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Infrastructure – you don't see it, but it can impact *your* business

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People might not want to spend their time thinking about sewers and wastewater treatment plants, but those are the types of things that can determine whether an area is in shape to grow and attract new citizens.

Realtors®, of course, thrive on growth and towns don't expand if the infrastructure isn't in place to allow for new construction.

Brad Hammond, president of McGoodwin Williams & Yates in Fayetteville, said his engineering firm has spent a lot of time and effort making the idea of infrastructure expansion more palat-

Master plans, he said, are put together so that city leaders can make informed decisions about where growth will occur and how to handle it. Terry McKinney, Benton Utilities manager, said he knows all too well about the efficiency associated with master planning.

Prior to the formation of the Benton Utilities Commission two years ago, infrastructure was put in place on an "as needed" basis in Benton. That type of planning can add to costs down the road.

Last year, the city of Benton issued \$26.5 million in bonds to pay for sewer

be good for 20 years rather than putting in ones that will handle current needs and be forced to replace them five or 10 years down the road to handle growth in an area.

McKinney said he's aware that taxpayers get nervous about high dollar projects, so one of the goals of the Utilities Commission is to spend money as efficiently as possible. Long term planning is one way to make sure that public money is spent responsibly.

McKinney said that 20-year window is about as far out as one can safely go when thinking about future growth. Once you get past 20 years, growth projections start to become unreliable and planners can wind up spending money if an area doesn't grow as much as expected.

Hammond said long term planning is difficult enough as it is, but groups like the Center for Business and Economic Research at the University of Arkansas have developed methods that have proven reliable over the years.

The city of Jonesboro stands as another example of how planning for growth can help a city. A couple of decades ago, business leaders in that city got together and formed the Jonesboro Economic Development Corporation. That group commissioned a study and learned the city was a good location for the food production industry.

So, plans went in place to promote the city's attractiveness to companies in that industry. The result of some of the planning was the construction of the Craighead Technology Park – an industrial park that boosts plenty of water and electricity, two utilities needed by food production companies.

The result? Mark Young, president of the Jonesboro Regional Chamber of Commerce, noted that companies like Butterball LLC, Frito-Lay, Kraft Foods, Nestle USA and Riceland Foods are thriving in the city and similar corporations still take a hard look at the city when considering where to expand.

In addition to the sheer costs involved with infrastructure improvements, Hammond said there's another issue – few



Believe it or not, that's a lift station in the Har-Ber subdivision in Springdale. Brad Hammond, president of McGoodwin Williams & Yates in Fayetteville said his firm designed the lift station so that it would blend in with the surrounding neighborhood and not adversely impact property values.

able to the general public. Expansion costs money, and Hammond said taxpayers are known for balking at the idea of financing future infrastructure needs.

"There's a lot of resistance because many people don't understand the cost involved in building infrastructure," he said.

McGoodwin Williams & Yates provides the engineering services for many infrastructure projects in northwest Arkansas and other areas around the state. Regardless of location, he said a city with a good master plan is in a better position to justify and allocate funding for necessary infrastructure needs than a town that doesn't have one.

improvements around the city. A lot of that money is going to pay for upgrading aging infrastructure that has been in need of replacement some time, but some future growth is being contemplated as well.

McKinney said Benton Utilities tries to plan for the anticipated growth for 20 years down the road, and that ultimately saves money. When putting in sewer pipes, for example, much of the cost involves excavation – old lines have to be removed in many cases and replaced with new, larger ones.

A larger pipe just costs a bit more, so McKinney said it's better to spend a little more now and put in sewer lines that will



This lift station, designed to fit an agricultural area in Washington County, netted McGoodwin Williams & Yates in Fayetteville the Engineering Excellence Honor Award from American Council of Engineering Companies of Arkansas.

people want to live next door to a lift station or wastewater treatment facility. Years ago, those facilities tended to be on the outskirts of town in sparsely populated areas, so there was little thought given to issues such as architectural design or odor control.

These days, however, wastewater treatment facilities and supporting structures such as lift stations have wound up closer to cities through a combination of growth of towns and necessity. So, Hammond said there is a lot more emphasis on design and odor control than there was in the past.

A good example of an innovative attempt to disguise a lift station, Hammond said, can be found in the Har-Ber subdivision in Springdale. That station looks like just another house on the street where it's located and goes largely unnoticed by people living in that neighborhood.

Hammond said designing facilities that blend in with the neighborhood serves to protect property values in neighborhoods and makes the task of designing a lift station more enjoyable for engineers.

Environmental concerns are other factors engineers have to keep in mind when designing wastewater facilities, Hammond said. He pointed to the Woolsey Wet Prairie Restoration Project in Fayetteville as an example.

The 26.6-acre wetlands area was preserved as part of a project to offset the impact of the construction of a wastewater treatment facility and supporting improvements on 9.88 acres near the site. As part of the work on the wetlands, however, the tallgrass prairie on the site was improved to the extent that past damage to it was corrected.

Specifically, site hydrology was enhanced to restore a severely degraded wetland impacted by decades of land use for cattle and hay. Bruce Shackleford, president of Environmental Consulting Operations in Benton, was involved with that project. He noted that the area was in better shape after the project was completed than it had been in years.

He said an increase in plant and animal species has been observed, after restoring the tallgrass wet prairie ecosystem, including rare species that were not present at the site prior to restoration of the site habitat.

A year after the restoration project, About 266 plant species were identified on the site as apposed to around 50 that were there when the project started. Engineers and ecologists worked together to develop a wetland design that removed environmental stress factors. The species came back on their own as no planting or seeding took place through the course of the project.



Environmental projects are becoming a major factor in infrastructure design. As part of mitigating the impact of a wastewater treatment plant, McGoodwin Williams & Yates in Fayetteville was called on to restore a portion of the Woolsey Wet Prairie.



Brad Hammond, president of McGoodwin Williams & Yates in Fayetteville, said designing lift stations to blend in with surrounding areas can make projects enjoyable for designers.

Hammond pointed out that engineers are often called on to give some extra attention to the environment where facilities are being constructed so that they fit in better with the surrounding area. That environment might be in the middle of a neighborhood or a wetland, but city planners are insisting more on innovative ways to reduce the impact of those facilities.

Innovation, Hammond said, is key in the infrastructure that's necessary to the health, safety and welfare of citizens in a community. Sewer systems might not be the most glamorous thing out there, but Hammond said solid, architectural and engineering design can make the necessary components of one of those systems palatable to the public. 