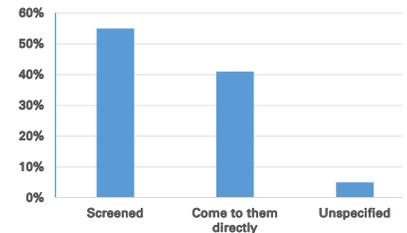


Common business problems

Many lessons from 'Small Enterprise Management' can be applied to A/E/P and environmental firms.

TRENDLINES

Principals' calls



Zweig Group's [2015 Principals, Partners & Owners Survey](#) finds that three out of every 10 principals have a personal secretary or administrative assistant. Whether they have one or not, more than half (55 percent) report they have someone screening their calls for them. Still, 41 percent of principals have calls come to them directly, while 5 percent did not specify. – Leah Santos, research analyst assistant

FIRM INDEX

- [Archaeo Architects](#) 4
- [Balfour Beatty Construction](#) 12
- [Baxter & Woodman](#) 12
- [DLR Architects](#) 12
- [Ductile Iron Pipe Research Association](#) 2
- [English + Associates Architects](#) 7
- [Ghilotti Bros., Inc.](#) 4
- [HNTB Corporation](#) 4
- [HOK Architects](#) 12
- [J.M. Waller Associates, Inc.](#) 4
- [K. Dixon Architecture](#) 4
- [Kitchell](#) 12
- [Knife River Corp.](#) 4
- [Lotus Environmental Consulting LLC](#) 9
- [MDU Construction Services Group](#) 4
- [Merrick & Company](#) 2
- [Pare Corporation](#) 4
- [Primoris Services Corporation](#) 12
- [Q3 Contracting](#) 12
- [SALA Architects](#) 4
- [SEPI Engineering & Construction, Inc.](#) 6
- [Teichert](#) 4
- [University of Massachusetts, Amherst](#) 4
- [Versar, Inc.](#) 4
- [VIATechnik](#) 4
- [Wagman Companies, Inc.](#) 4
- [Willbros Group, Inc.](#) 2

"It is so interesting to see who is making money, who is losing money, and why."



Mark Zweig

EDITORIAL

As most readers know, one of my "other" jobs is that of a college professor, teaching entrepreneurship at the Sam M. Walton College of Business at the University of Arkansas' main campus in Fayetteville. Each Spring, I teach two sections of "Small Enterprise Management," a class where my students work with a privately held company's owners to improve their growth, profitability, value, and reduce their risk.

While I give them suggestions, I let each student use any means they want to gather information on the business. One requirement is to share their financials with the class. Doing this for 12 years and having 90-plus students a year – each working with a different company – has given me an incredible view into the successes and failures of privately held businesses of all types. It is so interesting to see who is making money, who is losing money, and why. Of course, I always get ideas for new businesses I want to start (or never start!) based on what I learn. Here are some of my observations – and I think there are lessons for A/E/P and environmental firms here:

1) Marketing is the No. 1 problem for small businesses. Most of 'em don't do anything. They over rely on "word of mouth." Most small business owners think marketing is too expensive or a waste of time and, as a result, spend almost nothing on it. Then their businesses don't grow and their response is to either keep doing nothing or to work on building a better mousetrap – but rarely is it to start marketing! Most owners of A/E/C firms – in spite of countless examples of firms who have been incred-

See [MARK ZWEIG, page 2](#)

MORE COLUMNS

■ FROM THE CHAIRMAN: Measuring performance measures. [Page 3](#)

■ GUEST SPEAKER: Too busy to work on your business? [Page 11](#)

PLUS

■ SPOTLIGHT ON AWARDEES: Interviews with leaders of 2014 Hot Firm and Best Firm to Work For. [Pages 6, 7](#)

Engineering girl power

[Page 5](#)

Growing Lotus

[Page 9](#)

TRANSACTIONS

WILLBROS ELECTS BOARD MEMBER [Willbros Group, Inc.](#) (Houston, TX), a specialty energy infrastructure contractor serving the oil, gas, refining, petrochemical, and power industries, announced that **Phil Wedemeyer** was elected to its board of directors on April 17. Wedemeyer retired as a partner from Grant Thornton LLP, an international accounting firm, and served with the Public Company Accounting Oversight Board.

Before his service with PCAOB, Wedemeyer was with Arthur Andersen SC for more than 31 years, including 22 years as a partner. Wedemeyer also serves as a director of publicly traded Atwood Oceanics, Inc. and Trinity Steel Fabricators, a privately held fabricator of structures and vessels. He is a member of the Deloitte Audit Quality Advisory Council

and is a licensed certified public accountant.

DIPRA WELCOMES NEW REGIONAL ENGINEER The [Ductile Iron Pipe Research Association](#) (Birmingham, AL), an organization that provides engineering information about cast iron and ductile iron pipe for utilities and consulting engineers, has announced the appointment of **Andrew Pihaly** as regional engineer for the Western States.

"For 100 years and counting, DIPRA and its member companies have been committed to providing clean, safe water for millions of Americans. As the country prepares to spend close to \$1 trillion in upgrading its water infrastructure, we must have the right people on the job to provide the expert assistance and guidance DIPRA has always been known for

– and Andrew certainly meets that criteria," said Jon Runge, president of DIPRA. "Because DIPRA's Regional Engineer program is the leading source of information in the sustainable water and wastewater industry, Andrew's addition will only strengthen our ability to serve engineers and utilities."

Pihaly is a licensed engineer, a Leadership in Energy and Environmental Design accredited professional, and a certified associate value specialist through SAVE International.

CHRISTIE ELECTED ACEC CHAIRMAN **Ralph Christie**, chairman of [Merrick & Company](#) (Greenwood Village, CO), an engineering, architecture, design-build, surveying, planning, and geospatial solutions firm, has been elected chairman of the American Council of Engineering Companies. Christie, who has been active in ACEC for many years and served on its Executive Committee, was elected unanimously by the organization's national board of directors, representing 51 state and regional ACEC member organizations. His term will run through April 2016.

