

# STRUCTURĂL ENGINEER

# Using GeoPier as Intermediate-Depth Foundation olution for Ground Improvement.

Geopier rammed aggregate pier elements (RAP) are a cost effective, highly efficient system for ground improvements for good to poor soil conditions, including soft to stiff clay, silt, loose to dense sand, organic silt, and variable, uncontrolled/undocumented fill soils. Traditionally, when soils capacities are insufficient for direct bearing of foundations, engineer's choices were limited to remove and replace/stabilize soils or install deep foundation elements.

Geopier RAP's give engineers another choice. Design and install engineered RAP elements which improve the soil matrix condition around the elements with the benefits of controlling settlement; increasing factors of safety with respect to stability; and increasing factors of safety with respect to bearing capacity. Furthermore, the elements are easy to install using track mounted mobile equipment allowing for high productivity (up to 40 to 60 piers per day) even in poor site conditions - keeping installation costs down.

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#### WHEN:

May 21 2015 6:00 pm Social 6:30 pm Dinner 7:00 pm Program

#### WHERE:

**HESS Engineering** and Scientific Society 5430 Westheimer Houston, TX 77056 713.627.2283

#### **MEETING INFO**

COST:

Members: \$25.00 Non-members: \$35.00 Student members & Non dinner guests

\$10.00

# RSVP:

Click Here to register online. The deadline is 12:00pm, the Tuesday before

#### **UPCOMING MEETINGS**

June 18, 2015 **TBD** 

September 17, 2015 **TBD** 

ICK HERE TO REGISTER FOR THIS MEETING

#### Mr. R. Mark Brocato



With 30 years of experience in the construction industry, Mr. R. Mark Brocato, is currently the general manager for Cardno PPI Engineering & Construction Services, LLC (Cardno PPI). Mr. Brocato has a very wide range of construction experience. He has designed and built residential structures and developed both single family and multifamily residential complexes. In commercial construction, his work includes the construction of school buildings, office buildings, commercial development, and complete commercial design-build facilities.

At Cardno PPI, Mr. Brocato offers full-service deep foundations and ground improvement solutions for industrial applications. With a complete selection of deep foundations available, ACIP piles, driven piles (PCPS concrete piles, H-piles, pipe piles, timber piles), sheet piles/cofferdams, and drilled shaft piers (straight shaft or bell bottom), projects are analyzed for "best fit" solutions to clients' needs (i.e. budget, schedule, design considerations, etc.). applications (plants, refineries, tanks, pipe racks, etc). Mr. Brocato holds a BBA degree from Letourneau University.

As the sole licensed installer in Texas and Louisiana for industrial applications for Geopier rammed aggregate piers, this unique ground improvement element offers an intermediate foundation solution with high cost and time savings potential. All services are offered as part of a full-service suite to meet client needs, from early design and budget analysis, to complete EPC work (which includes self-performing the work with in-house crews and equipment) for new industrial work and retrofit/renovation work in industrial applications (plants, refineries, tanks, pipe racks, etc). Mr. Brocato holds a BBA degree from Letourneau University.

Mr. Umesh Bachu, P.E.

Mr. Umesh Bachu, P.E. has more than fifteen years of professional experience in providing geotechnical engineering, insitu testing, ground improvement, and construction material testing services. Mr. Bachu holds a MS degree in Civil Engineering from Texas A&M University and MBA degree from Georgetown University.

Mr. Bachu has analyzed and provided geotechnical recommendations for variety of project types including oil and gas storage tanks, unit expansions, piperacks, docks, retaining walls, engineered slopes, embankments, commercial buildings, and high rises. He has supervised/conducted construction field monitoring including site grading, field density testing, piezometer installations, spread footings, mat foundations, wall drains, drilled footing inspections, concrete testing, augered cast-in-place pile installation, pile driving, and excavation dewatering and shoring. His management experience includes leading a branch office to establishing and growing a CPT testing and Direct Sensing firm.



In his current role as Region Engineer for Geopier Foundations, Mr. Bachu brings cost-effective intermediate foundation solution to project teams to support settlement sensitive structures while providing increased allowable bearing pressure for design of foundations. Geopier ground improvement solutions have been used to reinforce good to poor soils, including soft to stiff clay, silt, loose to dense sand, organic silt and variable, uncontrolled/undocumented fill soils. Where feasible, it is an effective replacement for massive over-excavation and replacement for deep foundations, including driven piles, drilled shafts, and augered cast-in-place piles.

