

The Engineered

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ADVANTAGE

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Dear Friends,

The devastation of Hurricane Katrina underscores the importance of planning and preparation, timely response and knowing those you can count on in times of need. Although all of us in the construction industry exercise our education, experience and due diligence, we cannot always predict the "worst case scenario" for buildings – both residential and commercial – in a natural disaster.

You plan for the worst and hope for the best. When that is not enough, it is important to be able to count on others.

In our main article this issue, you will read how our company vice president, foreman and crew worked on short notice and overtime in bad weather to shore up a condominium complex threatened by a recent hurricane. At Atlas Piers of Atlanta, our mindset is that your concerns are adopted as if they are our own personal challenges. We purposefully plan to be the subcontractor you know you can count on when a literal or figurative storm threatens.

Looking at the aftermath of the Hurricane on the Gulf Coast and other recent media headlines, you would think there was not anything to count on, but I personally know better. We at Atlas Piers continue to move forward in faith and have seen so many positive results as people draw together to help others. We applaud all Americans and people from many other nations who have come forward to help the evacuees and victims of Hurricane Katrina. For more ways to help our neighbors on the Gulf Coast, and to remind us of those with special needs for the upcoming holiday season in our hometown, we have included information on local disaster relief and human services charities in the Accolades section.

Speaking of the value of cooperation, I was privileged to be a part of a multi-national group this summer as I visited Israel to lead an archeological dig at the site of the Garden Tomb. We had a common goal and our work together was inspiring and fruitful. You can read about our archeological finds believed to be from 100 B.C. to 100 A.D. in this issue. And if you like history, you're really in luck, because there's an additional feature about the history of piles for foundation support (the precursor to modern piers.)

As this year becomes a part of our past, we sincerely thank you for your patronage and extend our best holiday wishes. We hope you will find time to schedule a "lunch & learn" with us before the end of the year. We enjoy coming to your place of business and bringing you a complimentary lunch. Best of all, we have an opportunity to meet you in person, and our presentation offers continuing education credit for engineers and architects.

Please know that we value our relationship with you and are praying that you have a blessed holiday season with your family and friends. We also wish you a healthy and prosperous New Year.

Wayne Farris

Wayne Farris
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Wayne floating in the Dead Sea in Israel



Host A Holiday “Lunch & Learn”

Enjoy Complimentary Lunch From Atlas Piers of Atlanta and Continuing Education Credit



As the weather becomes cooler and the holiday shopping traffic grows more intense at noon, it is a great time to stay indoors at lunchtime. Why not contact Atlas Piers of Atlanta to host a “lunch & learn?”

We are pleased to come to your office and provide a delicious, complimentary lunch and an interesting presentation on foundation support. Best of all, for architects and engineers, our presentation qualifies for continuing education credit.

Join the list of Atlanta’s top architects, engineers and contractors who have acted as hosts for an Atlas Piers of Atlanta “lunch & learn” this year. **Simply call us at 770.740.0400 or e-mail your request to kelly@atlaspiers.com today.**

Special thanks to the following companies who have hosted an Atlas Piers “lunch & learn.” (New host companies since the last issue of The Atlas Advantage are listed in orange.)

AEC

AMEC-Kamtech, Inc.

Arcadis

Armentrout Roebuck Matheny
Consulting Group

ASD, Inc.

ATC Associates

ATS

AIM Partners PLC

Alex Roush Architects, Inc.

Alhberg Engineering, Inc.

B & E Jackson & Associates

Barker Cunningham Barrington, PC

Barry Levin & Associates

Bellamy Brothers, Inc.

Benjamin Hirsch & Assoc.

Bennett & Pless, Inc.

Boyken International

Brittingham & Associates

Brock Green Architects

Brockway & Assoc.

Browder & Leguizamon &
Associates

CGLS Architects

Camp Dresser McKee

Carlson & Mosley Architects LLC

Clark Patterson Associates

Corcoran Nelson Nardone &
Associates

Cross Engineering, Inc.

Cuh2A

DMD Engineering & Testing

Dean Oliver International

Dougherty Schroeder & Assoc.

Eagle Engineering

Edwards and Neff Engineering

Estes Shields Engineering

The Facility Group

Foley Design Assoc. Architects

Foreman Seeley Fountain, Inc.

GEC

Gallet & Associates of GA

Gardner Spencer & Smith

Giles Engineering Assoc.

