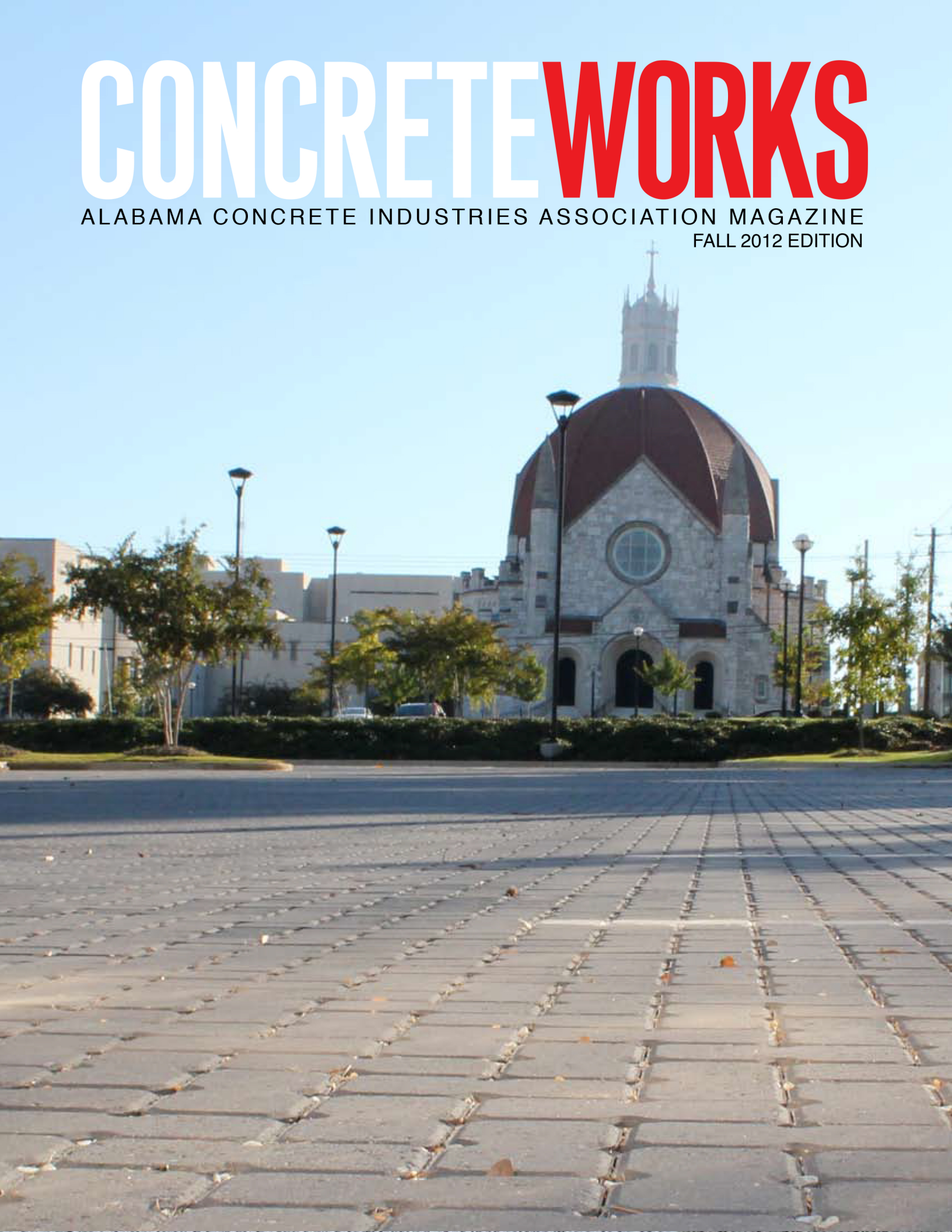
CONCRETE WORKS

ALABAMA CONCRETE INDUSTRIES ASSOCIATION MAGAZINE

FALL 2012 EDITION



CLARK FAMILY BEACH HOME
Gulf Coast

CONCRETEWORKS

2012 FALL EDITION

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LEARNING LOT

An Auburn University research project on a parking lot has yielded some positive results on the environmental benefits that come with the use of pervious concrete.

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ConcreteWorks is a publication of the **Alabama Concrete Industries Association** and features articles and photographs pertaining to product applications, educational opportunities, as well as innovative construction techniques impacting the industry.

Please email **kward@alconcrete.org** with any comments regarding featured articles in *ConcreteWorks* or to suggest a story idea for a future edition.

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SMART SOLUTION

Throughout its history, Montgomery has been the site of some major strides toward progress. It was the first city in the nation to have an electric streetcar system. It was home to the Wright Brothers' first civilian flying school a century ago. In 1955, a courageous seamstress stood (or more accurately, sat) her ground and sparked the Montgomery Bus Boycott, which in turn gave rise to the Civil Rights Movement.

Today, Montgomery is on the forefront again, joining several other cities across the nation in adopting the SmartCode for development of its downtown areas. The SmartCode is a unified land development ordinance template for planning and urban design. In an attempt to curb "urban sprawl," its purpose is to create walkable neighborhoods incorporating a wide range of building sizes and types. As a template, it is meant to be customized by local officials for the needs and goals of specific areas and combines zoning, subdivision regulations, urban design and architectural standards into one "code."

