TECHNOLOGY ISSUE

exposures

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Solid State Lighting Systems: Where they fit in modern lighting design

Inside the Innovative Designers Tool Belt

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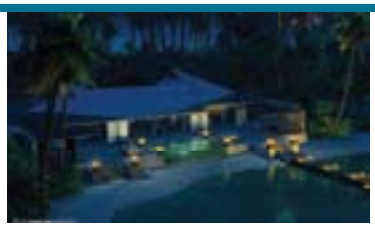

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Saturday, September 19, 2009

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For more information about this event please contact Don Godi at 303-989-2853.

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Wednesday, October 29, 2009

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For more information about attending or sponsoring this event please contact: Greg Williams at 303-830-6616 or info@aslacolorado.org.

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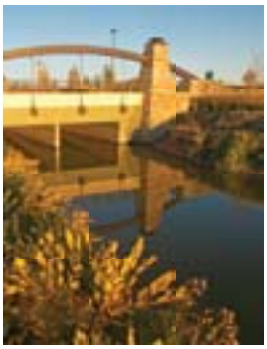

On the cover

Centerra,
Loveland, CO

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Where does the time go? This is it, my final president's message as Colorado Chapter President. It has been a fulfilling experience for me (and hopefully the entire Executive Committee) and we're rounding out the 2008-2009 term with exciting end of the year events! Mark your calendars—our annual State Awards Event will be held at SPIRE Denver on Wednesday, October 28th, and the Jane Silverstein Ries Foundation is planning their Fall Celebration for October 8th.

Another exciting fall event will be the ASLA Annual Meeting, held in Chicago September 18-22. It will be a banner year for Colorado at the Annual meeting, with two members being inducted to the Class of Fellows: Tom Hawkey and Eugene Eyerly. Colorado also has a third member receiving the ASLA Design Medal - Richard Shaw, FASLA, who is a partner in the Aspen, Colorado office of Design Workshop. The ASLA Design Medal is the highest honor the ASLA may bestow upon a landscape architect whose lifetime achievements and contributions to the profession have had a unique and lasting impact on the welfare of the public and the environment. Be sure to offer your congratulations to these three in honor of their achievements in the profession.

Hopefully by now you have had a chance to view our newly launched website: www. aslacolorado.org. Please note that the address is new and in the next couple weeks we will automatically redirect from our old web address to our new home on the world wide web. We hope this website showcases our members' award winning work, while also providing valuable information that our members seek. We are always open to suggestions for improving our communications, so please contact us with any feedback you have. As an example, the events calendar on the new website has been simplified and clearly separates the educational opportunities from the social/networking opportunities. We currently have a wealth of events on the calendar scheduled through December, and encourage you to visit the site often as updates are made daily.

To close this message, I would like to extend a huge Thank You to our 2008 - 2009 Colorado Executive Committee. It was a big year for the committee in the undertaking of several new projects and promoting of the profession through our lobbying and public relations campaigns. Budgets were tight with reduced member dues, but I am very excited at what we could offer to our members as benefits in 2008-2009 and trust next year will only be better.

Thank you for a great year!

Kimberly Douglas, ASLA
Colorado Chapter President

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Government Affairs

The Colorado Council of Landscape Architects (CCLA) is represented in the legislature and before state agencies by Greg Williams, of Redpoint Resources, and Scott Meiklejohn, of Meiklejohn Consulting, jointly to monitor state legislative and state regulatory activity during 2009. Dennis Brookie is chair of the American Society of Landscape Architects – Colorado Government Affairs committee and is a member of CCLA. He will provide liaison between the two groups and report on government affairs issues to the ASLA Colorado Executive Committee during the regular monthly meetings. Don Godi is chair of CCLA. For more information on becoming involved in CCLA or in the ASLA Colorado Government Affairs committee contact Greg Williams, ASLA Colorado Association Manager, at 303-830-6616 or email him at info@ccasla.org.

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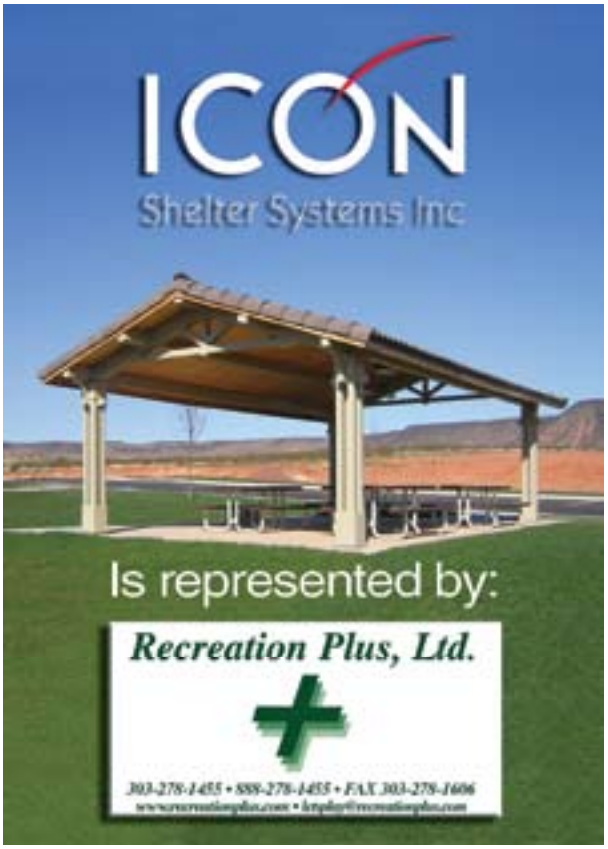

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INSIDE THE INNOVATIVE DESIGNERS TOOL BELT

Example of procedural materials and global illumination rendering. Mapped properties of the objects in this scene are reacting to the properties of the light as seen in the reflection and refraction of the water.

By Eric Lennox

The word 'Technology' originates from the Greek term 'Technologia' meaning 'craft –saying.' It is a broad concept that, at its core, deals with the usage and knowledge of tools and crafts to control and adapt to one's environment. Indeed, technology has proven to be a means of innovation by which the main purpose is to gain efficiency, performance, and to discover opportunity beyond conventional or traditional means. Arguably in the design discipline, being technologically savvy conveys a level of sophistication and perception of value to clients. Aside from that, and more important than the emotional response, is the functional use of technology as a design tool. So, why invest in technology? It's simple. With the proper set of tools in your belt, you can increase efficiency, performance and opportunity in your workflow, as well as add a sophisticated level of perception, value, service and production to clients.

Regardless of how much technology is used, it involves intelligent risk. Many design firms don't make the upfront investment in technology for a number of reasons. The most common of which is someone's mistake of trying out new software, causing deadlines to be missed, and ultimately upsetting the client. "Never doing that again," often finds technology on the shelf to collect dust. Some are simply not willing to change what has worked adequately in the past or to test new technologies on an important project. The irony being that the longer one waits to jump on the technology train, the closer to the caboose Many firms risk missing the train altogether. Firms also risk missing the train completely. If you have the commitment to learn, the investment will pay itself off. Being more efficient with time and having minimal mistakes can easily equate to increased profit, which is the word you present to your boss when you ask for $10,000 of new software.

Testing the theory of technology improving performance and efficiency, let's be 'primitive' designers for a moment and use a tool at the fundamental basis of the profession: Drafting. Boring, I know, stay with me. Draft by hand 30 lines, 2 meters apart. It would probably take 5-10 minutes. Not happy with the way your

linework turned out? Spend another several minutes erasing, & once you have redrawn the graphite lines again, an hour is engulfed into the accountant's book of 'utilization' where you then question whether your time was well spent. Now using Computer Aided Drawing (CAD), type 'array,' input your variables, and it's complete in probably less than one minute depending on how fast you can type. Not happy with the way it turned out? Press 'CTRL+Z' and moments later you are back to where you started. Thinking opportunistically, you could coin it as 'sustainable' in today's terms.

In this basic example, CAD software was a tool created to improve efficiency and arguably to explore opportunities beyond conventional drafting means. Granted, there is upfront time needed to invest in understanding the 'knowledge of the tool' which, in theory, should pay off over time. Hopefully, by now, accredited Universities should understand the professional need to have graduates equipped with these tools prior to their foray into the real world. If they do not, it is our responsibility to educate them on the needs of professional practice. This is, debatably, another topic warranting future discussion.

> "It's not about knowing all the gimmicks and photo tricks. If you haven't got the eye, no program will give it to you."
>
> David Carson, Graphic Designer
> David Carson Design, Inc.

Per our example, fast forward from 1983, when Autodesk released AutoCAD 1.2, its first version of CAD, to the present day where other technological tools have been deployed and evolved to create countless efficiencies in our workflow. With these new computer technologies, designers are now enabled with tools to create forms traditionally thought of as impossible to build. For example, innovative construction and manufacturing technologies, such as digital manufacturing of steel, timber and various membranes through the use of computer-aided manufacturing (CAM), now speak directly with 3d information created by designers allowing the creation of complex (or simple) organic forms. These 3d technologies, when combined properly, become an incredibly powerful array of tools that allow the designer to explore and test potential solutions, not to mention the efficiency of bypassing the two dimensional construction documentation processes. A critical key in this equation is obviously understanding the 3d tools that speak directly to the construction and manufacturing technologies. For this process to be successful, consideration of which 3d software to use becomes a discussion and collaboration with the fabricator that needs to happen at the start of the project. Indeed for our profession, this is an example of a higher end use of 3d applications. For the most part, 3d technology in our field is primarily used as a design and visualization tool. To that end, we will look at the tools available in that realm, although some may indeed export out to files that are indeed possible for CAM.

