

**JANUARY 8, 2020**

**PRESENTATION**

5:30 PM (1.0 PDH)

Title : **Geotechnical Considerations in Design and Construction of Tilt-Up Buildings and Parking Lots**

Speaker : David A. Eastwood, P.E., D.GE, DFE, C.A.P.M., F.FPA, F.ASCE w/ Geotech Engineering and Testing

Mr. Eastwood is the President of DAE & Associates, Ltd, dba Geotech Engineering and Testing (GET). He has practiced consulting engineering for about 43 years, serving in key technical project management and administrative roles. His specialties are in geotechnical, environmental, materials and geoforensic engineering. Mr. Eastwood's experience in these functions includes a wide range of project types, ranging from public infrastructure, public works, municipal work, industrial facilities, commercial developments to waste disposal facilities, power plants, dams, marine terminals and underground storage tank contamination studies. Mr. Eastwood has the ability to provide clients with cost effective alternatives to difficult problems. One of Mr. Eastwood's greatest attributes is his ability to contribute constructively, responsively, and professionally as a member of the client's project design team. Mr. Eastwood received his Bachelors and Masters of Science in Civil Engineering from the University of Houston with specialization in soils engineering. Mr. Eastwood has attended Continuing Education Seminars at Rice, Princeton, University of Maryland, and the University of Houston. Mr. David Eastwood has been accepted as an Academy of Geo-Professionals (AGP) as a Diplomate, Geotechnical Engineer Fellow Member. In addition, he has been accepted as an American Society of Civil Engineers (ASCE) Fellow Member. Furthermore, he is a Diplomate in Forensic Engineering (DFE) by National Academy of Forensic Engineers (NAFE). Mr. David Eastwood has been inducted to the Academy of Distinguished Civil and Environmental Engineers at the University of Houston Cullen College of Engineering. Mr. Eastwood is also a 2017 Member of Distinguished Alumni of College of Engineering at the University of Houston Cullen College of Engineering. Mr. Eastwood has several publications on the design and construction of foundations on expansive soils. Geotech Engineering and Testing is a member of PTI, ACI, HCEC, ABC, GHBA, AIA, ASTM, TSPE, TIBD, HCEC, TCEL, and ASCE. Mr. Eastwood is on the Geotechnical Committee of Post-Tensioning Institute Slab-On-Grade Committee. Furthermore, he is a founder and past President of the Foundation Performance Association. The mission of this organization is to serve the public by advancing the skill and the art of engineering analysis, investigation of foundations. Mr. David Eastwood is also the past president and board member of Houston Chapter of Texas Council for Engineering Laboratories. He helped with development of the geotechnical guidelines for design and construction of infrastructure for City of Houston, Harris County, Harris County Flood Control District, etc. facilities. In addition, Mr. Eastwood has been certified as a Corrective Action Project Manager with the Texas Commission on Environmental Quality (TCEQ). Mr. Eastwood conducts training seminars in geotechnical, environmental, materials, and geoforensic engineering for the City of Houston, Harris County, City of Sugarland, Associated Builders and Contractors, American Institute of Architects, and Greater Houston Builders Association.

**ABSTRACT** : Many tilt-up buildings are being built in Texas for commercial use. The buildings are durable and cost effective. However, foundation and structural problems can occur if these buildings are not designed and constructed properly. The purpose of this presentation is to discuss the geotechnical concerns with design and construction of these building in Texas. Some of the design issues have to do with shallow piers, improper floor slab soil preparation and compaction. Many of the parking lots are subject to heavy traffic truck loading. The presentation will address the proper design for the pavement subject to heavy traffic loading.

**JANUARY 8, 2020**

**WORKSHOP**

4:00 PM (1.0 PDH)

Title : **Interlocking Concrete Pavers and Permeable Concrete Pavers**

Speaker : Mr. Dave Hasness, P.E. w/ Keystone Hardscapes

David Hasness, P.E., is a Region Engineer for Keystone Hardscapes (Pavestone). He provides technical product support for the Houston area as well as Central and South Texas. David has 30 years of experience in the construction product industry. (20 years in sales and 10 years in Operations). He also spent 7 years providing engineering design services in Houston. David is a Registered Professional Engineer in Texas and has an MBA.