Goode Van Slyke Architects, LLC

Gordon Story and Assoc.

Greenberg Farrow Architects

HNTB

Harris Fritz & Associates

Harrison Design Associates Ltd.

The Hauseman Group

Howell Rusk Dodson Architects

Hussey Gay Bell & DeYoung

J. W. Robinson & Associates

John Portman & Associates

KSI Structural Engineers

Kaiser Earth Tech, Inc.

Knight Architects

Koets Corp.

LAI Engineering

Lockwood Greene Technologies

Lyman Davidson Dooley

M3 Collaborative LLC

MRP Design Group

MSTSD, Inc.

Manley Spangler Smith

Merrick

Moma Architecture, Inc.

Moreland, Altobelli Eng.

NCG Architects, Inc.

Nannis & Associates

Niles Bolton Assoc.

Norton, Schmidt & Warden Engineers

Nova Engineering

Oswell & Nitishin Arch.

Ozell Stankus Assoc.

PSI

Palmer Engineering

Perkins & Will Southeast, Inc.

Phillips Partnership PC

Pimsler-Hoss Architects, Inc.

Pond & Company

R.J. Griffin & Company

RL Brown & Assoc.

Rabun Hogan Ota & Rasch

Randall – Paulson Architects

Rosser International

Ruys and Company

SG Contracting

SP Design Group

Scott Johnson

Sedki & Russ Engineers, Inc.

Sizemore Group

Skanska USA

Southern A & E, LLC

Stan Lindsey & Associates

Starzer Brady Fagan & Assoc.

Steganga & Partners

Stevens & Wilkinson

Sykes Consulting

TVS & Associates

Terracon

Tiernan & Patrylo, Inc.

Tomberlin Assoc.

Uzan & Case Engineers

Wakefield Beasley Assoc. Architects

Watts & Browning Eng.

Willett Engineering Company

Willmer Engineering

Preparing For The Storm

Emergency Shoring Up of a Condo Building in Peril

The call came in mid-day on a sweltering hot Friday in July. Most everyone in Atlanta knows that Friday afternoon is time to start winding down for the weekend, to get out of the office early and into the traffic queue for the crazed commute home. You make up the hours working early and late the rest of the week. Besides, it is almost

tradition here, and Friday's traffic is the worst.

But Atlas Piers of Atlanta had a customer on the phone with an important need, one that couldn't wait. A 28-unit building of a condominium complex in Athens, Georgia, was showing significant signs of instability. Even more menacing, there was a storm approaching with projected tropical storm or possible hurricane force winds that could lead to a more perilous situa-

tion over the weekend. Without emergency shoring, the building could collapse.

Chad Costello, Vice President of Atlas Piers of Atlanta, accompanied by Ron Keener, Marketing and Sales Representative, had no hesitation in responding to the request — even if it meant bringing in crews overtime, working in foul weather, out-of-town or over the weekend. According to Costello, “Responding in a short time frame, in less than desirable working conditions, meant we had to show that we truly believe our customer service philosophy. We talk about adopting our customers' concerns as our own and this was an opportunity to prove ourselves. Sure, we would rather have had the weekend off and certainly would rather not have worked in inclement weather, but it was time to put action behind our promises.”

“The condominium association had wisely evacuated the building because they felt the structure might be in jeopardy. Their priority was that their tenants were safe versus property loss. They are to be commended for their wisdom in the way they handled the situation and for hiring pros such as Joe Harris of Pinnacle Design/Build Group, Inc. and gaining advice from Mike Riddle of Geo-Hydro Engineers, Inc. to manage a severe construction challenge,” added Keener.

In the midst of handling the tenant evacuation, the head of the condominium association called on Pinnacle Design/Build Group, known to provide expert geotechnical solutions,



“Responding in a short time frame, in less than desirable working conditions, meant we had to show that we truly believe our customer service philosophy.”

to handle the emergency situation. Joseph Harris, President of Pinnacle Design/Build Group, contacted Atlas Piers of Atlanta to help shore up the building based on a referral from Michael Riddle, P.G., principal of Geo-Hydro Engineers. (Geo-Hydro Engineers has four offices in Georgia, located in Athens, Lawrenceville, Kennesaw and Rome, and specializes in geotechnical engineering and construction materials testing.)

