THE OFFICIAL PUBLICATION OF THE
PILE DRIVING CONTRACTORS ASSOCIATION

Q1 2013 | Volume 10, No. 1

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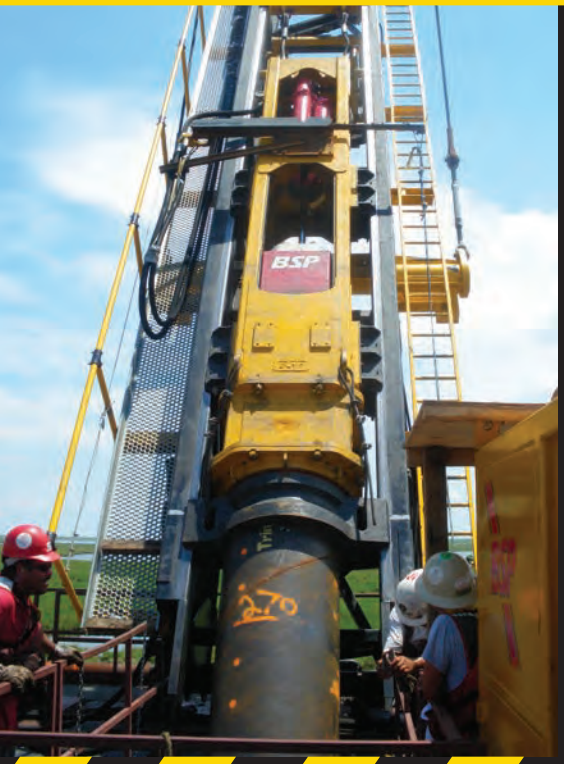

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Presidential Reflections

By Dave Chapman, President, Pile Driving Contractors Association

Wow, I can't believe I am on the backside of my term as PDCA president. When I was originally asked about the position, I thought, "How bad can this be? Bang the gavel a few times at board meetings and be first in line at the lunch buffet. I can handle this." This has turned out to be a real job. It does require a lot of time and attention, but it has truly been one of the most rewarding things I have ever done.

The pile driving industry never ceases to amaze me. First and foremost, I have had the chance to meet and work with so many members that, otherwise, I would not have. There are so many members that contribute their time and effort in so many ways, that if I tried to recognize everybody, I would fall woefully short. As I have said, this is more than an industry association; it is truly a fraternal organization with many deep friendships.

Our association has also become an increasingly active force in the advancement of foundation technology. On one hand, we still use air hammers that were invented in the late 1800s. On the other, we have systems that can measure capacity with a fair amount of accuracy while being monitored, not at the jobsite, but at the engineer's desk, hundreds of miles away – all while a pile is being driven. At a recent seminar in Baltimore, Md., we discussed current state-of-the-art pile testing and new advances in technology. For a long-time member of the industry, like me, this information is simply amazing.

PDCA is also working with other industry groups to update the foundation section of the International Building Code. As well, we are working with the International Association of Foundation Drilling (ADSC), the GeoInstitute of American Society of Civil Engineers (ASCE) and the Deep Foundations Institute (DFI) to sponsor a conference and equipment show in San Antonio, Texas in 2015. As well, we are in the

(continued on page 4)

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early stages of establishing a research foundation and scholarship fund designed to benefit the pile driving industry and those who work within it.

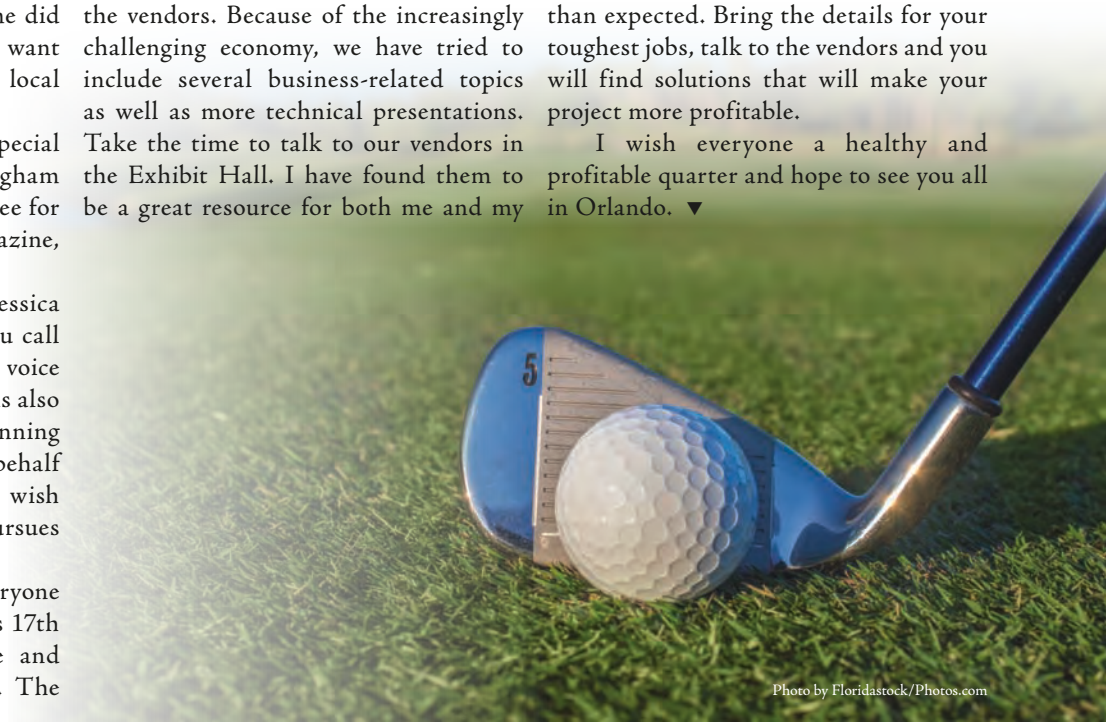
During my time as president, I've had the opportunity to meet with some of our chapters. While I regret time did not permit me to meet everyone, I want to thank all of you who make our local chapters possible.

I would like to mention one special thank you to Pollyanna Cunningham and the Communications Committee for doing such a great job on this magazine, issue after issue.

I also want to welcome Jessica Fasanella to the PDCA staff. If you call the office, she is the ever-cheerful voice on the other end of the phone. She is also the force that keeps everything running smoothly at PDCA. As well, on behalf of everyone at PDCA, I'd like to wish Lori Schneider our best as she pursues furthering her education.

Finally, I want to encourage everyone to make the time to attend PDCA's 17th Annual International Conference and Expo in Orlando, Fla. this April. The Market Development and Education Committees have put together a fantastic program that is sure to be informative, educational and fun. Bring the entire family, visit the parks, play a little golf but also come to the presentations and meet the vendors. Because of the increasingly challenging economy, we have tried to include several business-related topics as well as more technical presentations. Take the time to talk to our vendors in the Exhibit Hall. I have found them to be a great resource for both me and my business. Last year, I had a couple of jobs with difficult conditions. During last year's annual conference, I was able to talk, in very specific detail, to several vendors about my problems and came home with solutions that worked better than expected. Bring the details for your toughest jobs, talk to the vendors and you will find solutions that will make your project more profitable.

I wish everyone a healthy and profitable quarter and hope to see you all in Orlando. ▼



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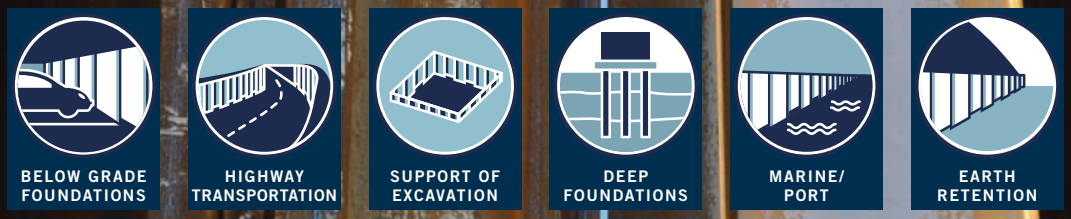

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Learning from 2012, Looking Forward to 2013

As we proceed into 2013, I hope we can all be optimistic about the new year and hopeful about its possibilities. The beginning of 2013 is also a good time to pause and reflect on 2012. Did we accomplish all that was expected of us? Did we reach our personal and business goals? Can we use the answers to these questions to make a greater impact in 2013, and, if so, how?

As executive director, it is incumbent upon the PDCA Board of Directors and myself to analyze 2012 in order to identify areas where we excelled and brought true value to our members. And just as importantly, we need to identify areas where we fell short of your expectations and our objectives. The answers to these questions will help determine PDCA's 2013 goals.

PDCA included a list of accomplishments titled "Working On Your Behalf" when we distributed the 2013 PDCA dues invoices. This list included a compilation of distinct accomplishments and benefits/services achieved or provided by PDCA in 2012. Some of these milestones included:

- Continuing to expand our local chapter presence with the addition of the PDCA of Texas Chapter
- Collaborating with federal agencies and industry organizations to promote the driven pile
- Successfully preventing challenges that would have been detrimental to the driven pile industry
- Developing and delivering new and relevant educational programs, including the new LRFD Design and Construction course
- Continuing to reach out to our international partners on joint programs

Thanks to all of these efforts, PDCA saw membership growth in 2012, with the addition of 55 new companies.

As we move from 2012 to 2013, it is important that I also recognize key individuals that helped make the past year so exceptional. President Dave Chapman has done a tremendous job as the head of your association. Dave's vision and leadership has been thorough and thoughtful.

Rusty Signor and Mike Justason were both instrumental in carrying Dave's message to the membership of PDCA, along with the support of every member of the Board of Directors.

I want to thank the Board of Directors for their leadership and support. Additionally, thanks go to the committee chairs, including Dale Biggers (Technical), Phil Wright (Market Development), Pollyanna Cunningham (Communications) and Mohamad Hussein (Education). All committee members were instrumental in moving the PDCA agenda forward by ensuring visibility, marketability, access to resource and technical information as well as a greater market share for the driven pile industry. They are all to be congratulated on their efforts and commitment to making PDCA a better organization.

I am excited about the formation of the PDCA Research Foundation and the PDCA Scholarship Fund. Both of these programs will have long-term benefits for all PDCA members and our industry.

In 2013, PDCA wants to continue to provide existing, as well as expanded, services and benefits that create value to you and your business as a result of your membership investment.

PDCA looks forward to continued growth in 2013, just as it did in 2012. Association growth, via membership growth, will come

Illustration by Benjamin Albiach Galán/Photos.com
Orlando photo by Jesse Kunerth/Photos.com

By Stevan A. Hall, Executive Director, Pile Driving Contractors Association

in two forms: member renewals and membership development. If existing members renew in 2013, we sustain our membership levels and with each new member, we grow by one. PDCA is seeing renewals come in on a consistent basis and believes our retention in 2013 will be significant, which can be attributed to a commitment by members to promote their business, industry and recognition of the value in PDCA membership.

Membership development is everyone's responsibility. As a PDCA member, your commitment to recruiting a new member in 2013 will make a significant difference in the annual and long-term success of your association. Imagine the strength and influence your association would have with twice its current membership base, not to mention the additional services and benefits PDCA could provide its members with that kind of revenue stream.

Charles Blondin, a famous tightrope walker during the last century, was known for his walks over Niagara Falls. One day, after crossing the falls a number of times, he asked the crowd if they thought he could do it again. Of course, the crowd responded excitedly in agreement that he could make another crossing. He then asked one man in the crowd that if he believed, then perhaps they could make the crossing together with the spectator sitting in Charles' wheelbarrow. This story is about faith, but it is also about commitment. You can't just be committed by mental or verbal agreement. PDCA needs your complete commitment in 2013, not just mentally or verbally, but by your actions as reflected in your membership by recruiting new members, your participation and your overall support. To commit completely will ensure the success of your association, your industry and your business. In return, your association commits to providing you with the best services and benefits we possibly can throughout 2013.

I hope your 2013 is everything you hope for – and I hope part of what you wish for is a stronger, more visible, more effective association. With your commitment, together we can accomplish a lot. ▼

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PDCA
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MEMBERSHIP BENEFITS

The Pile Driving Contractors Association & You

Governance, Board of Directors, Committees and Chapters

PDCA Governance, Committees and Chapters

The PDCA's direction, growth and success is a direct result of an involved membership. The association is directed by a dedicated Executive Committee and Board of Directors, who establish PDCA's short and long-term goals and objectives through a comprehensive Strategic Plan. The Strategic Plan is reviewed and revised each year by the Executive Committee and Board of Directors during the Annual Tactical Meeting.

Implementation of the Strategic Plan Focus and Strategies is a team effort between the Board of Directors, Committees and staff.

Governance

Executive Committee: The Executive Committee consists of the Association's Officers, including the President, Vice President, Secretary, Treasurer and Immediate Past President. The Executive Director serves on the Executive Committee in an Ex-Officio, non-voting capacity.

Board of Directors: The Board of Directors consists of the Association's Officers and nine elected member Directors. Directors can be Contractor, Associate and Engineering Affiliate members.

Committees

PDCA Committees include the following, as well as the function they perform:

Education: Responsible for the development of all educational programs, including annual conference general sessions, seminars and workshops. Responsible for development and maintenance of relations with educational institutions. Responsible for promoting driven pile research and technical papers and the presentation of such information at appropriate venues.

Technical: Responsible for technical information and applications impacting the driven pile and deep foundations industry. Responsible for developing and maintaining relations with public and private entities involved in issues impacting driven pile or deep foundations. Responsible for developing and maintaining PDCA-produced design and installation specification documents.

Communications: Responsible for establishing editorial guidelines, acquisition, assembly and review of all editorial content of *PileDriver* magazine, annual directory and calendar. Responsible for the functionality of the PDCA website and distribution of the PDCA E-Letter.

Membership: Responsible for membership development and member retention and issues impacting the continued growth of the association.

Market Development: Responsible for promoting the different pile types and monitoring trends in the market. Responsible for site selection of the annual conference sites, assembly of social programs for the annual conference and promotion of conferences.

Safety: Responsible for the dissemination of information relevant to safe work practices. Responsible for monitoring and reviewing regulations and legislation impacting the driven pile industry.

Environmental: Responsible for environmental issues related to pile driving, including, but not limited to, noise, vibration, biofuels, brownfield sites and marine life.

PDCA members are encouraged to participate on one or more committees. Participation is voluntary, but committee members are encouraged to participate on a consistent basis.

Those members desiring to serve the association at the Executive Committee and/or Board of Director levels are offered the opportunity as existing members rotate off.

PDCA Chapters

The PDCA encourages the formation of local PDCA Chapters. Local chapters provide regional representation and advocacy for the driven pile industry and those companies doing business within the chapter's jurisdiction.

Chapters also provide an opportunity for its members to network through business meetings, educational programs and social activities.

Current PDCA Chapters include Northeast, Mid-Atlantic, South Carolina, Florida, Gulf Coast and Pacific Coast. As of 2012, Texas is organizing a state chapter.

Education and Networking

PDCA Education: Conferences, Seminars and Workshops

The PDCA offers relevant, topical and cutting-edge educational programs throughout the year.

Annual Conference: The PDCA Annual Conference is held each year, generally in April. This internationally-recognized conference provides a forum for experts from industry, private business, government and academia to discuss key trends and issues within the driven pile industry with those who rely on information and technology to improve their business.

Design and Installation of Cost-Efficient Piles (DICEP): Held each fall since 2000, this exclusive PDCA program presents modern approaches to maximize

Efficiency, Effectiveness and Economy (E_3) of driven piles through a series of engineering focused presentations. DICEP is designed primarily for geotechnical, structural and civil engineers, but presents relevant information for contractors and other firms or individuals who support, conduct business or are associated with the deep foundations, earth retention and/or the driven pile industry.

Professors' Driven Pile Institute (PDPI): This intensive week-long program is designed to instruct engineering educators in all aspects of driven pile installation, design and quality control. This program blends practical, real world construction knowledge with academics. The PDPI has been attended by more than 150 university and college representatives who teach driven pile applications in an academic environment. The program is held at Utah State University every other year and is funded 100 percent by the PDCA and its members.

Deep Foundation Testing and Analysis Seminar and Workshops: The PDCA, in collaboration with Pile Dynamics, Inc. conducts several Deep Foundation Dynamic Testing and Analysis seminars and workshops annually. Each seminar or workshop generally includes information on deep foundation integrity testing, wave equation analysis (GRLWEAP), high strain dynamic foundation testing (PDA and CAPWAP). This course is designed primarily for individuals involved in the design, construction and specification of deep foundations; as well as PDA and CAPWAP users, foundation testing professionals, professors and students already familiar with the basic concepts of deep foundation dynamic testing and analysis.

The PDCA also provides the Dynamic Measurement and Analysis Proficiency Test designed to reflect the user's level of knowledge and ability, which is then indicated in a "Certificate of Proficiency." Individuals who qualify to support dynamic measurement and analysis testing are listed on the PDCA website as a reference for end-users.

Pile Driving Inspectors Course: This one-day course is designed for those who inspect pile-driving operations during construction of foundations and major structures. The course presents information on the inspector's role, hammers and installation equipment, pile types, contractor's submittal and review process, establishing PD criteria, record-keeping and monitoring and common problems. This program is supplemented by state DOT personnel and their local practices in the state in which the program is offered.

Dynamic and Static Pile Load Test Options: This one-day course discusses the benefits of a well thought out, quality load test program to provide an overall economic advantage and provide data to maximize the efficiency and effectiveness of a pile load test schedule. The seminar concludes with presentations by manufacturers of the various dynamic and static pile load testing options available in today's industry.

Driven Pile Load Resistant Factor Design (LRFD) Design and Construction Workshop: The application of the Load Resistant Factor Design (LRFD) platform is now required for use by bridge and structure designers using federal funding. This policy requirement applies to all surface transportation features including bridges, tunnels, earth retaining structures and miscellaneous ancillary structural features. The goal of this workshop is to improve and enhance the competiveness of driven piles by communicating and demonstrating the correct and appropriate application of the current (5th Edition) AASHTO LRFD design and construction specifications for structural and geotechnical limit states.

Joint seminars and cooperative support: PDCA works with other organizations such as the Edmonton Geotechnical Society, the Calgary Geotechnical Society, the GeoInstitute of American Society of Civil Engineers, DFI and ADSC.

Communications, Business Networking and Client Development

Communications

***PileDriver* Magazine:** Produced on a quarterly basis and distributed to over 3,000 subscribers, the magazine provides current industry trends, the latest in technology, case histories and legal topics relevant to the pile driving industry. *PileDriver* also features member "Company Profiles" and company completed projects through "Project Spotlights". The PDCA encourages article submissions and is always at no cost to the author.

www.piledrivers.org: The PDCA website is an expansive resource to anyone seeking information about the PDCA, PDCA members or the pile driving industry in general. The site includes information on the benefits of driven pile, membership (new and renewals), advertising, leadership and committees, chapters, events, publications, gallery, reference links, news and the PDCA Store. Visitors to the site can search for member companies or services and products by State or Region; visitors can also download data on Noise and Vibration and the PDCA Installation Specification for Driven Pile (PDCA Specification 103-07 – Private Work).

E-Letter: The PDCA distributes an electronic newsletter on a monthly basis. The E-Letter is designed to keep you up-to-date on all PDCA upcoming activities and events. It also includes a "Members On the Move" section that reports "press release" type information on PDCA member companies.

Membership Directory: Produced annually, the Membership Directory provides a listing of all PDCA member companies, including the company name, main and optional employee contacts, address, phone, fax, email, website and a description of work performed by the company. Companies can also elect to have their logos included with their company information.

Calendar: Produced annually and distributed in November with pages from December to December, the calendar lists all upcoming PDCA activities that have been scheduled at the time of printing.

Business Networking and Client Development

Membership in the PDCA offers numerous opportunities to conduct business networking and client development at every conference, educational program, committee meeting and social function with individuals who share a common interest – pile driving and the pile driving industry. Networking opportunities exist not only between PDCA member-to-member, but also relationships developed between PDCA and public agencies, such as FHWA, AASHTO, Corps of Engineers and State DOTs. The PDCA also maintains liaisons with other industry associations, working with them on issues of mutual concern.

Whether it is member-to-member or member-to-guest, through conferences, educational programs or committee participation, the opportunity to develop new client relationships is ever-present. The chance to strengthen relationships with old clients or just re-connect with old friends is also part of the PDCA experience. ▼

THE PILE DRIVING CONTRACTORS ASSOCIATION
2013 MEMBERSHIP APPLICATION

PDCA
PILE DRIVING CONTRACTORS ASSOCIATION
"A Driven Pile… Is a Tested Pile!"™

Step 1: Company Information

Company Name: _____

Contact Name: _____

Address: _____

City: _____ State / Province: _____

Zip / Postal Code: _____ Country: _____

Phone: _____ Fax: _____

Company Website: _____ Contact Email: _____

Step 2: Select Membership Type - *Check the box that corresponds to your "Membership Type".*

Contractor Member – General or Specialty contractor who commonly installs driven piles for foundations and earth retentions systems.

- ❑ **Contractor I Member Company** – Annual volume > $ 2 million **$850.00**
- ❑ **Contractor II Member Company** – Annual volume < $ 2 million **$425.00**

Associate Member – Firms engaged in the manufacture and/or supply of equipment, materials, or services to PDCA members or the pile driving industry in general.

- ❑ **Associate I Member Company** – Annual volume > $ 2 million **$850.00**
- ❑ **Associate II Member Company** – Annual volume < $ 2 million **$425.00**
- ❑ **Local Associate Member Company** – **$100.00**
  Small Company desiring membership in a single local chapter. A firm that only serves the chapter's geographical area and whose interest is to support the local chapter. Membership must be approved by the PDCA Executive Committee

Engineering Affiliate – Any Engineering company or individual (Structural, Geotechnical, Civil, etc.) involved in the design, consulting, or other engineering aspect associated with driven piles, deep foundations or earth retention systems.

- ❑ **Engineering Affiliate** – *1-5 Offices or an Individual* **$100.00**
  Engineering Affiliates may list up to 5 individuals per office at no additional charge.
- ❑ **Engineering Affiliate** – *6-11 Offices* **$90.00**
  Engineering Affiliates may list up to 5 individuals per office at no additional charge.
- ❑ **Engineering Affiliate** – *12+ Offices* **$80.00**
  Engineering Affiliates may list up to 5 individuals per office at no additional charge.

Individual Member – **$50.00**
Any individual employed full-time by an university or college and teaching Undergraduate or Graduate courses in engineering; or an individual employed full-time by a Government entity.

Retired Industry Member – **$50.00**
Any retired individual who has left active employment and wishes to remain a member. This is a non-voting membership category.

Student Member – **$20.00**
Full-time student enrolled in a Bachelor, Master or Doctoral degree program in construction or engineering at an university or college.

Affiliate Labor Organization Member – **$100.00**
Concerned with pile driving for the purpose of gathering and sharing information. This is a non-voting membership category. Must be approved by the PDCA Executive Committee.

Step 3: Membership Options

❑ **Professor's Driven Pile Institute Contribution** – **$200.00**
Through the PDPI (Professors' Driven Pile Institute), the PDCA provides the nation's leading engineering professors with the expertise to teach engineering students about driven pile advantages. Without question, this program is the standard by which all "teach the teacher" programs are judged and is the best way to ensure the continued progress and strength of our industry for the coming years. The PDCA funds virtually all expenses for the professors, which means a program such as the PDPI is expensive to conduct, but worth every dollar invested. This is a WIN/WIN program. 100% of your contribution goes to help fund this important industry program.

❑ **Optional Employee/Office: Associate & Contractor Members Only (Per Office/Employee Listing)** – **$100.00**
All optional employees/offices receive all of the benefits and services provided to the main contact, including a listing in the annual directory and website.

❑ **Premium Upgrade** – **$225.00**
Your Company Logo and Website linked from your PDCA website Company Profile listing.

❑ **Company Logo on Website Profile** – **$25.00**

Perforated for easy removal.

Step 4: Member Information - *Check only the services/products under the Membership type for which you are applying.*

Contractor Members – check all services that your company provides:

- ❒ Bridge Buildings
- ❒ Bulkheads
- ❒ Deep Dynamic Compaction
- ❒ Deep Excavation
- ❒ Docks and Wharves
- ❒ Earth Retention
- ❒ General Contracting
- ❒ Highway and Heavy Civil
- ❒ Marine
- ❒ Pile Driving
- ❒ List Other Services:

Associate Members – check all products and/or services that your company provides:

- ❒ Air Compressors & Pumps
- ❒ Coatings & Chemicals
- ❒ Consulting
- ❒ Cushions, Hammer
- ❒ Cushions, Pile
- ❒ Cutter Heads & Drill Bits
- ❒ Design
- ❒ Dock & Marine Supplies
- ❒ Drilling Equipment & Supplies
- ❒ Drive Caps & Inserts
- ❒ Equipment Rental
- ❒ Equipment Sales
- ❒ Freight Brokerage
- ❒ Hoses & Fittings
- ❒ Hydraulic Power Packs
- ❒ Leads & Spotters
- ❒ Lubricants & Grease
- ❒ Marine Drayage
- ❒ Marine Equipment
- ❒ Materials Testing
- ❒ Other Structural Materials
- ❒ Pile Hammers
- ❒ Pile Monitoring
- ❒ Pile Points & Splices
- ❒ Piles, Composite
- ❒ Piles, Concrete
- ❒ Piles, Steel H List
- ❒ Piles, Steel Pipe
- ❒ Piles, Synthetic Material
- ❒ Piles, Timber
- ❒ Rigging Supplies
- ❒ Safety Equipment
- ❒ Sheet Piles, Aluminum
- ❒ Sheet Piles, Steel
- ❒ Sheet Piles, Vinyl
- ❒ Structural Steel
- ❒ Surveying
- ❒ Testing
- ❒ Trucking
- ❒ Vibration Monitoring
- ❒ Other Services:

Engineering Affiliate – check all products and/or services that your company provides:

- ❒ Analysis
- ❒ Civil
- ❒ Consulting
- ❒ Geotechnical
- ❒ Surveys
- ❒ Structural
- ❒ List Other Services:

Step 5: Geographic Areas Where Services and Products Are Available – *(Check all that apply)*

❒ All States	❒ AK	❒ AL	❒ AR	❒ AZ	❒ CA	❒ CO	❒ CT	❒ DC
❒ DE	❒ FL	❒ GA	❒ HI	❒ IA	❒ ID	❒ IL	❒ IN	❒ KS
❒ KY	❒ LA	❒ MA	❒ MD	❒ ME	❒ MI	❒ MN	❒ MO	❒ MS
❒ MT	❒ NC	❒ ND	❒ NE	❒ NH	❒ NJ	❒ NM	❒ NV	❒ NY
❒ OH	❒ OK	❒ OR	❒ PA	❒ RI	❒ SC	❒ SD	❒ TN	❒ TX
❒ UT	❒ VA	❒ VT	❒ WA	❒ WI	❒ WV	❒ WY	❒ Canada	❒ Mexico
❒ South America		❒ Europe	❒ Asia	❒ Other				

Step 6: Payment

Membership Type $ _____
PDPI Contribution $ _____
Optional Employee/Office $ _____
Membership Upgrades $ _____
TOTAL: $ _____

Type of Payment

I am making payment in full by: ❒ Check ❒ Visa ❒ MasterCard ❒ American Express ❒ Discover

Card Number: _____ Expiration Date: _____

Name on Card: _____ CVV Code: _____

Statement Billing Address: _____

Signature: _____

Please complete this application and mail to:
PDCA – 1857 Wells Road - Suite 6, Orange Park, Florida 32073 or Fax to: 904-215-2977

Did *You* Know?

Pile driving: Information for the general public

The following is a detailed description that can be used to help inform the general public about the role of piles and the pile driving industry.