**ABSTRACT** : A one-hour program entitled Design, Construction & Application of Permeable Pavers provides an overview of permeable pavements utilizing concrete pavers as the finished pavement course. Permeable concrete paver pavements as a Low Impact Development and best management practice provide both structural and hydraulic solutions to storm water quality and quantity mitigation requirements. Teach the basics of permeable paver design, construction, and maintenance. Discuss sustainable stormwater best management practices and available LEED credits. Discuss protection and preservation of water and other resources to help create favorable environments for communities, and buildings that are livable, sustainable, and contribute to site post-development conditions replicating those of the pre- development site condition. And discuss Life Cycle Cost Analysis tools.

## **FEBRUARY 12, 2020**

### **PRESENTATION**

4:00 PM (2.0 PDH)

Title : **Manufacturing and Supplying All Erosion Control and Geosynthetic Needs**

Speaker : [Cody Colvin, P.E.](#) w/ [Industrial Fabrics](#)

Cody Colvin, PE. is a licensed professional engineer from Louisiana Tech University. He began his career in Ag Engineering with the Natural Resources Conservation Service USDA and later became a Coastal Engineer. Mr. Colvin is now the Director of Engineering for Industrial Fabrics and Premier Concrete Products in Baton Rouge LA. Industrial Fabrics has offices in Baton Rouge, Houston, Corpus, Dallas, and Oklahoma.

**ABSTRACT** : The presentation will go into the use and application of a variety of different erosion control products from basic to fully engineered for specific project applications that apply from the top of the stream to the coast. Additionally, the presenter will discuss the when to use and not to use certain erosion products and their limitations. the presenter will discuss several test methods and design methods to be assessed and additionally the factors that geotechnical engineers need to discuss when designing projects. In addition, the presentation will cover the use and application of a variety of different geosynthetics in base reinforcement industry. Additionally, the presenter will discuss when to use and not to use certain geosynthetic products. These products are manufactured for each of their own use. The presenter will also go into different testing that has been completed and demonstrated for performance purposes and product comparisons.

## **MARCH 11, 2020**

### **PRESENTATION**

4:00 PM (2.0 PDH)

Title : **Stucco Basics: Achieving a Successful Stucco Application**

Speaker : [Rhondalyn Riley](#) w/ [Exterior Inspections](#)

Ms. Riley is experienced in the various facets of the construction industry working for builders, contractors, materials suppliers and manufacturers, insurance companies, and law firms as a licensed professional inspection and water intrusion consultant. Her qualifications include licensure as a Texas Professional Real Estate Inspection #6330 for 16-years and a 22-year record of successfully conducting exterior cladding inspection, water intrusion inspections, full building inspections, building consulting services, and construction defect litigation investigations and support services.

**ABSTRACT** : This presentation will discuss types of stucco systems being used in residential and commercial construction and the primary differences of those systems. Ms. Riley will identify basic components of a stucco system and installation methods necessary to achieve a code compliant traditional 3-coat Portland cement plaster (a.k.a. - stucco). Ms. Riley will discuss how or why water intrusion occurs behind stucco and ways to prevent water intrusion and resulting damage.

### **WHO SHOULD ATTEND**

Architects, builders, stucco contractors, inspectors, attorneys and others interested in proper application of stucco.

**MAY 20, 2020**

**PRESENTATION**

4:00 - 5:30 (1.5 PDH)

Title : **Case History and Design Review of a Lifted Slab on Grade Foundation**

Speaker : John M. Clark, P.E. w/ *John Milton Clark Engineers*

John M. Clark, PE is the principal and owner of John Milton Clark Engineers Inc., and is a licensed professional engineer in Texas, New York, and Arizona. Mr. Clark holds a Master of Science in civil engineering from Oklahoma State University in 1976, with emphasis in advanced structural engineering and design, and foundations engineering; and a Bachelor of Science degree in physics from Central State University in Edmond OK in 1972, with minors in mechanical engineering and mathematics. John is also an FPA member of long standing, former board member and past president (2009).

Mr. Clark is a past FPA President and currently sits on the FPA Structural Committee where he co-chairs the FPA-SC-22 Subcommittee on elevating slab on ground foundations multiple feet for flooding or other reasons.

Mr. Clark worked three years in the pre-stressed concrete manufacturing industry as a quality control inspector and engineer. He next spent about one year with an A & E firm in Oklahoma City working on foundation designs and interstate highway bridge design, and about three years in the petrochemical design field at Bechtel in Houston working as a structural design engineer. He spent 12 years with Owens Corning Fiberglas' Non-corrosive Products Division in its Product Development Group in Conroe, TX, working in the areas of fiberglass tanks and buried FRP tanks and pipe.