"I suggested Atlas Piers of Atlanta for this job because we were very pleased with previous work they had done for us at the Athens Steam Plant. They are very knowledgeable in the installation of helical piers and foundation support," explained Riddle.

At the site on Friday afternoon, the HOA manager showed Costello and Keener a large, eroded cavity in the soil between the condo building and a nearby retaining wall. The cavity was approximately five feet in depth and its width spanned a greater part of the building. The opening at the top of the cavity ranged from three to five feet in places. The impending storm, now named Dennis, with its projected torrential rain, would further erode the soils creating a larger chasm. This would exacerbate the threat to the building's structural integrity. Extensive emergency repairs had to be made by Sunday before the possible arrival of Hurricane Dennis, or at best, its malevolent remnants on Monday.

While Keener worked furiously on the estimate for the condominium association's insurance company and the necessary paperwork, Costello jumped right in to spearhead the pier installation work instantaneously.

Costello immediately dispatched Atlas Piers of Atlanta crews to Athens with product on hand from the company's



well-stocked inventory. Hotel rooms were booked for the foremen and crews, as plans were to stay in Athens until the job was completed.

This shoring job could require a minimum of five working days under normal conditions. Atlas Piers of Atlanta had only two days to have the major part of the work done before the storm hit. Additionally, the challenge was compounded as the work had to be done in an area with limited accessibility and poor weather was imminent.

While Pinnacle Design/Build Group's crews worked on the retaining wall, Atlas Piers of Atlanta's crews worked alongside them to shore up the building's foundation. Both companies worked feverishly in the heat, and shortly thereafter in the mud and rain, to ensure the building foundation was undergirded and the retaining wall replaced before the storm hit.

"After contracting with the HOA, we worked side by side "in the trenches" with Atlas Piers of Atlanta to minimize further problems," stated Harris, whose firm specializes in the



design and construction of MSE retaining walls.

The repairs made by Atlas Piers of Atlanta required 22 resistance piers featuring 85,000 lbs. ultimate capacity per pier to provide vertical structural stabilization to the condominium building itself. Then, 20 helical tiebacks were installed through the brackets of the resistance piers to secure the piers laterally due to the failing soils underneath the unit. Atlas pier logs showed some of the resistance piers had to be installed to a depth of 35 feet.

"Chad Costello was working right along with the Atlas crews in bad weather over the weekend to make sure the job was done in time," explained Keener.

"Everyone involved was very concerned about the families that had been displaced from their homes and wanted to make sure they could return as soon as it was safe to do so. The job was challenging, but extremely rewarding on a personal level," added Costello.

Unearthing the Past *Wayne Farris Leads Archeological Dig in Israel*



In August, Wayne Farris, founder/owner of Atlas Piers of Atlanta, led a multi-national group in an archeological dig at the British-owned Garden Tomb site just north of the Damascus Gate of the old city of Jerusalem. Here is an excerpt of an interview conducted after his return.

Q: What was the purpose of this dig in Israel?

A: We were looking for evidence to prove or disprove claims made by previous archeological digs in this area. We didn't find conclusive evidence to support some of the claims that had been made for this location. What we did find was significant though – we unearthed part of a Roman wall, found pottery fragments and even a coin that our experts believe to be dated from 100 B.C. to 100 A.D. The wall was seven feet thick and might have been part of noteworthy structure such as a large cistern. The structure and the items fit the time frame that Jesus Christ was on the earth. Based on the time frame of the items we found, it is possible that this site and nearby places were the actual locations of monumental occasions in Christ's life. (The Garden Tomb outside the Damascus Gate is believed to be the former estate of the wealthy Jew, Joseph of Arimathea, to whom the Romans gave Christ's body for burial. A nearby place near a former Roman thoroughfare,

marked by a skull in stone, is believed to be Golgotha, the mount of Christ's crucifixion on the cross.)

Q: What did you do with the pottery and the coin you found in the dig?

A: We turned them over to the Israeli Antiquities Authority, who sanctioned our work at the site. I believe the items are being tested to validate the accuracy of the time frame.

Q: Going to Jerusalem on an archeological dig is quite an adventure. It brings to mind the Indiana Jones movies. Did you have any harrowing experiences during the dig?