Archeologists have determined that driven piles have been used for thousands of years. Who knows how the ancient Egyptians figured it out; maybe they were trying to push their beach umbrellas into the sand and discovered that it takes more force to install the pole farther. Longer poles (piles) offer greater resistance and support. A beam placed across the top of several piles can support a significant amount of weight. The Greeks and Romans utilized driven piles to support bridges, aqueducts and other structures in poor soils, many of which are still in use today. The Roman Circus in Arles, France was built on 30,000 driven piles and modern archeological excavations have discovered the piles are still in good condition and supported their loads for about a thousand years, until the structure fell into disuse. While other historic examples are abound throughout Europe, the basic principles for piles are still used today.

Why do we use piles?

Commercial buildings, bridges and skyscrapers are large structures that need a lot of support. Usually, the soil conditions will not support the structure's weight and deep foundations are needed. When you walk across a field, sometimes your foot stays right on the surface. Ten feet further along, your foot sinks in the mud – different soils, different support.

How do we install piles?

Pound them in! This simple procedure is the most efficient installation method.

We call it "driving the pile" or "pile driving." By observing how fast the pile goes down, we can determine how much weight the pile can support.

What about noise and vibrations?

Driving the pile produces noise we can hear and vibrations we can feel.

This noise is no greater than your lawn mower or a motorcycle. It will drop off quickly as you move away from the pile hammer. In the vast majority of cases, noise is not a problem.

The vibration that you feel can be measured with seismic instruments. A general rule of thumb is that ground vibrations are not significant at distances greater than the length of the pile being driven. In other words, if the pile is 50-feet long and your building is more than 50-feet away, significant vibrations are unlikely to occur. If your building is relatively close, or you have a concern, ask the pile driving contractor or engineer to measure the vibrations at your building to assure they are below safe industry guidelines. The professional engineer who designed the pile has analyzed the soil conditions and selected a pile type that should not damage surrounding structures.

Advantages of driven piles

One of the advantages of pile driving is that it is relatively fast. This reduces any temporary short-term inconvenience to neighbors.

Who is the pile driving contractor?

They are experienced professionals with many years in the business. Their goal is to complete the job quickly, safely and efficiently. At the same time, they want to satisfy all parties involved in the project, including neighbors. ▼

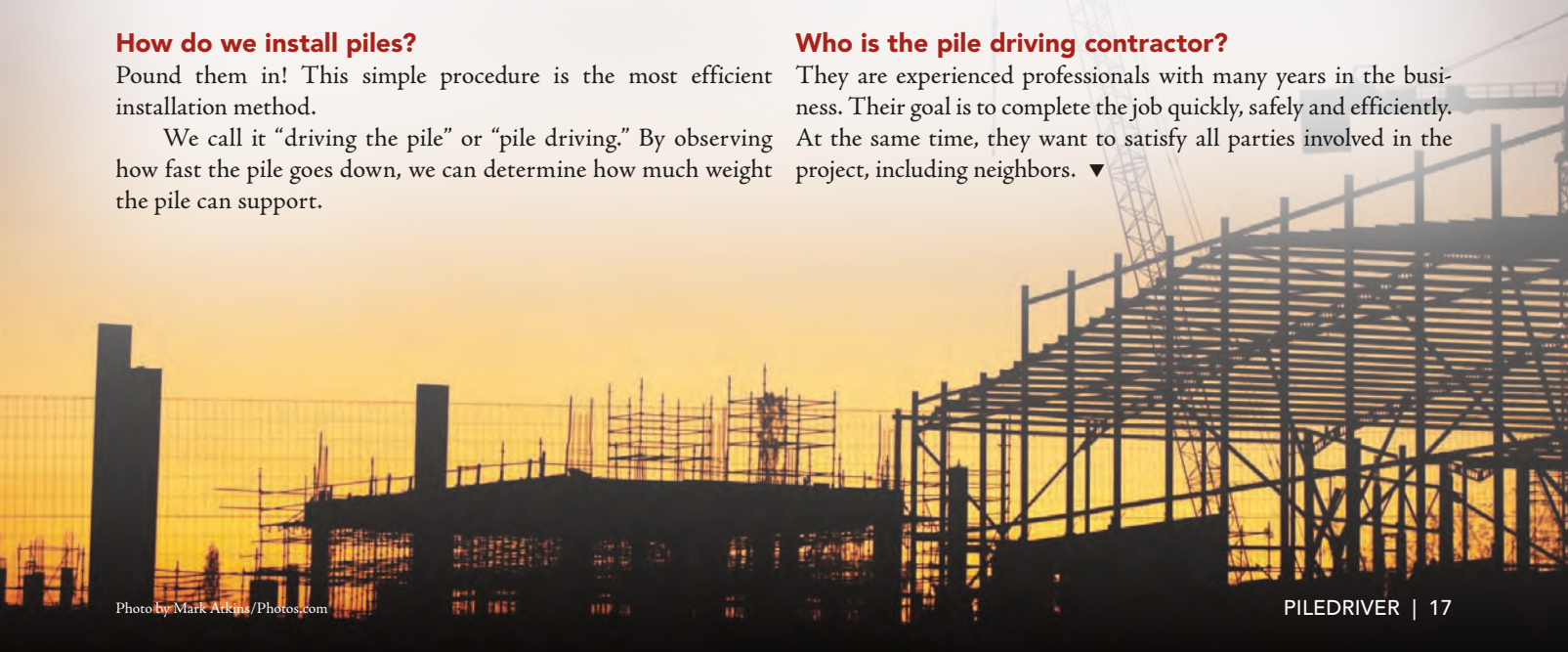
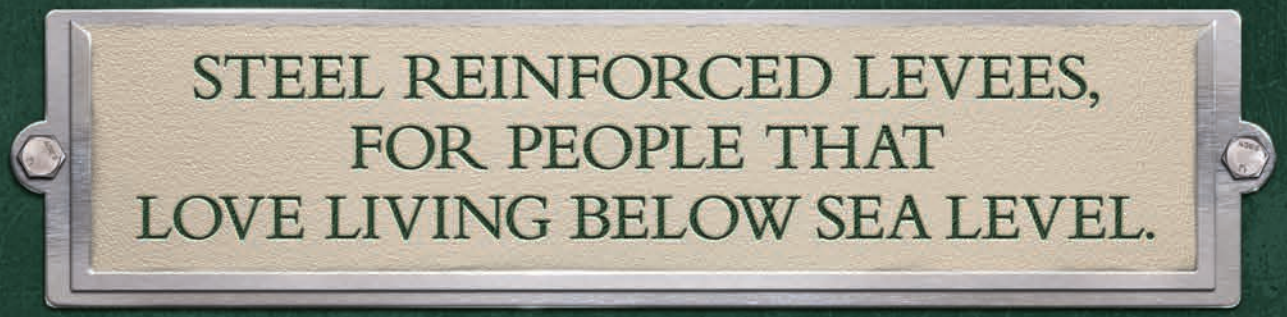


Photo by Mark Atkins/Photos.com


NUCOR-YAMATO
STEEL



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ARTBA APC AEM PDCA PILE DRIVING CONTRACTORS ASSOCIATION

INTERNATIONAL CONSTRUCTION EQUIPMENT, INC
301 Warehouse Drive
Matthews, NC 28104 USA
704-821-8200 | www.iceusa.com

New **PDCA Members**

The following is a complete list of all members who have recently joined PDCA. The association welcomes everyone on the list!

Contractors

Agra Foundations, LTD
Derek Harris
101-12391 Horseshoe Way
Richmond, BC V7A 4X6
Canada
Phone: 604-270-1115
Fax: 604-270-1056
www.agra.com

Desert Deep Foundations, LLC
Eric Hendriksen
393 South 2650 West
Salt Lake City, UT 84104
Phone: 801-381-5088
Fax: 801-282-0099
www.desertdeepfoundations.com

Group Contractors, LLC
Kevin Gourgues
15055 Jefferson Highway
Baton Rouge, LA 70817
Phone: 225-752-2500
Fax: 225-752-2552
www.groupcontractors.com

Kokosing Construction Company
Mike Schmeltzer
958 North Huron Street
Cheboygan, MI 49721
Phone: 231-627-5633
Fax: 231-627-2646
www.kokosing.biz

Power Lift Foundation Repair, Inc.
Bill McCown
304 Progress Street
Sherman, TX 75092
Phone: 903-893-2393
Fax: 903-893-2672
www.plfrinc.com

Associates

Angbai Trading Co., Ltd.
Hoffman Fang
1068 Wuzhong Road
Shanghai, 201103
China
Phone: 86-138-4858-5282
Fax: 86-21-6090-0838
www.sinosteeltube.com

Canadian Pile Driving Equipment, Inc.
Bruce Patterson
3801-53 Avenue
Red Deer, AB T4L 2L6
Canada
Phone: 888-466-4116
Fax: 888-407-7309
www.canadianpile.com

Composite Components
Dan Winters
P.O. Box 14295
North Palm Beach , FL 33408
Phone: 561-848-2050
Fax: 561-842-7209
www.compositez.com

Construction e Link, Inc.
Kevin Lathan P.E.
P.O. Box 3175
Clearwater, FL 33767
Phone: 727-449-2100
Fax: 208-446-7756
www.constructionelink.com

Creative Pultrusions, Inc.
Dustin Troutman
214 Industrial Lane
Alum Bank, PA 15521
Phone: 814-839-4186
Fax: 814-839-4276
www.creativepultrusions.com

CZM Foundation Equipment
Barrett Rahn
P.O. Box 126
Savannah, GA 31402
Phone: 912-401-5903
Fax: 912-966-5984
www.czm-us.com

Ingeacero Construcciones S.A.S
Isaías Caicedo Bautista
Calle 8 # 12-06 León XIII
Soacha, Cundinamarca 250055
Colombia
Phone: 57-1-778-0680
Fax: 57-1-778-2276
www.ingeacero.com

National Pipe and Piling, Inc.
Troy Adams
2044 6th Avenue
Tacoma, WA 98403
Phone: 253-274-9800
Fax: 253-627-7473
www.natpipe.com

Nova Group, Inc.
Russ Barns
P.O. Box 4050
Napa, CA 94558
Phone: 707-265-1100
Fax: 707-265-1199
www.novagrp.com

Reeve Trucking Co., Inc.
Doug Ottis
P.O. Box 5126
Stockton, CA 95205
Phone: 209-948-4061
www.reevetrucking.com

Smart Structures, Inc.
Richard Hecht
324 2nd Street Pike, Unit 13
Southampton, PA 18966
Phone: 267-983-6106
Fax: 267-983-6106
www.smartpile.com

Engineering Affiliates

D.W. Kozera, Inc.
David W. Kozera, P.E.
Gnana Gunaratnam, P.E.
1408 Bare Hills Road
Baltimore, MD 21209
Phone: 410-823-1060
Fax: 410-823-1062
www.dwkozerainc.com

ECS Carolinas, LLP
502 Wando Park Boulevard, Suite 109
Charleston, SC 29464
Phone: 843-654-4448
Fax: 843-323-5115
www.ecslimited.com

Danny De Avies
Phone: 843-654-4448
Fax: 843-323-5115

Luke Everheart, E.I.
Phone: 843-654-4448
Fax: 843-323-5115

Allen R. Parker, Jr., P.E.
Phone: 843-654-4448
Fax: 843-323-5115

Justin Peterson, E.I.
Phone: 843-654-4448
Fax: 843-323-5115

EXP Services
Steve Cheng
1595 Clark Boulevard
Brampton, ON L6T 4V1
Canada
Phone: 905-793-9800
Fax: 905-793-0641
www.exp.com

Geosyntec Consultants
Terence Holman
1420 Kensington Road, Suite 103
Oak Brook, IL 60523
Phone: 630-203-3349
Fax: 630-203-3341
www.geosyntec.com

Gerhart Cole, Inc.
Corbett Hansen
668 East 12225 South, Suite 203
Draper, UT 84020
Phone: 801-849-0055
Fax: 801-555-1212
www.gerhartcole.com

KPFF Consulting Engineers
Tommy Howard
101 Stewart Street, Suite 400
Seattle, WA 98101
Phone: 206-382-0600
Fax: 206-382-0500

McCleary Engineering
Terry McCleary
3705 Progress Boulevard
Peru, IL 61354
Phone: 815-780-8486
www.mcclearyengineering.com

Mueser Rutledge Consulting Engineers
Walter E. Kaeck, P.E.
14 Penn Plaza, 225 West 34th Street
New York, NY 10122
Phone: 917-339-9300
Fax: 917-339-9400
www.mrce.com

Francis J. Arland, P.E.
Phone: 917-339-9300
Fax: 917-339-9400

Alfred H. Brand, P.E.
Phone: 917-339-9300
Fax: 917-339-9400

David R. Good, P.E.
Phone: 917-339-9300
Fax: 917-339-9400

James L. Kaufman, P.E.
Phone: 917-339-9300
Fax: 917-339-9400

Satt Engineering, LTD
Snehal Patel
1520-37 C Avenue Northwest
Edmonton, AB T6T 0E1
Canada
Phone: 587-557-1788
Fax: 780-218-3896
www.sattengg.com

Shannon & Wilson, Inc. – Colorado
David Asunskis
1060 Bannock Street, Suite 200
Denver, CO 80204
Phone: 720-258-4100
Fax: 720-258-4122
www.shannonwilson.com

Justin Crummett
Phone: 720-258-4100
Fax: 720-258-4122

Greg Fischer
Phone: 720-258-4100
Fax: 720-258-4122

David Vara
Phone: 720-258-4100
Fax: 720-258-4122

Mark Vessely
Phone: 720-258-4100
Fax: 720-258-4122

Affiliate Labor Organization

BTC Transport Systems, Inc.
Damian Rodriguez
3808 Southwest 10th Place
Cape Coral, FL 33914
Phone: 201-344-0442
Fax: 239-945-1200
www.btctransportation.com

Illustrator: higyou / Photos.com

Individual

Northern Arizona University
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Flagstaff, AZ 86011
Phone: 928-523-0652
www.nau.edu

The Citadel
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Charleston, SC 29409
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The Citadel: 171 Moultrie Street
Charleston, SC 29409
Phone: 843-953-6588
ronald.welch@citadel.edu

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presents

2012 PROJECT OF THE YEAR

awarded at the

PDCA 17th Annual International Conference and Expo 2013
April 25–27 in Orlando, FL

2012 PDCA Project of the Year Awards

Putting Excellence to the Test!

Entries are to be received by Feb. 15, 2013.

All entries will be displayed at the PDCA 17th Annual International Conference and Expo 2013, April 25-27 in Orlando, FL.

Winning entries will be announced at the 2013 PDCA Annual Conference Business & Awards Luncheon.

PDCA will NOT reveal the winning entries prior to the luncheon!

Sophistication of the presentation is not part of the judging, but completeness in addressing each of the criteria outlined in this form is essential.

General Requirements

The competition is open to all PDCA contractor member projects completed from January 2012 through December 2012. Entries must be submitted by or with the permission of the principals or officers of the firm. The dollar categories for project entries are based solely on the dollar volume of the piling contract. Entry categories include Land-Based and Marine-Based projects. Each category is divided into four contract dollar volumes: Less than $500,000 / $500,000 – $2M / $2M – $5M / Greater than $5 Million.

Every Entry Must Include

Complete Entry Form. Please use original form or download and print one from the PDCA website, www.piledrivers.org.

Entry fee of $100.00 per entry must accompany each entry form.

A Project Narrative is to be submitted no later than Feb. 15, 2013. This narrative needs to explain in reasonable detail WHY the project should receive a Project of the Year Award in its category. It should also include HOW the entry meets one or more of the following criteria:

- Meeting the challenge of a difficult job
- Innovation in construction techniques, equipment and/or materials
- Unique application of piles or design considerations
- Construction problems and creative solutions
- Cost-saving measures such as value engineering Innovative project management
- Design changes from other deep foundation or earth retention systems to driven piles
- Management or mitigation of environmental considerations

How to Submit

All entries must be submitted as an electronic copy.

Entries should include color photos. (300 dpi at 3×5 or larger)

Photos should highlight the construction process including a finished product, special techniques and/or unique conditions.

These photos must be titled as company fig 1, company fig 2 and must have an accompanying document explaining each photo.

Entries may also include letters of recommendation, list of other accommodations earned, please include media and web coverage, or other supplemental material.

APPLICATION FORM

2012 PROJECT OF THE YEAR

awarded at the

PDCA 17th Annual International Conference and Expo 2013

April 25 – 27 in Orlando, FL

Project Submitted: ☐ Land ☐ Marine

Project Value: ☐ < $500,000 ☐ $500,000 – $2 Million ☐ $2 Million – $5 Million ☐ >$5,000,000

Company Name: _____

Chief Executive Officer: _____

Entry Submitted by: _____

Company Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____

Email: _____

Project Title: _____

Project Owner: _____

Contract Amount (Pile Driving Contract Only): _____

Project Start Date: Completion Date: _____

Payment Information: ☐ Check (Enclosed) ☐ Visa ☐ MC ☐ AMEX

Card Number: _____ Exp. Date: _____ CVV: _____

Billing Statement Address: _____

City: _____ State: _____ Zip: _____

Cardholder's Name: _____

Signature: _____

PDCA
PILE DRIVING CONTRACTORS ASSOCIATION
"A Driven Pile…Is a Tested Pile!"™

Submit Form, Narrative and Payment to:
PDCA, Project of the Year Awards
1857 Wells Road, Suite 6, Orange Park, FL 32073.
Entries must be post marked no later than Feb. 15, 2013.

Mark Your Calendar!

Upcoming PDCA events and conferences for 2013

PDCA has many events and conferences planned in the upcoming year. To allow members enough time to plan to attend, here are confirmed dates, locations and times. Please note all meetings, dates and times listed are subject to change. Visit the PDCA website at www.piledrivers.org for the latest updates and information.

FEBRUARY 2013

20	Executive Committee Meeting	Conference Call	11:00 A.M. EST
20	Northeast Chapter of PDCA Board of Directors Meeting	Iberia Peninsula Restaurant, Newark, NJ	5:00 P.M. EST
20	Northeast Chapter of PDCA Dinner Meeting	Iberia Peninsula Restaurant, Newark, NJ	6:00 P.M. EST
25-27	High Strain Dynamic Testing and Analysis Workshop	New Orleans, LA	

MARCH 2013

6	PDCA Board of Directors Meeting	Conference Call	11:00 A.M. EST
12	Driven Deep Foundations LRFD Workshop	Milwaukee, WI	8:00 A.M. CDT

APRIL 2013

24	PDCA Executive Committee Meeting	Omni Hotel and Resort, Orlando, FL	4:00 P.M. EDT
25	PDCA Board of Directors Meeting	Omni Hotel and Resort, Orlando, FL	8:00 A.M. EDT
25-27	17th Annual International Conference and Expo	Omni Hotel and Resort, Orlando, FL	

MAY 2013

2-3	Structures Congress	Pittsburgh, PA	
15-17	High Strain Dynamic Testing and Analysis Workshop	North California	

JUNE 2013

13	Pile Driving Inspectors Course	Vancouver, BC	8:00 A.M. PDT
23-28	Professors' Driven Pile Institute	Utah State University, Logan, UT	

JULY 2013

10	PDCA Executive Committee Meeting	Conference Call	11:00 A.M. EDT
24	PDCA Board of Directors Meeting	Conference Call	11:00 A.M. EDT

SEPTEMBER 2013

12	PDCA Educational Conference	Atlanta, GA	
26	Driven Deep Foundations LRFD Workshop	TBA	

OCTOBER 2013

9	PDCA Executive Committee Meeting	Conference Call	11:00 A.M. EDT
23	PDCA Board of Directors Meeting	Houston, TX	6:00 P.M. CDT
24	14th Annual Design and Installation of Cost-Efficient Piles Conference	Houston, TX	7:30 A.M. CDT

DECEMBER 2013

6	Pacific Coast Chapter of PDCA Annual Luncheon	Point Richmond, CA	12:00 PM PST

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PDCA Member News

Atlas Tube, a division of JMC Steel Group, has donated 16 tons of steel hollow structural sections (HSS) to help rebuild L'École Lakay, a trade school located in Haiti that was severely damaged in the 2010 earthquake.

The town of Le Soleil, Haiti, was devastated by the earthquake, and L'École Lakay was left in an uninhabitable condition in its wake. A trade school run by the Salesiens of Don Basco, L'École Lakay was forced to close due to the damage, but is now getting a second chance thanks to help provided by the Canadian Institute of Steel Construction (CISC) and Atlas Tube.

The CISC is part of an initiative that is raising funds and resources to rebuild the school tailored to the construction trades. As part of this effort, Atlas Tube has donated 16 tons of steel, including square tube (5 × 5 × .250) and round tube (4" OD) that will be used to build columns for the school.

"Donating steel to help rebuild L'École Lakay is not only critical to the future students of Haiti, but to the future of the construction industry," said David Seeger, president of JMC Steel Group. "Ensuring the ongoing education of Haiti's skilled youth in construction trades will allow these graduates to help rebuild their country and help ensure that the future of the trades and construction industry is bright."

The new, 2,100-square-meter L'École Lakay trade school will be primarily constructed from steel and will feature 16 classrooms, workshops, washrooms, offices, storage areas, covered walkways and a shaded outdoor space. Student enrollment increased dramatically since previous years and L'École Lakay expects to accommodate 200 students when it reopens.

Atlas Tube rolled the materials in December 2012 and the steel was shipped to L'École Lakay in early January 2013.

For more information on the CISC's initiative to raise funds for L'École Lakay in Haiti, please visit cisc-icca.ca

Pile Dynamics, Inc. (PDI) commemorated its 40th anniversary on Oct. 12, with a series of events that showcased its past achievements and cheerfully welcomed the future.

The day started with field demonstrations of PDI's latest technologies to a group of invited guests, including International Association of Foundation Drilling (ADSC-IAFD) director of operations, Tony Marinucci, and PDI's representative in China, Frank Ko.

Thermal Integrity Profiling (TIP) was conducted on two drilled shafts installed earlier that week on the grounds of PDI's headquarters. PDI also demonstrated a combination of wireless transmission of dynamic pile testing data (SiteLink®) with real-time pile capacity calculation (using the signal matching software iCAP®). Pile driving was simulated with a small SPT hammer that transmitted data to the guests seated in PDI's lecture hall; CAPWAP®-like results were instantly displayed for each of the hammer blows, to the delight of the audience.

In the afternoon, PDI employees and guests attended a celebration held at the beautifully renovated Allen Theater in downtown Cleveland, Ohio. Fittingly, the expansion of that facility is supported by foundations that were dynamically tested using PDI's Pile Driving Analyzer®. Several guests had strong connections to PDI's beginnings and were instrumental for its success. Among them was Ohio Department of Transportation (ODOT) engineer, Jawdat Siddiqi, (ODOT funded the original academic research on dynamic foundation testing), Case Western Reserve University (CWRU) Professor Emeritus, Tom Kicher, Cleveland State University Professor Emeritus, John Tomko and the lecturers for the afternoon.

The invited lecturers were preceded to the applause of the audience by the release of a new video showcasing Pile Dynamics products and by PDI President Garland Likins' recounting of PDI's story from its early days at the Civil Engineering Department of CWRU and continuing to the present.

Silas Nichols, Federal Highway Administration (FHWA) Principal Geotechnical Engineer, and Dr. Adel (Tony) Saada, Professor Emeritus at CWRU, both spoke during the afternoon portion of the event.

PDI recognized Dr. Saada's 50 years of teaching with a plaque and a gift towards the construction of a new soil mechanics laboratory at CWRU. Also recognized were Frank Ko for 25 years of friendship and partnership between Earth Products China and PDI, and Mohamad Hussein and Marcia Giterman for more than 30 years of distinguished service to PDI.

The afternoon was followed by a festive dinner and a cake made to resemble a stack of various PDI testing instruments. PDI (www.pile.com/pdi) thanks its many loyal clients and supporters that made this a happy anniversary. ▼

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2013 Set to be a Busy Year for Gulf Coast Chapter

Research projects and standard updates on the horizon

The Gulf Coast Chapter of PDCA held its fourth quarter chapter dinner meeting at Messina's Restaurant in Kenner, La., just a few miles from the Louis Armstrong New Orleans International Airport. With several important topics on the evening's agenda, President Devon Overall, of the Coastal Bridge Company, called the meeting to order.

Smith Companies, one of the largest and most respected cut-to-size panel processors of plywood, OSB, particle board and MDF in the United States, sponsored the evening's reception and dinner.

The chapter reported that the research project, "An Integrated Computational and Experimental Study of Driven Pile Set-Up in Soft Clays," was progressing. In February or March, the project hopes to install test piles on the property of Boh Bros. Construction Co. and Cajun Deep Foundations. Boh Bros. will provide the pile driving rig and piles will be provided by Atlantic Metrocast. Piles will be driven as single piles and in pile groups. The chapter, working with Carol Friedland of Louisiana State University, will receive $100,000 per year over the next three years to continue this research.

Steve Hall, PDCA Executive Director, updated the members and guests on upcoming events sponsored at the national level.

The chapter also presented, "Revisions to the LA DOTD Standards and Specifications Section 804." At this point, the only additional revisions that will be made to the section are editorial in nature with the content and intent already approved. The changes are as follows:

804 Piles Renamed Section

Reorganized the section in order of construction.

804.05.2 Pile Installation Plan

The contractor will provide driveability analyses using the wave equation method in the installation plan. The alternative hammer approval method table has been removed from the specifications and all hammers will require a wave equation analysis.

804.08.8.1 Pile Penetration Requirements

Practical refusal has been broadly defined as a rate of 20 blows per inch at maximum stroke, for three consecutive inches. However, depending on site conditions, this criterion may not always be applicable.

804.10 Determination of Pile Resistance

When determining pile resistance, the FHWA Modified Gates Dynamic Formula will only be used when specified in the plans. This formula has been removed from the specifications.

804.11.7 Static Load Test

Dynamic Monitoring has been renamed Dynamic Monitoring Assistance.

Dynamic Monitoring Instrumentation

This once non-standard item has been included in the standard specifications. This includes the dynamic pile monitoring instrumentation and accessories that will be needed to carry out the dynamic testing.

The chapter also approved the formation of a membership committee. The purpose of the committee is to increase the size of the chapter, which will aid in adding additional resources and strengthen the organization.

"We want the PDCA of the Gulf Coast Chapter to be the biggest and best PDCA chapter," said Overall.

He indicated there are approximately more than 130 additional companies in the New Orleans/Louisiana area who should be invited to join the chapter. Kenny Wolf of Cajun Deep Foundations and Mike Bourgeois of CONMACO will serve as co-chairs of the committee.

Overall presented an amendment to the chapter bylaws that would separate the chapter's secretary/treasurer from one officer position into two separate positions. He stated that enough members have indicated a willingness to support the chapter as volunteers that these two positions would be easily filled.

The amendment passed unanimously.

The last agenda item for the evening was to elect the 2013 officers for the chapter. ▼

Nominations were as follows:

President – Devon Overall, Coastal Bridge Company
Vice President – Tri Le, Boh Bros. Construction Company
Secretary – Brian Klibert, Coastal Bridge Company
Treasurer – Justin Yard, Gulf Coast Pre-Stress, Inc.

All nominees were accepted and voted on unanimously to serve as officers in 2013.

Photo by Jupiterimages / Photos.com

Northeast Chapter Storms Ahead

New representatives set to refresh organization

The new trustees and board members of the revitalized Northeast Chapter of PDCA have met and have exciting plans for the upcoming weeks. Speakers are scheduled on a variety of interesting topics that will surely benefit contractors and engineers. There is also a chapter newsletter underway to inform and educate contractors and engineers on projects, specifications and issues unique to the northeast region.