**ABSTRACT** : This presentation will include the case study of a lifted slab on grade foundation. Testing was performed on an existing lifted slab on grade to determine conditions. An in depth analysis of the foundation was performed and the results compared to repaired state.

This case study will compare the as built repair to the required improvements. The presentation will include a review of ASCE and ACI code requirements for loads and design plus analytical methods employed. The presentation will compare methods of analysis, how to obtain accurate analysis, and a final design that provides ductile behavior with redundancy. The presented methods will demonstrate how to investigate and design a safe elevated foundation that meets code requirements.

Design review includes loads to piers, analysis of slabs with low reinforcing, and how to maintain compliance with design codes.

A brief discussion is provided for slabs without reinforcing.

**PAST PRESENTATION SUMMARIES**

To read summaries of previous FPA presentations by John M. Clark, please visit:

**November 9, 2019** - Bulkhead Failures - Inspections, Repair and Analysis

**June 10, 2015** - Seismic Design of Flexible Buried Structures - Applied to tanks, Pipe Lines and Rigid Rectangular Culverts

**August 13, 2013** - The PTI Ver. 3 Design Method for MATHCAD 15

**May 8, 2013** - How to use Mathcad to do contour and surface plots for foundations

**November 9, 2005**- Homebuyers Guide for Foundation Evaluation

**February 20, 2002**- Design of Buried Structures and Some Similarities to Residential Foundation Design

**JUNE 10, 2020**

**PRESENTATION**

5:00 PM (1.0 PDH)

Title : **TxDOT - Ongoing Repairs to the I-10 Bridge over San Jacinto River Damage during Tropical Storm Imelda**

Speakers : [Roger Lopez](#) w/ [TxDOT](#), and [Maria Aponte](#) w/ [TxDOT](#)

Roger Lopez, P.E. holds a master degree in civil engineering from the University of Texas in San Antonio, a bachelors degree from the University of Houston downtown and attended La Molina University in Lima, Peru. Mr. Lopez started his career at TxDOT in 2001 as engineer assistant for the Beaumont district office. After two outstanding years working in construction projects, Roger joined the roadway design group at the Bexar Metro area office in San Antonio. His previous experience in the construction department, allowed him to succeed with the roadway engineering group where would later move him to his next challenge at the bridge structures section at the San Antonio office and Houston districts. During 18 years working for the department, Mr. Lopez acquired a broad range of experience in highway construction, roadway design, bridge structure design, hydraulic design, geotech and bridge maintenance related projects. He became design lead engineer at the Houston bridge section. He worked on the IH10/SH99 interchange project, US 290 project, US69/IH610 interchange project, IH45 reconstruction projects and the IH610/SH288 main lanes and interchange reconstruction project. As a strong key player and respected professional, he was part of the district emergency response team, performing bridge assessment and emergency repair projects around the district. Currently Mr. Lopez is a member of the Strategic Projects office that is working on the North Houston Highway Improvement Project (NHHIP) and lives in Houston.

María Pilar Aponte, P.E. graduated in 2004 from the University of Puerto Rico at Mayaguez with a bachelor of science degree in civil engineering. She joined TxDOT in 2006 after graduating from Texas A & M University in College Station with a master of engineering degree in geotechnical engineering. Ms. Aponte started her career with TxDOT at the Houston District Lab, and later became a licensed professional engineer in 2009. In 2010, she transferred to the Southeast Harris Area Office providing support to construction and maintenance activities. Since 2013 and up to this date, María serves as the Southeast Harris Assistant Area Engineer. Ms. Aponte lives in Houston.

**ABSTRACT** : The night of September 19, 2019, after Tropical Storm Imelda deluged Houston, causing major flooding, several loose barges struck and damaged the IH 10 WB bridge at San Jacinto River. The eastbound and westbound bridges were immediately shut down as TxDOT swiftly assessed the damage. During this time, motorists traveling this major corridor were forced to take a 15-mile detour each way. In less than a week after the bridge strike, TxDOT placed two lanes of two-way traffic on the IH 10 EB bridge. On mid-October, an emergency contract was let to repair de damage at multiple locations on the I-10 westbound bridge. The work consisted on the replacement of several columns and repairs to the cap on Bent 26 and reconstruction of one column and cap repair on Bent 28. Thanks to an ingenious team of designers, a dedicated group of inspectors, and in great partnership with the contractor the IH 10 WB bridge over San Jacinto River was re-opened on January 19, 2020, only four (4) months after Imelda struck.