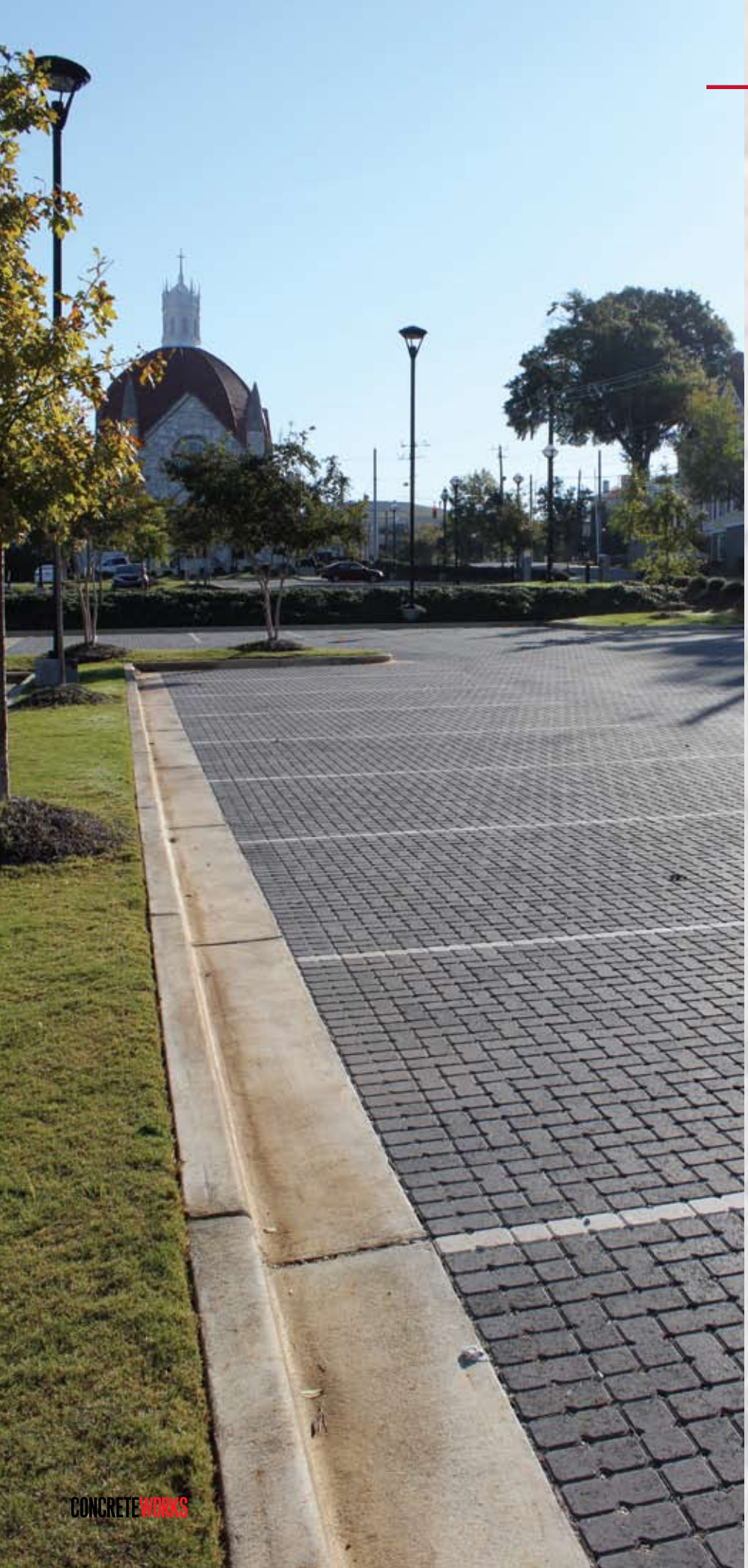
The water retention requirement of Montgomery's SmartCode for downtown influenced the material choices for two new parking lot projects for two churches, and pervious concrete pavers were the perfect solution to a potential space problem, according to engineer Brad Flowers with Flowers & White Engineering, LLC. "First Baptist Church (FBC) needed a new parking lot, but they simply did not have the space to meet the SmartCode water requirements without giving up much of the area needed for parking," he said. "But using the pervious pavers let us maximize the size of the parking lot and not give up valuable space while still meeting the right ratio to be in compliance with SmartCode regulations." At FBC, the new lot boasts 43 spaces in 11,700 square feet. For the second project at Hutchinson Baptist Church, also downtown, the new lot has 41 spaces in 13,700 square feet.

City Engineer Patrick Dunson explained the requirements that called for the pavers. "The city ordinance says that you must control storm water and have no difference in the amount of runoff between pre- and post-development," he said. "The pervious concrete pavers let water infiltrate into the ground and then be slowly released instead of in a heavy rush that can cause erosion and cause our water system to exceed capacity. The pavers' voids slow the water."

Not only is managing storm water an important component of the city's storm water permit, it's part of being a good

> “But using the pervious pavers let us maximize the size of the parking lot and not give up valuable space while still meeting the right ratio to be in compliance with SmartCode regulations.

Hutchinson Baptist Church
Montgomery, AL



neighbor too, as no one wants torrents of water from a nearby parking lot eating away at their property or polluting adjacent creeks and streams. “We really encourage the use of materials like this and other low-impact development practices whether it is in a SmartCode area or a traditional development area,” Dunson said.