Join the next meeting, planned for February 2013, to have your company better equipped to compete in this competitive region.

Our thoughts and prayers are with all who were affected by Hurricane Sandy.

Below is a list of board members who are committed to the chapter's success.

Executive Board:

Leads: Herb Engler (Penn State Fabricators) and Craig Olson (TRC Engineers)
Treasurer: Tom Conner (CAPPCO)
Secretary: Rich Anderson (ECA)
Liaison to National: Kevin Shannon (Linde-Griffith Construction)
Advertising/Promotion: Matt Scerbak/Judy Pomo (APF)
Recruiting/Membership: Ron Vigliotti/Mike Byrne (Simpson & Brown Contracting)
Additional Board Members: Bruce Langan (ECA); Randy Kelly (Atlantic Wood); Tom Hardell (George Harms Construction); Frank Maag (Skyline Steel); Jim Mocker and Bob Mraz (Lally Pipe & Tube)

Feel free to contact Matt Scerbak at mscerbak@associatedpile.com or 800-526-9047 for additional information. ▼

Northeast Chapter of PDCA Board of Directors
L to R:
Kevin Shannon, Linde-Griffith Construction
Tom Connor, CAPPCO
Mike Byrne, Simpson & Brown
Ron Vigliotti, Simpson & Brown
Herb Engler, Penn State Fabricators
Bruce Langan, ECA
Matt Scerbak, APF
Craig Olson, TRC Engineers

Top photo by Steve Everts / Photos.com

PDCA PACIFIC COAST

Pacific Coast Chapter Wraps Up 2012

Scholarship fundraisers among this year's successful events

The Pacific Coast Chapter of PDCA held its annual luncheon at Hotel Mac in Point Richmond, Calif. on Friday, Dec. 7, 2012.

Chapter President Dermot Fallon, of Foundation Constructors, Inc., presided over the meeting that was attended by over 45 members and guests.

Fallon opened the meeting with a summary of chapter activities and events that had taken place throughout 2012.

"The chapter has conducted a lot of very exciting and well-attended events in 2012. We have done a lot to promote the pile driving industry and our chapter," he said.

Some of the events mentioned included the chapter's popular second annual turkey shoot and a sporting clay tournament held at Comanche Hills Hunting Preserve in Ione, Calif. The next event was the chapter's "Day at the Races," held at Golden Gate Fields on Oct. 19. Members tried their luck and skill on the horse races, with some coming within a nose of winning some really big money.

Both events are held to raise money for the chapter's scholarship fund. The "Day at the Races" alone raised more than $1,300 to support scholarships for students enrolled in construction or engineering programs in 2012.

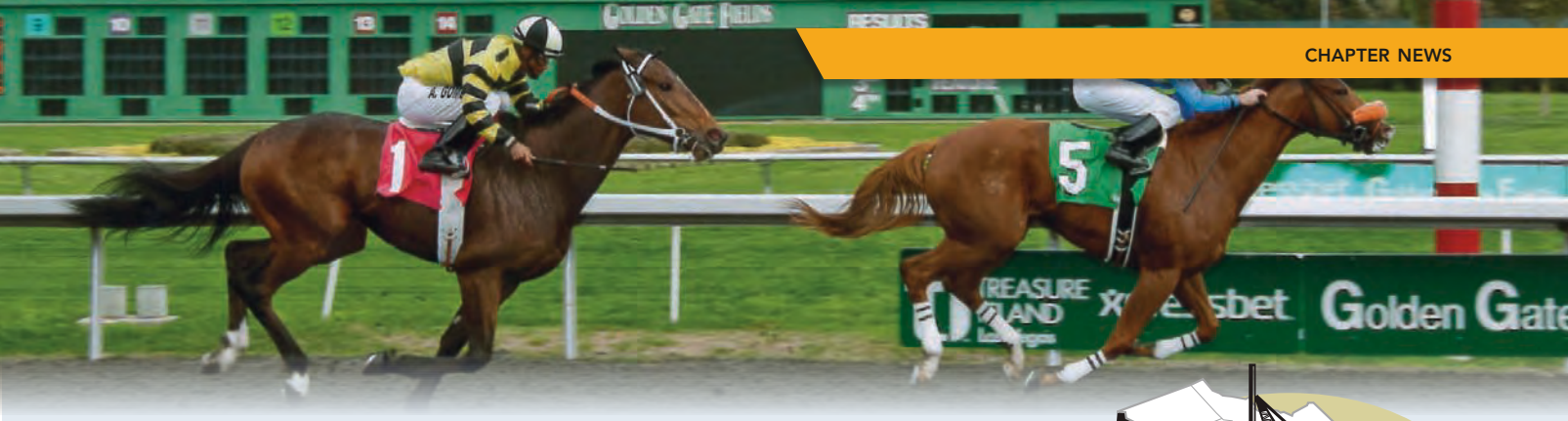
Fallon went on to tell the audience that the Pacific Coast Chapter awarded three scholarships, worth $6,000, at an awards presentation luncheon held at the Dead Fish Restaurant in Crockett, Calif. on Aug. 10.

PDCA Executive Director, Steve Hall, presented information on upcoming national events, including the Project of the Year Awards and the 17th Annual International Conference and Expo scheduled for April 2013 in Orlando, Fla.

The meeting continued with a buffet lunch followed by traditional member joke telling. This annual event features each member of the audience telling his or her favorite joke. The audience judges each joke and then the president makes a final determination on how much that person will be fined for their joke. No one escapes without a fine and all money collected goes toward the chapter's scholarship fund.

Fallon concluded the program by thanking everyone for their participation throughout the year and encouraged even greater involvement in 2013. He also told the audience that he wanted to see the PDCA Project of the Year awarded to a Pacific Coast Chapter member and encouraged everyone to consider putting together an entry for this competition. ▼

Racetrack photo by Ian Ransley / Flickr.com Bixby Bridge photo by Bernd Clayton / Photos.com



Day at the Races

The Pacific Coast Chapter of PDCA's annual "Day at the Races" was held at the Golden Gate Fields Turf Club in Berkeley, Calif. on Oct. 19, 2012 at 12 p.m.

(left-to-right) Joshua Spoelstra (L.B. Foster Co.), Scott Laumann (Shimmick Construction), Allen Kung, (Kiecon), Russell Baze (the jockey), Diane Miller (Foundation Constructors Inc., Board Member), Dermot Fallon (Foundation Constructors), Paul Whitworth (L.B. Foster Co.) and John Fallon

Several of those in our group got to go onto the actual racetrack, see the winning race horse up close and meet the winning jockey. This photo was taken with the famous "most winning ever" jockey, Russell Baze.

Over 40 of our local chapter members and guests signed up to attend this annual event, held at the beautiful horse racing facility. Most of the Pacific Chapter's board and our regular members were all in attendance, as well as several new or soon-to-be new members joined us.

We found time to socialize and compare various betting strategies, (horse names or jockey names or colors worn – seemed to be the most-used methods) and we all enjoyed the buffet lunch before the horse races began. Since we had such a substantial group attend, Golden Gate Fields dedicated one of the races to our chapter of PDCA. ▼

"We find events such as this help us add to our membership roles and generate funds to be used for upcoming PDCA scholarships. We are pleased to announce that this event generated a total of $1,380 to be added to our Scholarship Fund and want to thank those who participated and made the event a success." – Dermot Fallon, President, Pacific Coast Chapter of PDCA

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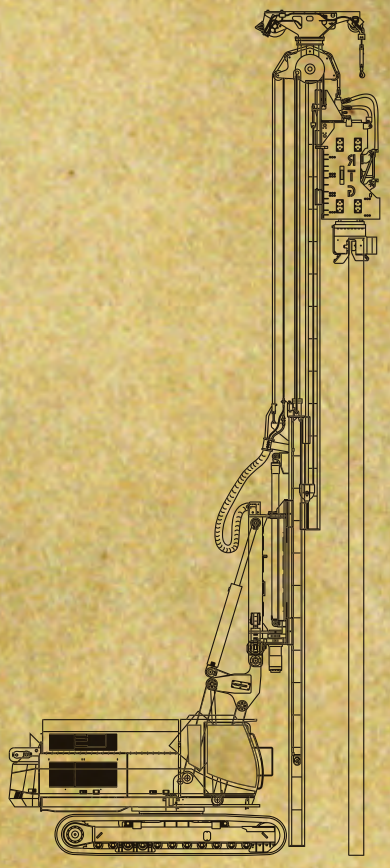

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ASAP Installations, LLC

The ASAP Sheetpiler offers an innovative approach

By Simon den Tuinder, President, ASAP Installations, LLC

In 2006, ASAP Installations, LLC was established in Tampa, Fla. to target the state's market for the installation of steel piling. Since then, ASAP has developed into one of the market leaders in installation of sheet piling, H-piles and tubular steel piles in the southeastern part of the U.S. This quick growth has been accomplished by hiring talented and experienced people in combination with introducing a new sheet piling technology to the market.

This new technology, culminating in the ASAP Sheetpiler machine, was developed in-house with the company's Dutch partners, the Sterk Group.

The Sterk Group has been in the pile driving business since 1882 in The Netherlands, a country of which 60 percent lies below sea level. The key factor in the success of the ASAP Sheetpiler is the combination of vibratory installation with hydraulic downforce and a telescopic boom, which creates a highly flexible, highly productive sheet pile installation machine with minimal impact on the environment as far as noise and vibrations are concerned.

Conventional sheet pile installation production is typically limited by size (moment and horsepower) of the vibratory hammer. Because of its unique design, the ASAP Sheetpiler allows an additional downforce of up to 17 tons to be applied through the telescopic boom, thereby dramatically improving production. The design also allows for direction adjustment to keep the sheet plumb continuously during installation. The ASAP Sheetpiler has proven itself capable of productions to up to three times that of conventional installation methods on large projects over the past few years, according to company president, Simon den Tuinder.

"We performed for the U.S. Army Corps of Engineers (USACE) on Eglin Air Force Base where we installed a total of nine miles of sheet piles with productions of over 400-wall feet per day, reducing the overall project schedule by more than four months," he noted.

Another advantage of the unique machine is that it uses a patented driving device capable of high frequency vibrations without the typical heavy vibrations inherent with conventional vibratory hammers during start-up and shut-down. This variable moment feature avoids vibration energy being applied near the soil's resonant frequency, avoiding damage to surrounding structures. The system is extremely suitable in areas where existing structures are fragile.

"In these kinds of situations, the ASAP Sheetpiler is a good alternative to the much more expensive press-in systems," den Tuinder said. "On several occasions we have been able to work with owners and general contractors to use the ASAP Sheetpiler in combination with vibration monitoring, in lieu of a press-in system, to successfully complete the project in a faster and more cost effective way."

On numerous projects, the ASAP Sheetpiler has been selected by Pinellas County as the preferred method of installation because

of the limited impact on the environment (vibrations and noise) and low cost.

The innovative machine was designed with economics and flexibility in mind. Because of its configuration, the ASAP Sheetpiler requires only three people to operate – the operator and two ground men. One of the main advantages is its reach – up to 67 feet vertically and up to 50 feet horizontally. The driver features a quick disconnect system and the counterweight with built-in power pack is self-erecting. The ASAP Sheetpiler can be operational within a few hours after arrival on the jobsite and is easy to move around. For situations where there is no room for a crane to install sheet piling, the ASAP Sheetpiler is the ideal solution with a footprint of only 20 by 20 feet.

Besides the technical advantage, ASAP relies on their experienced and highly trained technicians, pile drivers and operators.

"Due to the specialty of our work, it is very important to us to find the right people who are motivated and experienced in their field and it is our job to continuously train them and improve our overall performance," den Tuinder said. "The management team is highly educated, has experience in the industry, both locally and internationally, of more than 20 years on average, combined with an in-depth knowledge of the market. We strongly believe in working together as a team, within our own organization and also with our vendors, clients and fellow contractors."

Since 2006, the company has built solid relationships with vendors and suppliers as well as alliances with local general contractors in addition to some of the large construction companies in the U.S.

"Repeat customers, in the form of partnership with our clients, is the most important success factor for our growth. As everyone in construction knows, plans and schedules always change, but deadlines sometimes don't. When that happens, it is important to have a partner on your team that realizes that and will continue to work hard to achieve the project goals," den Tuinder explained. "Just like our equipment, we are focused on flexibility and continuing to stay focused on completing the project quickly, with high quality in a cost effective manner."

Besides vibratory installation of sheet piling, ASAP also performs installation with impact hammers. Most recently, the company worked on two projects for the USACE, including both vibratory and impact installation of sheet pile with lengths up to 81 feet as part of the Everglades Restoration Project in south Florida.

Currently, they are starting a project in New Orleans, La. for the USACE in a very sensitive area where vibration limits are critical and sheets up to 67 feet will have to be installed. ASAP was selected based on the combination of advanced technology and low cost.

The company's philosophy, coupled with the competitive advantage the patented ASAP Sheetpiler presents in helping general contractors and an owner build their projects faster, more cost effectively and with the highest quality standard, has helped propel ASAP to success.

"This has been very important to our growth and success during our start-up years, especially with the bad economic downturn the last few years," den Tuinder said. "Because of the adverse economy we are especially proud to say that we currently have our biggest backlog ever due to our hardworking staff and innovative technique." ▼

Salvation crane barge against the Seattle skyline

Pacific Pile & Marine

Seattle-based company has built a solid reputation as a solutions contractor for logistically challenging and technically complex projects

By Mark Halsall

Since forming in 2008, Pacific Pile & Marine (PPM) has built a reputation for taking on tough jobs in the pile foundation and marine construction markets. The Seattle-based company prides itself on delivering comprehensive solutions to complex projects – many tucked away in remote corners of the Pacific Northwest and Alaska.

"Remote construction projects that are logistically challenging are definitely a focus area for us. These projects often have seasonal restrictions, which is a competency of ours as well," said Steve Spencer, project manager as well as chief engineer for PPM.

One example is the Swift Reservoir Trestle Installation Project performed on a reservoir near Cougar, Wash., which required specialized equipment and an exceptionally complicated drilling program. The construction of the permanent trestle involved drilling rock anchors in 150 feet of water and driving 36-inch piles 250 feet down through as much as 60 feet of overburden.

PPM has also developed a reputation as the go-to contractor for technically demanding scopes of work, such as the SR 99 S. Holgate to S. King St.–Alaska Way Viaduct Replacement Project in downtown Seattle. That project required PPM to furnish, splice and drive steel pilings ranging from 16 to 60 inches in diameter up to 258 feet in length. Careful planning and coordination were also necessary due to limited space that was being shared by numerous contractors.

"We often find ourselves discussing projects some of our more risk-averse counterparts have a rare appetite for these days. From the concept stage to planning and execution, we welcome the opportunity to demonstrate our ability to deliver world-class projects to our clients."

– Steve Spencer, Project Manager and Chief Engineer, Pacific Pile & Marine

Wealth of expertise

Spencer says one reason PPM excels at logistically and technically challenging projects is the wealth of expertise it possesses from top to bottom. Owners Wil Clark (COO), Mike Mansfield (CFO) and chief estimators Eric Reichelt and Chris Willis all bring a tremendous amount of experience and complementary strengths to the table.

"There isn't a member on our team who doesn't elevate our group to even greater heights," said Spencer. "Our project managers, engineers and crafts people in the field all have strong backgrounds in heavy-civil and marine construction as well."

According to Spencer, it is this knowledge center – coupled with a well-rounded blend of experience – that allows the PPM team to deliver such a varied range of complex projects so effectively.

"We have a great mix of personnel. We openly communicate and collaborate with each other on projects, from the planning stage all the way through construction," said Spencer. "It's the same thing for the crews. We have a core team of specialists, superintendents and foremen who have been with this group for a long time, well beyond the company's inception date."

In his role as project manager for PPM, Spencer says his daily routine often includes overseeing pile and shoring projects. He also

oversees design efforts as the chief engineer for the company.

"Performing and coordinating design and review processes as well as design-build projects and other professional engineering in support of pile installation plays a major role," he said.

The company has a full-time staff of about 25 with a total workforce that fluctuates in accordance with its ongoing and upcoming projects. Spencer says PPM's success can be attributed to its people, which translate into strong client relationships.

"Our industry is largely dependent upon the quality of your workforce and ours is among the best in the industry. Our team has a unique understanding of the specialized equipment needed to perform the projects we undertake and continually adapts that knowledge to the changing needs of the market," noted Spencer.

"Our efforts are guided by a strict mission: deliver exceptional results as safely and efficiently as possible. Paramount to those efforts is keeping costs down while staying on schedule. Clients recognize and appreciate they can rely on PPM to deliver the best product to meet their needs."

Safety is highest priority

There's no question PPM was built around a culture of safety. According to Spencer, safeguarding the health and safety of its workers is PPM's highest priority.

"Our attitude towards safety is critical to our success and is at the core of everything we do," he said. "Our workforce receives continuous training and on-the-job experience to ensure they remain among the top in the industry."

PPM offers a robust fleet of equipment including cranes, hammers, drilling equipment, excavators and barges suitable for a large variety of driven and drilled pile applications.

"We have strategic partnerships with our vendors to further compliment our own extensive fleet of equipment," said Spencer.

Spencer maintains the adaptability of the company's equipment, operated by a seasoned workforce, allows the company to take on a wide range of projects.

"We're able to adapt to the project requirements. This is important, because no two projects are exactly alike," he said.

PPM may service niche markets but it has an expansive reach geographically. In addition to serving the Pacific Northwest (Washington, Oregon, Idaho and Montana) and Alaska, it has undertaken projects in both Canada and Mexico.

The company is also increasing its role in Alaska as a heavy-lift solutions provider.

"The Alaskan Division added a 600-ton heavy lift crane barge to its fleet for supporting the oil and gas industry in Cook Inlet and Western Alaska," said Jason Davis, the company's Alaska division manager, based in Anchorage. "While PPM has traditionally performed about half of its volume in Alaska, having a heavy-lift crane permanently stationed in south central Alaska is new to the state and industry's response has been very supportive."

Renowned for design-build work

According to Spencer, design-build work is an element the company is best known for.

"We've done design-build projects from the beginning and we continue to seek them out," he said. "We often find ourselves discussing projects some of our more risk-averse counterparts have a rare appetite for these days. From the concept stage to planning and execution, we welcome the opportunity to demonstrate our ability to deliver world-class projects to our clients."

"Our industry is largely dependent upon the quality of your workforce and ours is among the best in the industry"

– Steve Spencer, Project Manager and Chief Engineer, Pacific Pile & Marine

PPM's exceptional work has resulted in numerous industry and civil awards, including PDCA Project of the Year 2010, AGC Project of the Year Award finalists in 2010 and 2011 and annual Seabright Safety Awards 2009 to 2011. Several of the company's projects also received civil engineering accolades at the regional level, including the ASCE Civil Engineering Achievement Honor Award and ASCE Outstanding Civil Engineering Project of the Year 2012.

This year, the company is expanding its ownership base, with Steve Spencer and Jason Davis both slated to join the company's group of four owners.

Spencer acknowledges that there is heavy competition these

days within the heavy-civil marine construction industry, made even more competitive due to a changed marketplace that reflects the economic downtown.

"It's a different animal than it used to be, even four years ago. There are fewer projects, fewer opportunities. It's a brave new world for the emboldened contractor," he said, adding that PPM has performed very well despite the tightened market.

"It's a highly-competitive field but we're continuing to deliver premier services, expand our operations and secure opportunities both now and in the future. We're looking forward to the next stage of our growth. Frankly, we're optimistic." ▼

Photos courtesy of Aerolist Photography

The following is a rundown of the different types of services provided by PPM:

Heavy Civil Land Services
- Bridges
- Pile driving
- Foundation
- Shoring
- Access trestles
- Large diameter drilling
- Drilled shafts

Heavy Civil Marine Services
- Docks/Piers/Wharves
- Dredging
- Capping
- Hydrographic survey
- Marine structures
- Breakwaters
- Cofferdams

Additional Services
- Design-build
- Barge support
- Construction support
- Temporary works
- Marine salvage
- Emergency response

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Battered-concrete piles, pictured at one of Cajun Deep Foundation's various work sites

CAJUN DEEP FOUNDATIONS, LLC

A storied company keeping things hot in the piling industry

By Faye Armstrong

A dreaded number for many when it comes to birthdays is 40. But as Cajun Industries, LLC celebrates their 40th anniversary this year, the company shows no sign of slowing down. In fact, quite the opposite seems to be true for it and its subsidiary piling and deep foundations specialty company, Cajun Deep Foundations, LLC.

Cajun Deep Foundations, LLC is a branch of Cajun Industries, LLC, which was founded by Lane Grigsby in 1973. Other branches of Cajun Industries include Cajun Constructors, Inc., Cajun Industrial Design & Construction, LLC, Cajun Maritime, LLC and Cajun Equipment Services, LLC.

Cajun Deep Foundations specializes in all areas of deep foundations work such as driven and marine piles as well as earth retention. Based out of Baton Rouge, La., Cajun Deep Foundations has additional offices in Abbeville, La. and Houston, Texas. Boasting a fleet of large crawler cranes ranging from 80 to 330 tons, a complete arsenal of pile driving hammers, leads and other pile driving equipment as well as marine-based equipment, eight drill-shaft rigs and more, Cajun Deep Foundations is more than equipped to get even the most challenging jobs done.

Small company, big heroes

The company was put to the test in 2005 when the storm that the Washington Post called the deadliest and most expensive hurricane in U.S. history, Hurricane Katrina, devastated the Gulf Coast and surrounding areas. The company, seeing the need for their pile driving equipment and skills, put their crews to work building sections of a massive 100-year storm protection system designed by the U.S. Army Corps of Engineers (USACE).

"In 2005, due to the amount of work related to Katrina, rebuilding as well as the petrochemical/refining industry booming in the Gulf Coast region, we experienced a tremendous growth period," explained

Photos courtesy of Cajun Deep Foundations, LLC

Concrete piles like these, along with timber and pipe piles, made up the 10,204 piles used on site of the Diamond Green Diesel Project

"Cajun's niche in the pile driving market is our willingness and ability to be involved in some of the largest projects in the Gulf South region as well as some of the smallest."

– Scott Callaway, Division Manager, Cajun Deep Foundations, LLC

Scott Callaway, Cajun Deep Foundation's division manager, who has been working with the company for the past 11 years.

Callaway says that this growth period provided the company with the track record to back up its success.

"When large projects come around now, we've gained the experience necessary to prove that we can successfully complete them for our clients," he said.

According to Callaway, no job is too big or too small.

"I feel that Cajun's niche in the pile driving market is our willingness and ability to be involved in some of the largest projects in the Gulf South region, as well as some of the smallest…and every client is treated the same," he said. "We enjoy working on the most straightforward projects or the most complicated projects requiring specialized equipment fabrication."

All of that experience seems to have paid off – since 2006, the company has been recognized with over 18 awards. Most recently, Cajun Deep Foundations received the 2012 Associated Builders and Contractors, Inc. (ABC) New Orleans Bayou Chapter Award of Excellence and the prestigious 2012 ABC National Pyramid Award for its Diamond Green Diesel Piling project in Norco, La. This marked the 11th time the company received an ABC Award of Excellence, among others, and a bevy of awards from the International Association of Foundation Drilling (ADSC).

Skilled builders

It should come as no surprise that Cajun Deep Foundations has become so well received within the industry; the company boasts an impressive portfolio of important projects.

Callaway noted that the Marathon Garyville Major Expansion in Garyville, La., consisted of 17,220 concrete and timber piles for eight new units, along with 11 sheet-pile cofferdams. During peak operations, over 200 field employees had a hand in the project, using ten pile driving rigs and 12 support cranes.

A major project for the company was the Shintech Plaquemine Plant II Expansion. It involved the installation of 5,365 one- and two-piece concrete piles, up to 150 feet long, culminating in almost 700,000 linear feet of piling for a major expansion at Shintech's Plaquemine, Louisiana facility. Field staff of over 100 employees, at peak times, operated eight pile driving rigs and five support cranes, according to Callaway.

Cajun Deep Foundations also fulfilled aspects of the Lake Pontchatrain and Vicinity Hurricane Protection Project, Chalmette Loop Levee 148, as part of a contract issued to Cajun Constructors, Inc.

"The project called for the construction of a concrete 'T' wall atop an existing earthen levee, which spanned approximately 8.2 miles from Verret to Caernarvon in St. Bernard Parish, La.," explained Callaway. "Cajun Deep Foundations was one of the several piling contractors installing H-piles on this project."

Over 17,000 steel H-piles, totaling 2,174,948 linear feet and averaging over 120 feet in length, were installed over a six-month period with 18 pile driving rigs and using over 138 cranes to complete all phases of the project.

Another significant project for the company was the award-winning Diamond Green Diesel Project, in which Cajun Deep Foundations provided all supervision, equipment, labor and materials needed to complete the piling scope of work for the new facility.

"The Diamond Green Diesel facility will produce renewable diesel fuel that will triple the amount of renewable diesel produced domestically," said Callaway. "The diesel produced will reduce greenhouse gases by 80 percent and fulfills almost 14 percent of the national mandate for biomass diesel."

According to Callaway, the piling aspect of the project consisted of timber, concrete and pipe piles. A total of 10,204 piles of various lengths, ranging from 55 to 140 feet, were installed.

Photographer: Krzysztof Zygalski/Photos.com

Go safe or go home

Callaway says one of the company's fundamental principles that have led to its success is a strong commitment to safety.

"The safety of our employees, and those working around us, is our number one priority. (Industry members) undoubtedly understand the dangers involved with the line of business we've chosen to make a living…and it is very well known that good safety habits are followed with quality and production," he said.

> **"Either you work safe or you don't work at all"**
>
> *– Scott Callaway*

While safety has been a priority of the company from the start, Callaway explains that the industry has evolved to follow suit.

"Across the board, industry safety expectations are much greater now than they were when we started. Either you work safe, or you don't work at all," Callaway said.

The company has worked to instill a culture of safety in its employees. As such, they have developed a pro-active framework to ensure safety is a priority, beginning with each project's planning stage all the way to completion. And according to Callaway, planning for safety definitely yields results.

"We've worked diligently to develop a world-class safety culture that allows us to provide our clients with a first-class product without sacrificing safety," he said. ▼

Ever Notice That Most Words Associated With Forward Thinking Begin With The Same Two Letters?

In•sight (in sīt´) *n.* the ability to see clearly

In•spir•a•tion (in´spe rā´shen) *n.* the power to influence or stimulate.

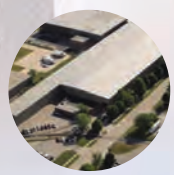
In•de•pen•dence Tube (in´di pen´dens to͞ob) *n.* the source for innovative tube products.

In•struc•tive (in struk´tiv) *adj.* giving knowledge.

In•teg•rity (in teg´ri tē) *n.* honesty and sincerity.

In•tel•li•gence (in tel´i jens) *n.* mental ability, alertness.

In•ven•tive (in ven´tiv) *adj.* skilled in conceiving new ideas.



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REEVE TRUCKING CO., LTD

Leading the field of heavy haulers, innovators and equipment builders

By Doug Ollis, Reeve Trucking Co. Inc.

Stockton, Calif.-based Reeve Trucking Co., Inc. has served, supported and adapted to the needs and requirements of the many foundation-building companies in the pile driving and bridge construction industry for the last 36 years. Whether it is designing power units that are best suited for transporting long piles or designing custom trailers to help their customers be as productive and cost-effective as possible in the delivery of materials, Reeve Trucking has always made it their business plan to team with companies that share the company's desire to serve the industry in the safest, most innovative and productive manner. From bid time to the driving of the last pile or sheet, Reeve Trucking works diligently to assist the contractors they have teamed with to perform work safely and swiftly to meet the project's overall timeline.