**JUNE 10, 2020**

**WORKSHOP**

4:00 PM (1.0 PDH)

Title : **Alternative Foundation Repair Techniques**

Speaker : [Jim Dutton](#) w/ [Du-West Foundation Repair](#)

Jim Dutton is Vice President of Du-West Services, Inc. Mr. Dutton has over 42 years experience in the construction industry, of which the last 37 years have been endeared to foundation repair, plumbing and HVAC in the State of Texas. He is a past FPA Board Member and past FPA Structural Committee member where he has co-authored some of its peer-reviewed publications. He has served many years as president of the Foundation Repair Association, both in several Texas chapters and at the national level. Since 2004, Mr. Dutton has been a syndicated host of Texas Home Improvement heard on several radio stations throughout the State of Texas.

**ABSTRACT** : Mr. Dutton will be discussing "Alternative Foundation Repair Techniques". Are you stuck on one repair system? There are many different ways to support and/or repair structures and in some cases you can mix and match to get the job done. Join Jim Dutton to learn about the different systems, when to use them and when not to. Over 42 years in the

construction industry, of which the last 37 years have been endeared to foundation repair, plumbing and HVAC in the State of Texas.

## **JULY 8, 2020**

### **WORKSHOP**

4:00 PM (1.0 PDH)

Title : **Protecting the First Side of the Building**

Speaker : [Ethan Smith](#) w/ [Stego Industries](#)

Ethan Smith is the Gulf Coast Representative for Stego Industries. Mr. Smith conducts seminars for architects & structural engineers with a focus on the latest standards and recommendations from The American Concrete Institute and ASTM International. Mr. Smith also frequently leads pre-construction meetings and site reviews to support ongoing projects in the Houston, Baton Rouge, and New Orleans area(s) to aide in the installation and inspection of Stego products.

**ABSTRACT** : This webinar provides an in-depth look at below-slab moisture, soil gases, brownfields & contaminated sites, and subterranean termites and how to effectively mitigate these concerns with barrier solutions on various project sites and differing foundation designs. The program will examine building material failures, property loss, negative health effects, and the liability associated with the intrusion and infestation of these concerns, along with the environmental factors that are impacted by each of the issues compared to that of the sustainable solutions selected to mitigate them. Moreover, the program is designed to update attendees on the current standards and recommendations from ASTM, ACI, EPA, and other organizations associated with each concern, as well as experts' perspectives from each respective field.

## **JULY 8, 2020**

### **PRESENTATION**

5:00 PM (1.0 PDH)

Title : **Stabilizing Expansive Clay with Earthlok**

Speaker : [Coleton Eaves](#) w/ [Earthlok Soil Stabilizer](#)

I studied at James Madison University in Harrisonburg VA. I moved to Texas and started working for AboveAll roofing company as a project manager for 2 years then moved on to Earthlok in 2016. My resume is not very extensive considering my age, I have been with this company for the last 4 years and hope to retire here. I love the outdoors, good food, and fine wine. I have always had a bit of an obsession with soil, I just never knew that It would be part of my Career! Since I have been at Earthlok, I have gotten our product accepted, and specified by the USACE, expanded our market to the Northeastern region of the United States, and personally overseen the successful stabilization of over 2,000,000 Square feet worth of building foundations. I plan on going back to school to study further about soil Mechanics and Building Science. I have learned more from the monthly FPA meetings in the last 4 years, then most of my schooling combined.

**ABSTRACT** : In this presentation we will be discussing the importance of reducing the swelling capabilities of expansive clay soils (CH) across the state of Texas (Dallas, Austin, San Antonio, Houston), as well as other regions of the country. Earthlok serves residential, commercial, and industrial clients for new and existing structures that are located in expansive clay areas. We will go into a complete description of the products capabilities and limitations, as well as some brief chemistry of how the Earthlok Process actually works in the ground. We will show a few case studies, as well as go through and share some of the projects that we have done specifically in the Houston Area. There are plenty of descriptive pictures throughout the presentation detailing the means, and methods of installation of Earthlok, and questions are highly encouraged!

## AUGUST 12, 2020

### WORKSHOP

4:00 PM (1.0 PDH)

Title : **Engineering Ethics Webinar**

Speaker : [Mr. Michael Sims, P.E.](#) w/ [Texas Board of Professional Engineers](#)

Michael Sims currently serves as the Director of Compliance and Enforcement with the Texas Board of Professional Engineers and Land Surveyors. He has been with the Board since June 2018. Michael previously was the Special Projects Manager and Manager of Environmental Permits within the Oil & Gas Division of the Railroad Commission of Texas and worked in Air Permits at the Texas Commission on Environmental Quality. He holds a B.S. in chemical engineering from the University of Texas at Austin and has been a licensed professional engineer since 2010.