The pavers used in both parking lots are proving to be an exciting product that hs been successful in addressing the problem that expanding cities are facing “Storm water can become a major issue for cities as they grow,” the material supplier noted. “Storm drains are only so big, and we continue to build new buildings with new parking lots, but the storm overflow they can cause contributes to the pollution of our water systems, to erosion and can even cause the flooding of buildings.”

Permeable pavers provide a unique drainage capability and create a visually attractive appearance. Its void area is only 15 percent, yet this small amount still allows water to drain out and drain out very quickly, a key element of pervious pavers’ success in dealing with runoff. Permeable pavers provide a paved surface that mimics nature’s absorption of rainwater and was specifically designed to manage the first flush of a storm, that first one inch of rain. And the product has another environmentally friendly aspect too: Because it is light in color, it reflects the sun and therefore does not add to an urban area’s “heat island” effect.

Often in the past, large areas of green space or storm water retention ponds were employed to mitigate the effects of runoff, but both methods require a lot of extra space. “In these two cases, the churches had no room to build a retention pond. They both wanted to maximize the space they could use for

parking, and these pavers let them do that. Before these pavers, they might have had to purchase additional land. This is an easier way to do the same thing and save space," Dunson said. "Plus, pavers are a lot nicer to look at than a dry or stagnant retention pond. The paver lots are less maintenance too."

But they are not maintenance free, as Flowers pointed out. "You have to keep the voids clear, and that requires some regular upkeep," he said. "And it can be more expensive in the outset to build a lot with these pavers as opposed to just adding some green space."

While the material and installation price is more than that of landscaping, Flowers believes in the long run, the pavers will prove well worth the higher up-front costs. "You have to look at the return on investment for parking spaces," he said. "In most instances, being able to get more people into a place at any given time means more business, more sales. Even in these two cases, even though the lots were for churches, not a store, they have a goal of getting more people into their services, and they need adequate parking to do that. The pavers let them make good use of every square inch."

Flowers also noted that proper installation requires some prior knowledge and skill. "The installation of these pavers is not something that every contractor does and can be more difficult, but again, the end result is worth it," he said. "We have used these pavers in a few other projects, mostly in smaller situations. The lot for First Baptist Church was the first full-blown parking lot we did, and it went well."

According to Flowers, from a design perspective, working with the pervious pavers is not really any different, but they do call for some extra calculations for storm drainage.

"If you were putting these in down at the coast, you could just lay them in, and the sandy soil would soak up all the water that flows through them," he said. "But here, with our gumbo soil, you have to have a storm drain in place underneath to capture the water that flows through and that requires a little additional work."

Not only do the pavers perform well, they look good doing it. "The pavers were the only material for this situation," Flowers said. "And they are an attractive material. Both lots look great. The different look of the pavers gives the lots a sense of prominence and sets them apart. The areas almost seem like a design feature as opposed to just a functional parking lot."

The churches are pleased with the end results and so is the city, according to Dunson. "These pavers work great," he said. "The city will continue to encourage their use over asphalt principally because asphalt simply does not allow any water to infiltrate. It all runs off, and that's what we are trying to minimize."

LEARNING LOT

For years, proponents of pervious concrete have touted its many benefits, highlighting its advantages over asphalt when it comes to protecting the environment thanks to its ability to control and even cleanse storm water runoff. Now, the results of a recent research project conducted by Building Science and Biosystems Engineering faculty and students at Auburn University and partially funded by ACIA are adding some extra weight to these already proven claims. "Pervious concrete is a very green building material," said AU professor Michael Hein. "It helps protect the environment that sustains us all."

Hein is a structural engineer who has been teaching engineering in the school of building science at Auburn for over 25 years, and he oversaw the research project on a site built by one of his concrete classes as part of their learning process. His specialty is teaching engineering topics to builders and architects, and he outlined how the project started.

"Since I'm teaching engineering to non-engineers, I take a more practical approach," he said. "In addition to classroom learning, I use service learning projects for each class, in which groups of architecture and building science students are required to plan and execute a small concrete project for someone in the community. Right now I have a class designing and building concrete benches for use in the university's arboretum." Later, some groups will cast concrete pads for the local city parks and another, a colored pervious concrete walkway in the AU arboretum.

As a teacher, Hein has always had an interest in research, but it was a curious student that prompted his first work with pervious concrete. "A student introduced me to pervious concrete in 2003 and asked me if we could do project with it," he said.

Hein has long had a symbiotic relationship with the facilities management department on campus; they let his students assist with smaller concrete projects like the repair of sidewalks or retaining walls. “They get some extra help, and my students get the hands-on learning experience, so it is a win-win,” Hein said. “We did a pervious sidewalk in 2003, and then we replaced some of the worn-out asphalt walking trails in the arboretum with colored pervious concrete.”