Reeve Trucking, founded in July 1976 by Donald E. (Donnie) Reeve, has amassed a substantial fleet over the last four decades.

The company currently has in excess of 85 company-owned and 20 owner-operated power units in addition to 550 trailers to serve their customer's needs. In their substantial trailer inventory they possess most types of construction-related equipment including over 300 40 to 50-foot flatbeds, all sizes of equipment-hauling trailers, ranging from five to 11 axles, a fleet of expandable, steerable and custom-built dollies to support concrete pile as well as practically every other type of hauling equipment known to the industry. In an effort to support the needs of their pile driving customers, they have developed and manufactured trailers that will support 120-foot by 14-inch concrete piles and still legally transport 48,000-pound multiple piece loads within the gross 80,000-pound requirement for most states. From the 10-foot cutoffs that we never want to see to the 150-foot by 24-inch octagonal 75,000-pound piles for port jobs, Reeve Trucking has the equipment, and much more importantly, the people necessary to perform any job safely and efficiently.

Reeve Trucking, a family-owned service provider to the construction industry, has a management team made up of hands-on people with a collective 200 years of experience transporting and developing new and more effective ways to transport construction-related products, equipment and materials. Donnie, with his wife Lori, their son Donald J. (Spike) Reeve and his wife, Lawren, own and operate their company on a daily basis, with the help of many members of their extended family.

Terry Hartley, with assistance from Donnie, dispatches all Reeve operations from their base in Stockton, Calif. Jerry Miranda heads their permitting department for all oversized loads.

Spike Reeve oversees their substantial repair and trailer manufacturing facility, as well as serves in one of their project bidding and management roles. Bob Protz serves as new business development, project manager and jobsite coordinator while Doug Ollis is in charge of new business development and customer relations for the growing company.

Together the Reeve and about 90 very talented people provide transportation services to the industry that are second-to-none. Properly organized and delivered on time in large volume is the type of work for which Reeve Trucking is very well known.

Foundation Constructors Inc., based in Oakley, Calif, has relied on the dependable, quality service of the Reeve family for decades.

"For over 35 years, Foundation Constructors Inc. has been able to rely on Reeve Trucking to deliver piles and equipment to our projects safety and timely," said Dermot Fallon, Vice President of Operations for Foundation Constructors, Inc. "Donnie Reeve and his team exemplify the 'can-do' attitude by working closely with our superintendents and foreman, scheduling countless trucks on multiple daily projects. They are a contributing factor to the success of our projects."

That ability to form the right team with the right equipment for a specific project and follow through for the customer is what has propelled Reeve Trucking from a one-truck operation to the well-respected, growing company it is today.

Reeve Trucking operates regularly in 11 western states with daily flatbed services to over 100 customers involved in heavy construction, including those working with concrete and steel products. Their specialty, however, is large volume, over dimensional structures. No company in the state of California moves more long pile or concrete and steel bridge girders than Reeve Trucking.

From earthquake repair in Santa Monica to any large port expansion in Los Angeles to the concrete bleacher foundations at U.C. Berkeley, you can be assured that Reeve Trucking played a role in ensuring equipment and material arrived on time for their customers.

While operating out of their home base in Stockton, Calif., the company has satellite operations in Fontana, Calif. and Sparks, Nev. This allows them the ability to mobilize any size team, complete with personnel, equipment and supervision, to be on-site wherever their services are requested.

With Reeve Trucking as an associate member of the Pile Driving Contractors Association (PDCA) and Doug Ollis serving as a member of the board of directors of the Pacific Coast Chapter, the company is in a position to learn and grow with the industry's current needs. Their relationship with the contractors and Ollis' participation provides Reeve Trucking with critical first-hand information on how the industry is progressing and the current thoughts and needs of their customers. ▼

Universal Engineering Sciences, Inc.

Embracing the integrated approach, every area has its own challenges and unique characteristics

By Barb Feldman

Universal Engineering Sciences, Inc. (Universal) is a Florida-based consulting engineering firm specializing in geotechnical engineering, geophysical engineering and surveys as well as construction materials testing, threshold inspection, private provider inspection, plan review, environmental science and specialty environmental services.

Seymour Israel founded the company in 1964, locating it first on Merritt Island near Cape Canaveral and the newly renamed Kennedy Space Center. A few years later, the head office moved to Orlando, where the development of Walt Disney World was beginning to have a huge impact on the region. Now almost 80 years old, Seymour is still actively involved in the business as Universal's chair and CEO. When he's not on vacation, he still comes into the office every morning, says his son, Mark Israel, who joined the firm in 1988 after earning his civil engineering degree from Tulane University and his Masters of Business Administration from Rollins College; he became president of the company in 2001.

Working on the Port of Miami Tunnel project

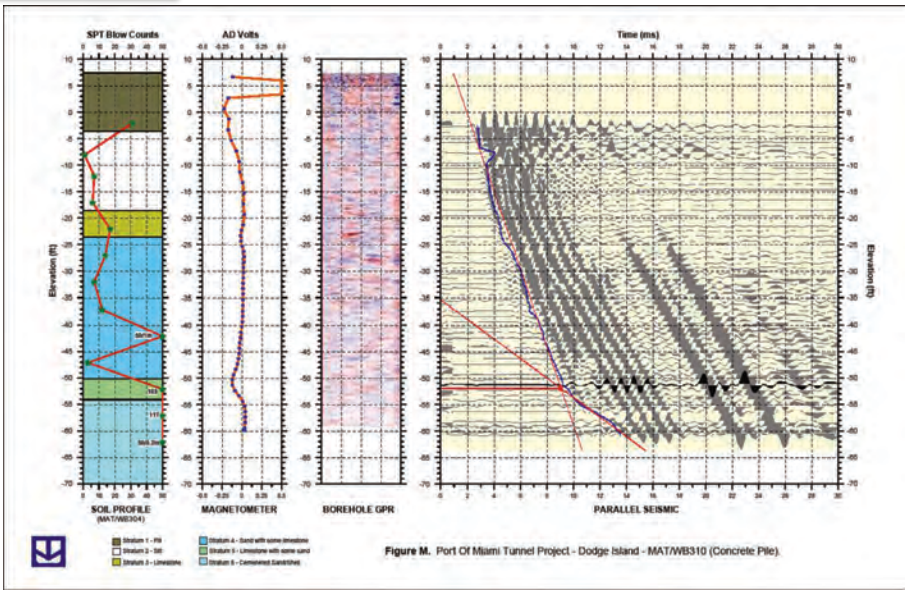


Figure M. Port Of Miami Tunnel Project - Dodge Island - MAT/WB310 (Concrete Pile).

"Geotech is underground. It's the most unknown and so it's the most difficult to predict ... we try to account for that and adapt for that, so we're probably the most conservative."

– Josh Adams, Deep Foundations Engineer, Universal Engineering Sciences

Seymour's family had been in the hotel business in south Miami Beach, but "he got into this industry in 1956, liked it and stayed in it forever," his son said. The company is now the largest family-owned firm of its kind in the United States, currently employing 413 people in 18 offices (16 in Florida and two in Georgia) and providing engineering and construction-related services throughout the southeast U.S. It is the country's 185th largest engineering firm; more than $500 million in design and design-build projects have used its geotechnical services and contractor quality control services have been provided on projects, totaling over $1 billion during the past five years.

Universal's offices maintain in-house drilling departments and full-service certified geotechnical laboratories, offering clients capabilities ranging from preliminary investigation to final design. The company provides expertise on projects ranging from roadways, bridges, tunnels, high-rise buildings, industrial developments and commercial facilities to solid and hazardous-waste landfills and stormwater management systems. Its professional engineers and geologists are registered throughout the Gulf Coast and the southeastern U.S. Most of Universal's engineers hold advanced degrees and the company encourages its engineering technicians to develop professional accreditation.

"Every area has its own challenges and its own unique characteristics that make it different than other places," said Mark Israel. "We have relatively soft sands, we have highly organic soils, high water table issues and not great aggregate here and the saline conditions lead to greater corrosion of materials. The construction industry, and subsequently the testing industry, all adapt to the local conditions."

Evaluation of subsurface soils and groundwater conditions is important to the development and design of construction projects, confirming the allowable capacities of foundations and settlement potential. New site developments in the southeast require such evaluations as well as potential sinkhole activity and muck location. Through geophysical surveys, evaluations and other tests, Universal's geophysicists, geologists and engineers can confirm the allowable capacities of foundations and their settlement potential. They can provide exfiltration analysis, permeability evaluations, borrow pit studies, groundwater modeling and estimated seasonal high groundwater levels. Reports may provide designers with soil stratigraphy, location of rock, subsurface conditions requiring remediation, and bearing capacity. Universal also does post-construction settlement investigations, including sinkhole evaluation of commercial and residential structures and consolidation of organic or soft clay deposits. Their wetland assessments and delineations can determine developable acreage and reports can inform property owners if they'll need environmental impact permits and mitigation. When necessary, the company can assist with obtaining species-specific permits or habitat management planning efforts.

Predicting seasonal groundwater levels is much more difficult than it used to be, observes Israel.

"There used to be very consistent wet and dry seasons. Now you get dry summers, wet winters—it's supposed to be the other way around," he said.

The company's knowledge of value engineering techniques, state-of-the-art site exploration and its 43-year exploration database are all valuable in pre-design and pre-construction planning.

Projects may involve drilling through rock or other substrata or drilling borings in soil to extract samples for testing. Universal's more than three dozen drill rigs include buggy truck and tripod rigs as well as narrow, difficult-access rigs that can fit through four-foot wide gates, a CME-85, one of the largest hollow-stem auger rigs in the region and a Geoprobe 6620DT rig that uses "direct push" technology.

"We try to get a better understanding of what the foundations are doing so that we can be more efficient at it—the goal of construction is to do it with the most efficiency," said Joshua Adams, a deep foun-

dations engineer at Universal. "The level of accuracy and the quickness with which you can get the data has improved significantly."

Measuring and testing methods, however, have stayed relatively the same for decades, if not longer.

"If you came to our laboratory and saw the testing that we do—it's amazing that it hasn't changed very much. We take a sample of concrete on the job site, we'll bring it back to our lab, let it harden and crush it to see how strong it is," said Israel.

He notes that pile driving analyzers have been around for more than 30 years and nuclear testing gauges that use radiation to determine density since the 1970s. The newer "maturity method", which correlates the temperature of concrete to its strength, is used on less than five per cent of Universal's jobs.

"The rest are done the old-fashioned way. The Romans invented something called "surcharging"—pile on a lot of dirt, let the ground settle, pull off the dirt and build the building. We still do that and we still test for it," Israel said. "Nobody wants to be the first to change specifications. We make these concrete cylinders as test specimens six inches in diameter and 12

inches tall that weigh about 28 pounds. Going to a four-inch by eight-inch cylinder that weighs about eight pounds was a huge breakthrough!" he said, laughing.

According to Adams, evolving techniques require special attention to detail, as they aren't as trusted as long-used methods.

"Until new ideas have been proven, people are hesitant to try them. With the rest of construction, you know the properties of the materials," Adams explained. "You see the steel, you see the concrete when it gets poured. But geotech is underground. It's the most unknown and so it's the most difficult to predict. So that's where the highest inefficiency is. We try to account for that and adapt for that, so we're probably the most conservative."

Since economical foundation designs, soil stabilization and groundwater control systems are often crucial to the development of marginal sites, he notes, it is also extremely important that the sub-surface exploration program evaluates potential site development and long-term performance problems.

"That way, cost-effective remediation alternatives can be identified for use by other members of the design team," Adams said.

Universal has found that clients appreciate its integrated project approach: the company has detailed knowledge of regulatory-agency mandates and guidelines for each particular task or scope of work, its innovative financial-management system enables seamless processing of project costs and its document-control and record-keeping system allows for expedited report preparation and retrieval of test results, drawings and other critical documentation.

Each year since 1985, Universal has been named a "National Top 500 Design Firm" by Engineering News-Record and has been voted one of the "Top 20 Best Places to Work" by both the Orlando Business Journal and the Tampa Bay Business Journal. ▼

Port of Miami Tunnel

The public-private partnership project is underway

With nearly 16,000 vehicles travelling to and from it everyday, the Port of Miami is a crucial component of Miami, Fla.'s social and economic fabric.

Contributing 176,000 jobs, $6.4 billion dollars in wages and $17 billion in economic output, the Port of Miami is a major contributor to the Florida city's economy, as reported in a 2007 economic impact study.

Truck traffic makes up about 28 percent of this number, which is responsible for increasing congestion and high costs for port users. Safety hazards and limited redevelopment of Miami's Central Business District have also been brought on through existing truck and bus routes that exist around the port, according to the project's official website.

Thankfully, the much-needed Port of Miami Tunnel Project is now underway.

The project will include a tunnel under Government Cut, the man-made shipping channel Miami Beach and Fisher Island, roadway work on Dodge and Watson Islands as well as the widening of MacArthur Causeway Bridge.

Other benefits of the finished project will be the direct connection from the Port of Miami to highways via Watson Island to I-395. Efforts will also be made to ensure downtown streets are safer by reducing the congestion with the new tunnel.

MAT Concessionaire LLC in partnership with the Florida Department of Transportation (FDOT), Miami-Dade County and the City of Miami will complete the project.

The public-private partnership (P3) structure was chosen for the approach for this project to alleviate the risk for construction costs and delays in schedule. Also beneficial, the long-term costs and maintenance will now be the responsibility of the private sector organization. The agreement also guarantees a long-term cost structure for FDOT. Most importantly, if the private organization doesn't reach expectations as agreed to, FDOT has the option to reduce payments. The financial incentive also works well for the private organization, as opportunities for more projects can arise as great quality, operation and maintenance efforts are doubled down for a prestige structure.

Preparing for TBM

Roadway will be completed on Dodge and Watson Island, also including the widening of MacArthur Causeway Bridge. A 43-foot diameter tunnel-boring machine (TBM) is being brought specifically for the construction of these projects.

The TBM is the bread and butter of this project. The 457-foot long machine is four stories tall and longer than a football

A view of the tunnel entry

The TBM is the bread and butter of this project. The 457-foot long machine is four stories tall and longer than a football field.

field. In order to use the TBM, other measures first had to be put in place, such as the preliminary project done by Nicholson Construction Company.

In 2011, Nicholson was awarded a grouting contract for the Port of Miami Tunnel, performing low-mobility grouting operations on both islands as well as water-based work between the two. Many different drill rigs were used for the project, including the Comacchio MC602, which was chosen specifically for the low headroom operations on Dodge Island.

The projects consisted of drilling approximately 1,000 holes and performing low-mobility grouting operations. This was done to fill voids in a coralline limestone formation and create a homogeneous material to conduct TBM drilling operations. The operation consisted of drilling five one-quarter-inch holes and pumping grout through the head in four to five stages ranging from four to ten feet in a downstage sequence and starting at 85 feet to a final depth of 125 feet. This low-strength grout is being used to fill the voids in the material that the TBM would be tunneling through.

The Malcolm Drilling Company, Inc. is installing a support of excavation; they will be creating break-in plugs on Watson Island. The break-in plugs will provide a non-permeable block for the TBM. The process began with many challenges toward the various foundation elements. A continuous flight auger must be pre-drilled through 48 inches of solid and rock, just to prepare for the subsurface pre-drilled material for cutter soil mixing (CSM). The CSM will be embedded with W36 soldier piles, 12 feet in diameter.

A great milestone has already been achieved on this project as Malcolm Drilling highlighted the versatility of the Bauer BG and the Klemm drill rigs. Bauer BG50 is the first of its kind and performed the pre-drilling of the soil and limestone to a 65-foot depth, using 48 inches in diameter, in continuous flight auger.

Before Malcolm Drilling excavated the tieback bench, temporary 48-inch casings were installed to support the removal of the excess concrete. H-piles were guided by using a multi-positional follower beam. Styrofoam block outs were positioned above the H-piles, which kept a clean bonding surface for the subsequent seal.

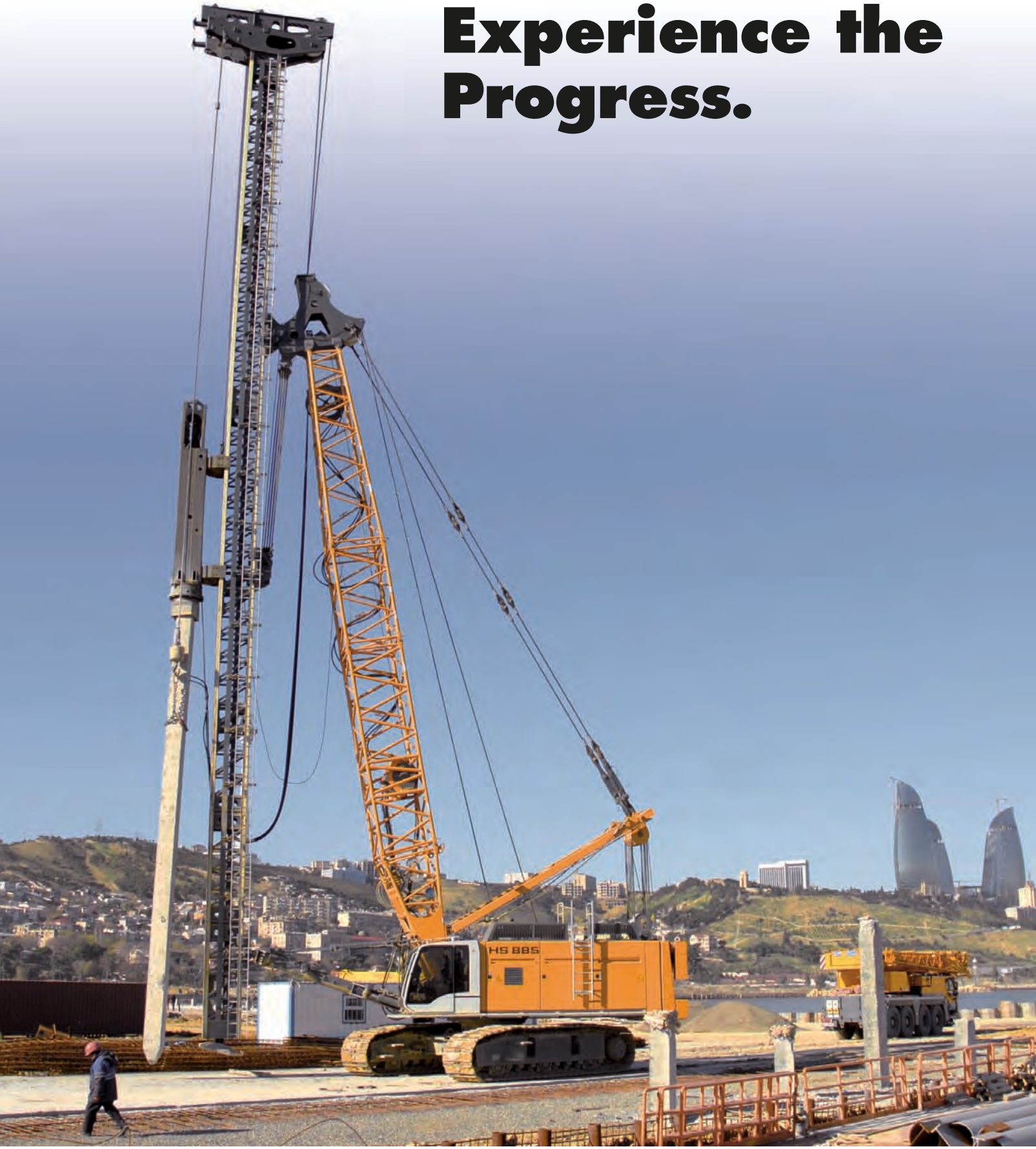
Tunnel work underway

Now that the majority of the project is completed, the TBM is in action.

The TBM started mining the first tunnel in November 2011. The $45-million machine took three months to put together and has a crew of 12 to 16 people working inside of it with an additional 12 to 14 on the surface. With a cutter head that is 43 feet in diameter, the machine rotates and bores out the underground area, moving the excavated material out of the tunnel using a conveyor belt. As the machine continues to bore forward, it creates a precast concrete liner in place that will later become the finished wall of the tunnel. Once liners are in place, grout is pumped into the spaces

(continued on page 57)

Experience the Progress.



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between the liner and the excavated area to seal the tunnel in place.

The TBM mines about 20 hours per day, seven days a week. This aggressive schedule is allowed because the TBM is hydroelectrically powered and will be positioned deep below the channel. This will limit the noise and vibration felt on the surface. Once the first tunnel is completed, the machine will be turned around at Dodge Island and the second tunnel will be mined in the opposite direction. The full-use tunnel is expected to be completed and open to the public in May 2014.

Work progresses on the Port of Miami Tunnel project

Expanded roadways

Further efforts to increase traffic flow also include the widening of MacArthur Causeway Bridge. The expansion of the bridge comes with creating an additional lane, making the total four in each direction. Other modifications include a 10-foot inside shoulder lane; all four lanes will measure 12 feet wide with an additional 10-foot outside lane and a six-foot sidewalk.

Advantages of the expanded width of the lanes will create acceleration and deceleration lanes, which will be used by commercial trucks and transit buses. This will also allow them direct access as they enter and exit the tunnel ramps. Travelling eastbound, two of the four lanes lead to the Port of Miami Tunnel entrance, the second lane can also continue on the causeway with the remaining two lanes strictly serving traffic on the MacArthur Causeway.

This is innovative project is important for the state of Florida as it offers more convenient access for transportation, ensures a much safer system and increases economic prosperity.

The $607-million project will be returned to FDOT in prestige condition at the end of the contract, which is scheduled for October 2044. ▼

THINK PIPE... THINK *MANDAL!*

Carquinez Bridge, CA
6,000 tons 30" pipe

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FLANAGAN'S Contracting Group Rebuilds the Jersey City Shoreline

Stunning views of the NYC skyline will be accessible with the project's completeion

Piling portion of Hudson River Walkway project expected to be complete in 2013

The Hudson River Walkway is a projected park system and series of walkways that run from the George Washington Bridge in Fort Lee, N.J. to the Bayonne Bride in Bayonne, N.J. It is a linear park that is on the New Jersey waterfront. With large segments of the project already complete, the park system will give unhindered access to the water's edge and New York City's beautiful skyline.

One of the largest parts of the project is the walkway in Jersey City, nextdoor to the Goldman Sachs Tower, the tallest building in the state. The site is also directly across the river from the World Trade Center site, which has some outstanding views of the NYC skyline.

The Shore Stabilization Structure, Walkway & Park Installation bid was put out by the state and was awarded to Flanagan's Contracting Group for $5.2 million. Flanagan's is working on Phase 1, 2 and part of the third phase. Work on the project began in February 2012 and is expected to finish by February 2013.

When Bob Flanagan, the owner of Flanagan's, was planning the job, he contacted ICE – International Construction Equipment for his foundation equipment. With the great working relationship between Flanagan's and ICE in addition to their knowledge in the pile driving and foundation field, the work seemed pretty basic to Flanagan but he knew the job itself was not going to be simple.

"The job had some definite challenges. There was a moratorium for the sturgeon fish in the area, so piles could not be driven during that time," Flanagan said. "The jobsite was a dry dock many years ago; it had a lot of obstructions and rip rap that had to be dug out. The differences in the tides

also presented change in the real estate of the site."

For easier access, they had to build a temporary road on the west side of the jobsite that ran along some high-end condos, which was a bit of an eye-sore to some residents but the end result would be worth the temporary challenges. The road itself was very small, making the situation even more difficult for the crane which had little room to work in already. Just getting material and equipment through the congested Jersey City area to the site was tough.

Flanagan's dock builders, from the Local 1556 and operators from Local 825, had various types of piles to drive. There was permanent 28-foot-long coated steel sheeting that was for a bulkhead. It needed to be capped and then a boardwalk would be installed on top of the sheet wall. Sheets were driven with an ICE 216 Vibratory driver/extractor. The boardwalk and walkway will wrap around the entire site, along the waterfront, when completed. Other piles included 35-foot-long wood piles that had to be driven and some 45-foot coated H-beams. The H-beams were sometimes set with the ICE 216 Vibro and then they would be driven to bearing capacity with an ICE I-8 Diesel Hammer and ICE Leads. The wood piles were also driven to bearing with the ICE I-8 Diesel Hammer and ICE Leads.

Working to drive piles for the Hudson River Walkway

Tom Voght, the jobsite superintendent from Flanagan's, liked ICE's service and equipment.

"If there was a problem, we usually had it fixed with a phone call," he said. "If we needed someone, which was extremely rare, they were here in no time."

Once completed, the walkway will be a stunning addition to the area's beauty and list of attractions. ▼

Port of LONG BEACH

Enhancements on the horizon for a modernized, greener 21st century

The Port of Long Beach, Calif. continues its journey through the 21st century with many planned enhancements that are taking place simultaneously, promising an enhanced facility and greenest harbor on the planet, while supplying thousands of jobs to the economy in the next decade to come.

The Port of Long Beach is located about 25 miles south of Los Angeles. It is the second busiest container port in the U.S., adjoining the largest, which is the Port of Los Angeles. The port takes up 3,200 acres of land and 25 miles of waterfront in the city of Long Beach, Calif. The seaport is a major gateway for the U.S. and Asia at an estimated $100 billion dollars in trade. The port presently provides more than 300,000 jobs in Southern California.

History and background

The port recently celebrated its 100th birthday. Operations began in 1911 on 800 acres of land. In the 1920s, a $5 million bond was utilized to harbor improvements and the development of Piers A and B.

In the 1930s, the transit shed was completed for Pier A and dredging on the inner harbor commenced resulting in nine blocks of land.

Between the 1940s to the 1950s, the extension of the San Pedro Breakwater grew to eight miles long. The U.S. Navy began a naval station while Pier F and E were completed.

In the 1960s and 1970s, Pier J was well underway while Pier F was expanded, resulting in the world's largest landfill of 310 acres. New Piers F, G and J were built, finished or expanded, while 450 acres of land was acquired to use for the world's largest landfill and the expansion of Pier J.

The 1990s and into the 2000s saw the completion of the 147-acre expansion of Pier J while Long Beach acquired 725 more acres of combined water and land. A 375-acre Pier T opens replacing the Naval facilities on Terminal Island. This era also saw the addition of two new terminals: a container and a cruise terminal.

The 2010s promise to be a busy decade for the port with many projects on the horizon, among the largest being The Middle Harbor Redevelopment Project, replacement of the Gerald Desmond Bridge and the redevelopment of various piers. Other projects include Long Beach Harbor dredging, a Pier S container terminal, on-dock rail supports facility and the I-710 Corridor Project.

Pollution control

The growing need for pollution control from the port sparked a number of programs that date back to the 1970s. Programs were put in place to maintain vessel traffic, contain debris and prevent oil spills. As a result, the port was the first harbor awarded the Environmental "E" Award. A land program was instituted in the mid-2000s, banning older diesel trucks from serving the port.

In 2011, the Clean Trucks Program was launched by the Ports of Long Beach and Los Angeles to reduce air pollution from its truck fleet by 80 percent over the next year. Trucks built prior to 1987 that fail to meet clean truck standards set forth by the United States Environmental Protection Agency are denied access to port terminals. All trucking companies conducting business with the port must have a port-approved concession outlining the regulations they must abide by. By the beginning of 2013, the port is on track

Photos by wallpaperplace.com and liz.net

to have met the goal of the Clean Trucks Program, which reduced air pollution from harbor trucks by 90 percent in only three years. Technology employed by the Middle Harbor Replacement project will reduce pollution by an additional 50 percent over what has already been put in place resulting in the most environmentally friendly, state-of-the-art, greenest port in the world.