The Council is the oldest and largest business association of engineering companies in the United States, comprising more than 5,000 member firms representing over half a million employees. Its agenda focuses on achieving a balanced public policy approach to meeting America's infrastructure, energy and environmental requirements.

MARK ZWEIG, from [page 1](#)

ibly successful through sustained marketing investments – operate the same way.

2) Transition planning is frequently ignored. Most small business owners build organizations that are entirely too dependent on them and then don't get anyone else in there who could take over one day soon enough to have a transition. As a result, the majority of these businesses will start and end with their first owners. Same situation in the AEC world – no transition and a firmly rooted belief that the company won't be worth anything anyway.

3) Family businesses have many special problems. The majority of small businesses have more than one family member working in them. In some cases, the payroll is loaded with family members who aren't doing anything and who all act like they own the business and can tell anyone else what to do. In other cases, sons and daughters – and sons and daughters OF sons and daughters – are all working together under one roof, and there's lot of frustration with an aging founder who won't adopt technologies needed and who doesn't want to invest in the business so it will grow. Family business is tough and, in my mind, most relatives should start at the bottom and prove themselves or work somewhere else and come back. No family member should automatically get a job. We have seen plenty of these issues in the AEC world over the years.

4) Many businesses are ill-conceived from the get-go. Who really needs another stained glass company, or the 41st undifferentiated Mexican

restaurant in a city that already has 40 of them, or a screen printing T-shirt business? AEC firms are much the same. The engineer or architect who starts the business hangs their shingle out with little thought of what will differentiate them from other similar businesses and how they will be set up so the probabilities are in their favor for success.

5) So many small and private businesses have terrible accounting!

It's crazy. I have learned about companies – some of them doing millions of dollars of business annually – with NO accounting. The owners throw everything into a shoebox or run the show from their checking accounts. It's really crazy. You have to have good numbers to know what is going well and what needs fixing, as well as what could be going wrong soon! We have seen some of this same nonsense in AEC firms, believe it or not. I knew a guy once who ran a second-generation A/E firm as the sole owner. He had 14 different checking accounts and boxes full of paper but never knew how he was really doing.

In any industry or market, some people are a lot more successful than others. The difference that these companies achieve may be two, five, 10, 20, or even 50 times better than the "norm." You won't get better results by doing everything the same way everyone else does it in your business, either! Don't fall into these common small-business/private-business traps. ▀

MARK ZWEIG is president and CEO of Zweig Group. Contact him at mzweig@zweiggroup.com.

THE ZWEIG LETTER

**38 West Trenton Blvd., Suite 101
Fayetteville, AR 72701**

Mark Zweig | Publisher
mzweig@zweiggroup.com

Andrea Bennett | Managing Editor
abennett@zweiggroup.com

Christina Zweig | Contributing Editor
christinaz@zweiggroup.com

Liisa Sullivan | Correspondent
lsullivan@zweiggroup.com

Richard Massey | Correspondent
rmassey@zweiggroup.com

Tel: 800-466-6275
Fax: 508-653-6522
E-mail: info@zweiggroup.com
Online: thezweigletter.com
Twitter: twitter.com/zweigletter
Blog: blog.zweiggroup.com

Published continuously since 1992 by Zweig Group, Fayetteville, Arkansas, USA. ISSN 1068-1310.

Issued weekly (48 issues/yr.). \$475 for one-year subscription, \$775 for two-year subscription.

Article reprints: For high-quality reprints, including Eprints and NXTprints, please contact The YGS Group at 717-399-1900, ext. 139, or e-mail TheZweigLetter@TheYGSGroup.com.

© Copyright 2015, Zweig Group. All rights reserved.

Measuring performance measures

Though harder to apply and evaluate, assessments of interpersonal skills can promote team performance and increase morale.



Ed
Friedrichs

FROM THE
CHAIRMAN

I have had a number of discussions lately about how to measure performance. The people I've spoken with, both employers and employees, all gravitate toward what I term "hard metrics," such as billable hours.

For project managers, it's all about meeting the fee budget and schedule, profitability, number of change orders, and the like. For principals, it may be work brought in or deals closed. All of these things are important and, in most cases, fairly easy to measure. But they can also be "gamed," for example by blaming deviation from targets on someone else or hiding time (i.e., principals or project managers asking team members to put in extraordinary hours without logging time on their timesheets in order to meet the fee available).

"While I'm certainly a proponent of keeping hard metrics, I like to use them as a learning tool. What have we done right? What can we learn from our experience to improve our performance in the future?"

This most often leads to finger pointing, blame, and resentment. The result is, invariably, bad morale (which I spoke about last month). Various circumstances can lead to poor hard metrics performance.

"We just had to have that project, so we went after it with a fee that was too low," the person who negotiated the deal says. "We knew going in that this was going to be a challenge; you all said you would work hard to tailor the services to meet the fee available, and now you've blown through it."

Or the building department goes off on a tangent about a conflict in the code, delaying the project and causing extensive modifications to the drawings to gain approval. The client says, "Your contract calls for a code compliant design. Why should I pay extra?"

Somehow these things never quite seem to be appropriately accounted for at bonus and raise time, leading to more finger pointing and blame as to whose fault it was that we didn't make the profit we'd hoped for. In other words, my poor

"In the end, hard metrics, while required, have the potential to bring about dysfunction, resentment, and blame, if used as the only measure of success. They can be antithetical to strong team performance if used in isolation."

performance is always someone else's fault. It's usually impossible to lay an economic performance failure at a single individual's doorstep. Besides, our objective should be to recognize that success in our profession is a team effort where, together, we're all looking at the issues that arise and working to address them. Hard metrics often seem to result in each person trying to move the blame onto someone else's plate.

So, what should we do? While I'm certainly a proponent of keeping hard metrics, I like to use them as a learning tool. What have we done right? What can we learn from our experience to improve our performance in the future?

