Presenters and Presentation Summaries

The PDCA, in corporation with the PDCA education committee, has gone to great lengths to put together general session presentations that contain valuable information on pile driving efficiency, technological advances, natural disaster response efforts and their effect on the pile driving industry, as well as research projects and case studies. ***You don't want to miss this opportunity!***

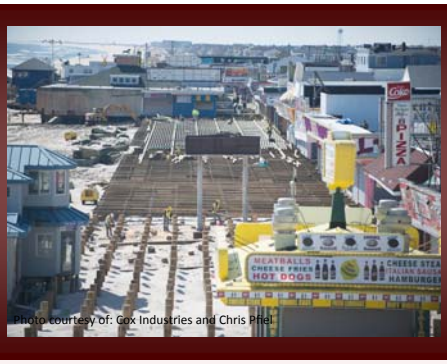

Photo courtesy of: Cox Industries and Chris Pfeil

Title: Ground Improvement and Liquefaction Mitigation using Driven Timber Piles
Presenter: **Armin W. Stuedlein, Ph.D, P.E., Oregon State University**
Summary: This presentation presents a field trial of conventional and drained timber piles installed to investigate the effect of pile spacing and drainage on densification. Following installation of timber piles spaced at two, three, four, and five diameters, shear wave velocity and cone penetration tests were conducted to evaluate the role of spacing and fines content on the degree of densification.

Title: Pile Driving in Dense Urban Environments
Presenter: **Alexander Filotti, M.B.A, P.E., Underpinning Foundation Skanska & Gerald Verbeek, VMS Management Services**
Summary: After events like hurricane Sandy, damaged foundations need to be repaired, or even replaced, and additional foundations may need to be installed, sometimes close to existing foundations. When driven piles are selected for any of these, a common concern is that the pile driving activity will affect the existing foundations. The presentation will address this issue and present clearly that piles can be driven under these circumstances without any problems, using equipment that is readily available.

Title: Steel Sheet Pile Dune Restoration in Borough of Mantoloking and Township of Brick, NJ
Presenter: **Leo Pflug, EIC**
Summary: Super-storm Sandy caused considerable damage to property and facilities in Mantoloking and Brick, NJ in 2012. One of the more significant incidents was the break-through of the barrier island at the Mantoloking Bridge that connected the Barnegat Bay and the Ocean. The installation of the sheet piles and the use of specialized equipment allowed the state and the contractor to complete the work within allowable time and with minimum disruption to the community.

Title: FEMA's Sandy Recovery Improvements Act Pilot Program and Hazard Mitigation Funding Opportunitites
Presenter: **Wayne Floyd, Phillips & Jordan, Inc.**
Summary: This presentation will introduces changes made to the Robert T Stafford Act by the Sandy Recovery Improvement Act of 2013 (P.L. 113-2) signed by President Obama on January 29, 2013. It will emphasis changes to the Stafford Act that impact how future projects funded by FEMA's Public Assistance Grant Program will be administered. Information will also be provided on how the current FEMA Hazard Mitigation Grant Program is administered and how SRIA proposed changes to the program may provide greater funding opportunities for communities post disaster.

Title: Breakthrough in Mitigation Underwater Noise from Steel Piles
Presenter: **Per Reinhall and Tim Dardis, University of Washington**
Summary: Impact pile driving of steel piles in marine environments produces extremely high sound levels in the water. These noise levels are known to have deleterious effects on fish, birds, and marine mammals. Since 2006, the University of Washington and the Washington State Department of Transportation have collaborated on research to reduce the noise from underwater pile driving. The focus of this talk is a new double wall pile that is designed to reduce the harmful effects of impact pile driving.

Title: The Impact of Advances in Sheet Piling Design and Installation Technology on Construction Cost
Presenter: **Gerry McShane, Service Steel Warehouse & Thomas Heller, Liebherr Nenzing Crane Company**
Summary: This presentation reviews how the evolution in sheet pile design and solid advances in installation equipment have solved many sheet piling installation difficulties, radically improved construction efficiency and lowered cost overall.

Title: Hurricane Sandy, Rapid Response Inspection and Coastal Flood Protection
Presenter: **Gregg Piazza, Mueser Rutledge Consulting Engineers**
Summary: Following hurricane Sandy, MRCE provided rapid response engineering in areas severely impacted by the storm. MRCE efforts included structural inspection in NYC coastal zones for the NYC DOB, damage assessment and design to rehabilitate Casino Pier in Seaside Heights, NJ, and developing flood protection solutions for MRCE clients. MRCE also participated in the Geo-Engineering Extreme Events Reconnaissance (GEER) program collecting post-storm data and information. GEER is a non-profit organization made up of industry volunteers whose objective is to understand extreme events to help prepare and limit the impact of future storm events.

Presenters and Presentation Summaries

Continued

Photo courtesy of: Cox Industries and Chris Pfiel

Title: Noise and Vibration Challenges on a Large Piling Project: A Brief Case History of the West Toronto Diamond Project in Toronto, Canada

Presenter: **Michael D. Justason, P.Eng, McMaster University/Bermingham Foundation Solutions**

Summary: This presentation describes various techniques used to address challenging noise and vibration issues on a pile driving project in Toronto, Canada. These techniques include: hydraulically activated shrouds for the hammers and piles; moveable noise barriers, active control of a vibratory hammer based on measured ground vibrations; a pile 'crowd' system; and ultimately the use of 'press-in' piling technology to meet the most stringent noise and vibration requirements.

Title: Rebuilding the Northeast: A Restoration of two Liberty Island piers

Presenter: **Alex Ryberg, P.E., GRL Engineers, Inc.**

Summary: GRL worked with EIC Associates to monitor the installation of fiberglass piles in place of proposed timber piles to replace the Statue of Liberty service docks which were devastated by Hurricane Sandy. Dynamic testing was requested to evaluate capacity, driving stresses, hammer performance and potential for pile damage. Dynamic testing was performed during initial driving and also during restrike to evaluate potential time depended soil strength changes.

Title: Press-In Method for Installation and Extraction of Steel Sheeting

Presenter: **Michael Carter, Blue Iron Foundations & Shoring, LLC**

Summary: The use of pile presses is becoming increasingly more popular in several areas as a way to mitigate the issues associated from vibratory and impact hammers. This presentation will describe the typical press in equipment available and used in the US today as well pros and cons in using the Press-In method.

Title: Rebuilding the Jersey Shore

Presenter: **Shaun McCafferty, R. Kremer & Son Marine Contractors**

Summary: Hurricane Sandy was a monster by the time it closed in on the northeastern United States on Oct. 29, 2012—not just a Category 1 storm, but the biggest Atlantic hurricane by area in recorded history. Erich Kremer, a marine construction contractor based in Brick, N.J., was right in the thick of it. This presentation will focus on the rebuild projects after Hurricane Sandy.

Title: After Superstorm Sandy:The New York City Beach Restoration Project

Presenter: **Steven L. Grogg, P.E. and Nathan D. Shuman, P.E., McLaren Engineering Group**

Summary: On October 29, 2012, Superstorm Sandy made history as it hit the northeastern coast of the U.S., leaving behind millions of dollars in damages across the Tri-State area. After the storm, the New York City Department of Parks and Recreation (NYCDPR) retained McLaren Engineering Group (McLaren) to provide structural engineering design services and rebuild the NYCDPR beach facilities. This presentation discusses the six-week design effort, which included the repair of existing boardwalks and design of new pile-supported boardwalks, comfort stations, and life guard stations at 15 different locations in Queens, Brooklyn, and Staten Island.

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