While there are copious amounts of 3D software currently on the market ingrained with new technologies, selecting the right set (and I do mean set) is sometimes intimidating. An obvious trap to avoid is buying software that is based upon extraordinary effects and filters. The 'wow factor' of computer visualization has long past, and chances are our clients will no longer be impressed by simple visualizations flirting with photo realism that are currently par for the discipline. Therefore, concentration should be placed on using the right software to successfully extract your vision.

Before we get into the current 3d tools out there, let's forget about the particle systems, modifiers, illumination and crazy materials (bells and whistles) for the moment. Instant results are few and far between in 3d applications. It is a very procedural process starting with the base and what I consider the most important, modeling. Learn to model. Everything hinges on being able to successfully model the vision. Understanding how to model objects from simple primitive forms (such as boxes and cylinders) is a critical first step in the process no matter which programs you choose. You will find that at the core of any modeling tutorial, the most simple and primitive objects are used. When you see objects you should be able to see how you could create it from the simplest form through modification.

At the base of modeling tools is our own Boulder, Colorado originated SketchUp. This should be in every designer's tool belt. The ease of pushing and pulling models and quickly referencing human scale is an excellent opportunity to jump into 3d quickly.

Quick Sketchup visualization showing basic material and lighting properties.

The ability to georeference your models to map true sun angles make it ideal to create and explore sun/shade studies. Often we are faced with quick turnaround on concepts with little time to render out a fully materialized image with lighting and entourage. Consider this as a perspective solution. You can definitely get the idea across with the ability to map your materials and also have the option of selecting many different display styles. Ultimately acquired by Google, with a relatively easy learning curve, and tools catered to Landscape Architects, gives you the sense

that SketchUp is here to stay. Oh, by the way, it's free, which is definitely not the case from the next group.

On to the more complex (and expensive) modeling programs. Consider the learning curves much different here as these programs are extremely versatile and are tailored to many different disciplines. Don't be intimidated with the complexity of user interface, start small. As mentioned before, 3d applications are very procedural, they build upon basic tools quickly. Start with understanding modeling, then onto materials, lighting and rendering. The benefit of these applications is a much larger step towards 'photo realism'. The programs offer realistic properties of light and materials and how they interact with each other. For example, if you were to create a material, which simulated translucent, blue, semi-reflective and translucent material (water) and set a light (with similar properties and distance to the sun) the objects would react and simulate a real world condition. The light would travel through the water surface, bounce and reflect nearby objects and refract light onto adjacent objects as well. Time is of the essence here. For the computer to calculate these parameters, you will need time to render. The more you have the longer it will take.

The big hitters in this realm is are 3d Studio Max, Maya, SoftImage XSI, and Lightwave. While all offer tremendous opportunities for modeling, modifying and distorting models, real world lighting, materials and texturing, and rendering, it's a risky time to

choose any. With Autodesk's recent merger and acquisition activity of three of the four 3d powerhouses (3d Studio Max, Maya and recently XSI), there is no telling what they are up too. The problem for them is they have a 'substantial' following under each. While a merging of three is possible, it's not going to happen without some user group getting really upset. So do research and read up on some forums before you make the plunge. Safe to say, if you are using Autodesk AutoCad and choose one of these acquired modelers you should be okay as cross pollinated files are imminent.

Also important to note, three other powerful emerging modelers: Rhinoceros, Luxology's Modo, and Pixology's Z-Brush. Rhinocerous is known for its ability to model complex forms called NURBS, Non-Uniform Rational B-Splines, which are mathematical representations of 3d geometry that can accurately describe any shape from simple 2d lines, circles, arcs, or curves to a

3d organic Example of NURB interpolation. The outside splines of this object were created first with the subsequent object being generated by computer calcuation.

free-form surface or solid. Think aerodynamics of a car or airplane. It's the interpolation of curved lines. Luxology's Modo is known for its single integrated and accelerated package of 3d modeling, painting/sculpting, and rendering. Many of these programs have internal rendering applications, however, it may push you to buy an outside source render engine, costing thousands more in addition to upfront cost. The benefit of Modo is the breadth of tools and internal real time updated render engine. Z-Brush is potentially another gem, as it is a sculpting program allowing you creative freedom to paint your design. By the way, it loves the pressure sensitive Wacom pen drawing tablets - a lot of fun to play with and explore forms quickly.

While we just scratched the surface on some of the tools out there, a final note to include: It takes time and research before you find the right set of tools. While you may have dust collecting on some of the tools in your belt, you may now have a better idea about their functionality, and know that if the situation arises you will have it readily available to deploy in your solution. As you may be allotted some time on the clock to research what might be the right set, much of it is done reading magazines, user forums, weblogs on success and frustrations. Sufficed to say the 3D community is larger than one would think, just visit Google SIGGRAPH (Special Interest Group on GRAPHics and Interactive Techniques) and you will get an idea. As we move forward as a profession and become more recognized within the design profession overall, we will need to continue to take intelligent risks in our investment in technology, not only to keep up, but to push the envelope and expose solutions within the project design team that would otherwise be unseen.

Eric Lennox is a designer at ValleyCrest Design Group, James-Hyatt Studio with over 10 years of worldwide design and planning experience. He has worked on a variety of project types and scales including large-scale resort master planning, corporate headquarters, urban mixed use design, urban recreation, and leisure and entertainment design. In addition to receiving a Bachelor of Science degree in Landscape Architecture at The Ohio State University, he has coupled his design skills with an emphasis on technology. Realizing the importance of visual communication within the design realm, he was certified at the Art Institute of Colorado in three dimensional design principles and techniques.

SOLID STATE LIGHTING SYSTEMS: WHERE THEY FIT IN MODERN LIGHTING DESIGN

By Scott Jackson, William Stolz & Gregory Canniff

The frequency of use of solid-state lighting ("SSL"), also known as light emitting diode ("LED") technology, in architectural applications is rapidly growing. Recent interest in this still emerging technology has been accelerated and fueled by promises of monumental energy savings. With fuel costs recently spiking and a general public desire for conservation, it is no surprise that such a technology with so many apparent attributes is being thrust into the fore. At no other time has so much public awareness of a new lighting technology been so strong. We are not just seeing articles about LED's in our own trade magazines anymore. We now see them in mainstream publication from our own local paper, to the Wall Street Journal, to prominent magazines. With public interest peaked, we are being inundated with requests for SSL to be used on projects, without regard to the feasibility. We along with the design community need to be prepared to counsel people on the appropriate use of this technology.

There is little doubt that SSL technology has much to offer; it is destined to become a staple in our lighting instrument tool bag. Nevertheless, it is currently wrought with controversy. During this initial period of flux, there will be misapplications and certainly some premature applications of product. Unfortunately, emerging technology climates, such as this, can be rife with opportunity for the less than honest. We have already seen much evidence of this, in the form of exaggerated longevity and light output claims. Even more, we now have lighting fixture companies who are now working to become electronics experts, and we have electronics companies who are working to become lighting experts. There are disputes on how light from this new technology should be measured. Discussions abound on the topic of photopic vs. scotopic vision, and on whether we should be measuring light from raw LED's or from the actual output of fixtures (relative vs. absolute photometry). The bottom line is that there is a lot of information to digest and disseminate. The purpose of this paper is to outline the facts surrounding solid state lighting technology, as they stand today. Our hope is that this paper will help guide interested parties through the abyss of information and misinformation, and will assist in applying the technology properly and responsibly.

Correlated Color Temperature ("CCT")

How do we get different color temperatures?

LED's do not inherently produce the warm white light we are used to in other artificial light sources. There are two primary ways that we can alter the color temperature from LED's. The first is by using colored LED's and mixing their output. With this process, most any color can be attained. This technology, also known as additive color mixing, is used in many architectural color-washing applications and now in theatrical venues, as well. This is a wonderful solution for these types of applications. However, it can be

expensive and cumbersome, as the use of control systems must be incorporated. The more common way to achieve white light is by adding a phosphor coating to the LED. Much like in fluorescent lighting, the phosphors allow us to affect the color of the output. Unlike fluorescent lamps, the more we warm the output from the LED, the less efficacious they become. (White LED's are inherently very cool, about 6500 degrees Kelvin. You'll find that most ultra-high light output claims from LED manufacturers are not using color corrected products; they are not using products that we would actually incorporate into a typical architectural lighting design.)

So why do we care about CCT? Why not just go for the efficacy?
With all architectural lighting systems, the design involves a series of compromises. If one was looking only for pure efficacy and cared nothing about visual comfort, he or she would use all open lamp fixtures. Since visual comfort is a concern, reflector systems are used. These systems redirect light and shield eyes from unwanted glare. So it goes with SSL products and CCT.

Over the years we have found that CCT and high color rendering (the ability to better distinguish color) can have a profound positive effect on the mental and psychological well being of people. Modern office spaces have substantially benefited from improvements in this area, with improved productivity and lower rates of employee absenteeism. It is also important to be able to closely match the color output of adjacent sources that might exist, such as fluorescent and ceramic metal halide. If we didn't, aesthetics would suffer greatly.

How do we achieve consistent color temperature in LED's?
Manufacturers of LED's that are intended for use in architectural lighting incorporate a process called "binning" to categorize the different color temperatures. Binning is a manual process, performed by people who look at the color output of a given LED using a spectral radiometer, and then assign each one to the appropriate color temperature category based on a range. In order to gain a higher degree of accuracy, some companies will repeat this process several times. The idea here is that each time the process is performed, a higher level of accuracy should be attained. As you can imagine, there is much room here for variances in interpretation, and therefore variances in actual results.

