, for example, he points out that a majority of new design firms are formed by two or more professionals. Those that succeed, he says, are the ones in which there's a clear understanding of a division of responsibilities within the operation; conversely, those that fail are often the ones in which partners possess (and want to exercise) overlapping sets of skills.

That illuminating discussion is followed by chapters on developing marketing plans; working with accountants, attorneys and insurance agents; setting up offices; dealing with tax issues; managing employees; and tips for setting up weekly, monthly and annual goals. Perhaps most important, he tackles the issue of what you need to charge relative to your operating and fixed costs in order to be profitable and ultimately meet your long-term financial goals.

The book concludes with an extensive list of other resources, some of which, I'm guessing, will be the subjects of future columns.

When I finished this book, I understood more fully than I ever had that success in establishing a new practice requires designers to be good at what they do – and smart businesspeople as well. To work both sides of that equation, you need to come to the process armed with just the sort of information I found in this slim volume. WS

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


LIGHTSTREAMS
Defining Beauty in Glass Tile
LIGHTSTREAMS
2587 Wyandotte Street, Mountain View, CA 94043
Phone: 650-966-8375 Fax: 650-966-8575
www.lightstreamsglasstile.com
Optically brilliant by design,
Lightstreams Glass Tile captures and enhances Light,
transforming surfaces into a mesmerizing ballet of
color. Manufactured in California, the unmistakable
quality is immediately apparent in the clarity, depth,
and complexity of each Lightstreams Glass Tile.
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.
Circle 58 on Postage Free Card

Jandy®

- Pumps
- Filters
- Heaters
- Heat Pumps
- Control Systems
- Lights
- Water Purification Systems
- Valves
- Water Features
- Cleaners
- Accessories

ALL JANDY PRODUCTS WORK SEAMLESSLY TOGETHER

The Jandy AquaLink® RS Control System manages our complete line of technologically advanced products. The Jandy system is designed to create a carefree backyard paradise — enhancing the overall pool and spa experience by delivering performance and reliability through technology.

Performance
Reliability
Technology

Experience the next generation in advanced heating products by Jandy.

Integrating the most advanced features in every aspect—a technologically innovative control and automation system, lightest and strongest composite material construction—and superior hydraulic design, the LXi brings the future of heating comfort to your pool today.

Take Control Today!

Circle 96 on Postage Free Card

1.707.776.8200 • www.jandy.com • info@jandy.com