But, when it comes to evaluations that lead to bonuses or raises, I favor a series of soft metrics:

- 1) Has the person worked collaboratively, taking personal responsibility for helping the **team** to perform at its highest level?
- 2) Has an individual reached out to help another team by sharing an area of expertise that the team needed?
- 3) Has the person acted in such a way as to shine a positive light on the firm with the client, consultants, building officials, contractors, sub-contractors and suppliers? After all, that's where future repeat and referral work comes from. We can't just say: "That's marketing's responsibility."

These are much harder characteristics to evaluate. They require that the evaluator has a close working relationship with the person being evaluated. He

See [ED FRIEDRICHS, page 4](#)



BUSINESS NEWS

PARE RECEIVES BRONZE AT ACEC/MA AWARDS

[Pare Corporation](#) (Foxboro, MA), a professional engineering and planning firm with more than 75 employees, has announced that its Bristol Town Beach Stormwater Outfall Retrofit project was a Bronze Award winner at the Engineering Excellence Awards of the American Council of Engineering Companies of Massachusetts.

AIA ANNOUNCES 2015 HOUSING AWARDS

The AIA announced the 10 winners of the 2015 Housing Awards on April 16. The Housing Awards honor the best in housing design in four categories: One/Two Family Custom Housing, which recognizes outstanding designs for custom and remodeled homes; One/Two Family Production Housing, for which there were no winners this year; Multifamily Housing, which recognizes outstanding apartment and condominium design; and Special Housing, which recognizes outstanding design of housing that meets the unique needs of other specialized housing types such as single-room occupancy residences, independent living for the disabled, residential rehabilitation programs, domestic violence shelters, and other special housing. This year's jury included Stephen Schreiber of the [University of Massachusetts, Amherst](#); Jon Dick of [Archaeo Architects](#); Kathy Dixon, principal of [K. Dixon Architecture](#); Clair Enlow, a freelance writer; and Jody Mcguire, of [SALA Architects](#).

CONSTRUCTION FIRMS DONATE \$1 MILLION TO ESTABLISH OSU SAFETY LAB

Two North Dakota construction firms have donated a large grant in order to help establish the premier laboratory in the U.S. for the study of industry safety in Oregon. [Knife River Corp.](#) and [MDU Construction Services Group](#) have donated a combined \$1 million

to establish the lab at Oregon State University in Corvallis. The lab will be called the MDU Resources Group Construction Safety Laboratory, bearing the name of the two firms' parent company. The lab will bring workers in and drop them into simulations of real-world job-site situations and dangers through an interactive, high-definition projection system. The lab will also have a driving simulator to study operator behavior and what actions workers take inside a work zone full of equipment and other vehicles.

OSU researchers say the aim of the lab is to establish safety considerations as an element of the design phase of construction, resulting in projects that are not only safer to occupy but also safer to build and maintain.

HNTB AWARDED FIRST PLACE FOR HELPING HANDS

[HNTB Corporation](#) (Kansas City, MO), an employee-owned infrastructure solutions firm that serves public and private owners and contracts, was awarded First Place for its centennial anniversary project, 100 Hours of Community Service, in the inaugural Helping Hand Award, sponsored by the American Road & Transportation Builders Association. The competition honors "organizations within the transportation industry that have exceptional strategic philanthropic programs – outside the scope of normal business operations – that strengthen, build, improve the quality of life, and make a positive difference in their communities."

Other winners include [Teichert](#), Sacramento, Calif.; [Wagman Companies, Inc.](#), York, Penn.; and [Ghilotti Bros., Inc.](#), San Rafael, Calif.

VERSAR AWARDED \$4.5 MILLION GENERAL SERVICES ADMINISTRATION CONTRACT

[Versar, Inc.](#)

(Springfield, VA), a publicly traded global project management company, with more than 600 staff worldwide, that provides sustainable value-oriented solutions to government and commercial clients in the construction management, environmental services, munitions response, and professional services market areas, announced that its subsidiary **J.M. Waller Associates, Inc.** was awarded a new contract from the General Services Administration to provide ongoing facility support, maintenance and repair of the U.S. Army Reserve 88 Regional Support Command facilities located in the Northwest Region of the United States. The fixed-price contract is a single award with a maximum five-year period of performance, consisting of a one base year and four option years. The maximum contract capacity is \$23 million, and the full amount of the base year is approximately \$4.5 million.

VIATECHNIK USES GAMING TECHNOLOGY TO ADVANCE BIM

Engineering services company [VIATechnik](#), has set a new bar in the advancement of virtual design and construction and building information modeling. Until recently, being able to experience a construction project virtually meant being able to view a building through static 3D renderings or models, with limited interactivity.

The engineers at VIATechnik have taken things a step further to incorporate gaming technology into their models, creating an interactive experience for their clients. With the use of the gaming technology, stationary 3D models can be turned into virtual environments before construction ever hits the ground.

More BUSINESS NEWS, [page 12](#)

ED FRIEDRICHS, from page 3

or she has to care about the individual's success. That involves being a good coach and counselor along the way, offering advice on how to do the things that will help the person grow as a professional, making the firm stronger and better respected, and our teams more successful.

In the end, hard metrics, while required, have the potential to bring about dysfunction, resentment, and blame if used as the only measure of success. They can be antithetical to strong team performance if used in isolation.

Soft metrics, while harder to apply and always subject to judgment, are equally, if not more, important in promoting stronger team performance, better utilization of each person's unique talents, and higher morale.

Let me know what other soft metrics you think are important, contribute to the success of your organization, and should be used to evaluate performance. ▀

EDWARD FRIEDRICHS, FAIA, FIIDA, is a Zweig Group consultant and former CEO and president of Gensler. Contact him at efriedrichs@zweiggroup.com.

MORE SOFT METRICS...

In addition to the metrics Friedrichs mentions, industry and HR leaders can modify their performance appraisals to include evaluations of interpersonal skills that have demonstrable impacts on operations performance, such as:

- leadership
- development and management of internal relationships
- effective collaboration
- ability to jointly solve problems
- clear communication
- ability to make mutually beneficial decisions
- effective delegation of responsibility
- ethics and integrity
- flexibility

Source: *Supply Chain Quarterly*.

