



Utilities Department News

Summer 2014

Cocoa Upgrades Control Room at Dyal Plant



From left to right: City Manager John Titkanich, Councilman Tyler Furbish, Mayor Henry U. Parrish III, Deputy Mayor Clarence Whipple, Jr., Councilman Don Boisvert, and Utilities Department Director John "Jack" Walsh cut the ribbon to the new Control Room at the Dyal Water Treatment Plant.

The Cocoa Utilities Department has completed a \$495,000 upgrade of the control room at the Claude H. Dyal Water Treatment Plant. Upgrades included the hardware and software to fully automate the water treatment process at the plant and improve overall design and function of the room. Engineers designed the project with complete modernization in mind. User friendliness and functionality were critical considerations.

Cocoa completed construction of the Dyal Water Treatment Plant in 1970. It began operation in November 1970. The last upgrade of control room was in 1999 when

the plant was modified and expanded to treat surface water.

The original control room technology was based around manual hard switching and hardwire connections. It was originally used to control ground water treatment and the ground water supply system only. After nearly 45 years of expansion and development the Main Console and Operations now provides control to ground water treatment, surface water treatment, Wewahootee pre-treatment, 48 well sites, Taylor Creek Pump Station, four remote booster and storage stations and will collect data from five whole sale and water quality monitoring stations.



Utilities Director Jack Walsh presents some of the highlights and advantages of the upgraded control room.

What happens in the control room?

- Monitoring of key process control and treatment components
- Troubleshooting of warnings and errors and system wide alarms
- Process adjustments and reporting/data entry to meet Florida Department of Environmental Protection guidelines
- Main information and supervisory control, and data acquisition
- Sole control room for all remote booster stations and distribution system
- Remote, local sight security and plant access control

The Cocoa Utilities Department thanks CH2M Hill, Brandes-Design Build, Cocoa Utilities employees and the Cocoa City Council for their help and support on this important project.

For additional information, call (321) 433-8705.

Utilities Director Jack Walsh on May 2014 cover of Municipal Sewer & Water magazine

Article highlights Cocoa's efforts to become proactive about reigning our vast water system.

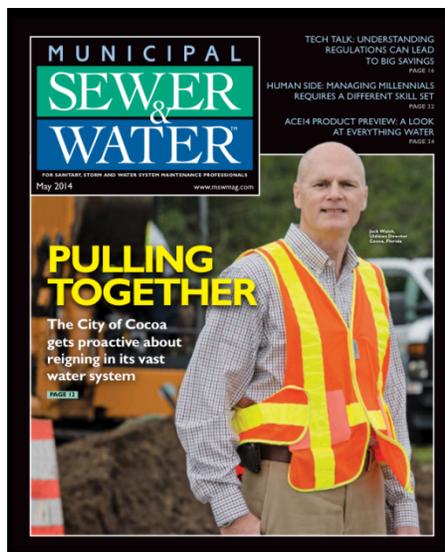
Utilities Director Jack Walsh appeared on the cover of the May 2014 issue of Municipal Sewer & Water magazine. The cover story was about changes the Utilities Department has made to become more proactive in its approach to upgrades and maintenance.

"We're taking a comprehensive approach to risk management and assessment," said Cocoa Utilities Director John "Jack" Walsh.

That means finding problems instead of waiting for them to rear their heads. It means compiling a lot more data on the system's infrastructure and assets. And it means spending the money necessary stay on top of maintenance issues.

So far, city officials have been willing to preside over increasing budgets for both

operations and capital improvements, approving bond issues as well as rate increases of about five percent per year to cover the rising costs. They've done so because the utility has made the case for how essential the ongoing maintenance work and upgrades are, Walsh says.



To make his point Walsh showed city officials samples of the various pipe materials in use, along with a piece of tuberculated cast-iron pipe recently removed during a main repair near City Hall. "It was probably 50 percent occluded," Walsh says.

He also distributed the report "Buried No Longer" from the American Water Works Association, which further helped convince officials why more aggressive maintenance was needed.

A more detailed assessment of system conditions and functionality was needed. Operations Manager Chris Collier took charge of that task.

CH2M HILL, the city's engineering firm of record, helped plan and organize the hierarchy of assets to be assessed. Collier and the operations staff spent six months or more planning the project and worked with Mueller Service Co., the consulting arm of Mueller Water Products, to carry out the comprehensive review of valves and hydrants from April 2012 to September 2013.