A: No, not really what I would call harrowing. We were working 27 to 35 feet below the surface and we had to crawl into underground tunnels – some that were only large enough for one person at a time. Obviously you had limited lighting and you didn't always know what was in the tunnel in front of you. Some people might be put off by that. We didn't encounter a room full of snakes if that's what you are asking. But we did find some really large spiders. I'm not sure what kind, but they were the size of tarantulas but without the fur.

Q: Tell about the make-up of the expedition group. What was it like to lead this group?

A: This group was comprised of volunteers from around the world who have expertise and/or an interest in archeology,

specifically in places where religious artifacts might be found. The group was made up mostly of Americans and the majority (about 75%) was men. We had an electrical engineer from New Zealand, as well as other representatives from Germany, Australia and Sweden. Leading a diverse group is challenging but also rewarding. I learned a lot by listening to different perspectives. I appreciated their confidence in me and their respect of my responsibility as the leader of the excavation crew.

Q: You were in Israel during the historic evacuation of the Gaza strip. What was it like there?

A: As we were not involved in the area of the evacuation, our work wasn't impacted directly by that event. One night, however, we visited the western wall and witnessed a massive protest. Later we heard reports that there were 100,000 protesters involved. But most of the time, we were intensely focused on the dig as we had a short time frame to accomplish a very ambitious schedule.

Q: Do you plan to continue to pursue your interest in these archeological digs?

A: I'm not ruling it out for the future, but it is very time intensive to prepare for an expedition, not to mention that it is both physically and emotionally draining. Including this one, I have been on three digs in the

past two years. I feel good about what we've accomplished, but while I was gone, I thought a lot about my family and my business. Sometimes, it's good to get away and be refreshed. Right now, my focus is here. My primary passions and responsibilities are right here at home.

Q: What is the most important thing you learned from the dig? How can you apply that to your life and to your business?

A: Surprisingly, the dig wasn't

so much about what we found or didn't find, but about the interaction of the people on this venture. No matter what the walk of life, nationality or religious views, the individuals worked together in a spirit of cooperation. Altogether, we raised approximately three hundred thousand dollars to fund the dig, quite an achievement in itself. I believe that people with a positive attitude and a common goal can accomplish great things together.



A Historical Perspective on Piles *The Precursor to Today's Piers*

Sturdy poles or posts are widely believed to have been implemented as early as pre-historic times to shore up primitive structures. Early foundation support components were trees that were cut and trimmed into poles with the smaller end driven into the ground. These were and are still known as timber piles.

There are references in the Bible of cedar timber piles being used in building the ancient city of Babylon (where Iraq is located today). The Empire of Rome, recognized for engineering feats far beyond its time and the invention of concrete, used piles for foundation support. The writings of Marcus Vitruvius Pollio, a writer, architect and the chief engineer of the empire, in 58 A.D. describe the use of piles in detail. Later, literature from the Middle Ages makes mention of pile supported foundations in other parts of Europe.

Some type of force had to be used to push the piles into the earth to a point where penetration was no longer possible. Early piles were possibly driven only by hand-held hammers or mauls. Later, simple machines were devised to drive piles even deeper to reach solid strata.

The industrial revolution

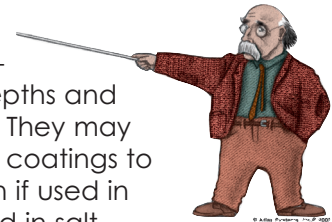
made it possible to build more ambitious structures in a variety of locations. In 1845, a British engineer that hailed from Edinburgh, Scotland, named James Nasmyth, invented the first steam-activated pile hammer which modernized and accelerated the efficiency of pile driving. Most impact hammers are now steam or diesel fuel-driven.

Today, there is a vast array of types of piles. Timber piles are still the most commonly used but their length is limited by the height of the trees available. Although they are usually economical, they can't always withstand the stress of the force required to penetrate resistant soils and are rarely used for loads in excess of 25 to 30 tons. Additionally, they are subject to attack by termites and other microorganisms (especially if used in water) and will eventually decay. Concrete piles come in a wide variety and shapes and can be driven to high resistance without damage. They are usually used for greater load bearing jobs than timber piles and have a high resistance to deterioration. Steel piles or pipes, often filled with concrete after they have been driven, and the commonly used H sections, are used when

conditions call for intense driving, greater depths and heavier loads. They may require special coatings to avoid corrosion if used in certain soils and in salt water. Bridge piers are often braced on groupings of large-diameter piles. Piles are important in unstable soils to reinforce foundations and in building major structures with massive load-bearing needs.