WOMEN IN AEC FOCUS ISSUE

EDUCATION

Engineering girl power

NAE-backed website aims to encourage and inspire young women to enter the field of engineering.

By LIISA ANDREASSEN
Correspondent



Simil Raghavan,
Associate
Program Officer,
National
Academy of
Engineers.

Founded in 2001 by the National Academy of Engineers, EngineerGirl.org serves as a resource for girls who are interested in pursuing engineering careers. Simil Raghavan, an associate program officer with the NAE, manages both the EngineerGirl website and the Online Ethics Center for Engineering and Research, says that EngineerGirl was first launched to give middle school girls a place to learn about the field before entering high school.

“While our primary target is middle school students, we also serve secondary audiences of elementary school, high school, and even college students,” she says.

“We need women in engineering because their perspective is so important in making sure we aren’t missing really vital things in engineering design. From a more individual perspective, we need to get girls interested in engineering, because an engineering degree offers so much economic and creative potential.”

So, how do they market to this audience? Most actual marketing centers around an essay contest. EngineerGirl sponsors an annual nationwide essay contest on some aspect of engineering and society and sends out e-mails to thousands of educators to let them know about the site and the contest. They also reach out to partners, such as the Society of Women Engineers to post information to their members. Winners are announced through a press release and posted on the site.

“We need women in engineering because their perspective is so important in making sure we aren’t missing really vital things in engineering design. From a more individual perspective, we need to get girls interested in engineering, because an engineering degree offers so much economic and creative potential. If girls aren’t studying engineering, they are really limiting their potential to be the leaders of tomorrow,” she says.

See [ENGINEERGIRL](#), page 8

AN ENGINEERINGGIRL SUCCESS STORY...

In 2006, Allison Bick competed in the EngineerGirl essay contest. She first did so because she said the contest sounded like it would be fun. While preparing her essay, she learned what a difference engineers make in every aspect of life and became convinced that if she studied to be an engineer, she would be prepared for any opportunity life presented.

“I learned that engineering is a way of thinking about problems and how to solve them,” she says. “Most importantly, I discovered that I did not have to wait until college to become a self-taught engineer.”

As the result of a huge storm in 2007, the radio announced that the water being piped into homes in Bick’s area could be contaminated. A friend called her and asked if she could determine whether the water from her home’s faucet was potable using materials found around her house. After some Internet research, Bick told her the answer was no. This phone call inspired three years of scientific research, and now the answer is yes - using a cell phone, a mirror and a plastic bag.

This research led her to be selected as an Intel STS finalist for an engineering project. She used Intel’s technology to invent a smartphone app that tests water contamination quickly and simply. The app earned her international honors, including the 2011 Stockholm Junior Water prize.

“I have personal, firsthand knowledge that, with a little insight and a lot of work, even a shoebox can be converted into a device which can save hundreds of lives every day,” she says. “In short, girls need not wait until college to start to learn how to be an engineer. They can make a difference now.”

Bick is currently a member of the Class of 2015 at Princeton University. She is a chemical and biological engineering major and plans to earn her Ph.D. in chemical engineering and split her time between academic and commercial research.

“I would like to start a blog of inspiring stories from women like Alison and I hope we will be able to do that in the near future,” Raghavan says.

TALK TO US

Do you have an interesting story to tell? Is your company doing things differently and getting results? Let us know. We’d love to contact you and feature you in an upcoming case study. If interested, please email LSullivan@zweigwhite.com.



SPOTLIGHT ON: Awa

HOT FIRM

Eliminating the ‘wow’ factor

Founder of SEPI Engineering shares her story, challenges, and vision for the future of the organization.

By LIISA ANDREASSEN
Correspondent



Sepideh Saidi,
President & CEO,
SEPI Engineering
& Construction,
Inc.

Sepideh Saidi is president and CEO of **SEPI Engineering & Construction, Inc.** (Raleigh, NC), a 180-person full-service civil engineering, surveying, planning, remediation, and construction management firm and No. 25 on Zweig Group’s 2014 Hot Firm List. Founded in 2001, Saidi has led SEPI to growth during one of the most difficult economic times in the country’s history.

Before forming SEPI, Saidi spent more than 16 years in transportation engineering design and management, working approximately 12 years with the North Carolina Department of Transportation in highway design and traffic engineering.

“We need more women role models, and it’s also essential for men to take an active role in cultivating and promoting women in leadership roles.”

Seeking new challenges, she began working for a small entrepreneurial engineering firm. While there, she became involved in several aspects of running a small firm. For example, they had no marketing tactics or promotional products in place. She helped create a plan to market the company more efficiently. She also learned about business development, overhead, utilization, and more.

Ready for another move, Saidi contemplated taking one of two jobs at a larger firm. However, after talking with a colleague, she was encouraged to start her own business. After some soul-searching, she decided she was ready to take on the challenge.

“I weighed the pros and cons and then focused my energy 100 percent on creating a firm that would have a personal impact on people’s lives,” she says. “I want employees to come in, challenge themselves, look back, and see that they changed and learned something new. It’s important that the opportunity for personal growth is part of our company culture.”

Saidi’s daily responsibilities include overseeing the firm’s projects in the Southeast, financial and administrative management, business development, and inspiring and motivating staff.

A CONVERSATION WITH SEPI SAIDI

THE ZWEIG LETTER: What are your key strengths? What do you feel are the key strengths for an effective leader?

Sepi Saidi: I am genuinely interested in people and am a strong problem solver. People can see that. This ability stems from how you know yourself. You need to grow your personal strengths in order to help others achieve theirs. And, when it comes to business, you can only grow the business to the extent that you can grow yourself. I also believe that valuing diversity is a key strength.

TZL: How would you describe your work style?

SS: I like to build a consensus and create a team environment.

TZL: What has been your greatest challenge to date, and how did you deal with it?

SS: I started the company right before September 11. What came after proved to be a difficult time to grow a business. However, I always kept focus on the fundamentals – believing in the firm’s success and finding a way to get through. I recognized the challenge and focused on the solution. I always asked myself, “What can I control? What can’t I control?”