The real world problem that comes from this process is primarily color temperature variations between batches of fixtures. Fixtures replaced under warranty or in a project addition might not match the original, adjacent fixtures. Even in a situation where all new fixtures are installed at once, but came from a manufacturer's stock, they still might not match. Here, there might not be a way to guarantee that all the fixtures in a manufacturer's stock came from the same batch; it would depend on how much time and focus the manufacturer put into the process.

Outdoor Lighting
In the outdoor world, there is a push from some to limit the Kelvin temperature of artificial light sources to a maximum of

4125 degrees; this is the CCT of moonlight. The argument is that anything above this threshold can have negative effects on nocturnal wildlife and can add to sky glow issues. Nevertheless, you'll find that the Department of Energy tends to favor the higher CCT's solely based on efficacy.

Lamp Life

It is important to keep in mind that though SSL products can last a very long time, they still have a maximum useful life. The Department of Energy defines the useful life of an LED as the point when the light output from an LED diminishes to seventy percent of what it initially produced. Most major brands have followed suit, in using this definition. SSL lighting products degrade in light output over time, but generally do not fail outright, like traditional sources do. This characteristic might cause some liability issues. For instance, if an SSL lighting system is used in a public parking garage, and no one is responsible for monitoring the actual light levels in that garage, over time the light levels could fall well below the design criteria levels. In this case, if someone were injured and low light levels were found to be a component of the blame, most certainly the facility owners could be found at fault, and subsequently held accountable. Though this scenario could happen with any traditional lighting system which is not properly maintained, it would be less likely.

Generally speaking, when a lamp goes out, that triggers maintenance. Since the LED's would not fully extinguish, there would be less likelihood of a maintenance trigger. In other words, people don't generally replace working lamps.

The diminishing light output issue needs to be addressed by the SSL industry. One thought is to build in on board monitoring, that would somehow alert the building occupants when a fixture's output has dropped below recommended levels.

The primary enemy of LED's as with any electronic component, is heat. Proper heat dissipation is a key component to long life. Though LED's don't emit heat out the front, where they emit light, heat does exist at the junction within the LED, and is normally radiated out the back. If the junction temperature gets too high, the LED will dim and prematurely fail. Generally speaking, lower junction temperatures allow for longer life and higher light output. Reputable SSL manufacturers will publish their junction temperatures. If a manufacturer will not offer this information, they should be avoided.

LED's and Fixtures

Light output and longevity characteristics of LED's can vary greatly depending on the environment in which they reside. In other words, an LED in a test lab may, and most likely will, act completely differently than an LED in a fixture. This is due primarily to heat dissipation issues. The light output and life expectancy of an LED can degrade greatly when the junction temperature within the LED rises. Increases in ambient temperature can easily translate into increased internal fixture temperatures. This can then translate into a higher junction temperature within the LED, resulting in shortened LED life and lower light output. In short, any given LED can have completely different life expectancy and net light output when subjected to different temperature environments. This means that we need to test light levels of LED's not in their raw state, but in the fixture they will reside in. In fact, we need to test the actual output of the fixture itself. Only from this can true comparisons to more traditional lighting fixtures be made.

Disclosure is also important. The manufacturer of SSL equipment should readily share information including the brand of LED, junction temperature, and the ambient temperature their fixtures are designed to reside in. These factors can greatly affect light output and longevity. With this information, along with the LED manufacturer's recommendations, a specifier can reasonably ascertain if a fixture manufacturer's claims are valid, or not.

LED's and Reflector Systems

Most current SSL fixture designs incorporate LED's with primarily a direct lighting component; they do not utilize reflector systems. Though, some do employ lenses, or refractors, to affect the distribution of light. Because they do not generally utilize reflector systems, SSL products can achieve higher efficiencies. The actual efficacy of the LED is generally much lower than that of a fluorescent or metal halide source. However, since the light emitting from the LED can directly leave the fixture without multiple redirections from a reflector system, the overall efficiency of the lamp/fixture package can rival that of traditional sources. Add to this the other attributes of SSL technology, such as long life, imperviousness to vibration and cold weather, and you can see why the implementation of the technology is moving so quickly.

There is a primary detriment to the direct output of the LED; that is glare. Glare can be at best obnoxious, and at worst disabling. This is a primary concern for not only indoor environments, but especially for parking areas and street lighting. This issue is a major obstacle that will keep SSL from becoming a primary source of lighting, especially in the outdoor world. The attributes of the SSL are not enough to throw out decades of R&D in glare control and visual comfort.

LED's and the Environment

SSL by nature incorporate semiconductors. Most are aware that the semiconductor industry has not historically been a particularly clean one. Even so, SSL products are touted as being sustainable and, "Green." This is primarily due to the general public perception that LED's will last forever and that they consume virtually no energy. Both of these points are untrue. The efficacy of LED's is becoming better, all the time. Right now, though, they are on par with fluorescent at best. This is when they are compared using absolute photometry, or what light is actually getting out of the fixture. As for life, the most common rating being given now is 50,000 hours. Since a good quality fluorescent lamp is rated at 30,000 hours, the 50K seems like a good claim until you consider what it takes to replace the LED. In most current cases, the entire fixture has to be replaced. Disposable fixtures can hardly be considered sustainable.

The fact is that most of the current SSL fixture designs do not allow for field re-lamping. Some manufactures do currently offer factory re-working of their fixtures, which is a step in the right direction; but this still falls short of where we need to be. One can imagine the frustration of a building owner faced with hundreds of SSL products at the end of their useful life, when having to deal with the complicated and costly logistics of a factory refurbishment program. Until this problem is rectified, the idea of SSL being generally used as a primary lighting source will remain just that, an idea. Most of the more progressive manufacturers we have spoken to, see a field replaceable LED module as a reasonable goal for their R& D teams. This would allow for continued use of the general fixture envelope and possibly recycling of the replaced components.

Scott Jackson is a 25 year veteran of the lighting and electrical construction industry. He currently manages the Colorado Springs operation for MH Lighting and Controls, which covers the Southern Colorado and Colorado Western Slope markets. He also specializes in lighting sales and design.

William Stolz has 30 years of experience in the lighting industry. As a salesperson with MH Lighting Mr. Stolz has assisted design professionals in the selection of luminaires for a variety of projects.

Greg Canniff is a specification salesman for MH Lighting and Controls with more than 10 years of architectural lighting experience. He received a B.S. in Architectural Engineering from the University of Colorado at Boulder.

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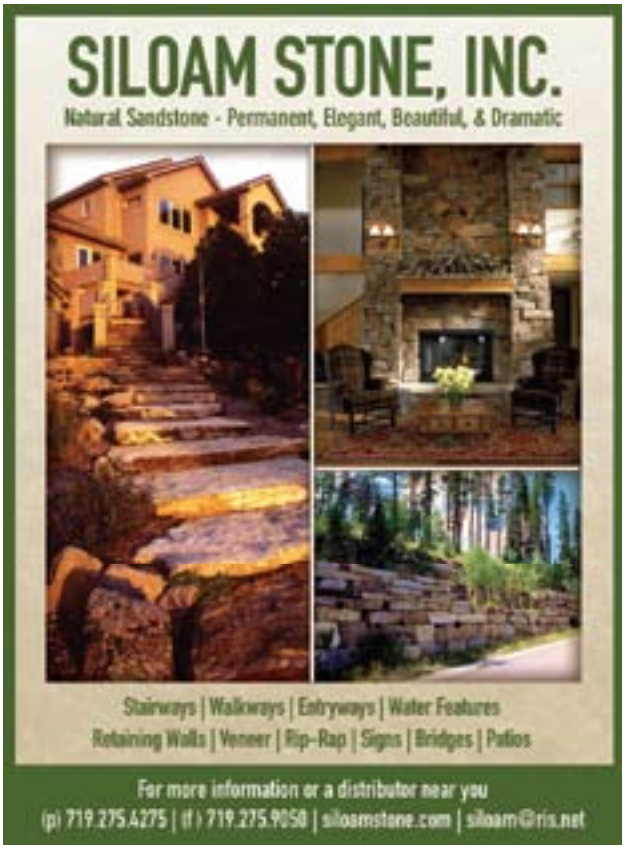
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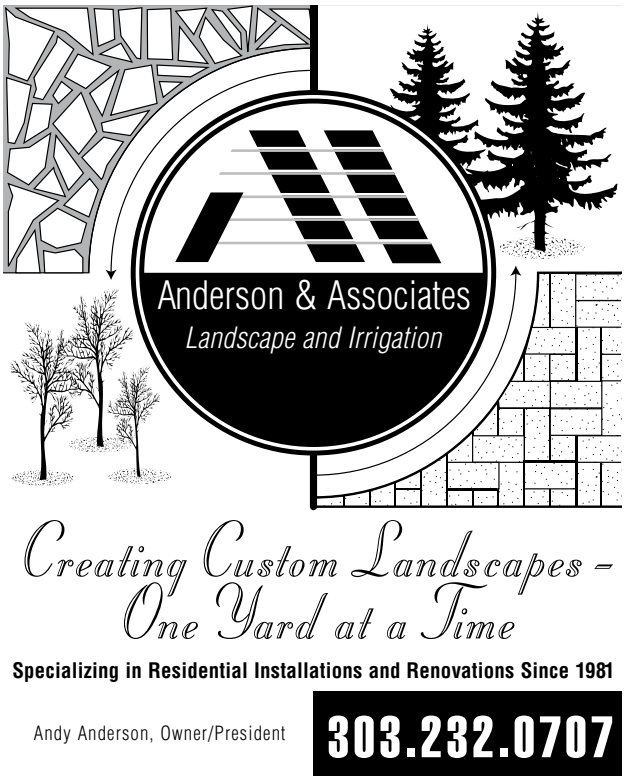
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ONLINE MARKETING ISN'T AS DIFFICULT AS YOU THINK

By Michelle Francis

As anyone who has spent any time on the Internet knows, there's quite a buzz about social media and online marketing lately. It seems as if sites like Facebook and Twitter and tools like Google Adwords are taking over the world. As a landscape architect, where does your firm fit in online?