Middle Harbor Redevelopment Project

Middle Harbor Port of Long Beach is undergoing major renovations in order to update outdated facilities. The two older container terminals require upgrades to improve efficiency and meet environmental standards. The terminals will be combined to into one state-of-the-art, technologically advanced terminal that will exceed the environmentally friendly standards of the 21st century. The harbor redevelopment will include enhancements to the storage areas, wharfs and water access. The on-dock rail yard will also be expanded significantly. The port's landmass will significantly increase by filling in two water channels, giving it the capacity to handle three million cargo containers per year.

The Port of Long Beach and Port of Los Angeles, combined, will no longer be known for the largest source of air pollution in the metropolitan Los Angeles area. Once the Middle Harbor Redevelopment Project is complete, the Long Beach Middle Harbor will be one of the greenest harbor facilities on the planet, reducing pollution from port-related operations at the terminals by 50 percent.

Pile driving for the Middle Harbor Redevelopment Project will mostly occur during the first stage of Phase 1 construction but also during part of Phase 2. The longest period of pile driving will take place over a year during the construction for the new Berth E24 extension and redevelopment of the existing berth at Berth E24. There are 2,707 new pilings that will be installed for Berths E23 through E26 with over half in the water. Pile driving activities will also occur during construction phases associated with new wharf construction at Berth E23 and wharf redevelopment/improvements at Berths E25, E26 and E27.

The process is underway

The official start of the Middle Harbor Redevelopment Project began in May 2012

with a celebration at the port, attended by civic leaders and the maritime industry. The event showcased the driving of a commemorative "golden pile" into the base for the new wharf being built. Reconstruction is expected to take around ten years to complete at a cost of $1.2 billion. This project is expected to add about 14,000 new jobs to the economy over the next decade.

The project is currently in Phase 1. The new wharf has the landfill in place and concrete piles are being sunk to support the wharf deck. The wharf's electrical infrastructure is also underway, which will allow

power cranes and ships at the berth to plug into the power grid instead of to making electricity.

Dredging work was completed in October 2012 into the Middle Harbor and East Basin. The completion of this section marks major improvements to access for oil tankers. The channel is now wider and deeper, allowing safer access to the world's largest container ships.

Next on the horizon, 3,200 feet of concrete, pile-supported wharf is to be constructed. This will include realigning the existing dike by excavating the shoreline and widening of the channel between the Pier A and future Pier S. Cerrito Channel will be widened, resulting in around 10 acres of new water surface, enough to accommodate a 22-container-wide vessel through the channel. Pile driving at this stage will include approximately 2,000 concrete piles as tall as 110 feet during reconstruction of the shoreline as well as over 475,000 tons of imported quarry run and rock.

The Middle Harbor Redevelopment Project is a great benefit for a weak economy as contractors are bidding low to earn the business. With the City of Long Beach providing this economic boost for Southern California, local workers are very busy giving their all to the Middle Harbor. For the first phase of this project, local workers from L.A will undertake 72 percent of the work, with 13 percent being from Long Beach.

This is a continuing program with many projects publicly open for bid. The Port of Long Beach welcomes bids with bidding information for each upcoming phase easily accessed by visiting their bid center at: http://www.polb.com/economics/contractors/out_for_bid.asp.

Gerald Desmond Bridge Replacement

Another project currently underway at port is the Gerald Desmond Bridge Replacement, (GPB). The GDB is a 410-foot long, four-lane bridge that crosses the port's Cerritos Channel connecting Interstate 710 in Long Beach to Terminal Island. The existing bridge is outdated, in need of repair and upgrades and needs to be re-designed to allow for the increased volume of traffic that it has seen since the bridge was originally built in the 1960s.

In 2012, a plan was approved, at an estimate of $950 million, to build a new bridge. Higher and wider, the new bridge will allow more room for water and land traffic. This five-year project, set for completion in 2016, will create over 3,000 jobs annually. The new bridge will allow access to the port for even the tallest container ships and be the first long-span cable-stayed bridge in California. Parsons Transportation Group and HNTB are executing the engineering for the main span and approaches of the bridge in a joint venture. ▼

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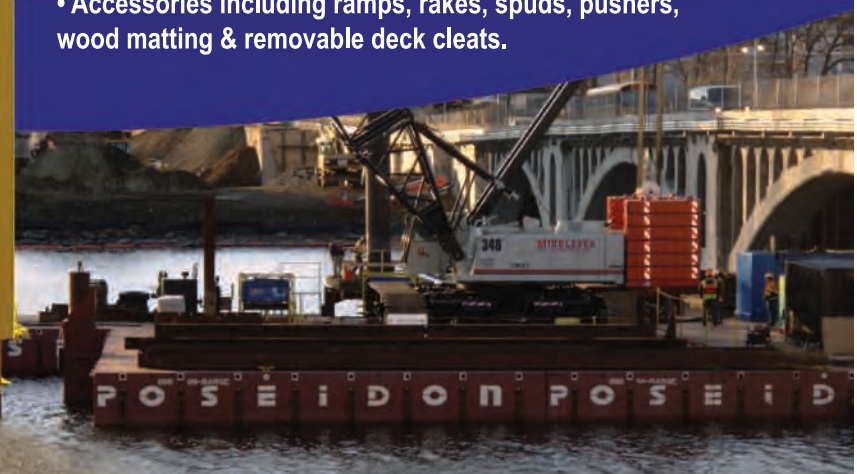

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Carpenter's Pole and Piling

Providing quality yellow pine poles and piling for 25 years

By Judy Penz Sheluk

It may be home to fewer than 5,000 people, but the city of Wiggins, Miss. has a lot to offer, including laying claim as "The Gateway to the Mississippi Gulf Coast." One of the community's greatest success stories is undoubtedly Carpenter's Pole and Piling, a local business celebrating its 25th anniversary in 2013.

The business started in 1988, when Ben Carpenter II purchased an existing facility in Wiggins with the goal of operating a family venture. Along with his wife and three children, Ben began building Carpenter's into a prosperous business. Today, the company employs 50 employees under the banner of three separate entities: Carpenter's Pole and Piling, CPP, LLC, and CC Rider, Inc.

The process began then, as it does now, with Carpenter's procurement team, who purchase tracts of timber, from local land owners and foresters, to be cut and delivered to the yard. The logs are then debarked and classed as either utility poles or pilings. There is, however, more to the selection process than the procurement and classification of timber.

"Timber is one of the South's largest industries and it is a natural resource," said Chris Cain, co-owner of Carpenter's. "It is only renewable, however, if the timber cut is replenished at a comparable rate. We pride ourselves in respecting our natural resources and make every effort to see to the replenishment of our forests."

Operating with two dry kilns, Carpenter's was able to manufacture and supply quality, untreated southern yellow pine utility poles and piling to area treating plants. As time passed, the growth of the company and the timber industry allowed Carpenter's to install an additional dry kiln and construct and operate their own treating facility in Wiggins: Mississippi Wood Preservers, LLC (MWP).

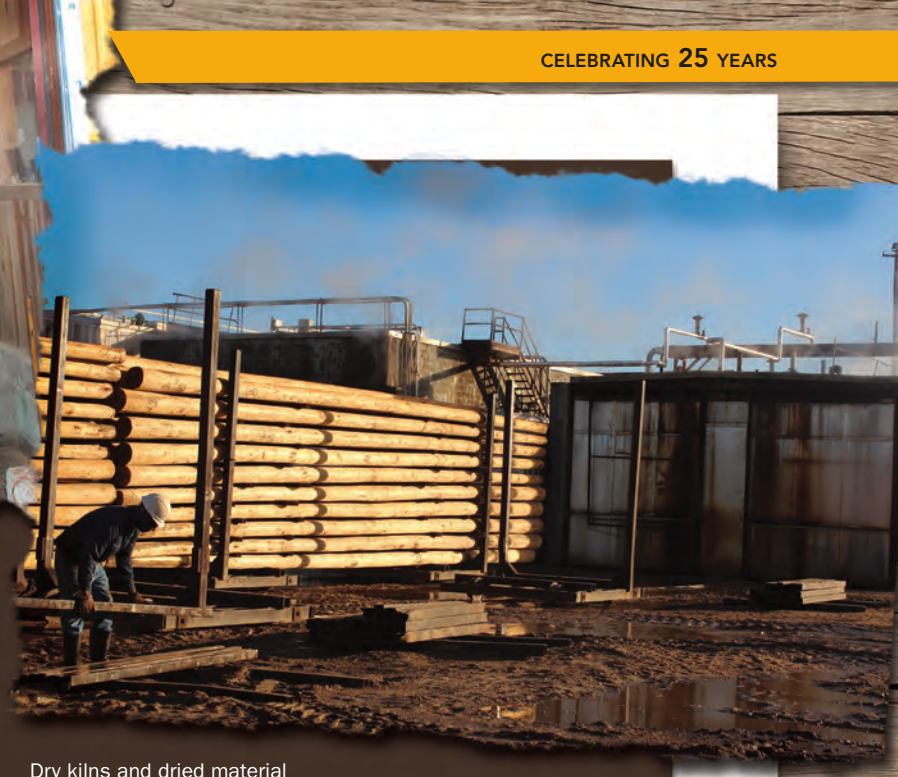
Formed in January of 2003, MWP provides Chromated Copper Arsenate (CCA) pressure treatment for poles and pilings, at a variety of concentration levels, including 2.5 marine treatment. The company was honored as Industry of the Year in 2004 by the Stone County Economic Development Partnership. In 2008, MWP merged with Carpenter's Pole & Piling, enabling Carpenter's to lower their overhead costs and maintain competitive pricing of their products.

The growth continued when, in February 2004, Carpenter's purchased a treating facility in Picayune, Miss., which had recently shut down for various economic reasons. CPP, LLC was formed to operate the facility.

"Initially the CPP facility used Creosote and Pentachlorophenol (Penta) preservative processes, but the company found that the demand for Penta did not warrant the cost of chemicals," said Cain. "Since changing out the tank to a CCA vessel, CPP, LLC has grown to be a very productive plant and continues to provide quality products to a growing list of customers."

Today Carpenter's operates three dry kilns and both treating facilities at full

CCA treating cylinder



Dry kilns and dried material

"We pride ourselves in knowing that we help expedite the recovery of communities affected by natural disasters"

– Chris Cain, Co-Owner, Carpenter's Pole and Piling

capacity. With yards in Wiggins and Picayune, the company is also able to maintain a large inventory of poles, enabling their sales staff to focus on the needs of their customers.

"We can also provide expedited shipments to assist utility companies in getting power to those affected by major storms," said Cain. "Over the past few years, we have concentrated our efforts in becoming a large supplier of utility poles to service the Rural Utilities Service (RUS), municipal and investor-owned utilities market. In addition to the CCA or Creosote, the company can add an ET Brown or ET Clear preservative to their utility poles."

As the business has grown, so too has the territory.

"The demand for our products now extends across several Southern states," said Cain. "We have also experienced an increase in exporting piling and shipping utility poles throughout the world via ports in Mobile, Ala. and Houston, Texas, New Orleans, La. and Gulfport, Miss."

Ever proactive, in 2000, Carpenter's established CC Rider, Inc. The company operates a fleet of eight trucks and trailers to provide product to customers in a timely and – above all – safe manner.

"Our drivers have proven to be highly skilled and conscientious drivers, constantly maintaining current Department of Transportation credentials and following strict regulations," said Cain. "The Carpenters not only focus on providing quality products, but also in providing a safe work environment for their extended family."

A company you can depend on

After Hurricane Katrina devastated the Mississippi and Louisiana Coast in 2005, the demand for utility poles and foundation pilings skyrocketed. The owners and employees of Carpenter's worked diligently to produce and deliver materials to the affected areas.

"Our customers depended on us to get poles to their warehouses so that they could restore power to the many residents that were in the dark," said Cain. "Our trucks had to drive several hours out of their way to purchase fuel; there was a shortage of gas and diesel in the Wiggins area immediately following the storm. After Isaac hit South Louisiana in August of 2012, CC Rider, Inc. began shipping piling the same day. Because the Wiggins area did not suffer the damages they had after Katrina, the delivery of materials was much quicker."

After Hurricane Sandy hit the northeastern United States, Carpenter's provided several loads of utility poles to the region to facilitate the restoration of heat and electricity to the residents affected by that superstorm.

"We pride ourselves in knowing that we help expedite the recovery of communities affected by natural disasters," said Cain.

Carpenter's piling market has continued to expand throughout the South.

"We provide foundation piling for various projects in the southern region, including the construction of large chemical plants, schools, hospitals and other businesses," said Cain. "Many of our customers work with the Louisiana Department of

CC Rider, Inc. getting ready to ship out a load of piles

Inside one of Carpenter's facilities

Education Recovery School District transforming underperforming schools in south Louisiana into successful learning environments. Another large piling market has been the renovation, repair and rebuilding of several oil and gas refineries in south Louisiana."

Carpenter's is also a dependable community asset, supporting high school athletic programs, as well as community activities such as Day in the Park, an annual event which promotes local business, as well as individuals selling arts and crafts.

"In 2012, we were the major sponsor," said Cain. "It's just good family fun for our small town and it brings in a lot of outside people to Wiggins."

The company plans to continue providing quality treated poles and piling to the Southern region.

"We look for our customer base to grow and expand to other areas of the country," said Cain. "As demand increases, we will to add to our labor force to increase production. The growth of the local economy is important to us and anytime we can hire new employees from our community we do."

For more information on Carpenter's Pole and Piling, visit www.carpenterspole.com or call 601-928-7400. ▼

Photos courtesy of Carpenter's Pole and Piling

African Airport Construction

READY FOR TAKEOFF

Major upgrades planned for Ghana airports

Major airport renovations are underway for international airports located in Ghana in response to economic growth and a consistent increase in traffic.

Ghana, located in West Africa, is experiencing economic growth as a result of the discovery of oil in the country. Its airports are experiencing increased passenger usage and congestion combined with the need to support larger aircraft on runways.

Kotoka International Airport (KIA)

Kotoka International Airport (KIA) in Accra, Ghana, is the country's premier international airport. The airport is operated by the Ghana Airports Company, which is responsible for all the country's airports, including Tamale, Kumasi and Takaradi.

KIA, located six miles from the center of the country's capital city, is Ghana's primary airport and also services neighboring areas. The airport serves a number of airlines, including KLM Royal Dutch Airlines, Ghana International Airways, Egypt Air and Middle East Airlines. It also has the capacity to handle large aircraft, such as the Boeing 747-8.

This airport saw a phenomenal increase in passengers by an average of six percent annually by the end of the 20th century and cargo usage has risen by as much as 15 percent. The accelerated rate of growth resulted in a major expansion of the airport in the mid-1990s. Growth continued in 2004 when the airport served around 800,000 passengers annually and today nearly 1.5 million passengers fly in and out. The continually accelerating rate of traffic necessitates a major modernization of the airport.

Rehabilitation Phases I and II

KIA is undergoing a continuing program of upgrades and improvements meant to facilitate and enhance aircraft as well as passenger movement and experience in the terminal. Improvements to the airport involve a continuation of the same program initiated in the 1990s. The first phase was financed through international development funding sources and was completed in 1993. The second phase involved major reconstruction in the early 2000s, financed from commercial revenues with the aid of the U.K. Export Credit Guarantee Agency. Ghana Civil Aviation Authority (GCAA), which sponsors the airport improvement program, is an agency of the Ghanaian government. The government's backing and the involvement of foreign development agencies is linked to the airport's importance and the Ghanaian economy as a whole.

Bidding for this second phase came from organizations in various locations including Dragados of Spain, Bouygues & Dumez of France, Fitzpatrick and Taylor

Woodrow of the U.K., Bilfinger & Berger of Germany, Vermeer from the Netherlands and Skanska of Sweden. Siemens Plessey, which carried out the first phase in the early 1990s, was not on the bidding list for the second phase.

The winning bid for the second phase was awarded to the Swedish contractor, Skanska and its consortium. The total contract was worth SEK 590 million ($74 million). Skanska International Construction pursued the project through Skanska Jensen International, which managed the consortium, comprising the local branch of an Irish civil engineering company PW Ghana and the Danish Intertec.

Phases I and II involved major renovations, mainly to the terminal buildings, including the refurbishment and enlargement of the departure check-in area. Communication facilities in the terminal were also modernized. Improvements included the installation of new conveyers and air conditioning in the immigration area. Remodeling of the baggage-handling hall with a dual-carriage way, departure and arrival vehicular areas and car parks were also completed. The facilities for greeters were also improved to make the airport seem less congested. The 03-21 runway (11,165 feet, 3,403 meters) was extended by 150 meters at the 03 stop-way and 400 meters at the 21-end threshold, to allow a fully laden 747 to take off. This greatly enhances KIA's ability to handle airfreight and has significantly improved the departure experience. There are 15 check-in desks available, two gates and three baggage claim areas. There is also a VIP lounge, a number of restaurants and a variety of retail outlets.

A good portion of the project's renovations, which included the new departure and arrival terminals, opened in 2004. However, due to a lack of funds, plans remained incomplete. The aerobridges, covered walkways that passengers travel through to access the planes, have not been completed. As a result, the airport still uses shuttle buses to move their passengers from the departure gates to the aircrafts.

The continually accelerating rate of traffic necessitates a major modernization of the airport

Phase III Rehabilitation

KIA has become an airport of choice for most airlines into West Africa and is still experiencing exponential growth in traffic. Passenger traffic increased from 1,065,998 to 1,387,045 from 2007 to 2010. Aircraft traffic increased from 15,723 to 21,068 between 2007 and 2010.

Ghana Airports Company Limited will continue its rehabilitation of KIA Phase III of the project. This phase is estimated to cost $51 million. The upcoming renovation of the airport is set to involve completion of the aerobridges and as well as reconstruction and expansion of the airport with more modern facilities in order to accommodate the continual passenger growth.

This modernization and expansion is expected to be complete in two to three years.

Reconstruction will include new expanded parking lots to accommodate larger aircrafts. The aircraft parking spaces will also increase from 11 to 22. Aerobridges will be upgraded with new baggage handling equipment. The check-in, departure/arrival terminals and arrival lounges will be enlarged dramatically and will include an overall more comfortable passenger experience with an expanded shopping area.

The expansion will allow an increase of the airport's capacity to handle a total of 5 million passengers.

Tamale International Airport

Renovations to the Tamale International Airport are underway thanks to financing efforts from Brazil. Ghana's vice president, John Mahama, revealed in May 2012 that $174 million will soon be available to expand the airport which is used for both civil and military operations in addition to special international flights.

The Tamale International Airport was founded as a main advanced operational base for troops during World War II. The landing strip was acquired at Nyohene, some two miles west of Tamale, in December 1940. The airport, currently being used by the Ghana Air Force and other civilian operators, has seen an increase in passengers since the discovery of oil in the country. The airport was recently upgraded to international status in December 2008 and has since received flights from South Africa, Tunisia and Angola during the CAN 2008 African Cup of Nations tournament.

The Savannah Accelerated Development Authority (SADA) initiated the upgrade of the Tamale International Airport as part of a program to boost economic activity in the northern sector of the country. The renovation will serve to

Photographer: mujerselavi/Photos.com. African pattern image by all-free-downloads.com

transform the Savannah regions of Ghana with a view to bridging the inequalities between the North and South. The need for another international airport in Ghana is required for multiple purposes that include the drilling of oil in commercial quantities, high patronage of the country's airspace in addition to economic growth bringing more direct foreign investments to the country on a steady basis. Currently, 1,500 passengers travel through the airport monthly. This number will increase exponentially after the airport expands. The new airport will also serve to divert excessive congestion from the nation's other international airport, KIA.

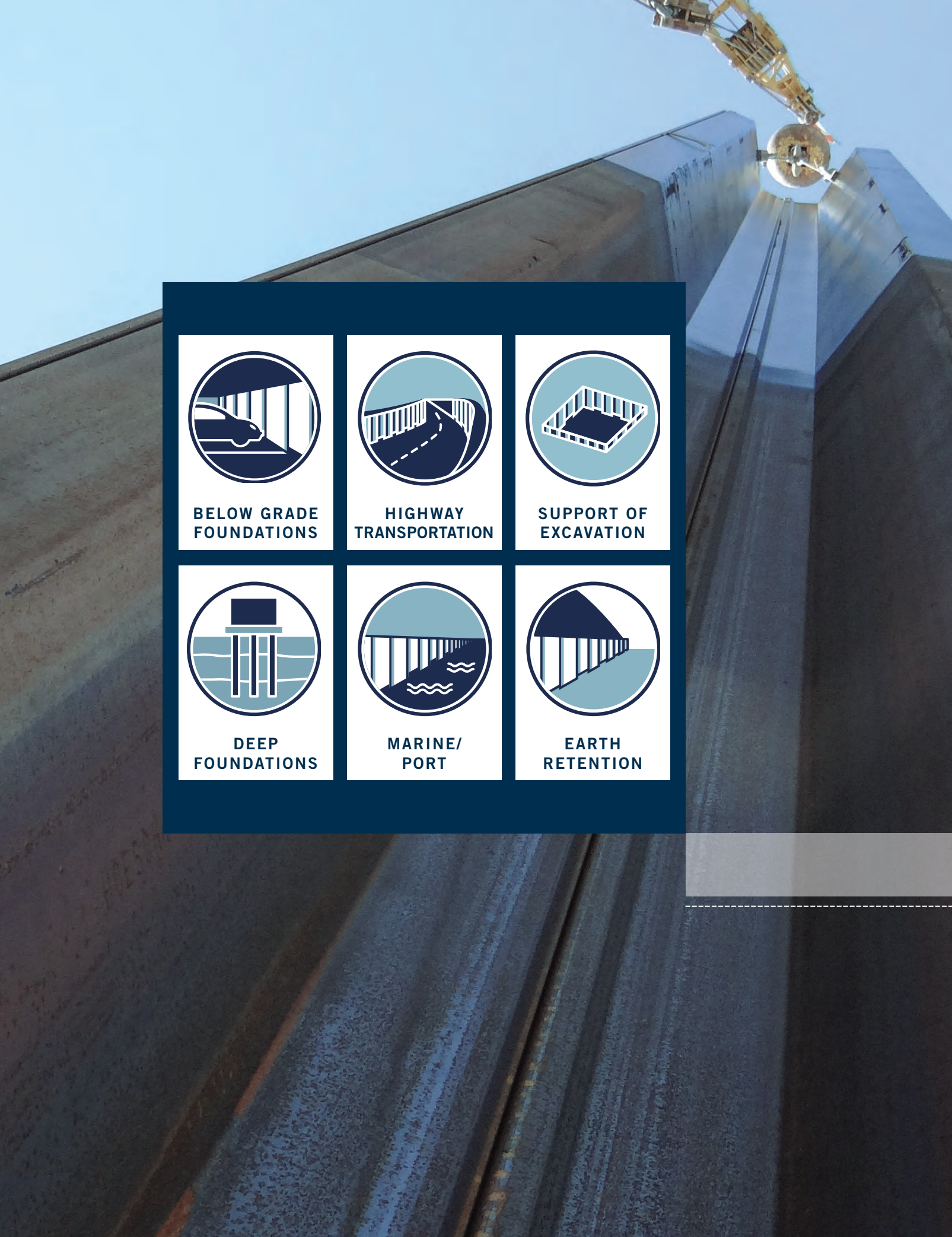
Queiroz Galvao, a Brazilian infrastructure development company headquartered in Recife, will construct the project funded by Brazil's national EXIM bank, BNDES. Queiroz Galvao has already completed the designs and signed the memorandum with the country's Ministry of Transport to confirm the necessary phasing of the project.

Phase I will start with the expansion of the runway from 2,000 to 4,000 meters to accommodate larger aircrafts. This phase will also include the construction of an international standard terminal building. Phase II will involve building and upgrading ancillary services including hangers, maintenance areas, catering and ground handling. The final phase will include a new cargo village targeting fresh fruit farmers, who are setting up camp in the Savannah regions, along with various processing companies establishing themselves in the area. Plans also include development of an 'airport city' consisting of hotels, shopping malls and executive offices.

Brazil's government remains committed to its bilateral dealings with African countries, especially Ghana. Ghana Airport Company Limited, the management company for the Tamale International Airport, will repay the financing from its future operations once the airport is expanded. The upgrade is expected to take four years to complete.

In addition to the upgrades to KIA and Tamale, a new airport is currently in the works to address the capacity constraints and anticipated traffic growth at KIA specifically.

China Airports Construction Corporation (CACC), owned by the Chinese government and the only enterprise offering a full range of services in the civil airport construction, has signed a memorandum of understanding with Ghana to undertake a feasibility study for the design of the new facility. Early plans are for the new airport to be built in the Dangbe-East District of the Greater Accra region. ▼



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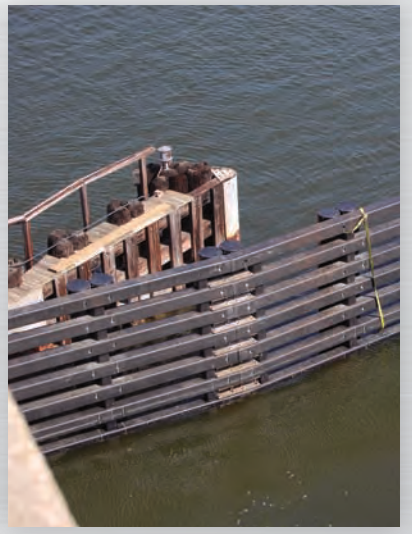

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Federal-aid Essentials

New online resource helps local government deliver federal-aid projects

Submitted by the Federal Highway Administration, U.S. Department of Transportation

Local public agencies (LPAs)—mostly counties, cities and towns—own and operate the vast majority of the nation's highway system. The nation's local roads network comprises about 3 million miles, or nearly 75 percent, of the overall system and more than half of the bridges. Local public agencies build and maintain the local roads network using a variety of funding sources, including the Federal-aid Highway Program. Every year LPAs administer about $7 billion in federal-aid projects, which can range from short sidewalks and bike-pedestrian facilities to pavement overlays and bridges.

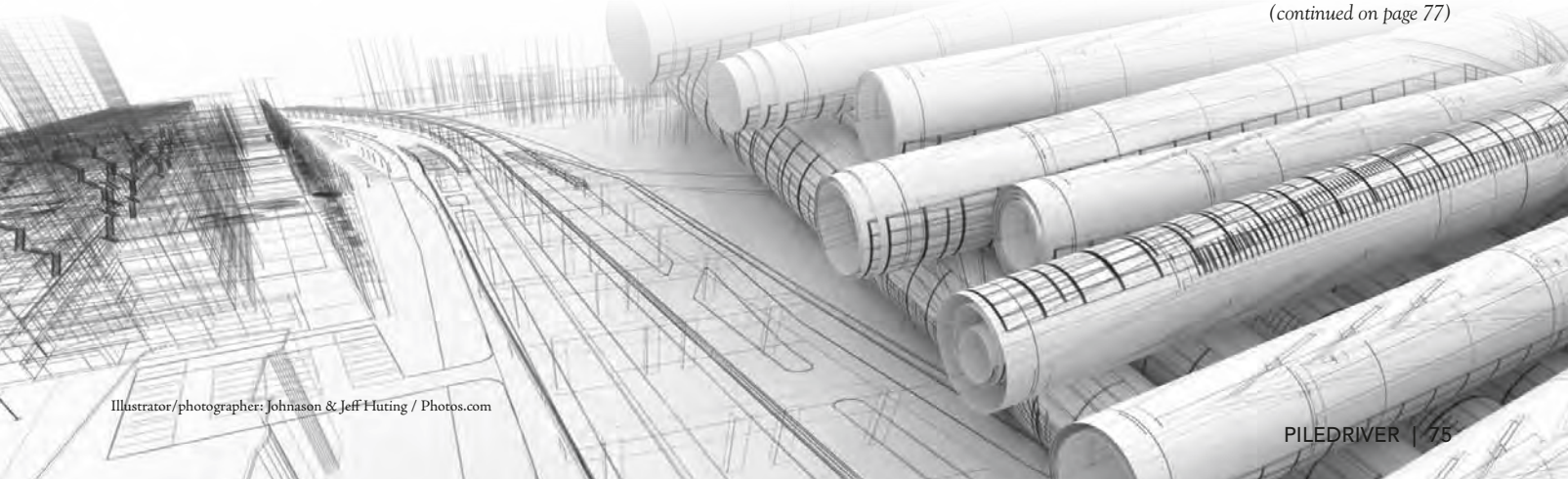
When LPAs receive federal-aid funding, they begin a process of working closely with their respective state department of transportation (state DOT) to meet all federal-aid requirements, such as environmental reviews, civil rights compliance, right-of-way acquisitions, safety and construction and contract administration. Understanding federal-aid requirements is critical to the successful delivery of federally funded projects at the local level. Non-compliance can lead to project delays and LPAs not receiving timely federal-aid reimbursements.