TZL: How have you helped your firm to outperform some of your competitors?

SS: Never underestimate your competitors. Internally, talk to staff about what your competitors are doing. Be aware of constant improvements and always focus on the client for best results. It’s important to continually make an effort to improve professional business services – internally and externally.

TZL: Do you think having women in leadership positions makes a difference?

See [SEPI](#), page 8



BEST FIRMS TO WORK FOR

Becoming the best

English + Associates' principal says leadership style, company culture that celebrates employees helps make firms a pleasureable organization.

By LIISA ANDREASSEN
Correspondent



Kathleen English is managing principal of **English + Associates Architects** (Houston, TX), an award-winning architecture and interior design firm that focuses on green and high-performance design. In 1989, she founded the firm as Pearson English – a two-woman partnership. In 2000, she bought-out her partner and has grown and managed the company since. Before starting the firm, she worked on a variety of project types with an emphasis on construction document preparation and space planning.

“As the sole owner of the firm, my responsibilities include overall management of the company,” she says. “However, I enjoy the practice of architecture more than managing business affairs, so I have delegated many of the firm’s management responsibilities to capable staff in order to allow me time to participate in more project programming and planning.”

English is past president of AIA Houston, where she chaired the AIA Houston 2030 Commitment task force, including the inaugural 2030 education series. She is a former vice chair of the US Green Building Council – Texas Gulf Coast Chapter, and is currently serving on the Architecture Center Foundation Board in Houston. She is also a steering committee member of the Houston Land/Water Sustainability Forum.

A CONVERSATION WITH ENGLISH

THE ZWEIG LETTER: What are your key strengths? What do you feel the key strengths are for an effective leader?

Kathleen English: I believe my strength as a leader stems from following my passion for environmental design and low-impact development. Because of the level of engagement of many of the people at my company, I have the gift of time to pursue sustainable design, both within the firm and broader design community. Expanding my knowledge and sharing what I have learned is the foundation of my leadership. By role-modeling this at my company, I have inspired others to pursue their passions, as well. I believe the most important quality of leadership is the ability and commitment to inspire and encourage others to push beyond what they might otherwise accept as their “best” and achieve more on behalf of themselves, their clients, and the people who work with them.

TZL: How would you describe your work style?

KE: Because we are an 18-person firm with only one owner, and I try to stay in touch with all aspects of the firm, my work style can be a little chaotic at times. However, by trying to be aware of so many

“I believe the most important quality of leadership is the ability and commitment to inspire and encourage others to push beyond what they might otherwise accept as their ‘best’ and achieve more on behalf of themselves, their clients, and the people who work with them.”

aspects of life at the company, I am more available to each person here, allowing me to know their personal goals and priorities. This lets me align each person’s job duties and role at the firm to their unique abilities and goals.

TZL: How do you feel that you have directly contributed to making the firm a “best firm to work for?”

KE: I have tried to set up an environment where, within the framework of the firm’s business requirements, each person is encouraged to pursue their work in a way that manifests their own goals and

See [ENGLISH](#), page 8

ENGINEERGIRL, from [page 5](#)

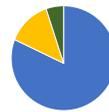
HOW CAN YOU GET INVOLVED? EngineerGirl is dependent on sponsors to maintain the site, conduct the essay contest, and create new content. They need people and companies that are willing to partner with them to make sure the message is getting out to girls around the country.

“We have a very large number of volunteers, and we are always open to people who want to get involved and help out,” Raghavan says.

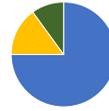
In addition to sponsorship, engineers and leaders are invited to participate in numerous ways including:

- helping to score the essay contest;
- writing a blog article about what engineers do or how to prepare for an engineering career;
- submitting engineering fun facts;
- contributing photos or artwork;
- creating an interview or an essay on a day in their life;
- participating in the Directory of Women Engineers and answering questions for student visitors. ▀

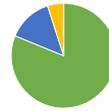
BY THE NUMBERS...



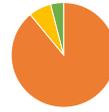
83 percent of respondents to Zweig Group's [2015 Principals, Partners, & Owners Survey](#) identify as **male**, 13 percent identify as **female**, and 5 percent **did not specify**.



Of all principal, partner, and owner respondents to Zweig Group's [2014-15 Successful Firm Survey](#), 75 percent identify as **male**, 15 percent identify as **female**, and 10 percent **did not specify**.



82 percent of principal, partner, and owner respondents to Zweig Group's [2014-15 Successful Firm Survey](#) that came from Fast Growth Firms identify as **male**, 14 percent identify as **female**, and 5 percent **did not specify**.



89 percent of principal, partner, and owner respondents to Zweig Group's [2014-15 Successful Firm Survey](#) that came from Very High Profit Firms identify as **male**, 14 percent identify as **female**, and 5 percent **did not specify**.



42 percent of respondents to Zweig Group's [2015 Principals, Partners, & Owners Survey](#) said that they felt there **is a problem with a lack of diversity** (across age, race, and gender) among principals in the industry, 52 percent said they **did not feel that there is an issue**, and 6 percent **did not specify**.

SEPI, from [page 6](#)

SS: Yes. We bring a certain set of strengths to the table. For example, our compassion, if managed well, can have a hugely positive impact on company culture.

TZL: **Is there still room for improvement when it comes to encouraging women to enter the field of architecture and engineering?**

SS: Absolutely. When I tell people what I do, I often get this reply: “Wow.” That shows me that there is still much work to be done. People should not be so surprised. We need more women role models and it's also essential for men to take an active role in cultivating and promoting women in leadership roles. They can do this by thinking about the women in their own lives. For instance, don't they want the same opportunities for their daughters as for their sons? We need to continue to work towards creating those same levels of opportunities.

TZL: **What are your plans for the future of SEPI Engineering?**

SS: There is a big growth plan in place for revenue and profitability. The plan is to grow steady and solid from top to bottom. We are working to get more exciting projects and to create more of a level of choice. We want to be in at least the top three of every service line and to focus on our reputation. To me, reputation is more important than size. ▀

FUN FACTS ABOUT SAIDI...