Now, since 2004, Hein, his students and AU Facilities have installed close to 2,000 feet of pervious concrete trails in the arboretum, and it has provided continuous learning opportunities. “We noticed the pervious concrete’s pores getting clogged, so we’ve experimented with different ways to keep it clean and keep it working,” Hein said. Then, in 2009, Hein secured a grant to take his students’ work with pervious concrete to the next level, and when he came up with the pervious research project, he decided to take his partnership with AU Facilities a bit further too. When the arboretum parking lot needed to be redone, he jumped at the chance. Hein created and implemented a study that did a side-by-side comparison of impervious asphalt and pervious concrete focused on the quality of water runoff. “We left half of the parking lot as it was, which was traditional asphalt, and cast

the other half of the lot with pervious concrete, and then compared the water that ran over and/or through each material." They installed a surface drain to collect the water from the asphalt side, and collected the water that filtered through the pervious side and its stone bed with a pipe that drained into a small reservoir.

The small, eight-space lot yielded some big information. "We found anywhere from 20 percent to 80 percent improvement in water quality in the water on the pervious side," Hein said. "We checked for heavy metals, grease and oil, the traditional agricultural pollutants like nitrogen and phosphate. The water that came through the pervious concrete is practically pure."

And they didn't just rely on rain; they sprayed some pond water on the lot too. Even starting with polluted water Hein said, "In no case was the water any worse after going through the pervious, and in every case it was at least somewhat better if not a lot better."

Since it is a small lot, there isn't much leaked oil or gas to contend with, a fact that Hein wishes were different. "We didn't artificially pollute the slabs with oil and grease, so there are smaller readings there, but I imagine those are two of the biggest pollutants we'd want to reduce, especially in large parking lots," he said. "There have been several previously done laboratory experiments that have shown a decrease of grease and oil in water that has run through pervious concrete. I like field experiments best though."

He admits that he expected the pervious to perform better from the beginning, but the results stunned even him. "It just makes sense that contaminated water going through any type of filter would be somewhat cleaner on the other side, but I didn't think there would be as much difference as there was," he said. "It was a little study, but the results are quite convincing. I believe pervious concrete functions great as a water filter."

And it's not just its filtering capabilities that earn it high marks. "It really improves the quality of water that ends up back in streams and in our water systems," he said. "But in addition, it keeps storm water runoff from creating erosion."

Thirty of Hein's students were involved in this project, and they got some excellent real-life instruction thanks to their participation, according to Hein. "One of the best aspects of projects like this is the students getting to work alongside AU Facilities. My class designed and built the pervious half of the lot; that is what my classes are all about," he said.

An expert on pervious concrete named Dale Fisher assisted Hein and the students with the install. "He's licensed to train people how to properly install pervious concrete, so when he came to help with the project, we arranged for him to do a seminar and administer the licensing test. Now all of my students and some of the AU Facilities workers are NRMCA certified pervious concrete technicians."

With this and other pervious projects now behind him, Hein commented on the material's ease of use. "Asphalt can take some time to put in place and some effort to do it," he said. "But pervious takes no more time or effort, and it is no more complicated. The only reason anyone runs into problems installing it correctly is because it is still new, so not as many people out there know how to do it right."

And "doing it right" is key. "It is basically a concrete sponge, so if you don't have the mix right, it won't work, and if you do mess it up, it can be difficult to fix it," Hein said. "You've got to have a competent supplier, someone with experience with the pervious mix. And you also need a knowledgeable and experienced installer."

Hein believes these knowledgeable people will be easier and easier to find in the future. "The more people learn about it, there will be fewer and fewer problems," he said. "That's where education enters the picture; that's why I do what I do."

This concrete project brought more than just results. These interesting ideas for future study have also emerged:

- Continuation of chemical analysis, focusing on oil and grease in pervious concrete vs. surface runoff from asphalt paving. (Research Grant Proposal to Alabama Water Resources Research Institute, 2013)
- Temperature study to compare temperature of water trickling through pervious concrete to surface runoff from asphalt paving. (Funded by the Alabama Concrete Industry Foundation and ACIA, 2012)
- Biological study of decomposition of hydrocarbons by microbes in residence within pervious concrete.
- Study of surface clogging of pervious concrete pores over time and effective cleaning methods. (Funded by AU College of Architecture, Design and Construction and ACIA, 2010)

Beyond the Basics

If you don't know any better, when you think of a school built with concrete block, you might picture a low, squatty structure crisscrossed by narrow, dark halls framed by drab gray walls. Years ago, this was often the case. But today's schools, most of which are still being built using concrete block thanks to its versatility, durability and strength, come in all shapes and sizes and actually have style to boot. Case in point: the new Carroll High School currently under construction in Ozark.

Godwin Jones Architects in Montgomery designed the 168,000 square feet of buildings that make up the school's new state-of-the-art physical plant, which replaces and renovates old facilities dating back to the 1960s. Chuck Jones, partner at Godwin Jones, outlined the specs. "It is actually two separate projects," he said. "The first is the new main academic building and gym with 138,000 square feet. The second project is the new ROTC building. We actually renovated the old gym and locker room area [about 24,000 square feet] and added on 7,500 square feet of new space."

Phase one, including all of the above, is scheduled for completion in March 2013. Once the students move in, the old school will be torn down to make way for parking lots and practice fields, which will be done by the start of school in August 2013. The school will serve approximately 690 students, but the facilities are designed to accommodate 800 students, and the support areas like the gym and cafeteria are designed to handle as many as 1,200, allowing for classroom expansion if needed in the future.