**ABSTRACT** : Mr. Michael Sims, P.E., Director of Compliance and Enforcement with Texas Board of Professional Engineers will be discussing "Ethics". His presentation will cover History, Texas Engineering Practice Act and Board Rules; Scenarios; Update on Legislation and Board Rules.

## AUGUST 12, 2020

### PRESENTATION

5:00 PM (1.0 PDH)

Title : **Titan Micropiles**

Speaker : [Mr. Marc Mastrantuono, P.E.](#) w/ [Ischebeck Titan](#)

Marc Mastrantuono, P.E. is the Geotechnical Division Manager for Ischebeck USA Inc. The manufacturer and supplier of the USA Domestic Titan hollow bar anchor system. He received his B.S. in Civil Engineering and a B.S. in Architectural Engineering from the Missouri University of Science and Technology. He has close to 10 years of experience with specialty deep foundation systems. His career began in deep foundation design, and on-site support all over the United States. He is now leading the geotechnical division at Ischebeck USA. Marc is an instructor at the TEI Rock Drills hollow bar school as well as an active member in several deep foundation organizations to help advance the industry.

**ABSTRACT** : Titan hollow bar micropiles and anchors continue to grow in popularity in the industry as a value engineered solution when compared to traditional micropiles or anchors. Hollow bar anchors allow for a shortened construction schedule and increased cost savings due to the installation speed, less equipment needed on site, and less labor required. These anchors have the ability to meet tremendous loading requirements even in the most difficult project areas. We will look at the hollow bar anchor from design, all the way to the installation and everything in between!

## SEPTEMBER 9, 2020

### PRESENTATION

5:00 PM (1.0 PDH)

Title : **Sustainable Highway Slope Stabilization Using Recycled Plastic Pin (RPP)**

Speaker : [Dr. Sahadat Hossain, P.E.](#) w/ [University of Texas at Arlington](#)

Dr. Sahadat Hossain is a Professor of Civil Engineering Department at the University of Texas at Arlington. Since 2015, Dr. Hossain is the founding director of Organized Research Center of Excellence (ORCE) Solid Waste Institute for Sustainability (SWIS). The mission of SWIS is to work on developing clean and healthy urban cities through sustainable waste management. Dr. Hossain has more than 20 (twenty) years of professional and research experience in geotechnical and geo-environmental engineering. He had worked on more than 150 (One Hundred and Fifty) geotechnical design and construction projects in Bangladesh, Singapore, Hong Kong, Malaysia, Thailand and USA. Dr. Hossain is extensively working on reusing recycling materials for other engineering applications, as part of his commitment towards circular economy. One of his major

projects was with Texas Department of Transportation on using Recycled Plastic Pins (RPP) for slope stabilization in Texas, a very cost effective, sustainable and green solutions and was adopted by TxDOT. Dr. Hossain was interviewed by local TV (ABC News, CBS News, Fox News) and national newspaper Atlantic Cities on the utilization recycled plastic pins for slope stabilization. Right now, Dr Hossain is working on Plastic Road, reusing recycled plastics for asphalt pavement road. Dr. Hossain was interviewed by NPR (National Public Radio) few times different topics including sustainable waste management and recycling. Dr. Hossain presented on Garbage: Asset or Liability as a TED Talk speaker in April 2016. Dr. Hossain was invited as a keynote speakers, panelist or technical experts in many countries, including Ethiopia, Tanzania, Nigeria, Kenya, Brazil, Colombia, Austria, Finland, Belgium, Serbia, India, Bangladesh, and Thailand. Dr. Hossain has completed his B.S. degree (1994) in Civil Engineering from the Indian Institute of Technology (IIT), Bombay, India, Master of Engineering (1997) in Geotechnical Engineering from Asian Institute of Technology (AIT), Bangkok, Thailand, and Ph.D. (2002) from North Carolina State University (NCSU) at Raleigh, NC, USA.