- **Favorite Book:** *The Alchemist*
- **Favorite App:** Meditation
- **Never-fail source of inspiration:** Life
- **Proudest achievement:** Raising her two wonderful children
- **Personal/free time:** Traveling
- **Why engineering as a career?** Possibilities
- **If you could do anything or go anywhere?** I would spend more time learning about ideas, places, people, food, and wine.

ENGLISH, from [page 7](#)

talents. I want each person here to go as far in their career as they are willing and able, and encourage this by rewarding hard work, project and client relationship success with promotions and bonuses. I believe this creates opportunities for new ideas and creativity that don't come from me and therefore people enjoy working here more.

TZL: **Do you think that having a woman in a top leadership position changes a firm's culture as opposed to one that is male dominated? If so, how?**

KE: I believe the culture of a company takes a strong cue from its owner and/or senior leadership. However, I don't believe there is a distinct style of leadership attributable to women that establishes a woman-led culture. All leaders model the habits they either have been taught or value. Historically, women as a group, did not have many business leadership opportunities, and early stereotypes sometimes depicted women as emotional or less effective managers, either because of social bias or lack of prior female role models for women taking on leadership. I believe the architectural industry, as well as many others, have put outdated social bias in the rearview mirror. ▀

GOOD TO KNOW

Entries for Zweig Group's 2015 [Hot Firm List](#), [Marketing Excellence Awards](#), and [Jerry Allen Courage in Leadership Award](#) are being accepted through June 1. If your firm has outshined its competition over the past three years or has created stellar outreach materials, or if you want to honor a courageous leader, submit an entry form at ZweigGroup.com/awards.

Growing Lotus

Leader of certified disadvantaged woman-owned business opens up about her past experiences as a woman in engineering firms and her current organization.

By RICHARD MASSEY
Correspondent



Katherine Farrow,
President &
Founder, Lotus
Environmental
Consulting LLC.

She moved out of the house, and that's a good thing.

Katherine Farrow, president and founder of [Lotus Environmental Consulting LLC](#) (Conshohocken, PA.), opened a corporate office in April because of a welcome uptick in contracts and a need to bring her staff under one roof.

Positioned near an interstate junction that allows easy access to Philadelphia and neighboring New Jersey, the 2,000-square-foot space is befitting of a company that was awarded 30 new contracts last year and that now has five full-time employees, three part-time employees, and three project-specific staffers.

While Farrow says she loved working from home, the time had come to take the next step.

"When I started Lotus in 2009, my plan was to work remotely from a home office and hire senior staff who would also work remotely," she says. "The technology available today allowed us to work remotely but be connected at the same time through cloud-based technologies and other remote services. However, as we grew busier, it became apparent that I needed to bring on more staff so we could continue to provide high quality products in a responsive manner."

The environmental consulting firm provides a broad range of natural resource, cultural resource, and permit related services for road construction. A certified disadvantaged woman-owned business, Lotus places a lot of value on the quality of its investigations, mapping, and documentation. The company enjoys a good relationship with the Pennsylvania Department of Transportation and other public entities.

Farrow, who holds a bachelor's in environmental science/biology from Millersville University and a master's in environmental law from Vermont Law School, got her big break about 15 years ago.

"In early 2000, I was the project manager for a large, complex project in central Pennsylvania," she says. "Corridor O was the project's nickname, and it involved 25 miles of new highway. We achieved consensus on the preferred alignment in 32 months. This was a big deal at the time, because new

"In high school and college, I wanted to stop development and save the planet. As I grew older and began my career in the environmental part of the civil engineering world, I began to shift my focus. I realized that I was not going to stop development or the need for new roads and bridges, but that I could influence the outcome of the design through environmentally sensitive design."

alignment projects typically took four to five years to reach a preferred alternative. We developed and incorporated many innovative public outreach techniques as part of that project. I had the opportunity to present the project at various national conferences, including the Institute for Transportation Engineers and the Transportation Research Board. As the face of the project, I became well known for environmental clearance and public outreach throughout Pennsylvania."

As a woman in business, she has experienced a few ups and downs.

"Ten to 20 years ago, I would typically be the only woman in the room," Farrow says. "I am glad to say that has changed over the years."

And then there's the blemish of pay inequity.

"I worked for an engineering company for a while, and there was a guy in my office, and we did the same thing," Farrow says. "We were both associates, but he was single and did not have kids. I was married with two daughters. He made \$2-3 more an hour than I did. When I questioned the difference, I never got a good answer as to why."

Motherhood, however, had the biggest and most beneficial influence on her career.

"I faced obstacles as a mother," she says. "But that was self-imposed. I wanted to be available to my

See [LOTUS](#), page 10



RESOURCES

LEARN MORE // GET INVOLVED

ARCHITECTURE+WOMEN+NZ

A database and network of women in architecture associated with New Zealand. architecturewomen.org.nz

INDUSTRY WOMEN CENTRAL

Platform for mentoring programs, speaking opportunities, awards, & more in Australia. industrywomenscentral.com.au

ARCHITEXX

Seeks to transform architectural profession by bridging the academy & practice. architexx.org

THE MISSING 32% PROJECT

Aims to promote best practices to expand diversity & inclusion in architecture. themissing32percent.com

ASSOCIATION FOR WOMEN IN ARCHITECTURE+DESIGN

Aims to advance women in architectural & design professions. awaplusd.org

NATIONAL ASSOCIATION OF WOMEN IN CONSTRUCTION

Offers professional development, networking, & more. nawic.org

BEVERLY WILLIS ARCHITECTURE FOUNDATION

Seeks to change to culture of the building industry in favor of women. bwaf.org

PARLOUR

Fosters exchange & discussion of research & resources on women, equity, & architecture. archiparlour.org

CATALYST

Aims to change workplaces and expand opportunities for women and business. catalyst.org

PROFESSIONAL WOMEN IN CONSTRUCTION

Aims to advance women & nontraditional populations in construction. pwcusa.org

CREW NETWORK

Exists to influence the success of commercial real estate by advancing the achievements of women. crewnetwork.org