For multiple reasons, concrete is the major material used throughout. "We used concrete block bearing walls with wood trusses in the main building for all the walls, and the slab is, of course, concrete," Jones said. "The outside is a mix of modern and traditional styles with a more traditional brick veneer, but the entire base, from the bottom

> “Plus, having so much concrete throughout adds another layer of security in terms of stability.

to several feet up, is made of a specialty architectural block. It looks like limestone and is a great decorative element; the concrete use here really adds something special, and we’ve used the same product to great effect on window surrounds and bands throughout too.” The interior walls are painted concrete block, a choice made for durability as well as fire resistance.

Carroll High School also includes storm shelters, as required by new state law, and concrete played a vital role in this portion of the project. “The storm shelter facilities in the school hold up to 950 people and meet international standards under the new state codes,” Jones said. “Everyone is concerned with safety here, and you really have to use concrete for these things.” The school has three separate shelters, and all are made with poured 12-inch-thick solid concrete block. “We used 8-inch hollow core floors for the second floor, and not only does this make for very simple, clean connections between the walls and floors and leave lots of room for duct work and conduits, it turned out great for the storm shelter areas too because we could just put more concrete block on top to make an excellent cap for the shelters,” Jones said. “Plus, having so much concrete throughout adds another layer of security in terms of stability.”

Concrete has provided the permanence and safety that parents and officials want in a school and contributed to its exterior aesthetics, but it's also contributed to the unique layout that this school's special curriculum required. Carroll High School students choose and learn in specific academies, each modeled around a career path. With this in mind, Jones and his team designed the building with a "pod" layout and central gathering space. "The school's academy concept is really neat," Jones said. "There are four major academies laid out in the building, including the 9th grade academy that's like an introduction into the system, the business academy, health academy and STEM (science, technology, engineering and math) academy. There are minor academies too."

A point of pride for Jones is the school's central area, what they are calling Main Street. "It is unique from an aesthetic perspective because it is this big, two-story space with a balcony that traverses the middle of building," he said. "It is like a big living room, or like a food court in a mall. There is food available at one end, and then you can sit and study or sit and eat in the center. They're putting in some neat furniture, and there will be flat-screen TVs running the news stations."

He explained the thought behind it. "We put this in because these students had been packed in tiny halls with low ceilings and no windows, and we wanted to give them a positive change. Now they have lots of windows flooding the spaces with natural light. At one end is a giant 20-foot-diameter ceiling fan, and they'll all walk through this space all day."

He's also proud of what education leaders in Ozark are doing. "I'm just amazed at what the students have access to and can learn. In the health academy, they can get a nurses assistant certification. In the STEM academy, they learn to work on helicopters," he said. "I've been around a lot of public schools for a lot of years, and what is happening in this school in Ozark is great, and what we've given them with this building will just help them accomplish their education goals."

And concrete made it all possible, particularly its cost-effective nature. "This project was bid for around $128 per square foot, which is a wonderful price," Jones said. "Concrete being the main material is a huge part of that low price." But this is nothing new. "I've always thought concrete block with trusses is most durable, strong and cost-effective way to do a school," he said. "Block is always budget friendly due to its simplicity of use, plus it is just so durable; kids can do a lot to wear and tear things, but you can't do much to concrete block. Nothing else holds up like it will."

> “Plus, having so much concrete throughout adds another layer of security in terms of stability.


NRC

STANDING STRONG

Thanks to names like Andrew, Ivan and Katrina (and their aftermath) still fresh in our minds, the prospect of building a house on the coast carries with it some serious challenges, challenges that homeowner Jerry Clark met with a design for a beach house on the Gulf Coast that called for concrete, concrete and just a little more concrete. He, his builder and one of the major subcontractors and suppliers outlined the vision and how concrete made it a stunning reality.

[THE IDEA]

A few years ago, Jerry Clark bought some beach property as an investment. "Then, my wife and daughter decided they wanted to live there," Clark said. The girls got what they wanted, but Clark knew that if a house on the beach was going to be their home, he was going to make it as hurricane proof as possible.

An engineer by trade, Clark began researching, and spent two years looking for the right concept and right materials to create his design. "I came across some Insulated Concrete Forms (ICF) at a home builder's show, and I decided I'd use those," he said. That concrete product led to another concrete element, and he even journeyed out to the World of Concrete event in Las Vegas to learn more about concrete's many uses and benefits. "Then I decided on concrete pilings, and finally, I went with concrete floors and a concrete roof," he said. "The roof came about because I wanted to take full advantage of the ocean views, so I wanted a flat roof, and I realized that what most often fails on a house in a hurricane is the roof. For both of these reasons, a flat concrete roof made the most sense. At the end of the day, concrete was the main choice throughout for structural reasons."

Clark and his family moved into their 3,100-square-foot, four-bedroom house in May 2012. "We are so happy with it," Clark said.

[THE STRENGTH]

The Clark House is a three-story home in a designated velocity zone, and if hurricane-force winds ever do come its way, this structure has what it takes to face a storm's fury, as Rodney Hubble, one of the project's subcontractors and suppliers explained. "We built this house to exceed the codes for hurricanes, tornadoes, even a small thermo-nuclear attack," he said.

That may sound like an audacious boast, but with pre-cast concrete pilings, all concrete floors, an eco-span steel composite reinforced concrete roof topped with a deck, cast-in-place and hollow-core concrete panels on the exterior and interior walls made of insulated concrete forms, this house lives up to it. "The house is built like a bridge; it has tremendous resistance to sheer," Hubble said. "The force of a hurricane wants to make walls fall over like dominos, but in this house, due to the concrete decks, concrete floors and roof, they reinforce the walls to form a diaphragm that effectively resists that force."

