Driven Pile: A Foundation for the 21st Century
Sheraton Austin at the Capitol | Austin, TX
Tuesday | September 9, 2014

This one-day seminar organized by the Deep Foundations Institute (DFI) and the Pile Driving Contractors Association (PDCA) features lectures by industry experts on advancements in the use, design and testing of driven pile solutions.

Monday, September 8, 2014

6:00 PM – 10:00 PM	**Exhibitor Set-Up | Capitol Ballroom E**

Tuesday, September 9, 2014

Technical Program*

7:00 AM – 7:30 AM	**Speaker Preparation | Capitol Ballroom F-H**
7:00 AM – 8:00 AM	**Registration | Capitol Ballroom E Foyer**
	Networking Breakfast and Exhibition | Capitol Ballroom E
8:15 AM – 8:30 AM	**Seminar Welcome and Introductions | Capitol Ballroom F-H**
8:30 AM – 9:15 AM	**Geotechnical Site Characterization for Deep Foundations - The Ethical Dilemma of Low Price Bidding** *Victor Donald, P.E., Terracon* The geotechnical engineer is often selected to perform a geotechnical investigation for a planned structure based solely upon their price to do the job. Low bid wins, short and (un)sweet, and this presentation will address the ethical dilemma that a professional geotechnical engineer has regarding the procurement of their services. Using the results of a recent survey of our peers regarding this topic, we will explore what we collectively think of this dilemma and what we can do to improve upon it.
9:15 AM – 10:00 AM	**Local Practice and Case Histories, Advantages of Driven Piles in Local Conditions** *Clayton Signor, M.S.E., TX Pile LLC* Driven piles in central Texas have been widely used over the past three decades for various applications. This presentation will showcase how driven piles and sheet piles have been utilized in the local geologic formations.
10:00 AM – 10:30 AM	**Networking Break**
10:30 AM – 11:00 AM	**Driven Piles: GEC 12 and Industry Impact** *Silas Nichols, P.E., U.S. Department of Transportation | Federal Highway Administration* The Federal Highway Administration is continuously improving its recommended technical guidance and policy in driven piles. Recent innovations and advancements in driven pile design and construction have led to significant changes in the driven pile industry. In addition, there are gaps and issues that must be addressed by FHWA and industry to foster more efficient and cost effective driven pile solutions for transportation applications. This presentation will discuss the development of the new FHWA guidance manual and anticipated advances resulting from the work, research on design of large diameter driven piles, and the impact of these issues on the driven pile industry.
11:00 AM – 11:30 AM	**Off-Shore Driven Pile Projects** *Mark Woechner, Ph.D., AdBm Technologies* Underwater noise generated from pile driving can be an issue for contractors in certain geographical areas. A noise abatement system that uses acoustic resonators is introduced and discussed in this presentation. In this case, the resonators take the form of large bubbles whose size and shape is controlled by the shell or container holding the air bubble in place. The system's ability to significantly reduce underwater noise in a customizable and predictable way is described in detail and various realization of the system is demonstrated.

11:30 AM – 12:00 PM	**Sustainable Design and Construction of Driven Piles** *Malay Ghose Hajra, Ph.D., P.E., University of New Orleans* Sustainable Development is defined as any development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This presentation will briefly summarize the evolution of sustainable principles in engineering practices and describe the principles of a carbon-footprint measurement tool named the Geotechnical Carbon Calculator. This tool was developed to evaluate the carbon footprint of deep foundation solutions. Alternate design variables will be used to illustrate the usefulness of the calculator in sustainable design and construction of Driven Pile Foundations.
12:00 PM – 1:30 PM	**Networking Lunch**
1:30 PM – 2:00 PM	**Durability of Steel Piling Materials** *Gerry McShane, PilePro Steel, LP* The aim of this presentation is to demonstrate design procedures to achieve exceptional durability of steel structures that matches or exceeds the design life of equivalent concrete structures. The various contributing factors to the corrosion of steel and concrete structures in a marine environment are explained to provide a better understanding of the various methods available to counter the effects of corrosion and achieve the targeted design life. As part of this the use of sacrificial steel, special steel grade compositions, coating systems and cathodic protection of steel structures are assessed, and a cost-benefit analysis is presented.
2:00 PM – 2:30 PM	**Pile Driving Methodology for Offshore Wind Farms** *Gerald Verbeek, Allnamics USA LLC* As is typical for offshore wind farm projects, the Riffgat Wind Farm project in the German part of the North Sea uses steel monopiles (480 and 720 metric tons, 53 and 70 m long, 4.7 m diameter (pile top) and 5.7-6.5 m diameter (pile tip)) to support wind turbines. The presentation will address the various installation aspects of the project, and as such it provides a good overview of the important issues to be considered when planning similar installations in the USA.
2:30 PM – 3:00 PM	**Deep Foundations Use in Texas – A TX DOT Perspective** *Marcus Galvan, P.E., Texas Department of Transportation* The Texas Department of Transportation (TXDOT) extensively uses deep foundations (driven piling and drilled shafts) to support their bridges. Foundation selection is based on regional geology, local experience and environmental constraints. This presentation will focus on TXDOT's philosophy and experience regarding deep foundations.
3:00 PM – 3:30 PM	**Networking Break**
3:30 PM – 4:00 PM	**An Alternative Pile Group for Drilled Shaft Mitigation** *Paul Axtell, P.E., D.GE, Dan Brown & Associates, P.C.* A bridge spanning the Chain of Rocks Canal north of St. Louis, Missouri is currently under construction and nearing completion. The bridge foundations primarily include drilled shafts, although construction difficulties prompted a post-award design to replace an abandoned drilled shaft with a group of piles. This presentation will briefly describe the construction issue related to the baseline drilled shaft installation and will then discuss the successful mitigation using a group of driven piles.
4:00 PM – 4:30 PM	**Lake Brazos Dam** *Victor Vasquez, Freese and Nichols* The Lake Brazos Dam in Waco, Texas, was completed in 1970 as a gated spillway. The spillway was converted to a labyrinth weir structure in 2008 to eliminate operational and maintenance problems which historically plagued the spillway gates. The 3,000-foot long labyrinth weir was constructed within the footprint of the existing dam to accommodate regulatory requirements and to reduce cost. Sheetpiling was used extensively to form a temporary cofferdam to protect work areas from river flows and maintain a full reservoir during construction. Sections of the sheetpile were then incorporated into the structure to serve as a permanent cut-off and training walls. In this presentation, we will provide an overview of the project and discuss the use of sheetpiling and drilled piers into the dam design and construction diversion.

4:30 PM – 5:00 PM

Panama Canal Cofferdam

Dennis Russell, P.E., Richard Goettle, Inc.

The Panama Canal is one of the world's truly remarkable structures. The canal was completed in August of 1914 and it stands today much the same as it did 100 years ago. In 2007, Panama voted to expand the capacity both in overall tonnage and size of vessels the canal could accommodate. This presentation will describe the work conducted within the Pacific Access Channel 4 Contract to construct 58 steel sheetpile cells with interconnecting arcs. These cells have diameters of 58 and 71 feet, are filled with over 500,000 tons of processed rock, and form the toe of a nearly 1-mile long dam.

Subject to Change