Google, Twitter and Facebook – Oh my!

Here's a quick overview of the marketing options available with the most popular online networking tools.

Twitter – A free site that lets you post brief, 140 character text-based messages called tweets. These are delivered to subscribers called followers that sign-up to read your posts. Tweets can hyperlink to outside sites, such as your website or blog.

Facebook – When used for your business, this free networking site allowing users to create pages to interact with customers. You can send messages and updates about your firm, like upcoming events, sales, post completed project photos, etc.

Google Adwords – An inexpensive, pay-per-click online advertising option. The ads are short with just one title line two content lines. Your firm only pays when ads are "clicked" on and directed to your Web site.

Which method is best?

For landscape architects, a combination of marketing tactics is recommended, so make sure you're not relying exclusively on only one option.

To begin, create a Twitter account for your firm. It's easy to "twitter" about interesting articles you read about your industry, links to photos of completed projects or events. You can ask past and current clients and associates to "follow" you and add a Twitter icon to your Web site's home page.

Next, create a Facebook account and business page for your firm. Include your logo and start posting information about projects as you complete them. You can ask friends who are part of your personal Facebook profile to join your page. It's easy to add a Facebook icon on your Web site, too.

Finally, it's more than worth the time spent experimenting with Google Adwords. Google's easy-to-use tool lets you research keywords used to search for your kind of work and bring your ad to the top of their search. The best part is you only have to pay when potential clients click the ad to link to your Web site, and you can set a limit you're comfortable with, say $25 per month. In addition, you can choose what you want to pay-per-click. Someone clicking to your website can pay ten cents or fifteen cents, you decide.

The combination of traditional marketing, like a well-designed Web site, print brochure or RFP template and public relations along with online methods go a long way toward educating the public about your firm so you're top of mind when they look for a licensed landscape architect.

Michelle Francis is an account executive at Philosophy Communication, a Denver-based public relations and marketing firm focused on creative campaigns that reach the affluent buyer. Michelle develops, executes and leads strategic communication and branding campaigns that reinforce clients' identities and drive sales. Her work includes positioning, media relations and Web site launches for landscape architecture and design firms and professional organizations.

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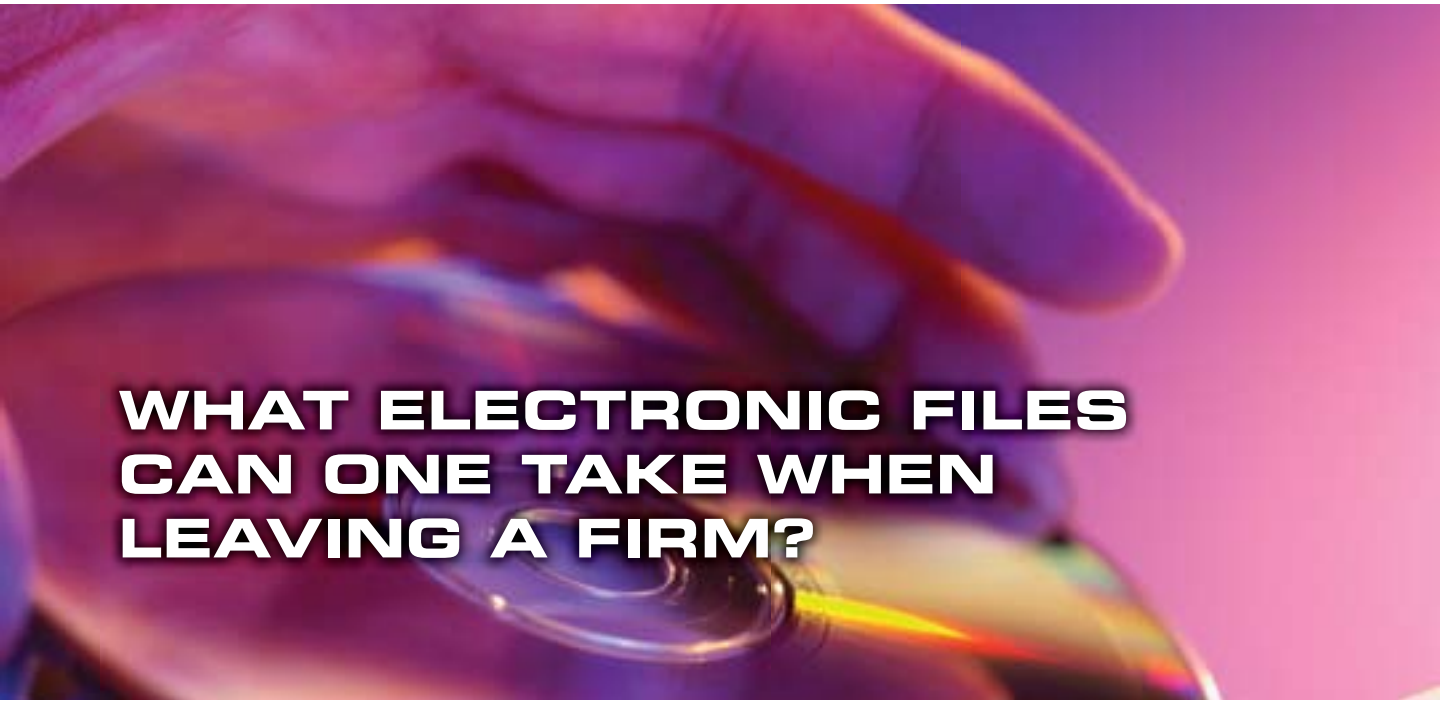

WHAT ELECTRONIC FILES CAN ONE TAKE WHEN LEAVING A FIRM?

By Alex Schatz

Landscape architects leaving a consulting firm, government agency or other organization may wish to copy or transfer electronic files for their records or for later use. With a review of general legal principles, not intended to serve as legal advice, this article provides a brief overview of legal and practical considerations when there is an opportunity to obtain file materials at a job transition.

Defining Ownership

The basic issue with retaining or copying file information is ownership. Who owns the file? The fact that an original work product is in electronic form does not alter the relevant law. Ownership and associated rights are the same for electronic files as they would be for a printed version of the same content. Technology has provided new opportunities and relative ease in the transfer of work product, but ownership remains a strong and fundamental source of legal protection.

For electronic files to be of use, the landscape architect needs to have the right to physically transmit a copy as well as some right to use the so-called intellectual property that is the content of work product. The physical work product of landscape architects includes drawings specifications, reports and other "paper," as well as electronic presentations, CAD files and other plan documentation in computer formats. It is very possible to possess a CD copy of a file, or to access an electronic file legally, but to have no right to use its content.

For landscape architects, copyright is the primary form of intellectual property interest, restricting duplication and use of drawings and other unique works. Unlike certain works of architecture, where unique building schemes may be protected by copyright, copyright of landscape architectural works covers only the representation of plans in a physical or electronic medium, not the actual design itself.

Among other forms of intellectual property, trade secrets protect customer lists, marketing material and other information that provides a competitive advantage to the employer firm. Landscape architecture offices have also occasionally asserted ownership in work product through patents (e.g., landscape assessment algorithms) or trademarks (e.g., company logos).

Prohibited Activities

Generally speaking, the owner of file material must give permission to copy or use files that are commercially valuable.

Removing original file materials without permission is potentially criminal and actionable in civil court. Without authorization, duplicating files is also a potential legal problem if the media or labor to perform copying is an unauthorized use of company resources. Moreover, duplicating files is potentially prohibited by copyright. In addition, use of file materials may or may not, depending on the specific facts of a case, violate other legal rights and relationships.

To illustrate the wide-ranging legal problems associated with unauthorized use of proprietary information, consider the March 2009 Colorado Court of Appeals decision in the case of Harris Group v. Robinson. In this case, employees of a financial services firm systematically removed files from their employer's office prior to quitting, including copying electronic files for subsequent use in a competing business. The legal controversy in the Harris Group case did not involve copyright, but rather the economic damages associated with taking one company's files and using them, without permission, to benefit another firm. Prior to quitting, the employees would forward or copy electronic mail and other files, and then purge the original files from the system. For this conduct the former employees were held liable for breach of a confidentiality agreement, conversion (e.g., theft), breach of fiduciary duty, and intentional interference with contract. The practical lesson of the Harris Group case is that taking files, whether to incur damage or reap later benefits, is an actionable legal claim.

In terms of copyright protections, most landscape architects employed by a firm or other organization will be subject to the "work-for-hire" doctrine. According to federal law, the author of a work created in an employment relationship is the employer; the employee has no right to ownership, attribution or use of the work. Independent contractors, on the other hand, do not immediately surrender rights to copyrighted material (but may nonetheless do so as a contractual obligation). In both cases, use of copyrighted material is negotiable. Both employees and independent contractors can seek agreement from an employing firms that can allow them to, for example, maintain a personal copy, attribute their role in authorship, or create derivative work in the future.