Certified building contractor for this project Newman Rodgers echoed Hubble. "This house is extremely strong, with an overall wall thickness of 11 inches, and it was built five feet above the minimum for both county and FEMA guidelines," he said. "It will remain standing no matter what."

Not only does this strength give the Clark family some peace of mind, the tremendous structural integrity also saves them money by lowering home insurance costs.

[THE SAVINGS]

This house is saving the Clarks money in other ways too; compared to other materials, concrete has minimal maintenance costs and minimal life-cycle costs. Plus, the energy efficiency of the ICF walls in particular translates to lower energy bills each month. "The efficiency of the insulated concrete walls has reduced cooling costs dramatically," Hubble said. "Even with two sides of the house having glass doors for huge spans, it is still very energy efficient."

The energy-efficiency of the ICF walls (comprised of six inches of concrete with two-and-a-half inches of foam on either side) is hard to match since they allow very little infiltration from the outside and very little leakage from the inside. "In a conventional wood-framed house there are different expansion and contraction rates that create more infiltration and leaks," Hubble said. "But with flat ICF walls, the only place you have a break is at a window, so there are just that many fewer leak opportunities."

Rodgers had never worked with ICF before, but things went smoothly, and like the homeowner, the builder is thrilled with the results, especially the HERS rating. "This house is extremely energy efficient, and when we did a blower test to get our HERS rating, we had a 63. That's great, and the overall energy savings for the house are about 45 percent."

Clark agreed. "The energy efficiency has been really good," he said. "The temperature stays pretty even most of the time."

[THE STYLE]

The Clark house is eye-catching for sure with a sleek, stylish look that is contemporary but not cold or harsh. Both Rodgers and Clark are more than pleased with the final product. “I love it,” Clark said. “I think it is definitely unique and looks just great,” Rodgers added. “We put it in the Parade of Homes here, and we had hundreds of people come through. They all really seemed to like it.”

One standout feature is the swimming pool on the third-floor deck. “We’ve got this conventional, cast-in-place pool on the third level that really grabs attention,” Rodgers said. “People told me I couldn’t put a pool up in the air, but we did,” Clark added.

And the final positive piece in this puzzle? “The house was overall really quite affordable too,” Clark said. “We didn’t spend as much as it looks like we did.”

Building Up

PHIL E. BLACK, AIA

Growing up in Chattanooga, Tenn., Birmingham architect Phil Black and his brothers were a playful bunch, and it is perhaps his dad's creative solution for boyhood boredom that led Phil to his current profession. "When I was a kid, my dad bought a pallet of concrete blocks for my brothers and me to play with," he said. "It kept us busy and out of the house. We loved it. We built forts and clubhouses, you name it. I look back now and think my dad was pretty smart with that one. It was a cheap, easy way to keep some restless boys occupied. I also think it planted the seeds of architecture in my brain because I loved building things with those blocks."

He went on to Auburn University, where he graduated in 1979 with dual degrees in architecture and environmental design. But upon graduation, his options were a bit limited. “I finished school in the depths of the Jimmy Carter recession, and there were not many jobs to be had, period, and not many architecture jobs,” he said. “I ended up working for an engineering company for about a year, and in that job I did a lot of work that had nothing to do architecture,” he said. “I spent a lot of time working with spreadsheets and calculating man hours. It was almost an accounting position and kind of a nightmare.”

But he soon woke out of that bad dream into a pleasant reality when he signed on as the staff architect at the University of Alabama Birmingham. He stayed in that position for three years. Next he went to work for CMH, where he stayed for 12 years. Today, Phil is Senior Vice President and Director of Architecture for Krebs Architecture & Engineering, Inc., a 60-person architecture and engineering firm headquartered in Birmingham with offices in Atlanta, Montgomery and Orange Beach. He’s been with Krebs for 17 years. Phil is a LEED AP accredited professional and is current First Vice President for the Alabama Council of the AIA.

Throughout his career, many of Phil’s projects and those of his firm have called for the use of concrete in all its various forms. He explained why. “Krebs is an architecture and engineering firm,” he said. “The engineering side of our firm uses concrete a lot in the design of water treatment plants and other large structures that need to have an extremely long service life. Using concrete for its durability and adaptability is important with those designs.” He pointed to a new water treatment plant at Fort Benning that incorporates numerous concrete elements throughout the facility. “Because they have to run 24-7, operations like that can’t be shut down for periodic maintenance, so the durability of concrete is a natural choice,” he said.

The firm’s architecture side designs quite a few schools and does some detention work as well, both of which benefit from concrete’s strengths. “We tend to use a lot of concrete block in those structures because they require a material that is strong and has high durability,” he said. One project in particular is a showcase for concrete’s strength and the safety that this strength provides. “Our architectural division recently completed the new Concord Elementary School in Jefferson County. It was the first school to incorporate the new state-mandated FEMA storm shelter requirement for school designs,” he said. “Certain areas of the building are constructed of heavily reinforced concrete block to serve this purpose. Since the rest of the school is constructed of concrete masonry throughout for durability, the storm shelter construction simply becomes a part of the building.”