Modern piers are also vertical support mechanisms and serve the same purpose as piles. However, today's construction piers, if rooted on stable substrata, are known to be able to sustain a greater load than a pile. Massive piers drilled into huge shafts underground are used to hold the tremendous weight of skyscrapers. Bridges also stand on piers sunk into the earth below the water, often by the caisson method of installation.

Additionally, modern piers are usually not installed by the hammer method or pile driving but by rotary or percussion drilling. Atlas Piers of Atlanta uses state-of-the-art hydraulics to install its piers. This not only eliminates the noise and vibration, but also eliminates the guesswork associated with other methods of installation.



Disaster Relief and Human Services Charities



Photographs courtesy of The Salvation Army, Atlanta, GA

Amid the outcries of what went wrong along the American Gulf Coast as a result of Hurricane Katrina are yet countless stories of human kindness, bravery and sacrifice. We applaud President Bush for his courage in taking responsibility for any in-efficiencies in the federal government's response.

We vigorously applaud all emergency response workers, the military and law enforce-

ment personnel for their bravery and dedication in working to save lives and maintain order. We also praise the American public for incredible generosity and outpouring of help for fellow countrymen stricken by this disaster. We acknowledge the donations from other countries. We thank and encourage all relief organizations, from the highly visible such as the Bush-Clinton Katrina Fund and The Salvation Army to

the smaller ones such as church and community fund raisers and even the adorable children's lemonade stands. (See partial list for easy reference below)

It's the spirit of brotherhood that wins our Accolade Award this issue — that outstretched hand that crosses over all party lines, national boundaries, religious, racial and socioeconomic barriers to reach other human beings in great need.

CHARITABLE ORGANIZATION	CATEGORY OR DESCRIPTION	HOW TO CONTACT
THE BUSH-CLINTON KATRINA FUND	Spearheaded by two former U.S. presidents, this bi-partisan fund was set up by the federal government to help victims of Hurricane Katrina.	www.bush-clintonkatrinafund.com
THE SALVATION ARMY	The mission of The Salvation Army is based on the Bible and is motivated by the love of God. Its mission is to preach the gospel of Jesus Christ and to meet human needs in His name without discrimination.	www.salvationarmy.org 1-800-SAL-ARMY Requesting financial support and volunteers.
ATLANTA COMMUNITY FOOD BANK	Provides food and other donated products to more than 750 nonprofit partner agencies serving 38 counties across N. Georgia, centered on the Metro Atlanta Area. The food bank is currently working to provide food and supplies to support the immediate needs of families and individuals who have evacuated to Atlanta from areas impacted by Hurricane Katrina.	www.acfb.org 404.892.3333 Requesting financial support, volunteers and also accepting food surplus donations from grocery stores, restaurants and other food wholesalers.
THE UNITED WAY OF METROPOLITAN ATLANTA	United Way is a collective, community focused resource that supports more than 400 programs throughout metro Atlanta that help people every day. Like making sure children start school ready to learn and helping families become self-sufficient, crossing lines of race, gender, geography and faith with collective focus and action.	www.unitedwayatl.org 404.614.1000 or simply dial 211.
TOYS FOR TOTS	Over the 56 years of the U.S. Marine Corps Reserve Toys for Tots Program, Marines have distributed more than 313 million toys to 151 millions children. This charitable endeavor has made the U.S. Marines unchallenged leaders in looking after needy children at Christmas. In its 13-year life, the Marine Toys for Tots Foundation has supplemented collections of local campaigns with more than 47.3 million toys valued at \$243 million, plus has provided promotions and support materials valued at \$2.5 million.	www.atlantatoysfortots.com 678.225.4599
MUST MINISTRIES (MINISTRIES UNITED FOR SERVICE AND TRAINING)	Serving the needs of the hungry and homeless in local Atlanta communities. Currently operating three supply distribution centers for Hurricane Katrina evacuees.	www.mustministries.org MUST Marietta 770.427.9862 MUST Smyrna 770.436.9514 MUST Cherokee 770.479.5397 Accepting non-perishable food, clothing, toiletries and other basic needs items and financial donations. Also requesting volunteer assistance at the three centers located in Marietta, Smyrna and Cherokee County.