There is no substitute for a written understanding of rights retained by or granted to the employee. Likewise, firms should seek clear definition of who owns or controls work product. Employees of firms that have not settled this issue with clients may inherit a problem if the employer has no right to allow copying in the first place. Alternatively, former employees may occasionally find that their former clients are willing and able to grant permission to use copyrighted material.

Portfolios and Personal Records

Perhaps the most urgent question for landscape architects leaving an employment situation is the ability to retain copies of works for use in a portfolio. It is common practice for artists and designers to keep personal copies of portfolio-quality work, but the ownership and right to use such copies is not necessarily resolved by possession alone.

In some, even many cases, the employer is aware of copying for portfolios and either expressly or impliedly transfers title (or permission to use, a.k.a. a license) for the specific copy or copies retained for portfolio use. Obviously, the safest practice is to receive written permission from an employer to copy portfolio pieces.

Departing employees may be aware and attracted to the idea that limited use of work product for non-commercial purposes may be allowed as "fair use" under the federal Copyright Act. This is true as a general statement, but the fair use doctrine is subjective and does not allow uses that would damage the commercial value of a work. Because portfolios are used for self-promotion and, especially in the design industry, copies of graphics may be distributed to competitors, it is prudent not to rely on fair use to obtain portfolio material.

As a practical example, assume a landscape architect's work is already on display on a website for a former employer. It is debatable that further display would damage the commercial value of the work, but it is always safe to provide a link to the firm's website as an alternative to attempting to obtain the work itself.

Finally, in some cases, a landscape architect may have a legal duty to maintain a record of past work. Most notably, Colorado licensed landscape architects are required by law to retain in their possession a record set of all final construction documents produced under their stamp, for a period of three years after beneficial occupancy or use of a project. Licensees under Colorado law are all individuals, therefore compliance with the record set requirement will occasionally dictate that drawings and other documentation owned by a firm or client must be transferred or duplicated to a departing landscape architect for the limited purposes of the Licensure Act. While the landscape architect should diligently seek to comply, the duties and privileges of a professional license do not displace the ownership interest of others in these files. Licensure merely allows the landscape architect of record access to record documents.

Conclusion

With permission to copy from the owner of electronic files, many problems can be avoided. As a rule of thumb, the practitioner should not use electronic media to appropriate copyrighted information, trade secrets or other proprietary material that would be subject to ownership claims by an employer or others. As with many areas of law, there are exceptions to the general rule, guided by a detailed factual inquiry. Readers should seek individual legal counsel for an opinion regarding specific factual situations.

Alex Schatz is an attorney and landscape architect in the state of Colorado. His legal practice includes representation of individuals, businesses and other organizations, with special emphasis on land development, construction and real estate issues, and counsel to design practitioners. He may be reached at 303-241-8300 or schatzlaw@comcast.net.

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Q&A WITH FRANK CHING

Photo credit: Kathy Sauber

By Brian Koenigberg

EXPOSURES's Brian Koenigberg spoke to Frank Ching (renowned architectural illustrator) about the future of hand drawn graphics in a digital world.

EXPOSURES: **Are hand drawn graphics necessary in this age of technology?**

CHING: There is no doubt that digital imaging and modeling technologies are a positive force today in both architectural education and the profession. We have the ability to create 3-D models easily with programs like SketchUp. We are able to construct simulations and develop design and contract documents efficiently with CAD/BIM programs. We have the means to create compelling presentations with illustration and layout software, obviating the need for manual drafting. So this leads to the question of the appropriate role and relevance of hand drawing. I believe there are two areas in which freehand drawing continues to manifest its usefulness: in generating and working out ideas on paper what I like to call *thinking drawing* and learning about the real world we live in by drawing from *direct observation*.

EXPOSURES: **It used to be that strong visual artists were who became architects and landscape architects. Today the majority of graduates demonstrate very weak hand drawing capabilities. While there is no such prerequisite art training required by design schools, are we missing an opportunity?**

CHING: First, let me say that I suspect one can be a strong visual person whether one draws by hand with a pen or pencil or uses a computer and illustration and imaging software, or if one uses both analog and digital tools, as I do. These are simply different kinds of tools for visualizing, developing and communicating design ideas, but each tool has certain biases as well as blind spots that should be understood.

I also would like to believe there are certain skills one can learn and develop more effectively by drawing with a free hand. One example is drawing from direct observation not from photographs which can be a worthwhile and rewarding activity. This type of drawing is a physical, tactile activity guiding a pen or pencil across an accepting surface with motions that mimic the contours and shapes we see. Observational drawing encourages us to really look and become more sensitive to our environment. The process should lead us beyond simply capturing the optical

image before us; we should be seeking what the visual information means in three-dimensional terms. For example, in the process of drawing a facade, we are motivated to see the exact number of windows and to ask: what are the windows proportions, how are they spaced or grouped, how might they be constructed? These kinds of questions can be easily bypassed when we take photographs but cannot be ignored if we are to look carefully at what we are drawing. At this time, despite the development and refinement of digital tablets, the technology has not yet been able to replicate the process of freehand drawing. Drawing on a digital tablet simply does not have the same feel yet. Maybe in three, five or ten years. But until then, drawing with a simple pen or pencil on paper is an unparalled experience.

The more we draw from observation, the better we can draw from the imagination. And once we are fluent in freehand drawing, we can use this facility to draw as we think and work out three-dimensional problems by hand on a sheet of paper, almost anywhere and anytime the need arises.

Now, let me also say that digital drawing tools have their advantages as well, although of a different kind. There is obviously a lot to be gained by learning the CAD/BIM software that is transforming the way the profession operates. If utilized properly, these programs can be used to develop, simulate and study design alternatives much more efficiently than in the past. (The Control+Z or undo command is one of computing's greatest feats.) However, while time is a constraint that is naturally imposed on hand drawing, restraint and control must be intentionally exerted by the computer user; it is simply too easy to create images on a computer with a menu-driven approach and the unthinking use of defaults, and accepting the results without critical thought.

As an aside, before the development and propagation of computing, there were those who were suspicious of designers who could draw well, believing that strong drawing skills could be used to disguise a weak design. (And sometimes, they were right.) Today, digital tools simply make the task of creating eye-wash that much easier. To guard against eye-candy, we have to develop the ability to read drawings whether done by hand or on the computer critically, for their content.

EXPOSURES: **Along these lines, are hand graphics simply too hard to teach to the masses without a good primary art foundation?**

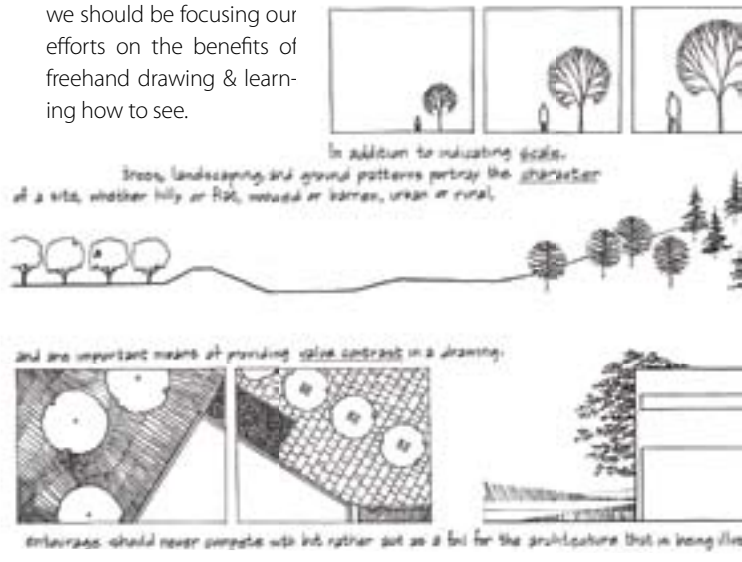
CHING: I don t think so. Until my retirement three years ago, I taught a two-quarter sequence of drawing courses to approximately 200 beginning students, a pre-requisite for entering the architecture program in the junior year. It took a few years to develop an effective sequence of drawing projects that taught and tested the discipline as well as the language of drawing. However, developing and teaching such courses requires instructors who are well versed in both hand drawing as well as digital technology and who understand the principles of drawing and are able to communicate these effectively to students.

The pedagogical goal of such courses should be to develop the students ability to think and visualize in three dimensions and to understand the language of design drawing. What are the abstractions we call plans and sections and how are they related? What do they reveal; what do they conceal? When would or should you use the more pictorial views offered by an isometric or oblique? When are the experiential views offered by perspectives appropriate (especially when they are so easy to generate on a computer)? How can one tell when a perspective is exaggerating the dimensions and proportions of a form or space?

EXPOSURES: **I remember hand-lettering being a big part of my design education, and I have very good handwriting to show for it. Why don't we see strong hand lettering in the youth of our profession? Why the move away from teaching tabletop drafting and lettering?**

CHING: I believe this goes back to how students are taught how to write in elementary school. But this question goes a bit deeper and assumes that there are benefits to teaching manual drafting and handlettering.

It is obvious that word processing on the computer and texting on a cellphone have negated the need for handwriting skills. And the same might be said for drafting by hand. Now we have Adobe Illustrator, SketchUp and CAD programs to do the drafting. So it is certainly a legitimate question whether or not we should require parallel rules and the teaching of hand drafting. I suspect not; it seems that hand drafting is going by the wayside while illustration and CAD software is taking over the drafting functions. Rather, I think we should be focusing our efforts on the benefits of freehand drawing & learning how to see.