An interesting example of what concrete's versatility can bring to a project can be seen in the recent renovation of Snead State Community College in Boaz, Ala., a project that Phil is really proud of. "We just had the ribbon cutting for a historic renovation of Snead State," he said. "We took a 90-year old building that had a wood frame and was in really poor condition and made it strong and stable while keeping its historic look and integrity, thanks to concrete. Our solution was to punch holes down through the building and build back in with masonry cores -- stair towers and restrooms stacked on top of each other -- so the building looks the same, but it is now up to fire code. We replaced huge segments of the interior with concrete masonry."

Phil also praised concrete's natural features that make it a smart choice for sustainability. "Sustainability is something that is going to be a part of everyone's design process and owners expectations soon, and concrete is a material that lends itself to a variety of sustainable design practices. We have used it in parking areas, which, due to its light color, tends to reduce the 'heat island' effect," he said. "Pervious concrete mixes abate the impact of storm water runoff, helping recharge ground water aquifers while breaking down impurities in the process. Concrete also utilizes recycled materials and ultimately lends itself to being recycled at the end of its service life."

While Phil touts concrete's durability and strength, the same descriptions could be applied to him as well. After losing his middle daughter to leukemia in 2003, Phil slipped into a sadness that lingered for years. But in 2005, when hurricane Katrina hit and devastated the Gulf Coast, he found a way to transform his tragedy into something positive—for himself and for others. "The aftermath of Katrina actually pulled me out of my funk," he said. "I've always been active in my church, so when our rector asked if I'd take prayer books down to a parish in Bay St. Louis, Miss., whose church had been completely washed away, I didn't hesitate."

Once there, he saw that the people's needs stretched far beyond the books. "I stepped out of my truck in the middle of all that destruction, and I was changed," he said. "It was like these people's lives had been put in a blender. Everywhere you looked there was this mulch made out of computer keyboards, pieces of cars, family photos, clothes, etc. All I had to offer were a couple of boxes of prayer books and some gas cans, but they needed more."

> “We took a 90-year old building that had a wood frame and was in really poor condition and made it strong and stable while keeping its historic look and integrity, thanks to concrete . . . We replaced huge segments of the interior with concrete masonry.

Q&A Quick Facts
Phil Black

Vice President and Director of Architecture for Krebs Architecture & Engineering, Inc. in Birmingham Phil Black shared some basic and not-so-basic information with ConcreteWorks during our recent interview so you can learn a just a little more about him.

If you weren't an architect, what would you be?
A Doctors-Without-Borders physician on weekdays and a Michelin food critic on the weekends.

What's the one food you couldn't live without?
I'm the cook in our family, and it would have to be my collard greens. I start with a half pound of bacon.

What's the one tool/item you couldn't do your work without?
My curiosity. I am forever trying to figure out how something is made or goes together. Of course, now it would be my curiosity and my reading glasses.

What song just played last on your iPod?
“All in Good Time” by The Dead Can Dance

If you could have dinner with anyone, dead or alive, who would it be?
Hemmingway, Picasso and Beethoven. It would probably be a late night and there would likely be a fight, but it would be interesting.

What was the first paying job you ever had?
Shoveling sawdust at a lumber mill. It was the least interesting part of my career path.

What is your favorite piece of architecture (that's not yours)?
The city of Venice. It is the most remarkable place I have ever been.

He started making a list, and then came home to get supplies and recruit others to help. “We ended up building a temporary church for that parish, and it was first church in the entire area to open back up,” he said.

Once the church doors were opened, Phil went home, but he didn’t stay there very long. When another natural disaster struck, this time a horrific earthquake in Haiti that did such extensive damage, Phil was ready to act. “I went down there right after the quake,” he said. “I knew I had some skills that could help, and there was no reason for me not to go.”

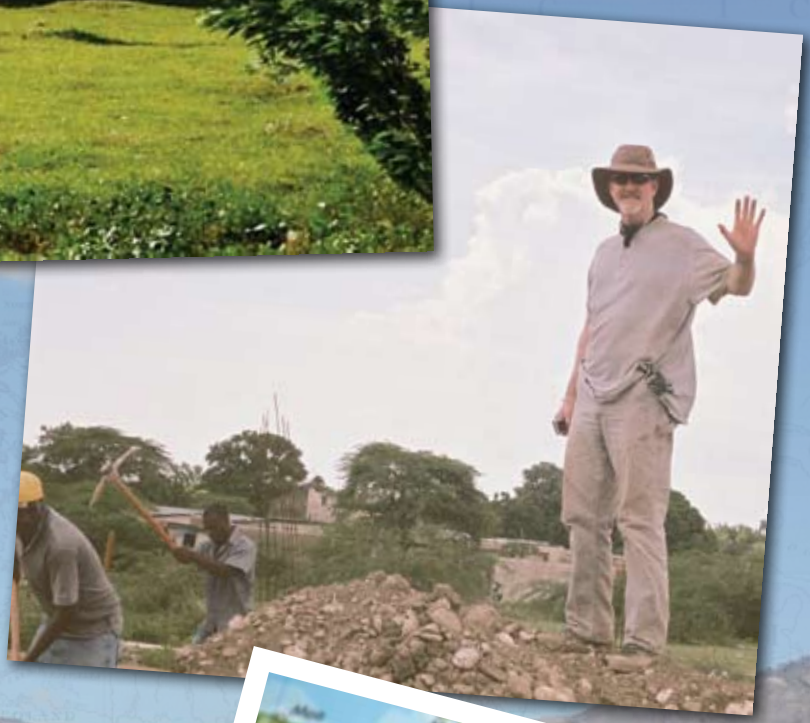
When he got to Haiti, Phil found that resources for rebuilding in the island nation were scarce, thanks to the poor management of a corrupt government. With so few trees left and knowing that new structures needed to be strong, Phil and others turned to concrete as the main building material.