**ABSTRACT** : Shallow slope failures are common for highway embankments in the north Texas region and pose significant maintenance problems for the Texas Department of Transportation (TxDOT). As a cost-effective alternative, recycled plastic pins (RPPs) has been utilized to repair failed slopes for TxDOT. Recycled Plastic Pin (RPP) is lightweight material made from recycled plastics and waste materials (i.e., polymer, sawdust, fly ash etc.) and is less susceptible to chemical and biological degradation. The presentation will focus on the performance evaluations of highway slopes repaired with RPP in North Texas mainly for TxDOTs Dallas and Fort Worth Districts.

### **WORKSHOP**

4:00 PM (1.0 PDH)

Title : **Non-Destructive Evaluation of Concrete Dams**

Speaker : Mr. Larry D. Olson, PE w/ Olson Engineering, Inc.

Larry D. Olson, P.E., is nationally and internationally known for his expertise in nondestructive evaluation (NDE) and performance monitoring of civil infrastructure including dams, bridges, buildings, foundations, pavements, tunnels, etc. He is a member or past member of several committees including: USSDs Dam Monitoring Committee, ASCEs Geophysics Committee, Transportation Research Board (TRB) Committee AFF60 Tunnels, AFF40 on Field Testing and Nondestructive Evaluation of Transportation Structures and its Nondestructive Evaluation (NDE) subcommittee as well as the Earth Exploration Committee AFP20 and its Geophysical subcommittee. He has been an instructor in the American Society of Civil Engineers seminar on Structural Condition Assessment of Existing Structure since 1997 and in 2009 developed a new ASCE seminar Bridge Condition Assessment and Performance Monitoring. He was the primary instructor in an Engineering Education of Australia seminar series on Nondestructive Evaluation of Concrete, Asphalt and Wood in Sydney and Melbourne in 2010 and for the two ASCE seminars in Brisbane and Sydney in 2014 and again in 2015 and 2017. He is a member of the American Concrete Institute and served as President of the National Capital Chapter of ACI in 2015 as well as being active in Committees 228 Nondestructive Testing, 309 Consolidation and 342 Bridge Evaluation and a technical affiliate of the Association of Drilled Shaft Contractors. Mr. Olson is past Chairman of the Evaluation Committee of the International Concrete Repair Institute (2002-2009) as well as a fellow of ICRI and a past ICRI board member. He is a member of the American Council of Engineering Companies International and Transportation Committees as well as ASCEs Geophysics Committee. He is a long-time member of IADSC and was involved in the FHWA/IADSC sponsored integrity testing of drilled shafts for QA purposes at the CA, TX and MA sites in the late 1980s to early 1990s. He has 40 years of consulting experience in structural condition assessment and monitoring, materials, pavement, geotechnical, geophysical, and vibration engineering. He holds BS Civil and MS (Geotechnical) Engineering degrees from the Civil Architectural and Environmental Engineering Department of the University of Texas at Austin which honored him as a distinguished alumnus in 2006. Olson Engineering has its main office in Wheat Ridge CO (metro Denver) with a branch office in Rockville MD (metro Washington, DC). Mr. Olson founded Olson Instruments, Inc. in 1993 to manufacture NDE and seismic geophysical instruments.

**ABSTRACT** : The Webinar will be presented by Larry D. Olson, PE, Chief Engineer at Olson Engineering with offices in Wheat Ridge, Colorado and Rockville, Maryland. Mr. Olson is the president and owner of Olson Engineering, Inc. and Olson Instruments, Inc. and has 40 years of consulting experience in structural condition assessment, geotechnical, pavement, materials, geophysical and vibration engineering.

OCTOBER 14, 2020



**PRESENTATION**

5:00 PM (1.0 PDH)

Title : **Retaining Wall Failures and How to Avoid Them**

Speaker : [Jim Dutton](#) w/ [Du-West Foundation Repair](#)

Jim Dutton is Vice President of Du-West Services, Inc. Mr. Dutton has over 42 years experience in the construction industry, of which the last 37 years have been endeared to foundation repair, plumbing and HVAC in the State of Texas. He is a past FPA Board Member and past FPA Structural Committee member where he has co-authored some of its peer-reviewed publications. He has served many years as president of the Foundation Repair Association, both in several Texas chapters and at the national level. Since 2004, Mr. Dutton has been a syndicated host of Texas Home Improvement heard on several radio stations throughout the State of Texas.

**ABSTRACT** : Retaining walls are structures designed to hold back soil. We see retaining walls everywhere, even in Houston where the topography is fairly flat. But why do we see retaining walls that have failed and what can we do to keep from having these failures? Mr. Dutton will share his company's experience in repairing failed retaining walls, showing why they commonly fail, how to repair them and what can be done to avoid future failures. Several failure repair case histories will also be presented.