EXPOSURES: **Today, hand graphics and rendering are a specialty, something contracted out to architectural renderers for project marketing purposes or important client presentations. Also, as 3D modeling software continues to improve we may find that even these graphics can be created by a computer. Do you see an end to hand drawn graphics over the next decade?**

CHING: Perhaps. As I mentioned earlier, I see the two areas where digital tools have not yet replaced the facility, ease and usefulness of freehand drawing the thinking kind of drawings one uses to develop and convey an idea, and the drawing from direct observation that can stimulate our thinking and create visual memories. I discovered recently that there are many people still drawing by hand from observation. One can look at <www.urbansketchers.com> for numerous examples from all over the world. The sheer number of postings tells me there are still many who enjoy the act and process of drawing the urban environment by hand.

EXPOSURES: **Is it necessary to revive the profession? Or is it simply necessary to make it a core curriculum component once again?**

CHING: The profession is changing in response to new challenges and using new technology to meet these challenges, and so too must schools respond to the how the profession is developing. We must accept and embrace the new technology. But we should also be questioning where the tools are leading us.

The real pedagogical question is not whether to require students to buy a parallel rule and set of drafting equipment, or to require a laptop with certain kinds of graphic software. It is to be clear about what we are trying to teach and determining the best way to teach it.

Courses should not be about manual drafting or computer drawing, but rather about learning the language of design drawing and developing visualization and three-dimensional problem-solving skills. It is certainly possible to teach and to test these skills either by hand drawing or with the computer. The methodology might change but the pedagogical goals would be the same.

EXPOSURES: **Why do you think a hand drawn graphic is better than a computer-generated one when it comes to presenting design ideas to a client?**

CHING: This is a debatable question. Some could argue that a computer-generated graphic is just as compelling as a hand-drawn one. There are excellent graphics done by hand and mediocre ones as well. And the computer is certainly capable, in the right hands and with a discerning eye, of creating excellent graphics, and in the wrong hands, of creating eye-catching but false imagery.

If there is an advantage to the hand-drawn image, it is that its inevitable variability its lack of perfection more easily conveys a future that remains open to negotiation, and its inherent incompleteness encourages the viewer to participate in its reading. On the other hand, digital images appear to be too perfect, too final, even if the intent is to produce only a preliminary idea. This brings to mind the odd feeling I get when I see a computer algorithm used to make a digital drawing look like it was done by hand by squiggling the plotted strokes and exaggerating the crossing of lines at corners.

These superficial effects ignore the authentic process of drawing whether by hand or on the computer and the three-dimensional thinking that is essential to all good design drawing.

Frank (Francis D. K.) Ching is a widely recognized author of books addressing architectural and design graphics. Ching's books have been widely influential and continue to shape the visual language of all fields of design. He is a Professor Emeritus at the University of Washington.

Ching was born and raised in Hawaii. He received his B.Arch. from the University of Notre Dame in 1966. After several years of practice, in 1972 he joined the faculty at Ohio University to teach drawing. To support his lectures in architectural graphics, Ching hand-drew and hand-lettered his lecture notes. These notes were eventually shown to the publisher, Van Nostrand Reinhold, and were published, in 1974, in an edited version as Architectural Graphics, (a book now in its fourth edition). Ching went on to produce twelve other books, including Building Construction Illustrated and Architecture: Form, Space & Order. Ching's hand lettering has been adopted by Adobe in its Tekton font family.

UNVEILING THE TRUE CHARACTERISTICS OF CONCRETE

Harlequin Plaza, Denver Tech Center

By Karen Van Heukelem

Concrete is not new. The technology of concrete is not new. Both have been utilized for thousands of years. However, re-discovering the aesthetic characteristics of concrete is a pleasing trend that has re-emerged in the design community. Whether it is a water feature splash pad, sidewalk, pool deck, or a grand entry to a luxurious hotel, Bomanite's® Sandscape Texture™ (Sandscape) brings out the true potential of today's concrete: beautifully utilitarian concrete.

What do most people see when they think of concrete? Unfortunately, most people visualize the broom finish marks on the surface of the watery cement paste. What a shame. Concrete loses its art and beauty at the surface and is seen as merely serving its utilitarian purpose.

To overcome this perception, the Sandscape was developed to complement exposed aggregate systems. Unlike the exposed aggregate of the past, with its rough, uneven, and foot-grating surface, Sandscape refined the process to unveil the art beneath the surface of concrete. It reveals what concrete is: a mixture of water, cement, fine aggregate (sand) and course aggregate (rocks).

Sandscape is the uniform finish of exposing the fine aggregate of the concrete surface. This makes for an ideal finish for several reasons.

- First, the Sandscape process is a delicate procedure that, when done correctly, results in a consistently textured finish. Poorly executed copies of this process show the inconsistent texture of deep and light etching. Sandscape has a uniform finish with the same level of etching across the entire surface.
- Second, it ages beautifully. The walking surface of Sandscape is the sand surface; when that is walked off, there is more sand, so it wears evenly. Other non-exposed finishes show wear by cutting down to that sandy layer. Sandscape merely brings the finish to that layer to eliminate that problem.

Arista Plaza, Broomfield, CO

- Finally, it holds color beautifully. Although an integral color is recommended over a topical stain or dye for most concrete applications, Sandscape holds surface-applied colors better than standard finishes. The stain will typically penetrate past the sandy surface to the cementitious layer. The color will not walk off as quickly as it would in other finishes.

Creative variations to Sandscape abound. Varying the etch level, seeding decorative aggregate per the Lithocrete® standards, applying similar finishes of Aggretex®, or even changing the integral color or the aggregate in the mix allows designers an almost unlimited variety of finishes. It lends itself well to special scoring, staining and theming. Sandscape is ideal for pool decks because it is smooth enough to walk on with bare feet, but yet has an excellent non-slip surface. According to Landscape Architect James S. Ramos of Nuszer Kopatz, "Incorporating Sandscape colors and finish in our projects allows us to develop a level of detail that adds to the beauty and quality of our designs. It's especially nice for pool decks and spray grounds and a great surface for bare feet."

The trend by Landscape Architects to specify Sandscape as their finish of choice is becoming more prevalent in Colorado. Words such as "authentic, natural, honest, and historic, with more the character of stone or other natural paving materials" aptly describe their love of the product. It has been embraced as a desired pavement finish in Class A commercial facilities and many high end residential projects. It combines the desired combination of aesthetics, durability, cost-effectiveness, and design flexibility. "In the current economy we have been working very hard with developers to get anticipated construction costs in line with their budgets," said Gary L. Worthley, ASLA of LandWorks Design, Inc. "I appreciate the fact that we can get a more refined finish with the Sandscape and we have been able to reduce cost by eliminating integral color and introducing local colored aggregates."

Shops at Quail Creek, Broomfield, CO

Trailhead Lodge, Steamboat Springs, CO

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CAN STRATEGIC TREE PLANTING IMPROVE STORMWATER MANAGEMENT IN THE FRONT RANGE?

By Ryan Moore

Urban forests can provide many important environmental, social, and economic benefits. The right tree in the right place can improve air and water quality, mitigate the urban heat island effect, sequester carbon, reduce energy use in buildings, improve aesthetics, raise quality of life, and reduce crime. One of the most valuable functions of urban forests may be their ability to control stormwater runoff volume and reduce stormwater pollution. However, before making plans to plant trees for stormwater management, consider what we know and don't know about the performance and cost-effectiveness of such strategies in Colorado's unique environment.

Stormwater management is an enormous challenge for landscape architects, planners, and developers. Colorado communities are beginning to understand the cost of unmitigated stormwater runoff – ecological and physical degradation of riparian ecosystems, expensive mechanical remediation such as bank stabilization, more complex water treatment processes – and demand solutions that are functional, aesthetically pleasing, and cost-effective. Strategic tree planting in specialized stormwater infiltration sites (bioretention cells and swales) is one low-impact development (LID) strategy that may be able to decrease runoff volume and pollutant loads, reduce downstream infrastructure cost and give developments a positive ecological impact.

The performance of tree-based stormwater management strategies has been well-studied in other parts of the country. According to the US Department of Agriculture's Center for Urban Forest Research and the nonprofit Center for Watershed Protection, landscapes with trees can have infiltration rates that are 10-15 times greater than similar treeless areas. Trees can remove metals, nitrates, phosphorous, and potassium from polluted storm runoff, thereby protecting the health of receiving waterways.

This sketch is courtesy of the USDA Forest Service. (Cappiella, K., Schueler, T., Tomlinson, J., and T. Wright. 2006. Urban Watershed Forestry Manual. Part 3: Urban Tree Planting Guide. NA- TP-01-06. USDA Forest Service, Northeastern Area State and Private Forestry. Newtown Square, PA.)

In Colorado, trees are occasionally incorporated into urban development as a component of stormwater management using designs imported from other regions or based on best guesses. Given Colorado's challenging climate and soil conditions, these applications have mixed results.

One major issue to be resolved is the optimal tree species palette for both stormwater management performance and cost-effectiveness. From scientific studies and pilot projects, we know that trees used in parking lot bioretention cells, swales, and sump islands should have:

- Large leaf surface area and textured bark for maximum rainfall interception
- Minimal litter production to prevent clogging
- Strong, stable branch attachments to reduce maintenance demand
- No fruit or excessive sap that might damage cars

Trees also need to be tolerant of the high temperatures found in parking lots and frequent flooding, in addition to the low water-use and alkaline soil tolerance required for any tree to thrive here.

This is a tall order and, despite many attempts to generate a list of the best trees for Colorado, the evidence supporting tree species recommendations is, in most cases, based on informed guesses by foresters and arborists. There is still no scientifically generated characterization of tree water use for many species, and water use is only one of the factors that will determine if a tree will thrive, be deep-rooted and shade-giving, and help filter stormwater runoff in the challenging conditions of a bioretention cell.