Before the earthquake, people in Haiti didn’t really know how or why to use concrete with reinforcement. Phil is trying to change this fact. He is currently assisting the Episcopal Diocese of Haiti in the construction of a children’s nutrition and critical care clinic in Port au Prince. “We heavily reinforced it with concrete,” he said.

But the concrete Phil used in Haiti is a far cry from the products used here in the United States, as he explained. “The concrete we use there is typically mixed by hand, often right on the ground at the building site as they have no heavy machinery available,” he said. “Making concrete blocks has become a cottage industry there,” he said. “Men do this all day long, sing while they do it; they work hard, and it is really backbreaking labor. They make them in molds on the street and sell them. That means there’s not really a consistent quality, and the product is weaker than what we have here, but it is all they have and better than other options.”

Phil’s interest in Haiti and its people is ongoing. He has partnered with Architects Without Borders to help find long-term and sustainable solutions to the Haitian earthquake disaster. He also served on the AIA Disaster Response Team for the Tuscaloosa tornado in 2011 and is a member of the State of Alabama AIA Disaster Taskforce.

Phil obviously finds joy using his talents to help others, but he also gets satisfaction from his day job, a satisfaction that’s kept him happy at work for over three decades. “I’ve been doing this for 30 years, taking people’s dreams and making them something permanent; I love it,” he said. “Doctors and lawyers, they usually deal with what ails people, their problems. Architects deal with people’s dreams and bring them to life. It is a very positive industry.”

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Port-de-Paix
Cap-Haïtien
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HAITI
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Pedernales
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When Phil was just starting his career, he drew designs with ink on linen; now he can use his iPad. There have been multiple technological advancements in his industry, and according to Phil, each comes with its own set of pros and cons. “A major change in my profession has been speed,” he said. “I remember looking at a fax machine for the first time and thinking how much that would change things. I had no idea what email would do. Both the creative process and project delivery move much faster now.”

While this can be a good thing, Phil sees a drawback too. “New technology helps us have consistency in the quality of designs, but it has commoditized our business a bit,” he said. “Everyone expects the final product to be cheaper and to be delivered quicker. But from the creative standpoint, technology now allows us to look at so many iterations of an idea that, if we had to do it by had, would take so long.”

Phil still does some of his work by hand. “I still sketch, although most of the younger folks don’t anymore,” he said. “I like the look of them.” But it’s not just about “the look” for Phil. The function is as important as the form and a major part of what he loves about his job. “Architecture is concerned with aesthetics, but it is a very detailed process; it’s taking an idea and breaking it down into its nuts and bolts,” he said. “I’m a pragmatic person. I take an idea that’s either mine or someone else’s in the office, and I make sure it works. I want it to stand up, not leak, serve its function. That goes way beyond what structure looks like and is more about how it is made. ‘God is in the details.’ I’ve always believed that and adhered to that.”

At 56, Phil is not yet ready to retire, but it’s clear that he would like to spend more time plying his craft in areas where he feels he’s doing real good. “At some point, I’d really like to pursue Architects Without Borders and find myself back down in Haiti with a shovel in my hand,” he said. In the meantime, he’s traded running marathons for cycling (thanks to older knees), and he enjoys his family. “I’ve raised three daughters with my wife. The oldest is an artist in New York City, and the youngest, a junior at the University of Georgia, is currently an intern in Washington DC with the Sierra Club,” he said.

Whether it’s a sketchpad in his Birmingham office or a shovel in Haiti, Phil continues to use the tools at hand to build dreams and rebuild lives, the most important tool being a giving heart.

“*. . . taking people’s dreams and making them something permanent;* I love it . . . Doctors and lawyers, they usually deal with what ails people, their problems. *Architects deal with people’s dreams and bring them to life.* It is a very positive industry.

CONCRETEWORKS to EXPAND in 2013

In 2013 ConcreteWorks will be expanding. Readers have been asking for more technical articles so next year we will be adding technical articles related to masonry and ready mix to each issue.

We will also be adding a section to showcase work being done by future designers at the state's universities. The designers of tomorrow are working on some great concrete projects as part of their education.

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ANNUAL BUSINESS **MEETING**

Tuesday, January 22

Meeting will begin at 11am

10:30am Check-in/Registration

Join Us at the
Soon to be Hyatt Regency Birmingham - The Wynfrey Hotel
Meeting will be held in the Wyndsor Room

2013 ACIF Scholarship Recipients
2013 Chairman Award Recipients
"The Measure of a Man in the Midst of Economic Hardship"
Richard Simmons, The Center for Executive Leadership
Pierre Villere , Allen-Villere Partners
Senator J.T. "Jabo" Waggoner, Invited

For more information on the speaker, the agenda and to register
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