The 280-square-mile service area was divided into four quadrants, and the survey team tested and exercised nearly all of the 20,400 inline valves and 6,000 hydrants, identifying those needing repairs or

replacement. Four percent of the fixtures needed major repairs that could be completed on the spot. Another five percent needed minor repairs, most of them carried out right away, too, Walsh says. Finding that 83 percent of the fixtures were in operating order was something of a pleasant surprise.

Special Projects Supervisor Ed Moore is now in charge of working with CH2M Hill to follow up on the valve assessment findings.

A parallel programs involving pipeline assessment, repair and replacement and well rehabilitation are ongoing.

For the full article go to

http://www.mswmag.com/editorial/2014/05/pulling_together

North Fiske Pond helps Cocoa meet more stringent water quality requirements

An article in the July 2014 issue of Florida Water Resources Journal (pages 28-32) details how using two retention ponds will reduce pollutants discharged to Indian River Lagoon.

Due to new Florida wastewater restrictions issued in 2009 by the Florida Department of Environmental Protection (FDEP), Cocoa faced the challenge of managing the city's water resources and reducing wastewater discharges to the Indian River Lagoon. The city decided to extend a reclaimed water main to a 19-acre city-owned retention pond called North Fiske Pond. The pond shares a common stormwater outfall with a 3.3-acre Florida Department of Transportation (FDOT) retention pond directly to the north of it. North Fiske Pond has surplus storage of 25.7 million gallons. The pond discharges directly to wetlands to the west that flow south into the Bracco

Reservoir and eventually into the Indian River Lagoon.

The Indian River Lagoon is an estuary of national significance spanning 156 miles. Cocoa's eastern border fronts about 4.5 miles of the lagoon. Activities such as development, dredging, and diversion of freshwater have resulted in the loss of salt marshes, degradation of habitat, and the introduction of pollutants. Untreated stormwater runoff and wastewater discharges have also degraded the lagoon's water quality.

Cocoa began providing reclaimed water to its residents in 1991 instead of

discharging wastewater into the Indian River Lagoon. However, during extreme wet weather events, Cocoa must still discharge some reclaimed water (treated wastewater) into the lagoon. The last time Cocoa discharged treated wastewater into the lagoon was in August 2008 during Tropical Storm Fay. Fay was the fourth wettest tropical cyclone to affect the state of Florida and by far the wettest for east central Florida. The total rainfall from the storm exceeded 20 inches in Brevard County.

The Jerry Sellers Water Reclamation Facility (WRF) is designed and permitted to treat up to four million gallons of wastewater per day. On average it treats two million gallons per day (mgd). During Tropical Storm Fay there were eight mgd coming in. That event forced Cocoa to discharge some treated wastewater to the Indian River Lagoon. The Florida Department of Environmental Protection (FDEP) permits discharges under such circumstances when surplus water exceeds demand.

Cocoa uses a 55-acre parcel known as Bracco Reservoir that consists of five excavated ponds for stormwater treatment and as a supplemental source of water for their reclaimed water system. The south pond, known as the reclaimed water storage pond, helps to accommodate fluctuations in reclaimed water demand. When demand exceeds supply, water is pumped from the pond to the WRF. When incoming flow exceeds reclaimed water demand and storage tank capacity, during wet weather for example, the WRF pumps the excess into



the reclaimed water storage pond. The pond holds up to 10 million gallons of water.

Before coordinating with FDEP and the St. Johns River Water Management District, the city established goals and constraints to meet each agency's requirements.

The city developed a plan that defined the conditions under which they could send reclaimed water to North Fiske Pond. Cocoa's operations plan is based on the water level in North Fiske Pond. Cocoa can send reclaimed water to North Fiske Pond only when the water level is below 26.75 feet.

Routing excess reclaimed water to North Fiske Pond allows the Jerry Sellers WRF to reduce wet weather discharges to the lagoon. Cocoa can now send reclaimed water to the pond via an eight-inch pipe

with an estimated flow capacity of 1.25 mgd. The control structure for the pond was modified so that surface water overflow from the pond will only occur as a result of a storm exceeding the 25-year design event. The engineers reviewed over 12 years of discharge monitoring reports from the WRF to estimate the potential load reduction associated with the improvements.

Studies demonstrate that the improvements can meet the new FDEP

requirements and reduce discharges to the lagoon. Due to this proactive approach the city may be able to earn credit toward future nutrient reductions. The city will measure and report the frequency and duration of discharge as a permit condition.