RE:GENDER

Works in multiple sectors and disciplines to end gender inequality by advancing informed action. regender.org

DAMSELS IN DESIGN

Platform for connecting, supporting, & promoting females in the design industry. damselsindesign.com

SOCIETY OF WOMEN ENGINEERS

Provides women engineers a place & voice. societyofwomenengineers.swe.org

DESIGN FOR EQUALITY

Network of designers interested in fostering equality & diversity in profession. designforequality.org

WATERMARK

Community of executive women who have risen to the top of their fields. watermark.org

IEEE WOMEN IN ENGINEERING

Seeks to promote women engineers & scientists & to inspire girls to follow their interests in engineering. ieee.org/women

WOMEN CONSTRUCTION OWNERS & EXECUTIVES

Seeks to level the playing-field for women-owned construction firms. wcoesa.org

TO READ // WATCH

Women in Construction
osha.gov/doc/topics/women

Other data resources
The Missing 32% Project
themissing32percent.com/resources/

Stemming the tide: Why women leave engineering

studyofwork.com/files/2012/10/NSF_Report_2012-101d98c.pdf

Publications
re:gender

regender.org/Publications

SWE Magazine

societyofwomenengineers.swe.org/swe-magazine-new

About Research

Beverly Willis Architecture Foundation
bwaf.org/about_research/

Be that engineer: Inspiration & insight from accomplished women engineers

societyofwomenengineers.swe.org/e-book-download

3 new films showcase 7 architects redefining the role of women in architecture

archdaily.com/tag/women-in-architecture/

Measuring progress on gender in architecture

acsa-arch.org/resources/data-resources/women

Woman Architect of the Year 2015

architectsjournal.co.uk/home/events/wia/

MARK YOUR CALENDAR

**AND JUSTICE FOR ALL**

TEDxPhiladelphia 2015: Thursday, June 11

themissing32percent.com/blog/2015/4/27/tedxphilly-rosasheng

**Women in Design Award of Excellence**

Submission deadline: Friday, July 18

architects.org/awards/women-design-award-excellence

**2015 CREW Network Convention & Marketplace**

Hyatt Regency, Bellevue, Wash.:
Sept. 30 - Oct. 3

crewnetwork.org/events/conventions.aspx

LOTUS, from [page 9](#)

daughters and volunteer in the school but also have a career. I passed on a few job opportunities because I would not have had a flexible work environment. I have no regrets for those decisions I made, and I believe I was able to do a great job at balancing my career with motherhood – my kids and husband would agree.”

In her formative years, two big events compelled her to study the environment in order to protect it: the Alaska Pipeline, built in the mid-1970s, and the nuclear meltdown at Three Mile Island in Pennsylvania in 1979.

“In high school and college, I wanted to stop development and save the planet,” she says. “As I grew older and began my career in the environmental part of the civil engineering world, I began to shift my focus. I realized that I was not

going to stop development or the need for new roads and bridges, but that I could influence the outcome of the design through environmentally sensitive design.”

When hiring, Farrow says credentials are important, but so is attitude and passion. As the leader of a team she assembled, she says it’s important to ingrain a culture of service and responsiveness for the clients.

“We work closely with the engineers to provide them the information they need to develop a design that balances the impacts with the project needs and we then communicate that to the public and regulatory agencies,” she says. “Each project is different and each has its own set of challenges and solutions. I get a deep sense of satisfaction when I identify a potential problem, develop a solution, and allow the project to move forward.” ▀

Too busy to work on your business?

3 steps to ensure important change is happening and critical internal functions are being accomplished in your firm.



June
Jewell

GUEST SPEAKER

Many of you have probably read or heard of Michael Gerber's best-seller *The E-Myth*, which introduced the concept of working on your business not in your business. This how-to guide for entrepreneurs popularized the recommendation that successful business owners focus on running and improving their business operations rather than doing the work themselves.

This is a common problem in the A&E industry, where most business owners are technicians and often love doing the work more than managing their business. This practice can be to your detriment, however, if enough care is not given to ensuring that the business's goals and strategic objectives are met, and the often challenging process of change is implemented.

As I work with A&E firms to help them improve profitability, the No. 1 challenge with firms achieving their goals is not getting the important but non-urgent initiatives completed. These types of internal projects include business process re-engineering, improving the use of systems, establishing new performance management/accountability processes, developing better project management practices and skillsets, and focusing on higher quality client engagement. While these initiatives have been deemed critical by the leadership, and maybe even mandated by a board of directors, the execution of these projects often fail because the human resources assigned to them are "too busy."

I encourage you to walk around your firm and see if you can find someone who is not busy. This is probably an impossible task. You will not find an employee who is not swamped and struggling to make deadlines for deliverables, proposals, and internal administrative functions like billing. So, how do you combat this epidemic of busyness that has infected all of our firms and kept critical progress from being made?

The real issue is not that the people assigned to the internal projects are too busy, it is that the internal projects are not given the priority, resources, and accountability needed. Key employees must be able to reassign other billable and business development responsibilities to others in the organization, freeing themselves to focus on improving the business. When priorities are not clear and there is more work than people, the most urgent activities will get done first.

"I encourage you to walk around your firm and see if you can find someone who is not busy. This is probably an impossible task ... So, how do you combat this epidemic of busyness that has infected all of our firms and kept critical progress from being made?"

The end result of all of these uncompleted and half-finished initiatives is a huge financial impact to the firm -- the costs of inefficiencies, missed opportunities, lost revenue and profits, and potentially lost clients. These failures also undermine having staff fully engaged and supporting the goals of the organization, and believing that the leadership has what it takes to move the firm forward in today's economic environment which is critical to long term success in retaining and attracting the best employees.

Here are three steps you can take to ensure the most important internal projects have the best chance to be successful. Staying on top of internal projects can be just as important as revenue-generating projects, and becoming clear on priorities has to be a first step:

1) Focus on One Initiative at a Time. One of the reasons that people are too busy may be that they have too many things to get done and no clear direction as to what is the most important. I have found that success can be realized by tackling just one key initiative at a time.