**WHO SHOULD ATTEND**

Geotechnical engineers, structural engineers, highway engineers, retaining wall designers and contractors, construction and repair contractors, attorneys, and others interested in the repair of failed retaining walls.



**NOVEMBER 11, 2020**



**WORKSHOP**

4:00 PM (1.0 PDH)

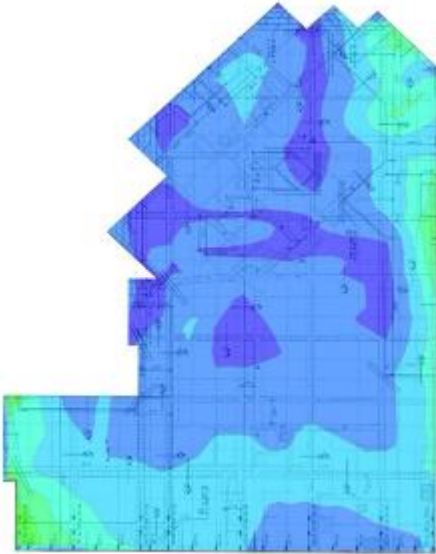
Title : **Below -Grade Parking Garages: Sheet Pile Foundations**

Speaker : Mr. Mark Salvatore, P.E. w/ Nucor Skyline

Mark is business development manager for Nucor Skyline in their suburban Chicago office in Woodridge, where he covers engineering offices and projects throughout the Midwest. He holds a B.S. in civil engineering from the University of Illinois at Urbana-Champaign and is a registered professional engineer. He has 20 years of experience in business development, sales, estimating and construction. He is a member of Deep Foundations Institute (DFI), ASCE and Pile Driving Contractors Association (PDCA).

**ABSTRACT** : A premier earth retention and steel foundation supplier and manufacturer serving the U.S., Canada, Mexico, the Caribbean, Central America, and Colombia markets, Skyline Steel, LLC is a wholly-owned subsidiary of Nucor Corporation, the largest producer of steel in North America (NYSE NUE). We have over 20 sales offices in North America, manufacturing, coating and fabrication expertise, dozens of stocking locations, exclusive engineering support and the most comprehensive geotechnical product offering from a single company. Nucor Skyline's knowledgeable engineering and business development team works with owners, engineers, and contractors long before projects are advertised. This presentation will give an overview of Nucor Skyline's product offerings and innovative use of below grade parking garages and basements with permanent steel sheet piling. Nucor Skyline brought this innovative approach to North America and has supplied sheet piling for 65+ projects. The methodology saves significant time and money by using the sheet pile as a permanent vertical load bearing member of the building foundation and presentation will dive into the details with completed case studies.

**NOVEMBER 11, 2020**



**PRESENTATION**

5:00 PM (1.0 PDH)

Title : **The Benefits of Real Time Data on Foundation Monitoring as Per FPA-SC-12-0**

Speaker : [Mr. Adrian Vuyk](#) w/ [Stead Fast Foundations](#)

Mr. Adrian Vuyk (pronounced voik) is the President of Steadfast Foundation Technologies, LLC based in Houston and founded in 2016. He holds 28 US patents and has published and presented globally on engineering, new technology, data analytics and artificial intelligence over his 27-year career. In 2020, he won Houston Business Journals Innovation Award. He holds a Bachelor of Science in Mechanical Engineering from the University of Houston and an MBA from Texas A&M and is a former licensed Professional Engineer in the state of Texas. He and his wife have lived in Houston for 30 years where they have raised 5 children in homes built on a variety of soil conditions.

**ABSTRACT** : In 2005, FPA released FPA-SC-12-0 (GUIDELINES FOR EVALUATING FOUNDATION PERFORMANCE BY MONITORING) proposes initial foundation surveys for every residence to establish baseline foundation elevations and capturing 5 to 8 plot points for a typical residence to monitor foundation movement. This presentation will share how the measurement technology has evolved since 2005 allowing hundreds of plot points and even hundreds of thousands of plot points to be gathered per year per foundation. The presentation will also include recommended changes to FPA-SC-12-0 to allow the community to benefit from the advancement of this technology.

