

# 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



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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 has 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.”