To help LPAs meet their federal-aid requirements, the Federal Highway Administration (FHWA) recently launched a new information-sharing initiative called Federal-aid Essentials for Local Public Agencies, which offers an abundance of information about key aspects of the federal-aid program on a single public website.

The Federal-aid Essentials website features a resource library of more than 80 informational videos and related materials. The videos focus on a single topic in the most critical areas of federal-aid. The videos are relatively short at less than 10 minutes long, professionally narrated in non-technical language and supported with engaging graphics and animation that give viewers the most essential content. The videos can be viewed in any sequence from any computer or mobile device with Internet access.

When users first enter the Federal-aid Essentials website at www.fhwa.dot.gov/federal-aidessentials, they will be greeted with a brief introductory video about the Federal-aid Essentials initiative and how to navigate the website. From there, users will have access to the resource library via a convenient drop-down menu that presents seven categories of video modules:

(continued on page 77)



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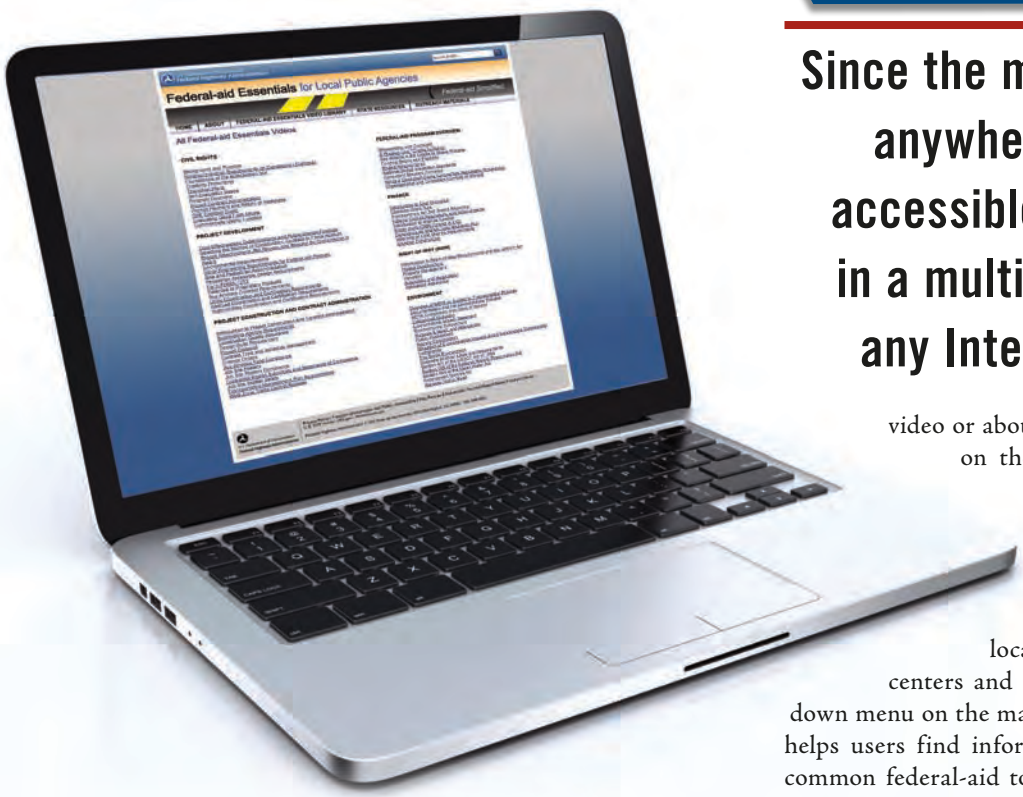

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1. Federal-aid Program Overview
2. Civil Rights
3. Environment
4. Finance
5. Right of Way
6. Product Development
7. Project Construction and Contract Administration

After choosing a category, a menu of video modules for the specific category appears next to the video viewing screen. Users simply click on the desired video title and the presentation begins. On the same page, users have access to a wealth of companion materials including a written, printable script of each video, the applicable Code of Federal Regulations, helpful reference information and links to additional online resources. Another function allows users to give feedback on a particular video, the full resource library and the website itself.

If users have questions about the content of a particular video or about the program in general, they can click on the State Resources button on the main page and gain access to a list of useful information. This includes individual state and FHWA local office LPA coordinator contacts as well as web links to state DOTs, LPA manuals, local technical assistance program (LTAP) centers and other helpful online resources. A drop-down menu on the main page, titled "I want to know about…" helps users find information quickly and conveniently about common federal-aid topics. The site is regularly updated and new features added to meet state DOT and LPA needs and requests.

Since the modules are available anywhere the Internet is accessible, they can be used in a multitude of settings on any Internet-ready device

Since the modules are available anywhere the Internet is accessible, they can be used in a multitude of settings on any Internet-ready device. They can be shown at meetings, viewed in one's office or on a jobsite using a laptop computer or mobile device. A project team can access the videos on a minute's notice anytime, anywhere, for discussion with stakeholders and partners. After watching the videos, viewers acquire enough knowledge to know what questions to ask their state DOT counterparts, what appropriate technical terminology to use and how and where to get additional assistance. State DOTs and LPAs also can use the videos to augment training at the local level.

The Federal-aid Essentials website helps LPAs understand their federal-aid requirements as they pursue better, faster and smarter ways of delivering program at the local level.

For more information on this initiative, please email the Federal-aid Essentials for Local Public Agencies program at LPA-feedback@dot.gov. ▼

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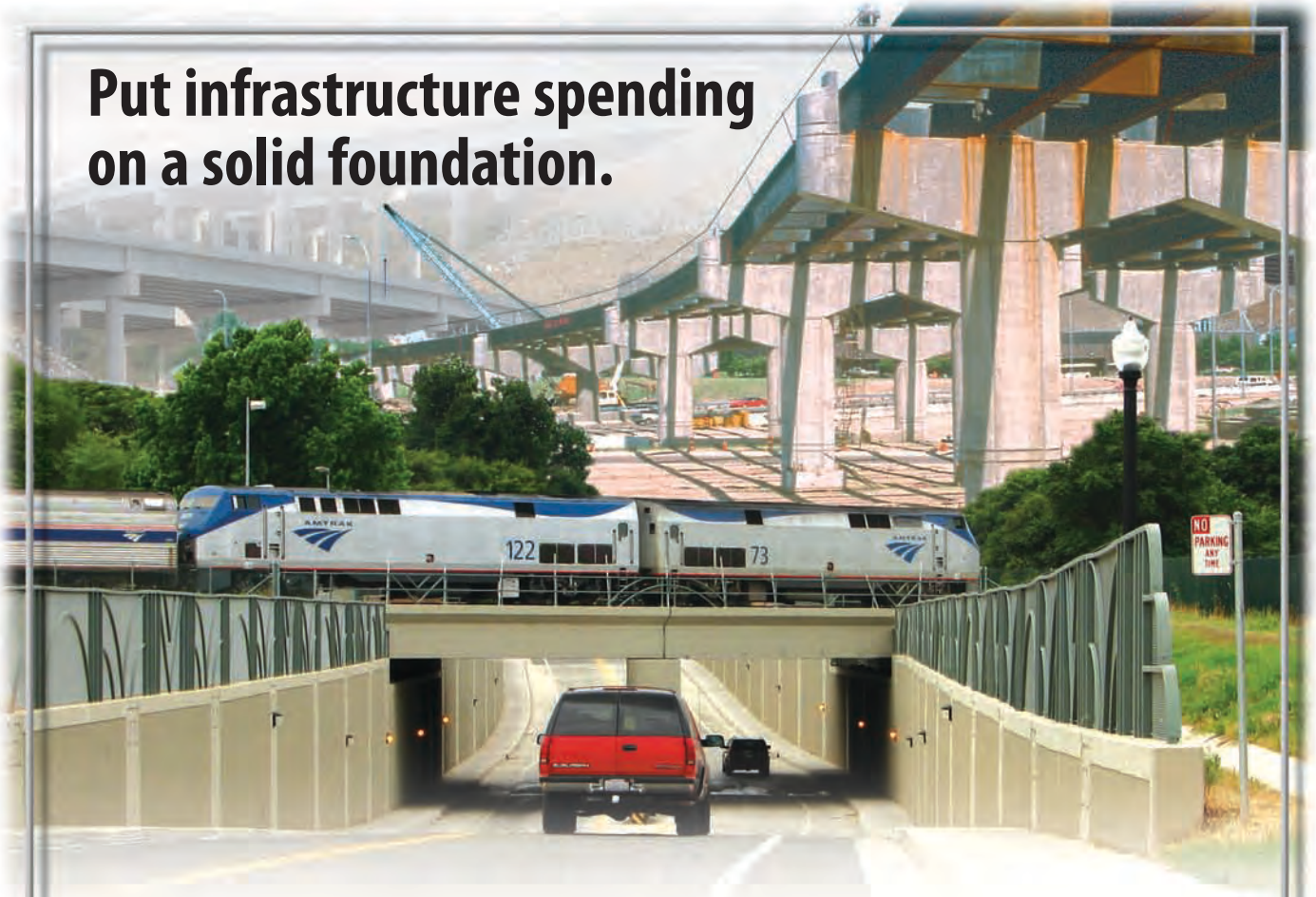

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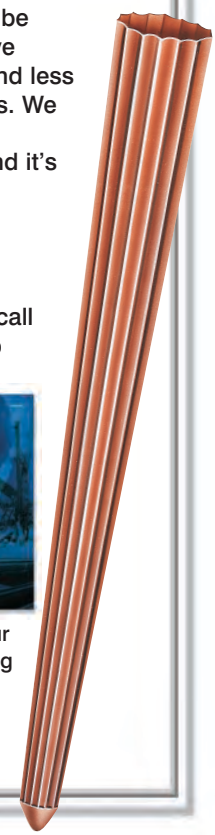

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Entrepreneurship:

The *ONLY* Way to Make Sure You're Better Off Four Years from Now

If you're agonizing over what Obama's reelection will mean for your economic future, you're focused on the wrong issue. Who lives in the White House is almost irrelevant. What does matter is whether you continue to cling to the obsolete college-job-401(k) paradigm…or shift to a whole new way of thinking about work and wealth.

By Greg Downing

Nov. 6 has come and gone and there's a lot of anxiety around what happens next. This is true of any election. Many people are wondering, "What will Obama's reelection mean for job creation, Social Security, healthcare, college tuition and other hot-button issues?" Given the shaky state of the economy, some angst is unavoidable. But it's absurd to think that whoever occupies the White House for the next four years will seal your fate and make-or-break your future. "They" can't save you. Only you can save you.

Never has the phrase "if it's to be, it's up to me" been more appropriate. The blunt truth is that no American can afford to wait on salvation from any politician—or, for that matter, any employer or any teacher in any traditional school.

(continued on page 81)

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The old formula that allowed people to build a comfy middle-class life is gone. Instead of obsessing over what you can't control—like who's in the Oval Office, for instance—it's time to focus on what you can control. It's time to make an about-face and learn how to think about work and wealth in a whole new way.

I'm referring to entrepreneurship. I know firsthand how dramatically it can transform your life. Once a car dealership manager working grueling 80-hour weeks, I have now amassed wealth via multiple income streams that continue to "work" even when I don't. (Taking as much as four months of vacation a year wouldn't be problematic, because my business would continue to thrive no matter where I am or what I'm doing.) I reached this level of prosperity as a real estate investment business owner and motivational speaker. Regardless of the field you choose, entrepreneurship is the only logical path to financial freedom in a global economy where half of all college grads are moving back home jobless and saddled with debt.

First, let's be clear: The entrepreneurship I espouse is NOT the "open your own restaurant and bust your butt working there seven days a week" variety. Rather, it centers on generating multiple streams of income (earned, passive and portfolio) so that the money you make is not directly connected to the time you spend. "Time is more valuable than money" is one of my favorite mantras.

A single paycheck, even two paychecks added together, is no longer enough to allow a family to live comfortably and provide for the future. If you're lucky enough to get a good job—and that's a big "if"—you might be able to scrape by, but you'll work yourself into an early grave. And, of course, if the job goes away, the money stops. It's no way to live—and it's no way to teach your children to live.

In my new book, *Entrepreneur Unleashed: Wealth to Stand the Test of Time*, I explain how anyone can make the leap to entrepreneurship, and, subsequently, financial freedom. Sure, you may have to learn new practical skills—but mostly it's a matter of changing your mindset. Once you break free of what I call "middle-class programming," half the battle is won. Here are some of my insights on how to do it.

Commit to changing your life – and don't break that commitment

Most of us do keep our word to others, or at least try to. And of course being trustworthy is critical to your success. (How else will we find investors and get return customers and referrals?) But what about the promises and pacts you make with yourself? Most people are far more likely to break agreements with themselves than they are with others. Yet, since becoming an entrepreneur requires a dramatic change in both mindset and habits, you won't get far if you keep letting yourself off the hook.

It's easy to justify breaking an agreement with yourself because no one will ever know. Sometimes we even do it unconsciously. But make no mistake: your private decision has consequences for both your future and your family's future.

Breaking any kind of commitment—even those that may seem insignificant—hurts us because our subconscious gets accustomed to our "crying wolf." Then, when we want to make a big change in our lives, our subconscious simply doesn't believe us. It will actually work against our success. So when you don't do what you say you are going to do, you are actually giving yourself permission to falter, to quit and to fail.

Take action now. Don't wait.

I'd like to build my wealth. I want to start my own business. It would be great to be in firm control of my financial future. These are nice, positive thoughts, but when they're not paired with action, they are nothing but daydreams. Only action—not plans,

Photographer: Dan Moore / Photos.com

not goals and not ambition—gets results. Every day that you don't take a concrete step forward is another day of the status quo, another day of accepting a mediocre, hum-drum life.

I teach my students to take action toward their dreams each and every day. Even if it's an imperfect action—even if it's later revealed to be an out-and-out mistake—it's still better than letting fear keep you stuck in an unsatisfying life.

Life rewards action. And yet, most people just keep going through their daily motions, procrastinating, thinking their ideas to death and never moving forward on them. Every morning, ask yourself, "What action can I take today to move toward my dream of financial independence and self-reliance?" Then do it, for your own sake and for the sake of your family. Otherwise, one day you'll look back at your life and realize that while you had good intentions, you did not create results.

Remove all unconscious, negative and scarcity-based programming

The middle class has been "programmed" with belief systems that weren't designed to help us attain wealth and that, indeed, barely work at all anymore. But because everyone around us is buying into the formula, we assume it's the "right" way. We all have an inner "sheep" that is afraid to go against the herd, that fears it will be punished if it goes against cultural norms. And that's a shame, because while we're staring at the hindquarters of the sheep in front of us, we're ignoring a huge world filled with riches for the taking.

Today and every day, consciously evaluate and reconsider what works for you as you strive toward a life of wealth and abundance. First, think critically about risk and reward and determine how to effectively balance the two. This involves looking closely at your emotions, your willingness to take action and your desire to move forward when an opportunity to build wealth arises.

Often, you'll find that fear, not a rational reason, is holding you back. Through this process of evaluation, you'll gradually reprogram your beliefs about the fear of investing, the availability of money and the lack-mentality that is so common in our society. And as you begin to experience greater rewards, you'll confirm the beliefs and actions that create wealth.

Assume 100 percent responsibility for the results in your life

It's easy to blame disappointments and failures on everything other than ourselves. For instance: "I could be a lot wealthier if the economy hadn't tanked," or "How was I supposed to know that there would be a storm and I'd have to clean out my savings to replace my roof?" While it's true that you can't always foresee or control what happens in your life, you can choose how you respond to those circumstances.

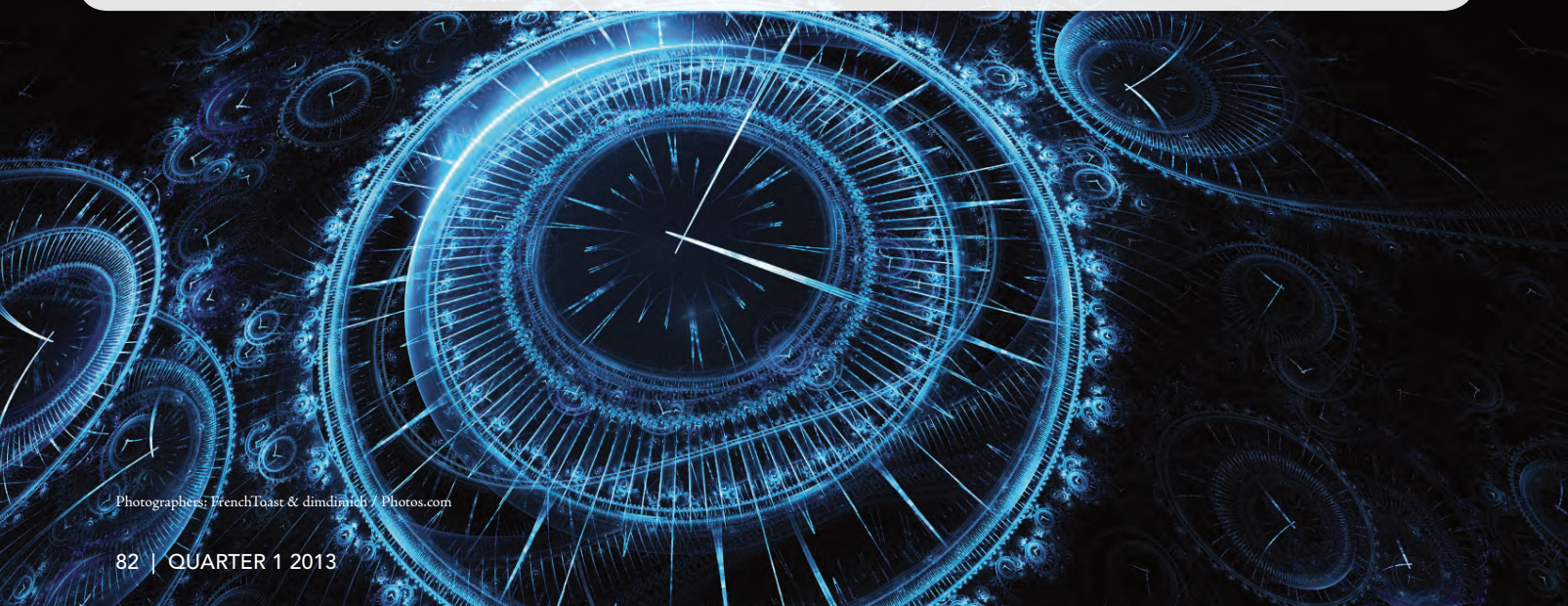
I get it—life has a way of kicking in the door and derailing your plans. There are bills to pay, problems to solve and circumstances that need attention. You need to deal with these issues, but you cannot allow them to stop you. Every day, you must make time to move toward the life of your dreams, no matter how small that step is. If you aren't taking steps to change your reality, you forfeit the right to complain about it.

Invest in a financial education program

For decades, American schools have taught (and are still teaching) students that they'll need to give the best years of their lives to employers so that they can retire on 40 percent of their working salary. (That's assuming they can get a good job at all in today's economy, of course.) It stands to reason that if you want more out of life, you'll need to seek some non-traditional education that will help you cultivate the skills that will enable you to generate multiple streams of income.

What those skills are specifically, of course, depend on the field you want to play on. Most likely they'll have to do with acquiring credit, using debt wisely, seeking (and persuading) investors and marketing your products or services to buyers. My main point is that you shouldn't be afraid to pay for the expertise you need.

Building wealth takes work, dedication, commitment and an increased level of knowledge. Unless you win the lottery,



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there is no such thing as getting rich quickly, without any effort and without spending any money. This doesn't mean getting your MBA. It does mean investing in a real-world education from others who have succeeded in doing what you want to do.

Remain coachable

The annals of history are filled with the tragic downfalls of leaders who got "too big for their britches," refused to consider the advice and expertise of others and ran their organizations and empires into the ground. Entrepreneurs, by nature, are go-against-the-grain types. It's easy for them to assume they know best and disregard good advice from those who've been there. Don't fall into this trap. Not only should you carefully consider advice, you should actively seek it out.

The greatest athletes in the world have coaches and the president of the United States has advisors. Why would you or I be any different? Other people have done what you want to do and know things you probably haven't even considered. If you seek those individuals out and actively learn from them, you'll minimize mistakes while growing your business as effectively as possible.

Keep in mind, though, that a true mentor won't just tell you what you want to hear—he or she will tell you what you need to hear. Sometimes it'll be uncomfortable and you'll be tempted to disregard the advice. Don't. Leave your pride at the door and always remain open to learning new ways to approach business problems.

Stop doing minimum wage activities

Our culture puts hard work on a pedestal. From sayings like, "If you want the job done right, do it yourself," to the belief that the longer you stay at the office, the better employee you are, it's clear that Americans think that spilling one's blood, sweat and tears is a noble calling. Not so. If you don't separate yourself from the mundane and the nitty-gritty, you might just micromanage your business away from success.

You must stop telling yourself to work harder and learn to work smarter. It's crucial to understand that the work of an entrepreneur is the work of the mind: thinking, planning, creating, leading and providing oversight. If you want to reach the highest level possible, you have to leave tasks that can be accomplished by others to those with the knowledge and skills to do them.

Remember that time is more valuable than money

Chances are, you grew up being taught that the way to support yourself and get ahead in life was to trade your time for money. In other words, if you spend 40 or more hours a week doing what your employer wants, you'll be paid for 40 or more hours. But once those 40 hours are gone, they're gone forever. You'll never get back the time you could have spent playing with your kids, hiking in the woods or volunteering for your favorite charity.

Linking time and earning potential is middle-class thinking. Of course, you probably can't quit your job tomorrow. You will have to put in some long hours up-front. But eventually you'll have systems set up that allow you to profit from time put in by others and to reinvest your earnings so that you can generate even more income.

A true entrepreneur understands time is a precious commodity and must be used wisely and efficiently. You can and must devote your time to creating wealth, planning and building business systems and leading your team. Once you have this foundation firmly in place, you'll find you're free of the obligation to work nine-to-five.

Maintain a credit score of 760 or higher

Your credit score is the gate standing between you and the success you dream of. That's because lenders use credit score ratings to control the amount of money in the marketplace. If they want to increase the flow, they lower qualifying scores. And if they want to decrease the flow, they raise those scores. As an entrepreneur, it's crucial for you to be able to borrow money whenever you need it—regardless of what the market is doing.

In 2011, the scoring for "A" credit was raised to 730. Therefore, you should choose to have A+ credit with a score of 760 or higher. Not only will this score allow you to borrow money any time, it also means that you'll qualify for lower interest rates. Overall, make it a priority to become a master at understanding, evaluating and controlling your credit score and credit availability so that you'll never find the gate to the resources you need is closed and locked.

Stop viewing debt as negative

We've all heard the horror stories: families so sunk in consumer debt they were forced to declare bankruptcy and individuals whose educational debt haunted them for the rest of their lives. In part because of these cautionary tales, we've been programmed to believe the only route to financial freedom is becoming debt-free. It's time to reprogram that belief.

It's not that debt itself is bad—it's that the way the average American uses it that is destructive. From this day forward, commit to using debt to invest and build your wealth. Yes, debt can be financial quicksand. But used wisely, it can also give you leverage and make you rich.

Seek to fulfill the unmet needs of others

You may love French pastries and open up a bakery, but if no one in your area craves croissants, your shop will flop. Yes, it's a simplistic example but the principle behind it holds true: if your business doesn't address and fulfill an unmet need, it's not going to be successful. Period. And in today's highly competitive world with a business on every corner, it's critical to identify what others aren't doing (or aren't willing to do!) so that you can compete and win customers.

Unmet needs aren't always readily apparent or visible. To identify them, you need to ask yourself questions like, what problems are keeping my potential customers awake at night? What do they want that they aren't getting? What would make their lives easier? When you have some answers, work on creating a unique approach to delivering that product or service.

Become a master at creating systems and processes

This is all about building a business that runs—and can continue to run—effectively and efficiently. Why? Because you don't want to have to spend your oh-so-valuable time reinventing the wheel and micromanaging others.

Becoming a master at creating duplicable systems and processes means that you'll need to understand the steps that lead to success, clearly define them, write them down and explain them to your team. But once you've done all this work up-front, you'll no longer have to run your day-to-day operations. You'll be free!

Build the right relationships with the right power team members

If you're truly working toward creating wealth, you're not going to be building one small business that you personally operate and run. Instead, you'll be creating multiple, duplicable small businesses that are constantly creating new streams of income for you. You'll need to be able to hand off tasks and duties to others. And that means you'll need a strong team of the right people doing the hard work for you.

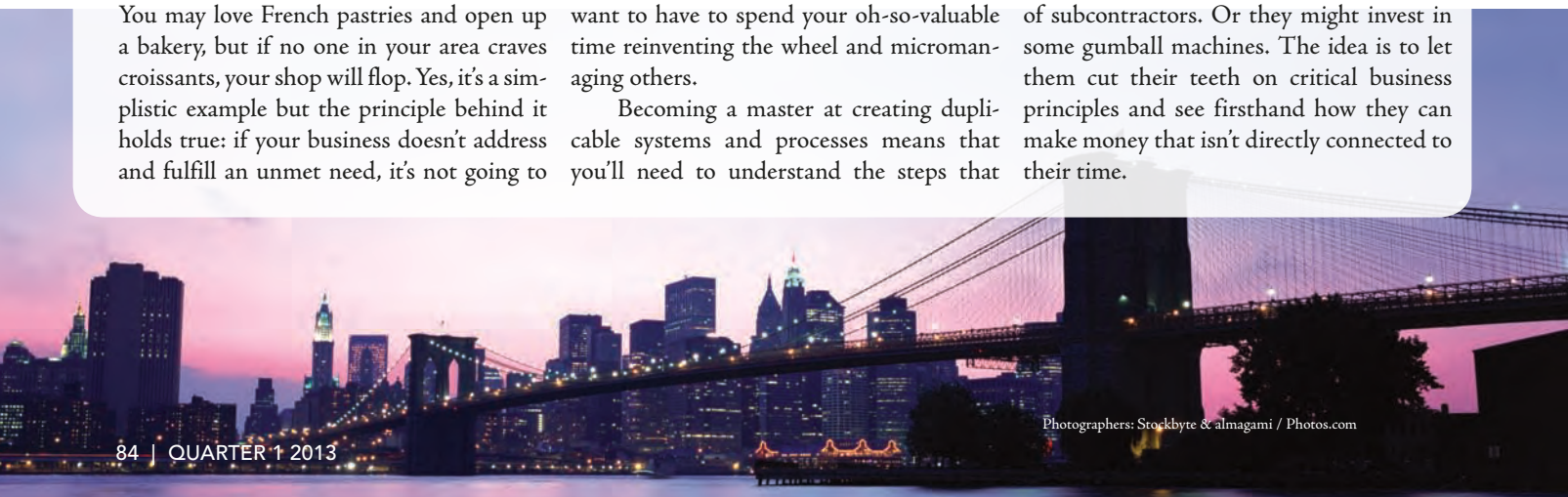
Your team is the power behind your skill as an entrepreneur. That's why it's critical to evaluate these people personally and make sure they're right for the job.