One strategy is to first tackle smaller projects that take a month or two, enabling a few quick wins. Another is to break a project up into smaller parts. For example, instead of trying to take on the huge project of revamping all standard operating procedures, work on one at a time such as timesheet policies,

See [JUNE JEWELL, page 12](#)



BUSINESS NEWS

PRIMORIS RECEIVES \$26 MILLION UNDERGROUND CONTRACT [Primoris Services Corporation](#) (Dallas, TX), a construction, fabrication, maintenance, replacement, water and wastewater, and engineering firm, announced an underground award valued at \$26 million. The contract was secured by its subsidiary [Q3 Contracting](#) and is scheduled to begin in the second quarter of 2015 and to be completed in the third quarter of 2016. The contract is with a major utility customer for work in St. Paul, Minn., and will consist of work to replace an existing natural gas distribution line, in addition to adding updated regulator stations.

BAXTER & WOODMAN PROJECT WINS NATIONAL AWARD [Baxter & Woodman](#) (Crystal Lake, IL), a planning, design, construction and technology services firm with more than 170 employees, announced that its Barium/Radium Removal Pretreatment System Project earned the prestigious Grand Award at the American Council of Engineering Companies 2015 National Engineering Excellence Awards competition in Washington D.C. on April 21. As one of only eight Grand Award winners, the Baxter & Woodman project was also a finalist for the 2015 Grand Conceptor Award – signifying the year’s best overall engineering achievement.

ACEC’s annual Engineering Excellence Awards program honors the year’s most innovative and outstanding engineering accomplishments. Projects throughout the world were evaluated by a distinguished panel of judges based upon their uniqueness and innovative applications; future value to the engineering profession; perception by the public; social, economic, and sustainable development considerations; complexity; and successful fulfillment of client/owner’s needs, including schedule and budget.

The award-winning project is a patent-pending barium/radium removal pretreatment system that was added to the Village of Gilberts, Ill., existing municipal ion exchange softener regeneration system. With the success in pioneering this new process, Baxter & Woodman and the Village have paved the way for other municipalities to consider this process as a viable cost-effective alternative to their traditional treatment methods.

BALFOUR BEATTY AWARDED DESIGN-BUILD CONTRACT Kern County, Calif., has selected [Balfour Beatty Construction](#) (Dallas, TX), an international general contracting, at-risk construction management and design-build firm, to design and construct a new \$100.5 million addition to the Kern County Justice Facility

in Bakersfield, Calif. The 215,000-square-foot facility is expected to create 350-400 jobs for the local community, including a contractual target goal to subcontract 25 percent of design and construction services to local businesses with 35 percent of the labor supplied by local workers. The project team will leverage lean construction practices and the latest technologies to efficiently deliver the facility.

The 24-plus acre project site is part of the larger County-owned Lerdo Detention Facility site. The project scope includes the design and construction of housing and support facilities for 822 inmates, including a central plant for heating and cooling.

The design-build team is comprised of Balfour Beatty Construction (general contractor), [HOK Architects](#) (project architect), [Kitchell](#) (construction manager), and [DLR Architects](#), which created the project’s initial set of conceptual drawings. As an integrated design-build team, the companies will collaborate throughout the project to meet the County’s goal of building a facility that is safe and secure for inmates, staff, and the public, in addition to delivering it on-time and on-budget. The project is scheduled to break ground in August 2015 with completion anticipated by June 2017.

JUNE JEWELL, from [page 11](#)

with a goal of getting one new process designed, tested and implemented per quarter. Steady progress is always better than failure due to overwhelm.

2) Commit the Resources. Many firms fail to get key initiatives done because they pile more and more internal projects on their best managers or their key admin staff. I have consistently seen back office accounting staff with so many things on their to-do list that are mission critical yet not getting completed because the day-job is already a 50 hour commitment. This is not a good strategy and long-term will end up costing the firm more in lost opportunities and inefficient business practices and systems.

The other related practice is to assume that someone is an expert in something because they have a related skill set. For example, most marketing professionals are not CRM experts – you can’t expect them to maximize your firm’s use of your CRM system if they have not had the long-term experience and training that it takes to implement effective CRM strategies and get user adoption. They also may not have the authority to enforce policies, which will hamper efforts to get employees engaged and using technology effectively.

The most effective method for ensuring the success of your projects is to have the right resources with the appropriate level of expertise, authority, and commitment of time to ensure that the job gets done on budget and schedule. In some cases this might require hiring outside resources that have the experience to plan and manage the project, and can be held accountable if goals are not met. You may also want to hire a new resource just to manage and take responsibility for getting the business improvement work done. It may be easy to

justify the cost of a new resource if the estimated return on investment (ROI) is substantial.

3) Treat Internal Projects the Same as Billable Projects. We all know that projects require careful planning, monitoring and communication in order to be successful, yet many firms do not take the same care to plan and manage their internal projects. To be successful, your internal projects need to be well planned, with clear goals and objectives, a budget and schedule, and scope. To follow up from the CRM implementation example used above, many firms just start working on the implementation without clearly understanding what it can do, what they expect to get out of it, and who will be expected to use it. Without this clear understanding of the why, what, when and who of the expected outcomes, it is never apparent when the system is fully implemented, or whether it has been successful. In one recent survey I did of 50 CEOs, not one felt that they had a successful CRM implementation. I believe much of that is because they didn’t understand what they were trying to accomplish from the beginning, and didn’t have a clear plan to ensure it stayed on track.

If your firm has struggled with being too busy to implement the changes needed to keep ahead of your competition, then taking a new approach may be in order. By staying focused on the types of change that will deliver the biggest financial impact, committing the best resources available, and managing the change projects against clear objectives, you should find a clearer path to longer term growth and success.

JUNE JEWELL is the author of the book “Find the Lost Dollars: 6 Steps to Increase Profits in Architecture, Engineering and Environmental Firms.” She is the President of AEC Business Solutions. Contact her at JJewell@AECBusiness.com.