The potential benefits of strategic tree selection, planting, and maintenance are great. The U.S. Environmental Protection Agency, in a 2007 national survey of mixed redevelopments that employed low impact development techniques with trees, found that most of the projects cost about 25% less than they would have if traditional stormwater management approaches had been used. The savings were the result of reduced cost for site grading and preparation, stormwater infrastructure, site paving, and landscaping. Tree-based stormwater management systems may also reduce the space required for detention ponds in some cases, allowing more space on site for other applications.

Installed and maintained unscientifically, however, bioretention cells, swales, and sump islands can end up costing more than they are worth. Excessive maintenance and early replacement are likely without careful consideration for tree species selection, soil amendment, and maintenance regime.

In Colorado, the Institute for Environmental Solutions (IES) and its partners are encouraging the effective application of strategies for parking lot stormwater management that take advantage of trees' ability to increase filtration and infiltration of runoff, while optimizing trees' other environmental benefits.

The Urban Forest

It is important to consider the powerful impact of the urban forest on the environment. In addition to stormwater management, trees affect:

- Air quality
- Carbon storage and sequestration
- Energy conservation
- Water conservation

Species selection, location, and maintenance strategy will determine whether these impacts are positive or negative.

Choosing the best tree(s) to optimize environmental benefits for a given location is a complex process and will largely depend on the local environment and the environmental priorities of the property owner. Start by limiting your tree species palette to those that are healthy and long-lived in your region with relatively low levels of maintenance. Research by IES and others has shown that the key to creating strong net benefits with urban forestry is to grow a healthy forest; sickly trees do not live long enough to return benefits, environmental or otherwise, worth the cost of planting and maintenance.

If you are preparing a site in Colorado or other region with high home heating demand, avoid planting near the south side

Bur Oak
(Quercus macrocarpa)

Common Hackberry
(Celtis occidentalis)

When it comes time to select a tree, take the time to consider all of its potential impacts. There are tradeoffs associated with any tree. For example, while the Bur Oak (Quercus macrocarpa) is a hearty, efficient water-user and a beautiful tree, it is also one that can harm air quality by producing high levels of volatile organic compounds, precursors to ozone air pollution. Species that perform well environmentally and are often recommended by foresters in the Front Range include:

- Kentucky coffeetree (Gymnocladus dioicus)
- Common hackberry (Celtis occidentalis)
- Green ash (Fraxinus pennsylvanica)
- Bristlecone pine (Pinus aristata)

Species that are unhealthy or invasive and that should be avoided in the Front Range include:

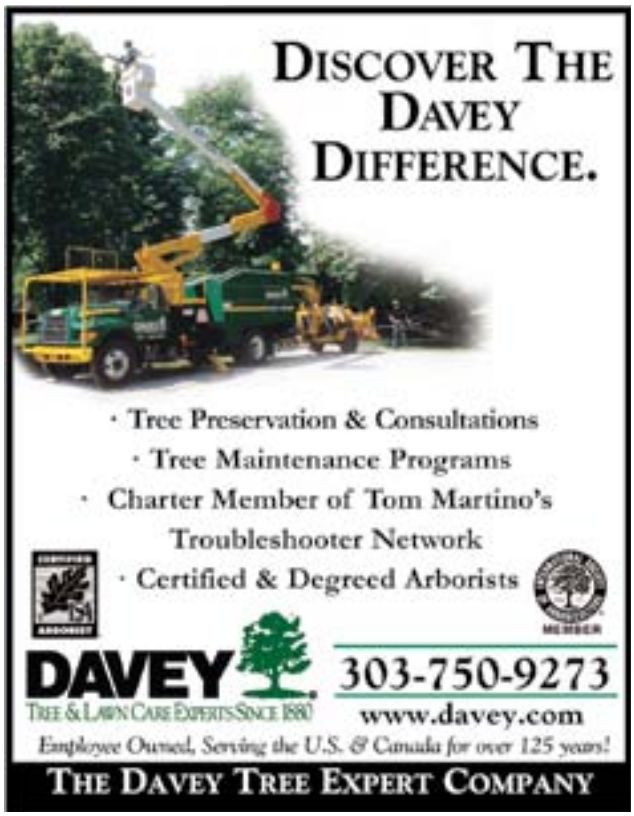
- Quaking aspen (Populus tremuloides)
- Silver maple (Acer saccharinum)
- Willow (Salix spp.)
- Boxelder (Acer negundo)

For more information and more recommendations, contact your local forester and visit the IES website at www.i4es.org.

of buildings, especially small houses. Even the shade from a bare deciduous tree in winter is enough to tip the balance to net energy loss over the course of the year in Colorado. Besides, the sun is so high in the summer that southern trees provide little shade to houses. Plant deciduous shade trees to the east and west of buildings and evergreens to the north.

Municipal urban foresters worried about maintenance costs (financial and environmental) should plant trees with similar maintenance needs together. For others, the most important maintenance consideration is watering regime. Water deeply and slowly. Use the estimates provided by growers to guide your watering, but keep your eye out for more accurate information emerging from Colorado State University and other places.

Ryan Moore is a Senior Research Associate at the Institute for Environmental Solutions. The Institute for Environmental Solutions is an independent non-profit organization that engages stakeholders to deliver proactive, technically sound solutions to complex environmental and natural resource problems that avoid unwanted side effects. For more information and to get involved, please visit the IES website at www.i4es.org, or contact IES Executive Director Carol Lyons at carol@i4es.org or 303-388-5211.



JOB SEARCH SURVIVAL 2009

By Deborah Walker

Undoubtedly, this is the toughest year on record to land a new job. Reaching your career goal will take courage and nerves of steel. Are you up to the challenge? Here are four tips for job-search endurance that will keep you on the right track toward your employment goal.

1. Keep your career goal realistic.
This is not the time to strike out in a risky career direction. Following your heart toward a career in which you have little qualifications could yield months of frustration as you find yourself competing against legions of candidates far more qualified. Unless you are in the position to hold out for a very long job search, concentrate on positions where you are best qualified.

2. Realize it will take longer to land your next position.
If you've never experienced a lengthy job search, set your expectations out several months and practice patience. You will apply for many positions as the perfect candidate, and get no response. Expect that. You will conduct perfect interviews and hear nothing back. Expect that as well. Just remember that eventually the right company with the right job at the right time will come your way if you stay calm and focused and don't let discouragement keep you from moving forward. Just keep with it.

3. Write a better resume than your competition.
Less jobs and more applicants equals extremely high competition. The quality of your resume has never been more important. For the best possible resume keep these guidelines in mind:

- Focus your resume. Avoid a one-size-fits-all resume.
- Showcase your best information in the top half of page one.
- Include accomplishments that illustrate your ability to solve today's business challenges.

4. Sharpen your interview skills.
With employers interviewing only the best of the best, when you are chosen to interview be sure you are your competitive best. You CANNOT "just wing" an interview and expect to be called back for a second. Today it takes solid interview strategy to earn a second round of interviews. Interview books are helpful, but they usually fall short of teaching you how to read the interviewer's mind to understand his/her hiring motivations. A study in the art of selling is more effective to achieve great interview performance. A few basic selling strategies include:

- Asking the right questions to understand the interviewer's "hot button" motivations.
- Formulate answers around the interviewer's motivations.
- Know your accomplishments well enough to weave them effectively through your interview to achieve top candidate status.

Throughout 2009, the best jobs will go to those who persevere and stay focused. Keeping your expectations and goals realistic will help prevent the emotional ups and downs. Prepare for your job search as if you were competing in a marathon. With patience, endurance and skill you will win your next job.

Deborah Walker, CCMC is a career coach helping job seekers compete in the toughest job markets. Her clients gain top performing skills in resume writing, interview preparation and salary negotiation. Learn more about Deborah at www.AlphaAdvantage.com.

VOLUNTEERING

ASLA Colorado would like to recognize the following volunteers for their dedication and participation at this year's Mini-Conference:

Pat Mundus, Vivian Kovacs, Kim Douglas, Seth Clark, Lucy Bambrey, Chris Perry, Scott Sinn, & Taran Jensvold

AWARDS

Council of Fellows

It's official. Two Colorado members have been selected to the ASLA Council of Fellows for induction at the Annual Meeting in September. Please join us in congratulating them on this great honor.

Eugene B. Eyerly, ASLA
Eyerly and Associates, Denver, CO
Eugene Eyerly was nominated by the Colorado Chapter for 40 years of bridging common interests among the chapter, the state's green industries, and the Associated Landscape Contractors of Colorado. As a mentor, technician, educator, and volunteer, Eyerly's professionalism and ethics have become legend in the state and the region. He has expanded the knowledge of all landscape architects by developing and promoting the best design, construction, and planting techniques for the Colorado landscape's inherent difficulties. He and Dr. James Feucht have developed an awareness program that has virtually eliminated herbicide damage in the state of Colorado. A member of the Greatest Generation, Eyerly graduated from the U.S. Maritime Academy in 1943 and the American Landscape School in 1948.

Thomas G. Hawkey, ASLA
Thomas G. Hawkey, Landscape Architect, Denver, CO
Thomas Hawkey was nominated by the Colorado Chapter for his 20 years of leadership as an accomplished administrator, mentor, and volunteer. Throughout his career at the City of Denver Parks and Recreation Department, he has promoted the profession through practice, city administration, and community service. As past Colorado Chapter president, Jane Silverstein Ries (JSR) Awards Committee member, and as the founding president of the JSR Foundation, he has increased the profession's visibility and outreach within and beyond the Rocky Mountain region. Hawkey earned his bachelor of science in graphic arts/speech communication from South Dakota State University in 1974 and his masters of landscape architecture from the University of Colorado–Denver in 1987.