This is also why it's so important to be respectful and helpful to everyone you meet. You never know when you'll be making a connection that can benefit you next week, next month or next year. They may become power team members and they may also refer customers your way.

Make it a family affair

As you're transforming yourself into an entrepreneur, be sure to instill the same mindset and skills in your kids. This is actually not as hard as you might think. Not only can you narrate what it means to own a business—talking through issues like finding opportunity, understanding revenue and profits, differentiating yourself from competitors and so forth—your kids can also learn from the best teacher: experience.

I always advise parents to help their children take typical "kid jobs" to the next level. Instead of just being a babysitter or a tutor, for example, kids might start a franchise where they hire out jobs to a database of subcontractors. Or they might invest in some gumball machines. The idea is to let them cut their teeth on critical business principles and see firsthand how they can make money that isn't directly connected to their time.



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As you're transforming yourself into an entrepreneur, be sure to instill the same mindset and skills in your kids

Teaching your kids to think about wealth-building in this way is the greatest gift you can give them. I believe entrepreneurship is the best way to live. But even if your kids grow up to work for someone else or enter a profession, employers will expect them to work and think like entrepreneurs. It's just the way the world is headed.

I acknowledge that some of these tips may seem deceptively simple. But it's their very simplicity that gives them their power.

Life is really just a series of choices. We decide whether to watch TV after work or spend an hour on our action plan, whether to take the class or not take the class, whether to hold the cards or place the bet. Most people take the path of least resistance and go with the herd. Those who don't are the ones who will create rich, full lives that are truly worth living. ▼

About the Author

Gregory S. Downing has dedicated his life to teaching his students that every family can truly control its financial future and create a generational legacy with profound, yet straightforward, advice and guidance. As a nationally and highly respected author, speaker, family expert and organizational consultant, his advice has been sought and put into practice by thousands of people from all walks of life. With over 20 years of experience in management, leadership, training and business ownership, he has proven that his principles of legacy parenting, business promotion, entrepreneurship and real estate investing both work and create bonds of relationship that go beyond the ordinary.

Prior to his writing and public speaking career, he served for 12 years as the general manager of four Chevrolet and Dodge Chrysler dealerships, managing over 130 employees and increasing production and sales without sacrificing quality and customer service while there. It was during his tenure in this position that he became increasingly aware that his gifts and talents were in motivating and leading others to achieve their goals and dreams. He made the transition to motivational and investment training so he could touch more lives and influence others to build wealth and prosperity for themselves and for their families.

This article is an excerpt from Downing's book Entrepreneur Unleashed: Wealth to Stand the Test of Time. *It's available at bookstores nationwide and from all major online booksellers.*

To learn more, please visit www.GregoryDowning.com.

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The Future of the Pile Driving Industry

Building the Foundation

Charles Whiteaker recalls his role in the creation of PDCA

By Charles C. Whiteaker

For anyone who considers the Pile Driving Contractors Association (PDCA) a staple in their personal and professional life, they owe thanks to founding member Charles C. Whiteaker for getting the association off the ground.

Born in 1930 in Council Bluff, Iowa, Whiteaker went on to attend the University of Michigan in Ann Arbor. Between 1949 and 1953, he attained his Bachelor of Science degree with a major in education and a minor in history and public health, as well as his secondary teacher's certificate.

After a yearlong stint serving in 1954 with the U.S. Army as First Lieutenant, QMC and Aide-de-Camp to Brig. General James Lowell Richardson, Assistant Division Commander of the 9th Infantry Division in Germany, Whiteaker came home to pursue a career in pile driving.

In 1955, Whiteaker went to work in the steel industry with L.B. Foster Co. in Los Angeles, Calif. By 1962, he transferred to San Francisco, Calif. as a sales manager.

Continuing to learn and grow as a manager, Whiteaker left L.B. Foster in 1972 to open the West Coast district office of Skyline Steel Corp./ARBED as the company's vice president of the western region and national sales manager.

It was while with Skyline Steel that Whiteaker saw the need for an association to bring together the interests and progression of the driven pile industry.

"In 1993, I attended the DFI conference in Pittsburgh, Pa. where I first met Professor George Goble. We had a conversation and I found out we were both very concerned about the inroads the pile drillers were making into the pile driving market," Whiteaker recalled. "The drilled piles were cheaper, a hole in the ground with rebar and concrete and were untested. Losing the driven pile market meant to me losing sales for our steel pipe and H-piles. George suggested that the pile drivers should organize to fight the drillers for the market."

He returned home to the San Francisco Bay Area and pondered what Goble had said about solving the ever-troublesome industry problem. Seeing it as a marketing problem for his company, Whiteaker took action.

"I bought a computer program called My Mailing List and used Skyline's national customer list as a basis for a mailing to pile driving contractors throughout the country," he said. "L.B. Foster also trustingly gave me their customer list to supplement Skyline's."

Using the system, he sent a letter appealing to the pile driving contractors and received an encouraging response.

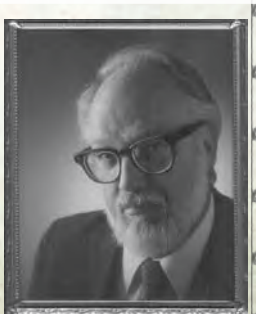
In 1994, he set a date and arranged for a meeting at O'Hare International Airport in Chicago, Ill.

"The attendance was good and we set up a second meeting in St. Louis, where we elected officers. All officers had to be pile driving contractors, whereas the committees would be composed of contractors, suppliers, engineers, truckers and other supporting members," Whiteaker said. "I wanted to call the organization The National Pile Drivers Association, hoping to eventually incorporate several other pile driving organizations which existed in the U.S. The name became the Pile Driving Contractors Association and someone came up with our our motto, 'A Driven Pile...Is A Tested Pile!™' The rest is history."

Whiteaker went to serve on PDCA's Board of Directors in various roles until he retired in December 2000. Reflecting on his role in the storied association, the man who was there at the beginning is proud of what has become of his initial idea from years ago.

"I never expected the organization to grow so large, so fast due to the the hard work of the officers, committees and professional management we obtained," he said.

"One of the most satisfying things I have done in my lifetime is my participation in founding PDCA. I think we have come a long way solving our problems and creative a better foundation industry. May our success continue!" ▼



One of the most satisfying things I have done in my lifetime is my participation in founding PDCA

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A Case History of Analysis of Pile Response

By Bengt H. Fellenius, Consulting Engineer and Pierre A. Goudreault, President, UniSoft Geotechnical Solutions Ltd.

Abstract

Analysis using basic soil parameters were applied to the results from static pile loading test on a strain-gage instrumented, 406-millimeter diameter, 45-meter long pipe pile driven in soft clay. The analysis employed effective stress analysis, simulation of the pile head load-movements from t-z and q-z functions and delineation of residual load. The t-z and q-z functions were derived from (calibrated by) the measured values of load vs. movement at the gage locations. The analyses employed the UniPile software which uses basic soil parameters, such as soil stress, and correlates pile resistances to effective stress (beta-analysis) or total stress (alpha analysis). The results showed that the fitting of results to analysis can be achieved without resorting to sophisticated numerical methods.

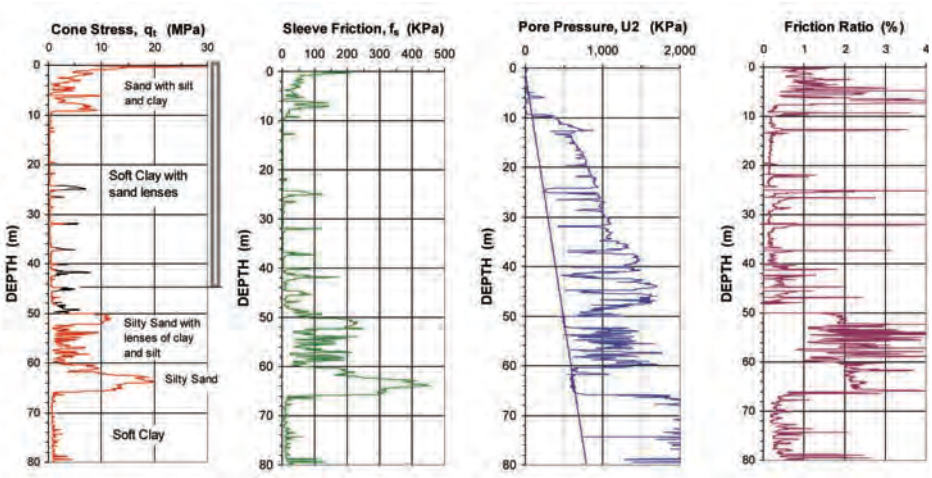


Figure 1: Results of a CPTu sounding close to the test pile location

Photographer: rrrua / Photos.com

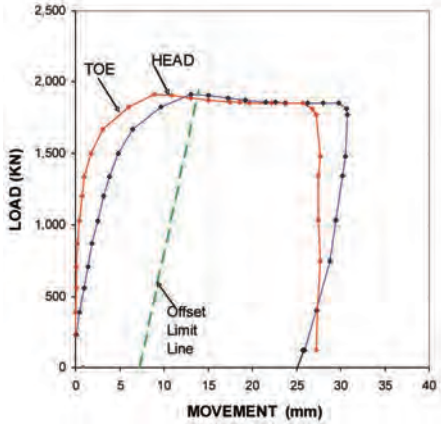


Figure 2: Pile-head and pile-toe load-movement curves measured in the static loading test

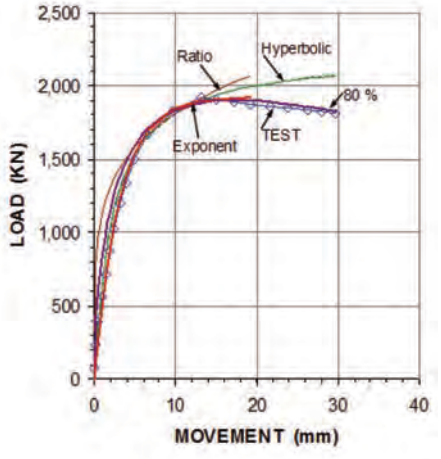


Figure 3: Load-movement curve with four methods of curve fitting

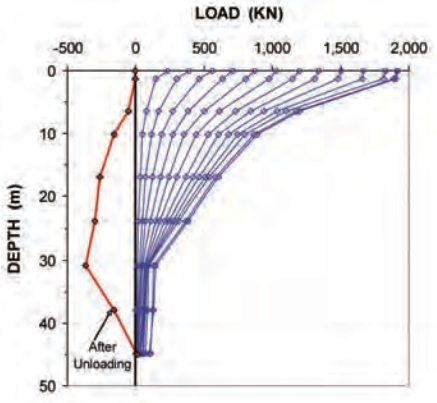


Figure 4: Load distributions during the test

Introduction

All analyses of results from loading tests on piles rely on basic soil parameters, such as total and effective stress distribution, unit soil strength whether by total stress (undrained shear strength), or by effective stress (correlation to force by the coefficient of proportionality to effective stress, the beta-coefficient). The parameters and correlations are these days usually employed in sophisticated numerical methods software, e.g., employing finite element-based methods. The purpose of this paper is to show that, while computer software is necessary in order to save time and to obtain the full benefit of testing results and analysis, no more complicated numerical treatment is required than software that relies on principles similar to an informed hand-calculation.

Head-down static loading test on a driven strain-gage instrumented, concrete pile

A static loading test was performed on a strain-gage instrumented 406-millimeter diameter, concrete-filled steel pipe pile driven to a depth of 45 meters through a nine-meter-thick surficial sand layer into a thick deposit of slightly preconsolidated, soft clay in Sandpoint, Idaho. Fig. 1 shows the results of a CPTu sounding pushed close to the test pile location. Details of the soil profile and the pile, as well as driving information, etc., were published by Fellenius et al. (2003).

Fig. 2 shows the load-movement curves from the static loading test of the test pile. The test was performed 48 days after the driving by the quick maintained-load method with equal increments of load applied every ten minutes. The measured pile-head load-movement curve was fitted to theoretical curves by the Chin-Kondner hyperbolic method, the Hansen 80-percent method, the Ratio method and the Exponential method described by Fellenius (2012). As indicated in Fig. 3, the 80 percent method agreed very well with the test data.

A total of eight strain-gage levels were arranged in the pile to facilitate determining the distribution of axial load in the pile. The uppermost gage, SG8, was placed about one meter below the pile head and level with the ground surface. The other gage levels were spaced out at approximately even distances in the pile with the lowest gage, SG1, placed one meter above the pile toe.

Fig. 4 shows the measured distribution of axial loads in the pile during the test for all the loads applied, as convert-

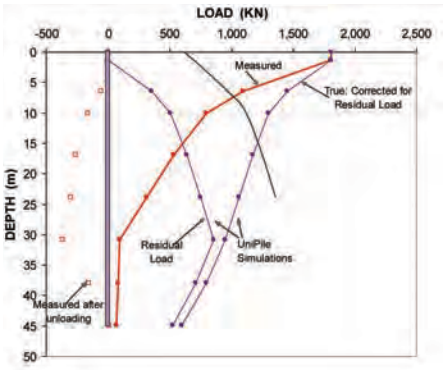


Figure 5: Measured load, residual load and corrected ("true") distributions

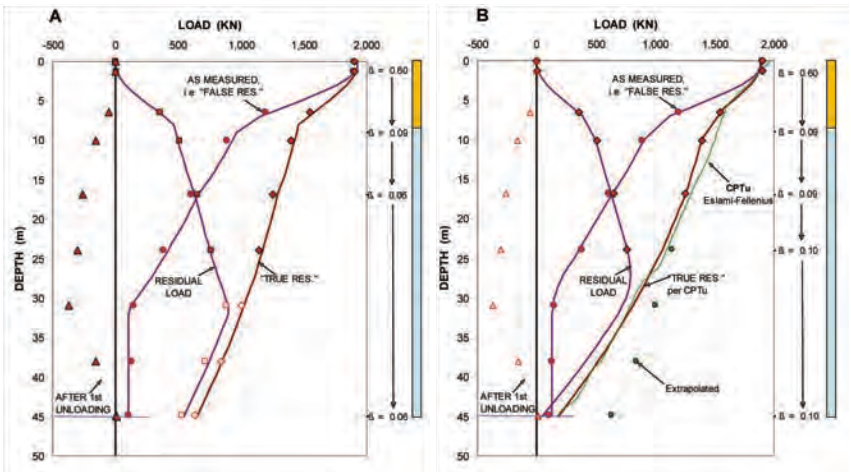


Figure 6: Measured and fitted load distributions with beta-coefficients

ed from the strain-gage readings, taking all records as zero loads at the start of the test. The details of the conversion from strain to axial load is described by Fellenius et al. (2003). The figure also includes the loads after all load had been removed from the pile head.

The pile is affected by a significant amount of residual load. For example, below about a 30-meter depth, the measured load distribution does not indicate presence of any shaft resistance. This is a false impression, however, because the residual load is here caused by fully mobilized positive shaft resistance and no more than that can be mobilized by the test. The amount of residual load was determined manually by the method proposed by Fellenius (1988; 2012) and Fig. 5 shows the resulting distributions of residual load and "true" load. The curve labeled "After Unloading" is not corrected for residual load. The latter curve indicates that some of the residual load was released by the static loading test. The evaluated "true" pile-toe resistance of about 650 KN correlates to a pile-toe stress of 5 MPa, which does seem to be a bit large for soft clay.

The method for determining the distribution of the residual load is based on the assumption that the residual load is from fully mobilized negative skin friction from the pile-head down to a transition zone below which the distribution changes to fully mobilized positive shaft resistance plus toe resistance. In the upper part, i.e., above the transition to positive resistance, the measured reduction of the applied load with depth, "the load distribution," consists in equal part of residual load and positive shaft resistance. The so-calculated distribution of resistance, called "true" resistance, is used to back-calculate the shaft resistance parameters, most conveniently in an effective stress analysis resulting in applicable beta-coefficients. Below that depth, no similar direct evaluation is possible. However, if it is assumed that the beta-coefficients in the upper portion also apply to the remaining length of the pile, a resistance distribution can easily be calculated for the full length of the pile. Fig. 6A shows the results of these calculations. The analyses were carried out using the loads determined from the strain-gage records. For the two strain-gage measured values from below a 30-meter depth, it was assumed that the same effective stress coefficient used above a 30-meter depth applied also below a 30-meter depth.

The analysis of the "true" resistance distribution for the case history presented is straightforward and a couple of iterations in a spread sheet—a "hand calculation"—will provide the distributions of residual load and "true" load. However, for more complex cases and where "what-if" studies are desired, a computer software, such as UniPile by Goudreault and Fellenius (2012), is helpful. There is little difference between a simple load distribution produced by means of a hand-calculation and that produced using UniPile—other than about two hours of work for the hand calculation.

Fig. 6B includes the load distribution calculated using the Eslami-Fellenius CPTu-method (1997; 2012). As shown, down to a depth of about 20 meters, the distribution calculated by the CPTu-method agrees quite well with the effective stress calculations—the plotted dots. Below a 20-meter depth, there is quite a difference, however. This is not surprising because pile resistance distributions determined from CPTu-methods are often very different from actual distributions. Nevertheless, if the CPTu-determined distribution now would be taken to be correct, UniPile can easily fit the distribution to that shown by the CPTu-method by applying suitable beta-coefficients to the effective stress distribution. Fig. 6B shows the results. Which of the two "true" distributions are correct cannot be definitely stated. For what it is worth, the pile-toe resistance of the CPTu-distribution in Fig. 6B is 1.3 MPa, which is more realistic than that in Fig. 6A of five MPa. However, the purpose of showing the two analysis results was not to find the correct distribution, but to demonstrate the ease of searching for the correct distribution by means of the "what-if" ability provided by the software.

The test records allow an evaluation of the resistance as a function of movement. Fig. 7 shows the average unit shaft resistance between the strain-gage levels, calculated as the difference in measured load divided by the shaft area between the gage levels. Because the corresponding "residual movement," small or large, is not known, the curves are not corrected for residual effects. The measured shear stress-movements indicate that the ultimate unit shaft resistance was obtained when the imposed movement between the pile and the soil was about five millimeters, whereafter a slight trend to post-peak softening followed.

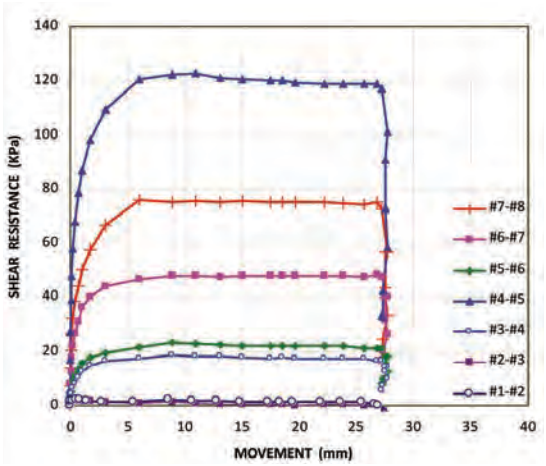


Figure 7: Average Shear Resistance Between Gage Levels Without Residual Stress Consideration

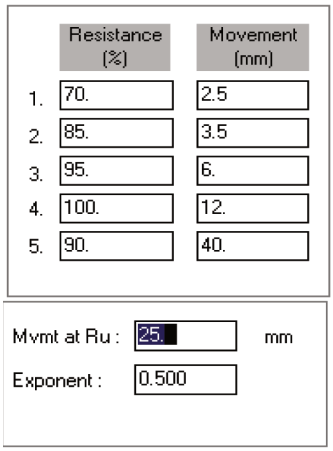
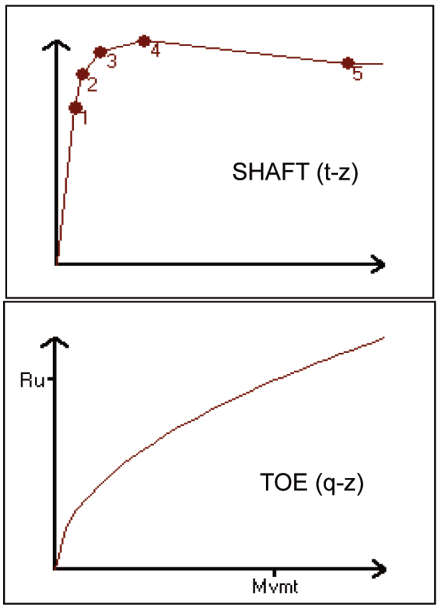


Figure 8: Custom-Made t-z and q-z Functions for Unit Shaft and Toe Resistances



A unit shaft shear resistance vs. movement relations is called a "t-z function," which is a mathematical relation (Fellenius 2012). Unit toe resistance is called a "q-z function." On input of a function representative for the soil layers, UniPile can calculate the pile load-movement response, i.e., simulate a load-movement curve of a static loading test. Fig. 8 shows two such functions used in the fitting of the test pile load-movement curves for shaft and toe. For the shaft response, the measured responses shown in Fig. 7 were fitted to a custom-made t-z curve; the same response was assigned for all elements. In view of the strain-softening response, the 80 percent function could have been used instead. Other functions, such as the Hyperbolic, Ratio and Exponent functions, would have been less suitable for this case, however. The pile-toe response assumed a "Ratio" function fitted to the residual load corrected toe resistance versus measured toe movement.

The new highway leading up to the bridge will include a five-meter-thick embankment which will mean an increase of stress by about 40 KPa and renewed soil settlement. The increase of effective stress results in an increase of capacity to about 2,500 KN. It will also result in an increase of the maximum load in the pile to about 1,600 KN, still an acceptable load. However, the renewed settlement caused by the embankment will impart downdrag on the piles that, potentially, could result in excessive settlement of the bridge pier foundation.

Fig. 9 shows the resulting fit of the load-movement curves for the pile-head, pile-shaft and pile-toe as measured and as calculated, assuming presence of residual load distribution per the distribution fitted to the CPTu-distribution. The figure also includes the pile-toe movement and pile shortening. Note that the figure is produced from the load distribution with the evaluated distribution of residual load

Photographer: Pashkov Andrey / Photos.com

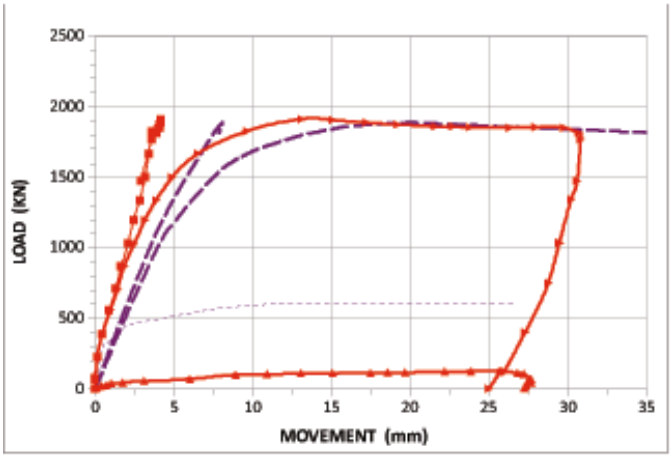


Figure 9: Load Movements Calculated with Residual Load Compared to Measured

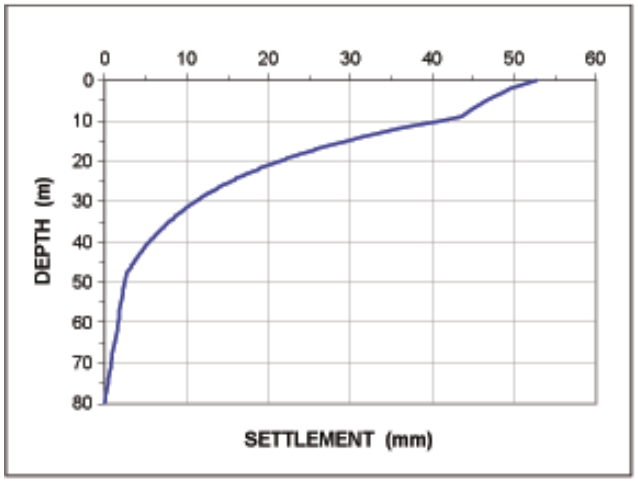


Figure 10: Distribution of Long-Term Settlement for the Bridge Abutment

and the evaluated t-z and q-z relations in a simulation of the test.

The design assumed that the project piles would be the same as the test pile and be assigned a working load (dead load) of 700 KN/pile, which, for unchanged conditions, places the neutral plane (the force equilibrium) at a depth of about 15 meters. The maximum drag load is about 600 KN. Thus, adding the 700 KN dead load, the maximum load will be about 1,300 KN, which is well within the axial structural strength of the pile.

The bridge pier will be placed on 15 piles and the footprint of the pile cap is 1.5 meters by 15 meters. Fig. 10 shows the distribution of settlement calculated by UniPile (Goudreault and Fellenius 2011) using the soil profile of the UniPile calculations after input of soil compressibility values, the increased highway thickness and pile group geometry and loads accordance with the recommendations by Fellenius (2012).

Conclusions

The load distribution evaluated from the test on the instrumented driven pile indicated that the pile was affected by a significant amount of residual load. The software-enabled analysis of the distributions of true and the residual load applying two approaches for the distribution of resistance below the upper zone, the zone where the residual load is from fully mobilized shaft shear. In one approach, the assumption was made that the shaft resistance below this depth followed the same values of beta-coefficient as in the upper zone. In the second approach, the assumption was made that the resistance agreed with that calculated by the result of an adjacent CPTu sounding. The analysis results demonstrated the flexibility of the software.

The relations of unit shear versus movement obtained from the test data established t-z and q-z relations, which then were used as input to the software to calculate pile-head and pile-toe load-movement curves. The simulated curves agreed well with the measured curves.

