



The Miami-Dade Water and Sewer Department serves more than 2.3 million customers in Miami-Dade County.

Big Fixes

Miami-Dade Water and Sewer Department tackles some serious upgrade projects. *by Chris Petersen*

Miami-Dade Water and Sewer Department

www.miamidade.gov

2011 capital budget: \$515 million

Headquarters: Miami

Employees: 2,600

Doug Yoder, deputy director: "We have a lot of infrastructure needs that we're looking at going forward."

Rome, with all its aqueducts, wasn't built in a day. Likewise, the water and sewer infrastructure that serves the Miami metropolitan area has taken decades to come together. Now, as that original infrastructure becomes outdated and begins to deteriorate, the Miami-Dade Water and Sewer Department is faced with the challenge of bringing these vital systems up to date. As if that weren't a big enough task, it also must make additions that will help the department keep up with the growing and changing demands of the area.

"We have a lot of infrastructure needs

that we're looking at going forward," explains Deputy Director Doug Yoder, a 40-year employee of the county who has been with the water and sewer department for the last six years.

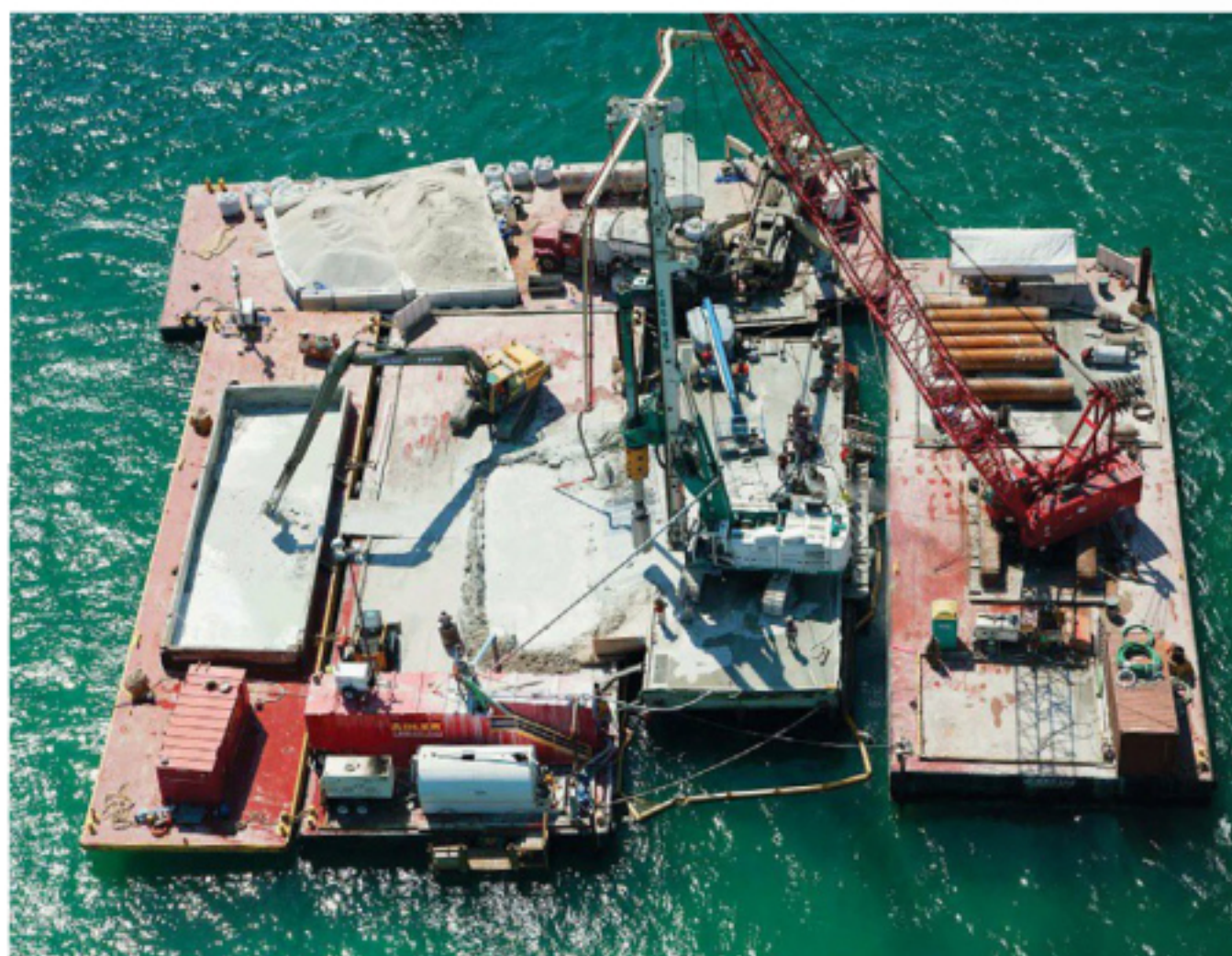
The department provides water and sewer services to more than 2.3 million people in Miami-Dade County with more than 13,000 miles of pipe and six major treatment plants.