Thirty-three members were selected nationally into its distinguished Council of Fellows, among the highest honors the Society can confer upon a member. Members of the ASLA Council of Fellows are recognized for their extraordinary work, leadership, knowledge, and service to the profession over a sustained period of time. The Fellows-elect will be formally inducted into the Council during the ASLA Annual Meeting in Chicago. Thereafter, they may use the suffix "FASLA" after their names, denoting recognition of their achievements by their peers.

New ALSA Colorado Members

Kate Bernhardt, ASLA – *City of Boulder Parks & Recreation*
Leanne Duncan, ASLA – *GPD Land Design*
Jo Carole Haxel, ASLA – *Mesa County*
Lance A. Henkel, ASLA – *Jefferson County Open Space*
Brian Muller, ASLA – *Highlands Ranch Metropolitan District*
Jon S. Seier, ASLA – *Norris Design*
Stuart C. Shockley, ASLA – *Design Studio West, Inc.*
Michael Tavel, ASLA – *Michael Tavel Architects*
Julie Ann Woods, ASLA – *Elk Mountains Planning Group, Inc.*

Richard Shaw, FASLA, Receives the Design Medal
The American Society of Landscape Architects announced the recipients of its 2009 honors, the highest awards the Society presents each year. Selected by ASLA's Board of Trustees, the medals, the Community Service Award and the Landscape Architecture Firm Award will be presented during the ASLA Annual Meeting in Chicago.

Richard W. Shaw, FASLA, partner in the Aspen office of Design Workshop Inc., will receive the ASLA Design Medal for his consistent excellence across a wide variety of project types. His projects – ranging from private houses to urban master plans – have earned multiple design awards. He has received the Urban Land Institute's prestigious Award of Excellence twice, once for urban revitalization plans in Aspen and once for Blackcomb Resort in British Columbia. An active torchbearer of the profession, he has served both the national and Colorado chapter of ASLA, Landscape Architecture Foundation, advisory councils at Utah State University and the Harvard Graduate School of Design, and the Aspen Institute.

5 Design Concepts Playgrounds Among the Region's 11 Best

Lafayette, Colorado – Design Concepts is pleased to announce that five playgrounds designed by the firm were selected by the Denver Post among the top 11 playgrounds on the Front Range. The playgrounds are located at: Fossil Creek Community Park in Fort Collins, Louisville Community Park in Louisville, Northglenn Sensory Park in Northglenn, Utah Park in Aurora, and Westlands Park in Greenwood Village. Founded in 1981, Design Concepts is a 17-person community and landscape architecture firm located in Lafayette, Colorado.

studioINSITE Promotes Holly Moore

Denver, Colorado – studioINSITE recently promoted Holly Moore from marketing director to business development director. In her new role, Ms. Moore will provide the Denver-based urban design, landscape architecture and planning firm the vision and strategic leadership to acquire new clients, develop existing client relationships, and identify potential business opportunities.

In addition to overseeing all marketing functions and proposal management for studioINSITE, Holly actively seeks and establishes strategic alliances through which the firm can leverage its unique breadth of experience to penetrate new and existing markets. Such collaborative relationships have enabled studioINSITE to pursue a wide range of project types in a variety of geographic locations throughout the U.S. and even globally.

Prior to joining studioINSITE, Holly worked as a brand planner for a branding and full-service advertising agency in Dallas. Her introduction to the landscape architecture industry was a welcomed change whereby she could combine her passions for landscape architecture and marketing. Ms. Moore has been with studioINSITE since May 2005.

studioINSITE Hires New Principal

Denver, Colorado – On July 15, Russell L. Butler II, FASLA began work at studioINSITE, LLC, which until mere weeks ago was one of his biggest competitors. Dennis W. Rubba, RLA, ASLA, founder of studioINSITE – a Denver-based urban design, landscape architecture and planning firm – recognized an opportunity to combine competing forces and brought aboard Russ Butler as Principal. Russ shares the same passions and expertise as Rubba in the college/university, healthcare and civic place-making arenas. In addition, he brings to studioINSITE national and international relationships and experience.

Russ Butler is a graphic designer and registered landscape architect in 15 states with a strong background in campus master planning and design, healthcare projects and urban design. Over the course of his 40-year career, Russ has headed up international projects in such countries as Kuwait, Jordan, Rwanda and China, in addition to his work throughout the U.S.

Prior to joining studioINSITE, Russ Butler served as a design principal and vice president of San Francisco-based EDAW, Inc.'s Denver office for 28 and a half years. When asked what drew him to studioINSITE's small studio in Denver's River North Art District, Butler responded, "We regularly competed with each other when I was at EDAW and we typically went head-to-head on campus, urban design and planning projects. We knew our competitor [studioINSITE] well – not to mention that I've personally known Dennis for many years. I've always liked the quality of studioINSITE's work and I thought it would be a great fit."

The partnership seems to have paid off for studioINSITE as well. In addition to his decades of planning and design experience, invaluable client relationships and extensive list of awards, Principal Butler also brings with him several major projects, including a 1,000-bed hospital in Baghdad, Iraq; a second hospital in Nigeria; and a campus master-planning project at Newman University in Wichita, Kansas.

Russ' goals as a new principal at studioINSITE are to contribute to the expansion of the firm's campus planning and healthcare markets, produce quality work and have fun in the process. His optimism has been felt throughout the office. "studioINSITE has a really energized staff – very talented," said Butler, "and I look forward to interacting with, collaborating with, and mentoring each member of this power-hitting team."

DTJ DESIGN Announces Three New Principals

Boulder, Colorado – DTJ DESIGN, Inc., an international community design firm based in Boulder, recently named senior planner/landscape architects Bill Campie and David Ignatew, and senior architect Joseph Ginther as Principals. The three are significant contributors to DTJ's expanding international practice with community design and visioning as a focus. Talented designers in their own right, they also offer valuable marketing horsepower and business leadership. Ignatew has been with DTJ since 1993, Ginther since 2000 and Campie since 2006.

Craig Karn of Consilium Design achieves LEED AP

Centennial, Colorado – Craig Karn, Principal and Partner at Consilium Design has become a Leadership in Energy and Environmental Design Accredited Professional-LEED AP. Consilium Design is a full service land planning, landscape architecture and urban design firm that consults with community developers and homebuilders to create exciting, original new communities throughout Colorado, the United States and internationally.

Consilium Design's scope of project involvement ranges from acquisition and feasibility planning and design through construction on sites from small acreages to master planned communities, including commercial, mixed-use and residential development.

Land Designs by Ellison Anounces new Design Principal

Vail, Colorado – David M. Berg, Landscape Architect, has been named Design Principal of Land Design by Ellison, Inc. Dave has more than 14 years of Landscape Architectural Design and Management experience. His comprehensive knowledge of Landscape Architecture includes Public & Private Landscape Developments, Mixed Use, Retail and Commercial, Single & Multi-Family Residential, Recreation, Natural Resource Planning and Site Observation. This experience has offered Dave the opportunity to collaborate closely with Town, City & County Officials and Planners, Civil, Electrical, Mechanical, Structural & Soil's Engineers, Architects, Biologists, as well as large Land Developers, Apartment Builders and Residential Homeowners. Dave understands that the importance of communication, coordination and teamwork is essential to ensure community excellence.

Mundus Bishop Design Promotes Two Designers

Denver, Colorado – Mundus Bishop Design, Inc., is pleased to announce the promotion of Robyn Bartling, ASLA and Stacey Stickler, ASLA to Associate positions.

Ms. Bartling joined Mundus Bishop Design in 2004 after working in both the private and governmental sectors as a landscape architect. A 1998 graduate of Colorado State University, Robyn's notable projects with Mundus Bishop Design, Inc. include: Hot Springs National Park, Mordecai Children's Garden at Denver Botanic Gardens, Aurora's City Park and Denver's Civic Center. Robyn is a Colorado registered landscape architect.

Stacey Stickler, ASLA

Ms. Stickler joined Mundus Bishop Design in 2002 after receiving her MLA from the University of Arizona. Stacey's work is focused on park, school and public space design as well as natural area design and planning. Notable projects include: Denver's Highland Park; learning landscapes for several Denver Public Schools; and the Bonfils Stanton Visitor Center at Denver Botanic Gardens. Stacey is a Colorado registered landscape architect.

Bluegreen Associate Recognized

Aspen, Colorado – Principals Sheri Sanzone and Valerie Yaw are thrilled to announce Ryan Vugteveen as the first associate at Bluegreen, an Aspen-based planning and design firm founded in 2001. Since joining Bluegreen in 2007, Vugteveen has demonstrated exceptional leadership and mentorship in the field of landscape architecture. Being involved on every level of the profession from conceptual design to construction administration, Ryan brings both strength in vision and the ability to facilitate a detailed design and construction process.

Vugteveen is a graduate with honors from Michigan State University and an American Society of Landscape Architects National Merit Award recipient. He is a licensed landscape architect in Colorado and Michigan, has contributed to several award winning projects and recently joined the Roaring Fork Outdoor Volunteers Committee to "select and help plan safe, fun, long-lasting RFOV projects." He is also a member of the American Society of Landscape Architects and the US Green Building Council. "Ryan's work continuously raises the bar for excellence in design. He brings exceptional skills and visionary approach to the profession and to the Roaring Fork Valley," says Yaw.

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