DECEMBER 9, 2020

# Capabilities

Carlos Garza  
Sports Park,  
Hurricane Harvey



Hurricane Ike;  
underwater for  
40 hours;  
cleaned with  
soap and water



Seven Springs Elem. Sch.  
Hurricanes Ike & Harvey

Structural Brick can withstand high winds and windblown debris

## PRESENTATION

5:00 pm (1.0 PDH)

Title : **Resiliency of Reinforced Hollow Structural Clay Unit Masonry Construction**

Speaker : [Mr. Steven Judd, SE](#) w/ [Interstate Brick/H.C. Muddox](#)

Mr. Judd graduated from the University of Colorado - Boulder, with a BSCE and immediately started practicing structural engineering at KKBNA, a consulting civil and structural engineering firm in Denver. Through one acquisition and three changes of venue over 35+ years, with a heavy emphasis on design and construction of building cladding, Mr. Judd is presently the Technical Director for Interstate Brick and HC Muddox, premier brick manufacturers, part of the Clay Group of Pacific Coast Building Products. Steven is a licensed Structural Engineer in Utah, and a licensed Civil and Structural Engineer in California. He participates on committees with American Society for Testing and Materials (ASTM), The Masonry Society (TMS), Western States Clay Products Association (WSCPA) -Technical Chairperson, and audits activities of the Masonry Alliance for Codes and Standards (MACS), National Storm Shelter Association (NSSA) Design Practices Committee, and Western States Structural Masonry Coalition (WS2MC). Steven has been involved with structural clay masonry design for over 30 years and holds 2 patents for light-gauge cold-formed steel framing system hardware used to accommodate bi-directional story drift for exterior wall framing at building corners.

**ABSTRACT** : Resiliency is generally thought of in terms of a human characteristic the ability to recover or bounce back from a destabilizing event or events. Destabilizing events come in all shapes and forms, including, natural disasters, human caused disasters, and personal tragedies. Some events can be planned for and some cannot. Personal resiliency and, by inference, community resiliency can be enhanced by the built environment, by having durable and robust infrastructure. Life in the pre-event world can return quicker to normalcy, or a new normalcy, after a destabilizing event like earthquakes, hurricanes, tornadoes, wildfires, floods, tidal surges, tsunamis, active shooters, and, explosions, to name a few, if the built environment remains intact and useable. Constructing durable and robust structures is one area that can positively augment personal and community resilience. Structural brick is one of those materials that, by its nature, can be used to build durable

and robust structures, proven through controlled testing and surviving actual destabilizing events. This presentation will inform the participant of the physical properties of structural brick, will show testing performed to establish the durability of structural brick and uses on structural brick.

**DECEMBER 9, 2020**



### **WORKSHOP**

4:00 PM (1.0 PDH)

Title : **Geoforensic Study of Voss Road**

Speaker : [Dr. Harry Nguyen, M.ASCE](#) w/ [Geotech Engineering and Testing](#)

Dr. Nguyen is a project manager at Geotech Engineering and Testing (GET) with the responsibility for the daily operations of geoforensic, materials and geotechnical engineering services. He has several years of experience in fields of geoforensic, geotechnical, environmental, and materials engineering. He has been involved in geoforensic studies as they relate to commercial structures, residential, slope failures, pavements, retaining walls, sewer leaks, plumbing leaks, etc. His other experience includes research and development in the field of soils, rock materials testing for slopes, retaining walls, pavements, low to high rise buildings, slope protection remedial works, deep foundations, flood control channels, community centers, office buildings, and subdivisions. He has also conducted studies in slope stability, retaining walls, groundwater and contamination modeling. His other experience includes research and development in the field of unsaturated soil mechanics (expansive soils). Dr. Nguyen is also actively involved in environmental site assessment projects, including Phase I and Phase II Environmental Site Assessment Studies.

**ABSTRACT** : The existing concrete pavement at Voss Road within the City of Houston has experienced distress. Voss Road is a four-lane boulevard. The west two lanes, located on the slope at the Buffalo Bayou Tributary, have experienced distress. The distressed pavement area is about 400± feet long. The existing slope at the Buffalo Bayou Tributary area is about 1(h):1(v). The Buffalo Bayou Tributary is about 25-ft deep. A Geoforensic Study of the project was conducted to evaluate the causation for distress. The study consisted of site visits, two 75-ft depth soil borings, Ground Penetrating Radar survey, coring, laboratory testing, and engineering analysis. The engineering analysis indicated that the causes of the pavement distress could be attributed to (a) the differential consolidation settlements of soil under embankment loading, (b) soil desiccation by the trees, and (c) surface erosion of subgrade soils and slope by infiltration via the unsealed cracks on pavement and sidewalk area.