Yoder says the department is embarking on a series of major projects aimed at making the area's water and sewer systems as modern as possible. The systems also need to be capable of handling whatever growth occurs over the next several decades.

Significant Project

One of the most significant portions of these upgrades is the construction of a \$600 million disinfection project at the county's South District Wastewater Treatment Plant. According to Yoder, the county began planning the project in response to environmental concerns. "The initial genesis was that the state and federal regulatory agencies were concerned that the secondarily treated effluent from that treatment plant, which is disposed to deep wells, might be migrating upward to a drinking water aquifer," he says.

The project, which will treat water with chlorine, will add an extra step to



the filtration process at the plant and give the county more options for using that treated water, which is useful in light of an agreement the department recently signed with Florida Power and Light. Yoder says the county agreed to provide nearly 90 million gallons of water a day from the South District Wastewater Treatment Plant to Florida Power and Light for use in cooling a planned nuclear power facility.

“The net result is that with the additional treatment level, it makes the water useful for a variety of reuse options, and so instead of disposing of the water, we will eventually be sending it down to Florida Power and Light,” Yoder says. The project was started in 2009 and is expected to be completed by 2013, a year before the regulatory deadline.

Making Upgrades

The other side of the department’s upgrade project isn’t contained to a single location. Yoder says the department has suffered through some large-diameter pipe failures in recent years, necessitating the replacement of much of its pipe system. “Like most utilities, I think we’re ex-



The department has some significant upgrade projects in the works, including replacing hundreds of miles of water mains.

periencing the consequences of deteriorating infrastructure,” he says. “We have a contract in place to enable us to evaluate the pre-stressed concrete cylinder pipe, most of which was installed in the 1970s and has not had such a great track record in the United States.”

With a few hundred miles of pre-stressed concrete cylinder pipe installed throughout the county, the department has its work cut out for it. Additionally, the county’s water distribution system consists of many old, undersized water

mains. These were installed by the smaller private utilities that initially served the region before being absorbed by Miami-Dade Water and Sewer. Yoder estimates that replacing these mains will cost \$700 million to \$1 billion.

On top of that, new regulations mean big changes for the Central and North District Wastewater Treatment Plants. Those plants discharge effluent through ocean outfalls, but the department is required to end that by 2025. Yoder says this will require the installation of additional high-level disinfection systems similar to the one being installed at the South District Wastewater Treatment Plant. “That’s probably easily a billion dollars’ worth of retrofitting to those plants that needs to be done,” Yoder says.

Tough Times

Yoder says these projects will help the department better serve the county, but he doesn’t expect it to be easy. “These have obvious rate implications,” he says. “The county commission establishes our rates every year, and they’re going to have to consider when the time comes to make the rate adjustments that will be necessary to finance the projects.”

The last few years have been extremely difficult for public entities needing to raise rates, with the economy the way it is. However, just as the city’s infrastructure needed time to grow, Yoder says that with time the department will be able to accomplish all of its goals. ○

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