#### President's Corner

#### Al Bustamante, PE

"Not enough hours in the day". This is a common expression for us structural engineers. Consummate professionalism is in the DNA of most structural engineers. For this reason, we find ourselves extremely busy with the different aspects of our career, hopefully with project (billable) related work primarily. I have noticed a significant work load increase in local structural engineering work, since the fourth quarter of 2014. The drop in oil prices has not negatively impacted the workload of local structural engineers (in general); at least not yet. In times when we are super busy, it is understandable that our involvement in professional organizations takes a back seat to project

Attendance to our chapter monthly meetings has dropped in the last few months. I understand that attendance to our meetings is extremely important, but we should not be discouraged by this recent trend. Our chapter is not the only one that is experiencing recent low attendance. This phenomenon is occurring in the local chapters of other professional organizations. Instead of looking at the low attendance as a problem, I encourage you to look at the current trend as an opportunity to re-build our attendance. Ask yourself – what can I do to help? You will find that the answer is very simple and does not require much of your time. Simply spread the word about our chapter to your colleagues.



I want to extend an invitation to our members that are planning on attending our May 21 meeting to bring a guest. Our local chapter will take care of the registration fee and dinner for you and your guest for the first five members that bring a guest (the guest has to be a structural engineer – EIT or PE). To qualify, e-mail your name, the name of your guest, and the name of company your guest works for to al.bustamante@ walkerrestoration.com. This is great opportunity to expose the chapter to new folks that could potentially become active members in the future.

We are also having a young engineer's social gathering event this year sponsored by our chapter. Details on this event will be presented at the May 21, 2015 meeting, so don't miss it!

If you have any input or have any questions about our chapter, please don't hesitate contacting me at al.bustamante@walkerrestoration.com

Al Bustamante, PE <u>al.bustamante@walkerrestoration.com</u>

### Secretary's Corner

#### Rick Miles, PE

Rain, rain and more rain is on the mind as we push through May. Be sure to be extra careful when entering waterlogged construction sites, and keep an extra pair of shoes handy. Weather delays present serious challenges to our industry so we must be extra vigilant in our roles as our projects play catch-up. Hopefully we'll see another mild hurricane season.

On June 1st the 84th Texas Legislature will wrap up. According to the state website, as of May 15th HB 3469 relating to the certification of structural engineers is with the Licensing and Administrative Procedures Committee but as I understand things it is not expected to make it out. I am unaware of any other bills of note to our practice but hopefully we'll get an update at the May meeting.

Our April 16th meeting featured Michael Turner and Rob Gates from VoidForm products with a formative (sorry, couldn't resist) presentation on the use of void forms for isolating foundations from expansive soils. With the omnipresent highly-active soils in the Houston area and throughout much of Texas, systems such as these should be in every structural engineer's toolbox. Don't forget to coordinate with the geotechnical engineer! Contact Rob with product questions at <a href="mailto:rob.g@voidform.com">rob.g@voidform.com</a> or visit <a href="www.voidform.com">www.voidform.com</a> for more information – and one more thanks to VoidForm for sponsoring our February 2015 meeting.





## Secretary's Corner (Continued) Rick Miles, PE

I am planning on sending out outlook calendar invites via-email for the remaining meetings in 2015 within the next week or two. The invites will serve as placeholders for time and date, and should have a reminder as well as a registration link. Please keep an eye out for these, and if you are not getting the newsletters or other emails please log on to www.seaot.org to verify that your contact information is up to date and correct.



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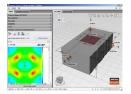








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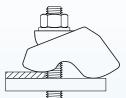
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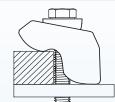
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#### Secretary's Corner (Continued)

#### Rick Miles, PE

The State Conference draws nearer and the planning should be nearly wrapped up. Expect an update from Steve Wilkerson at the May meeting, and keep an eye out for volunteer opportunities if you can.

We're still looking for newsletter content from our members. Do you have a technical article you'd like to share? Please pass on your information to me, and we will work with the publisher to include it with a future newsletter.

Thanks as always for your participation and see you at the May meeting!

**Rick Miles** 

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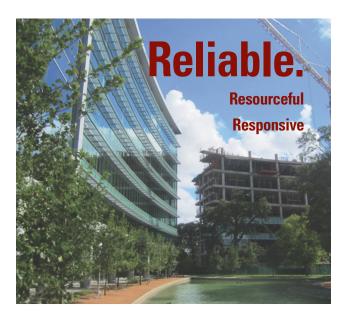
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