Input of the working load intended for the piled foundation established a depth to the neutral plane. Input of the planned embankment heights with soil compressibility data gave predicted long-term settlements for the piled foundation. ▼

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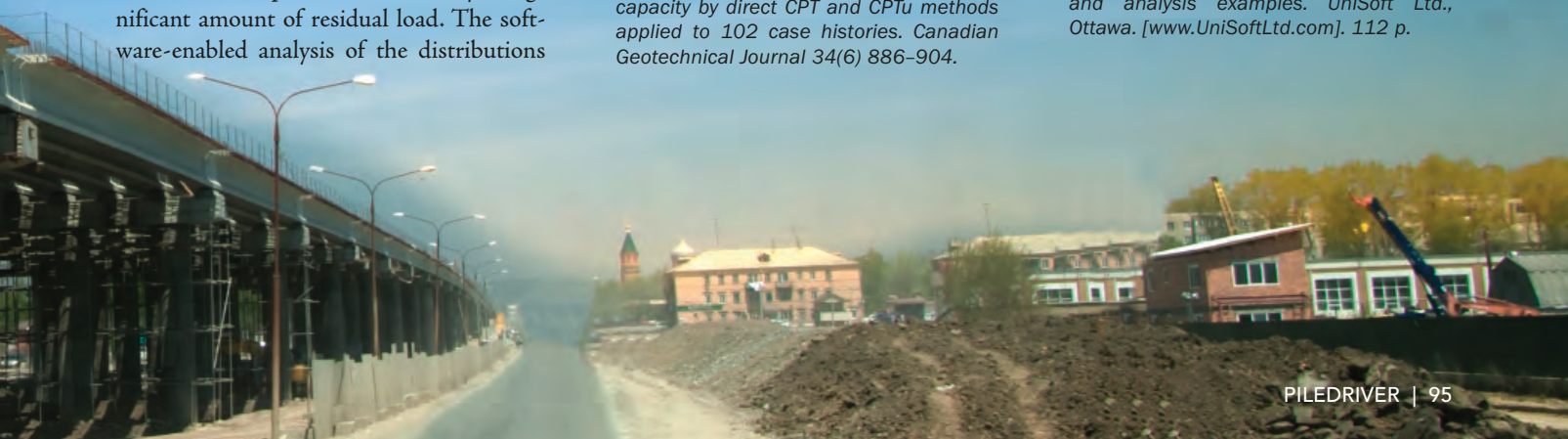

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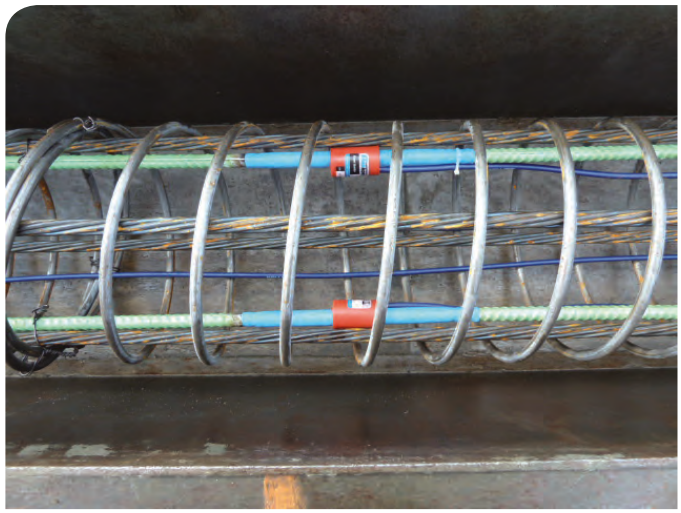
Lightweight Concrete Piles Driven in Charleston, S.C.

Research may introduce new technology to the industry

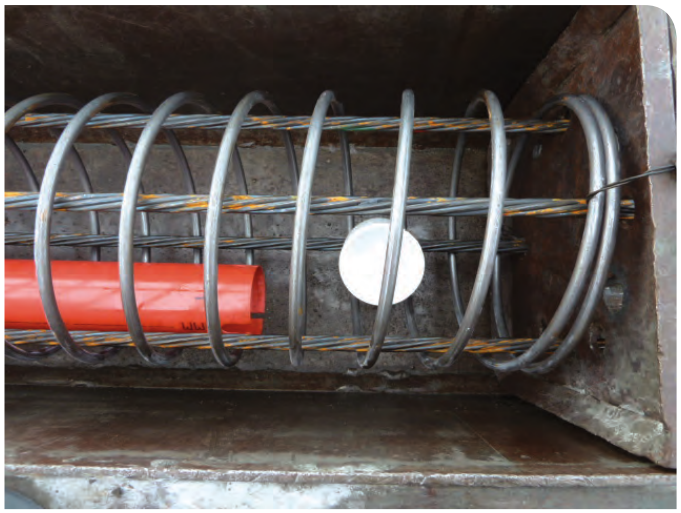
By Neill Belk, E.I., S.M., ASCE and J. Brian Anderson, Ph.D., P.E.

Lightweight aggregate (LWA) concrete has been used for decades in precast applications to reduce the structural dead loads from beams, slabs and columns. LWA concrete also provides several other advantages, including enhanced strength and durability. Concrete produced with porous, LWAs provides curing water to low water/cement concrete mixes, allowing for extended curing times which increases the strength and decreases the permeability. Lightweight concrete has not been used for driven piles; therefore, this project was developed to bridge the gap and provide insight into a potential new technology for the piling industry. With the help of contractors and consultants in Charleston, S.C., full-scale, lightweight test piles were cast and driven successfully at the Citadel Geotechnical Experimentation Site (CGES).

LW50 piles cast in foreground with LW100 forms in background



Rebar strain gages in LW50 pile



Inclinometer casing prior to casting in LW100 pile

Driveability prediction

Piles driven in Charleston are typically designed to take advantage of the Cooper Marl formation (Marl) to achieve capacity. The Marl is a massive calcium-rich marine deposit typically encountered from approximately 30 to 60 feet and is generally more than 100-feet thick (Camp and Parmar 1999). Soil resistance within the Marl typically develops between five and seven days after the end of driving with ultimate unit side and base resistance of approximately 2.6 ksf and 26 ksf, respectively. Axial resistance and driveability models were developed to predict the driving stresses within the pile. Previous borings at the CGES were used to develop a soil model. Local practice accepts these resistances to be approximately one-sixth their ultimate value at time of driving; therefore, 0.43 ksf and 4.3 ksf were used in driveability models.

Concrete placement

Parker Marine Contracting Corporation cast two normal weight (NW) piles, two 50 percent coarse lightweight piles (LW50) and two 100 percent coarse lightweight (LW100) piles. Van-Smith Concrete supplied the concrete. Stalite Inc. provided the lightweight expanded slate material for the lightweight replacement mixes. All mixes used the same placing and vibrating consolidation effort.

The piles were 12-inch square cross-sections and 55 feet long with an expected Marl embedment between 10 and 15 feet. Rebar strain gauges and an inclinometer casing were placed in the LW50 and LW100 pile, respectively to be used for future static axial and lateral load testing.

Thermocouples were also placed within the piles to measure the heating profile due to hydration within the concrete under standard and accelerated curing conditions. Over 100 concrete compression cylinders were prepared for concrete testing to determine the strength and modulus of elasticity development over time.

Pile driving

Piles were transported and driven seven days after casting. Piles were driven at the CGES with a Junttan HHK 4A by Pile Drivers Inc. Each pile location was pre-drilled to an approximate depth of ten feet. Piles were then driven through the overburden material with a one-foot stroke and then increased to one-and-a-half feet upon reaching the Marl, thereby leaving five feet of pile stick up. The piles were monitored using a Pile Driving Analyzer (PDA) during driving by Heath Forbes of S&ME Inc. out of their Charleston office.

Results and analysis

The strength at time of driving (seven days) was approximately 5,000 psi for all concrete mixes. The 28-day strength for the NW, LW50 and LW100 mixes were 5,300 psi, 5,400 psi and 5,400 psi, respectively. This shows that the lightweight piles can obtain the same strength as normal weight concrete mixes. The unit weight for the normal weight, LW50 and LW100 was 144 pcf, 133 pcf and 123 pcf. ASTM C567 (2005) was used to calculate the equilibrium density for the two lightweight mixes presented.

GRL WEAP was used to estimate the driveability performance. Soil borings showed the overburden reached a depth of approximately 35 feet. The piles cast were expected to be driven into at least 15 feet of Marl. Axial resistance models predicted a long-term capacity of approximately 280 kips. CAPWAP capacity after one-day restrike was at least 200 kips for all piles verifying pile integrity after driving. Typical restrike in Charleston is conducted five to seven days after end of driving. The PDA did not show any traces of tension cracks developing which also showed adequate driveability and pile performance.

Pile stresses were well below the limits set forth in the AASHTO LRFD Bridge Design Manual (AASHTO 2010). The compressive and tension stress limit calculated for the precast, pre-stress concrete piles is 3,300 psi and 939 psi, respectively. The design strength of the concrete was set at 5,000 psi. The maximum driving compressive (CSmax) and tensile (TSmax) stresses as measured by the PDA and predicted

Concrete compression cylinders prepared for strength testing

by GRL WEAP are presented in Table 1. The PDA-measured stresses for the LW100 pile were higher than the other two mixes, most likely due to a lapse in driving to replace a bad gauge. During this time, setup within the Marl was most likely already taking place. It is expected that the LW100 should have had the lowest compressive and tensile stresses.

Moving forward

Lightweight piles were successfully modeled, cast and driven in Charleston. LWA was used to replace 50 and 100 percent of coarse aggregate within a concrete mix which produced workable and adequate strength concrete. All piles were driven with equal effort and without any damage. It is expected for these

Concrete piles after end of driving

Stress	NW		LW 50		LW 100	
	WEAP	PDA	WEAP	PDA	WEAP	PDA
TS_{max} (psi)	421	600	332	600	237	600
CS_{max} (psi)	1928	2300	1867	1900	1804	2600

Table 1: Maximum predicted and measured driving stresses

lightweight piles to have the same, if not enhanced, durability, thereby decreasing project maintenance costs. The lighter weight piles may also decrease the loading of trucks and/or increase fuel savings during transport.

Acknowledgments

The researchers acknowledge the South Carolina Chapter of PDCA members including John Parker and Marty Swain of Parker Marine Contracting Corporation, John King and Michael McCormick of Pile Drivers Inc., Gerald Smeltzer of Van-Smith Concrete and Greg Canivan and Heath Forbes of S&ME Inc. Also, Dr. Joseph Coe and the Citadel are acknowledged for allowing the use of their outdoor geotechnical experimentation site. The researchers also acknowledge Reid Castrodale and Charles Freeman of Stalite Inc. ▼

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Making His Own Way

Finding success outside of the family business was important to Devon Overall

By Devon Overall

When asked how I got involved in the pile driving industry, most people expect an answer simple as, "I was working construction during the summer of '94" or "an internship during college." However, for me, it's a little more difficult than that.

Unlike most people, I represent the third generation of the family bridge business, Coastal Bridge Company, LLC, which was started back in 1954 by my grandfather, "Bob" Overall, P.E. In 1974, my father, "Bobby" Overall, P.E., came to work for Coastal Bridge right out of college, eight years before I was born.

As a child, I was exposed to many jobsites, listened to countless phone calls and was even fortunate enough to work on a crew from time to time. By the time I was old enough for legal employment at 14 years old, I felt I had a pretty good understanding of what construction was all about, to say the least. Like many first jobs, I started at the bottom, changing oil, then slowly obtained more responsibility as I continued working intermittently during the early years of college.

With high personal expectations and a lot to prove to my family, I took on as much as I could to try to make the biggest impact possible

As I got older and further along with work and school, people and criticism started to change. I realized early on that no matter what I accomplished among my peers at work, I would still have the stigma of being labeled as "the owner's son." Working for someone else to prove that I could be successful no matter where I was became very important to me. Midway through college, I was able to land a summer internship with the Louisiana Department of Transportation and Development in their highway inspections gang. When that ended, I was hired to work for Cajun Deep Foundations, LLC as a part-time project manager/estimator. Even though I didn't have an isolated "breakthrough" moment into construction, it is fair to say that my time at Cajun was my "breakthrough" moment into deep foundations. Never before had I been involved with production piles with fixed lead setups, trying to drive over 40 timber piles in one day. I had driven timber piles before but five to ten with swinging leads off a barge for a bridge was a good day; 40 was impossible. The knowledge I learned from Cajun was great, however

Coastal Bridge Company, LLC has a long history in Baton Rouge, La.

Photo by Jupiterimages / Photos.com

I have also learned not to be afraid to use the resources around you and utilize organizations such as the Pile Driving Contractors Association

getting to know the people who worked there and maintaining positive relationships has proven to be most valuable.

With college graduation quickly approaching, my ambition to succeed outside of Coastal Bridge only grew and I managed to find my dream job working for Zachry Construction Corporation, a large $2-billion-a-year company building roads and bridges for the Texas Department of Transportation. My experience went from thinking I knew how to run a project to knowing I could run a project. Zachry does an excellent job of taking young project managers and turning them into the complete package. Had it not been for a slowing highway market in Texas, coupled with a construction boom in Louisiana, I may still have been working for Zachry to this day. Even though I was assured a job at the company regardless of the economy, I didn't like the idea of being dead weight or unable to contribute to justify my employment. Having come from a family business, I understand it's the bottom line that determines the success of a company and knowing my talents were needed elsewhere, it was impossible for me to stick around. At 24 years old, I felt confident enough in my abilities to battle any criticism from my peers, and I came back home to work for Coastal Bridge in August 2006.

With high personal expectations and a lot to prove to my family, I took on as much as I could to try to make the biggest impact possible. Yes, there were times when I have been in over my head because I don't have the vast resources around to help me as I did at larger firms, but I learned to make the best decisions possible based on all the information available and go with it.

There will always be hindsight and "shoulda-woulda-couldas," but in this business you will beat yourself up if you are always looking back. Fortunately, when I started estimating for Coastal Bridge, the markets were comparatively much softer than they are now, so it was easier for me to be successful with a more conservative approach. In today's markets, bids are much more aggressive with very little room for contingencies. To be successful, you have to do more with the traditional means and methods by getting creative and thinking outside of the box. One of the biggest advantages to working for a small, family company is not only the freedom to think outside of the box but the ability to execute the idea and put it to use.

I have also learned not to be afraid to use the resources around you and utilize organizations such as the Pile Driving Contractors Association (PDCA). I first attended a Gulf Coast Chapter of PDCA meeting four years ago and immediately saw the benefits of the organization. It didn't take long for me to get involved – this will be my third year as a board member and my second consecutive year as the Gulf Coast Chapter president. It is an honor to serve the chapter and I feel even more honored to be considered a PDCA Young Gun. Thank you and remember, "a driven pile is a tested pile." ▼

Photo by Knud Nielsen / Photos.com

Driving Force

Engineer Robert Thompson has a deep-rooted passion for the industry

By Robert Thompson, P.E., D.GE., Principal Engineer, Dan Brown and Associates, PC

Robert Thompson, P.E., D. GE., is a relative "newbie" to PDCA, joining in 2008 as an affiliate member.

He traces his start in pile foundations to the deep foundations elective, taught by Dr. Dan Brown, that he took while a senior at Auburn University. The passion Dr. Brown had for the subject, the photos he showed the class and his cool "war stories" of projects captured Robert's interest and eventually led him back to graduate school after spending time as a U.S. Army engineer officer. In graduate school, he focused on deep foundations systems. He was able to see pile driving (with PDA testing) up close for the first time while assisting another graduate student with fieldwork. The experience confirmed that driven piles and deep foundations were his future in foundation engineering.

Robert had a few opportunities to play around with pile foundations while in general practice after graduate school at Law Engineering (now AMEC) and TTL, Inc., both in Alabama. His "big break" came when Dr. Brown asked him to join his fledging consulting firm, Dan Brown and Associates (DBA), in 2005 to concentrate on being an expert in deep foundations. Robert was immediately involved in a major driven pile project – the replacement of the U.S. 98 Bridge over Biloxi Bay after Hurricane Katrina. DBA took the lead for the extensive test pile program, immersing Robert in indicator and test pile data while the entire design-build team worked to aggressively shorten the already aggressive schedule.

Since then, Robert's project work has included many pile evaluations, drivability studies and other driven pile issues, among other problems DBA is asked to solve. His major pile projects have included work on the driven pile foundations of the Audubon Bridge in Louisiana plus consulting on test pile programs for driven piles on two of the storm-protection projects around New Orleans. He and the rest of the DBA team are also often brought in to help solve installation problems, assist with disputes over driving conditions and even provide a value-engineered proposal to an owner.

Being relatively young at 46 years old, the industry's use of the Pile Driving Analyzer is routine for Robert. He now sees the application of rapid advancements in electronics and computerization in the pile driving industry, through the development of wireless strain gauges and remote data collection, transmission and sharing of data and analyses, in real time across great distances and even in the increased sophistication in the analysis of pile driving data. While the understanding of how driven piles behave during and after driving is fairly robust, there are still areas of pile-soil behavior that we don't fully understand. One such area is the driving and testing of large diameter piles in some soil conditions where we apply our knowledge of smaller diameter piles with much less precision than we might prefer.

Robert next to APE D80-23 for driving 60-inch pipe piles for Tempoary Bent 1E at Audubon Bridge, Louisiana (2008)

Robert hopes to contribute to the pile driving industry, and PDCA specifically, through his participation on the committee

Test pile site (30-inch open-ended pipe piles) at West Closure Complex in New Orleans, La. (2009)

30-inch pre-stressed concrete test pile for Biloxi Bay Bridge replacement (2006)

exploring the formation of a research foundation within the association. Although relatively new to PDCA, Robert was asked by the executive director, Steve Hall, to be a part of this committee. He brings his perspective as a specialty consultant to the formation of the foundation, which may provide PDCA the opportunity to be a contributor to the industry's knowledge base while working to help its members keep a sharp, competitive edge in the market.

When not working, Robert enjoys spending time with his family on camping trips, spending time outdoors or traveling to interesting places. He and his wife of 24 years, Susan, have one daughter who turned 13 years old in December. So far, her interest in engineering is limited to knowing how her dad makes a living, in case someone asks!

Robert looks forward to continuing to increase his involvement in PDCA and hopes to get to know and work with other members in the coming years. ▼

Photos courtesy of Robert Thompson

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Is Your Project Subject to Prevailing Wage Requirements?

A comprehensive look at the Davis-Bacon Act

By Ryan C. Maloney, Foley & Lardner LLP

The Davis-Bacon Act applies to contractors performing work on federally funded or assisted contracts in excess of $2,000 for the construction, alteration or repair of public buildings or public works. The act also applies to all subcontractors working on a covered project. Under the act, contractors must pay their laborers and mechanics performing work on such a project not less than the prevailing wage rates and fringe benefits listed in the contract's Davis-Bacon wage determination for corresponding classes of laborers and mechanics employed on similar projects in the area[i]. In addition to the Davis-Bacon Act itself, Davis-Bacon prevailing wage provisions are included in approximately 60 other federal laws – "related acts" – under which federal agencies assist construction projects through grants, loans, loan guarantees and insurance[ii].

The Department of Labor is required to determine the locally prevailing wages and fringe benefits for corresponding work on similar projects in the area. These local prevailing wage rates can be found in wage rate determinations that are issued and updated periodically for each county across the country[iii]. The contracting officer should include the applicable wage rate determination in solicitations and contracts, which are broken into building, heavy, highway and residential construction types[iv]. The Davis-Bacon labor standards clauses, contained in 29 CFR section 5.5(a), must also be included in covered contracts. Prime contractors and subcontractors alike should ensure the required clauses are included in their contracts with subcontractors on Davis-Bacon projects.

Under the act, contractors must pay their laborers and mechanics performing work on such a project not less than the prevailing wage rates and fringe benefits …

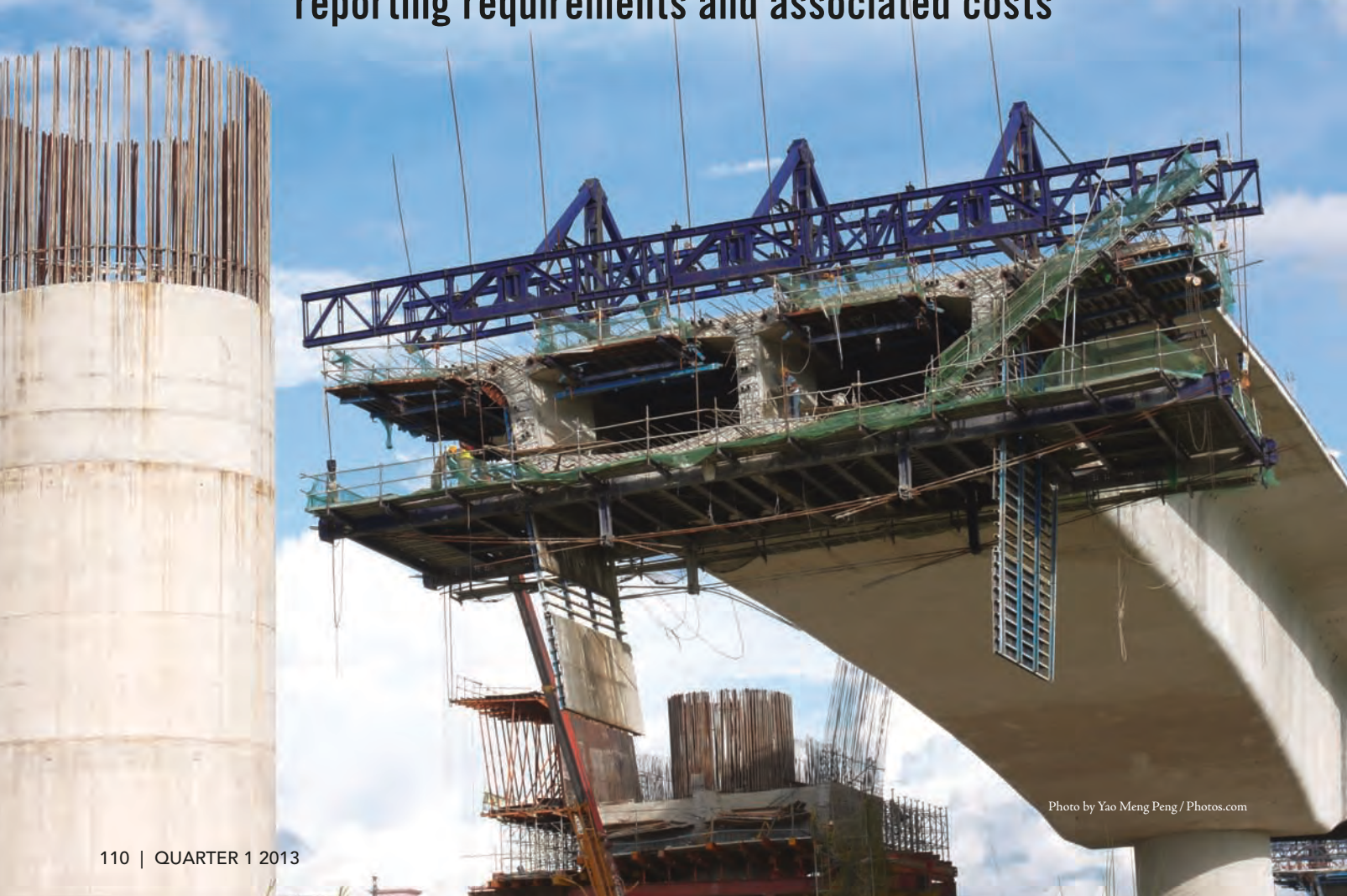
Photo by Sergii Gnatiuk / Photos.com

The "prevailing wage" is the combination of the basic hourly rate and any fringe benefits (which are also provided as an hourly rate) listed in the Davis-Bacon wage determination. A contractor can meet its obligation to pay at least the applicable prevailing wage by paying each laborer or mechanic the prevailing wage entirely as a cash wage or by some combination of cash wages and employer-provided bonafide fringe benefits[v]. Laborers or mechanics are workers utilized by any tier contractor or subcontractor whose duties are manual or physical in nature, as distinguished from mental or managerial. This includes workers who use tools or who are performing the work of a trade, as well as working foreman who devote more than 20 percent of their time during a workweek performing the duties of a laborer or mechanic. Laborers and mechanics do not include workers whose duties are primarily executive, supervisory, administrative or clerical, rather than manual. Employees who qualify for the executive, administrative or professional exemptions under the Fair Labor Standards Act are not laborers or mechanics under the Davis-Bacon Act[vi]. The Department of Labor, Wage and Hour Division conducts surveys to determine the locally prevailing wage rates that will apply to workers on Davis-Bacon-covered projects. However, the Department of Labor's wage rate determinations are based largely on local collective bargaining agreements and prevailing wages most often reflect union wages and fringe benefits in the area. Non-union contractors in particular must fully appreciate the cost implications of paying prevailing wages when bidding on a federally funded public works project, since the prevailing wages are likely higher than what a contractor would expect to pay on a private project. All contractors must be prepared for the Davis-Bacon Act's recordkeeping and reporting requirements and associated costs.

Employer posting requirement

Every employer performing work covered by the Davis-Bacon Act must post the Department of Labor Form WH-1321 Employee Rights Under the Davis-Bacon Act poster at the worksite in a prominent and accessible place where it can be easily seen by the contractor's employees[vii]. There is no particular size requirement. The wage determination applicable to the project must also be similarly posted.

All contractors must be prepared for the Davis-Bacon Act's recordkeeping and reporting requirements and associated costs



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The prime contractor is responsible for the submission of copies of payrolls by all subcontractors

Contractor recordkeeping

Under the Davis-Bacon Act, covered contractors must maintain payroll and basic records for all laborers and mechanics during the course of work on a covered project and for a period of three years thereafter.

Records that must be maintained include:

- Name, address, and social security number of each employee
- Each employee's work classifications
- Hourly rates of pay, including rates of contributions or costs anticipated for fringe benefits or their cash equivalents
- Daily and weekly numbers of hours worked
- Deductions made
- Actual wages paid
- Detailed information regarding various fringe benefit plans and programs, including records that show that the plan or program has been communicated in writing to the laborers and mechanics affected (if applicable)
- Detailed information regarding approved apprenticeship or trainee programs (if applicable)

"Certified Payroll" reporting

Additionally, on a weekly basis, each covered contractor and subcontractor must provide the federal agency a copy of all payrolls providing the information required to be maintained under the Davis-Bacon Act for the preceding weekly payroll period. Full social security numbers and addresses of employees should not be included with the

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weekly payroll submissions; instead, an individually identifying number for each employee should be included. Each payroll submitted must be accompanied by a Statement of Compliance. The contractor, subcontractor or the authorized officer or employee of the contractor or subcontractor who supervises the payment of wages must sign the weekly statement. Statements of Compliance can be made on the Department of Labor form WH-347 Payroll (For Contractors Optional Use) or on any other form with identical wording[viii]. This information is often referred to as "certified payroll," and must be completed within seven days after the regular pay date for the pay period. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

Potential penalties for non-compliance

Failure to comply with the Davis-Bacon Act's requirements can potentially subject contractors or subcontractors to significant penalties. While the initial step will likely be to correct a deficiency, if the contracting officer finds that any covered laborer or mechanic employed by a contractor or any subcontractor on a Davis-Bacon project has been or is being paid less than the prevailing wages required by the contract, the federal government may terminate the contractor's right to proceed with the work by written notice[ix]. The federal agency has the right to have the work completed, by contract or otherwise, and the contractor and the contractor's sureties shall be liable to the federal agency for any excess costs the federal agency incurs. Contractors found to have committed aggravated or willful violations while performing work on Davis-Bacon covered projects, may be subject to debarment from future federal contracts for up to three years. In addition, contract payments may be withheld in sufficient amounts to satisfy liabilities for unpaid wages. Falsification of certified payroll records may also subject a contractor or subcontractor to civil or criminal prosecution, with possible penalties including fines and/or imprisonment.

Failure to comply with the Davis-Bacon Act's requirements can potentially subject contractors or subcontractors to significant penalties

Contracts with the federal government and its many agencies, as well as state and local contracts with federal funding, are a good source of business for construction firms. However, when federal funds are involved, contractors must be aware of the prevailing wage requirements that go along with a federal construction project. Although not addressed in this article, 32 states have state prevailing wage laws similar to Davis-Bacon, which apply to certain state and local public works construction projects[x]. A contractor's knowledge of and compliance with applicable prevailing wage requirements can be the difference between success and failure when bidding and performing work on public works projects. ▼

References

i *See* 40 U.S.C §3142(a), (b).

ii Some examples of the related Acts are the Federal-Aid Highway Acts and the Housing and Community Development Act of 1974.

iii Public access to federal wage determinations is provided online at http://www.wdol.gov/dba.aspx

iv *See* FAR 22.402-2(c).

v *See* 40 U.S.C §3142(d).

vi *See* 29 CFR part 541.

vii http://www.dol.gov/whd/programs/dbra/wh1321.htm#.UNizVKU6KFJ

viii http://www.dol.gov/whd/forms/wh347instr.htm

ix *See* 40 U.S.C §3143.

x General information regarding those states with prevailing wage laws can be found at http://www.dol.gov/whd/state/dollar.htm#.UNjdxaU6JSU

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