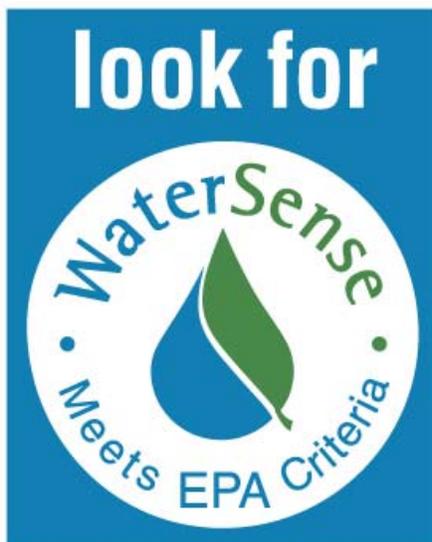
For the full article visit

http://issuu.com/fwrj/docs/0714_fwrj2_web/1

Cocoa Toilet Rebate Program

As part of Cocoa's water conservation program, the city offers an incentive to its water customers to encourage them to replace old high-volume toilets with high efficiency toilets (HETs). The

Toilet Retrofit Rebate Program offers a \$50 rebate to Cocoa water customers who change out old (pre-1994) high-volume toilets for WaterSense certified HETs (flush rate of 1.28 gallons or less) in accordance with the program guidelines. Save water and money by replacing older, high-volume toilets with more efficient toilets.



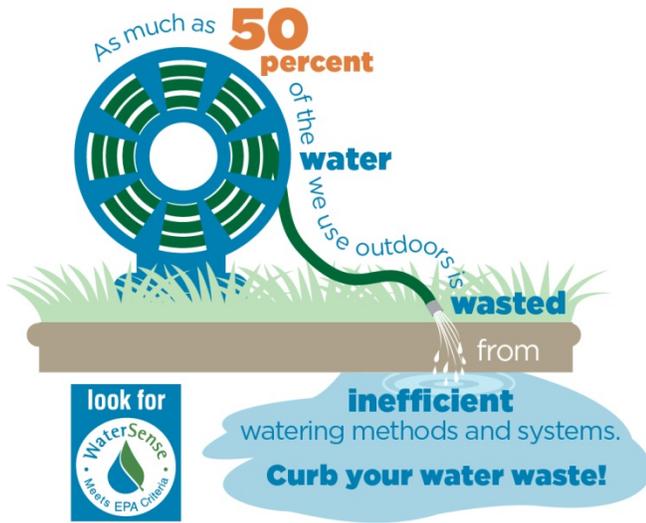
business, you can expect exceptional performance, savings on your water bills, and assurance that you are saving water for future generations.

The Toilet Retrofit Rebate Program runs each fiscal year from October 1 through September 29 or until funds are depleted. To be eligible, you must purchase the toilet after October 1. Toilets must be purchased during the same fiscal year that the rebate is available. All paperwork must be submitted prior to the close of the program.

There are many different toilets on the market. Look for the EPA's WaterSense logo. These toilets meet EPA's specifications for water efficiency and performance. When you use these water-saving products in your home or

Find out what you need to do to participate in the program prior to purchasing your toilet by calling 433-8705 or visit Cocoa's website at www.cocoaf1.org.

Florida-Friendly Landscaping



You don't have to be an expert gardener or landscaper to create a Florida-friendly yard. All it takes is a willingness to learn and a desire to build a beautiful yard that helps protect Florida's environment. Florida-Friendly Landscaping™ (FFL) means using low-maintenance plants and environmentally sustainable practices. Learn how you can have a beautiful landscape that could save you time, energy and money while protecting our future.

There are nine principles:

1. Right Plant, Right Place,
2. Water Efficiently,
3. Fertilize Appropriately,
4. Mulch,
5. Attract Wildlife,

6. Manage Yard Pests Responsibly,
7. Recycle,
8. Reduce Storm Water Runoff,
9. Protect the Waterfront. You can learn more at www.floridayards.org/landscape/index.php

Locally, the University of Florida/IFAS Extension Brevard County has unveiled their version of Florida-Friendly Landscaping called My Brevard Yard. They present one or three-hour workshops where you learn:

- How to figure out how much fertilizer to apply to your lawn,
- What kind of fertilizer will give you the healthiest lawn,
- When is the best time to apply fertilizer,
- How to calculate how long to run your sprinkler system, and
- How to maintain a healthy lawn while complying with your local fertilizer ordinance.

Call 321-633-1702 x222 or email sasc@ufl.edu to schedule a My Brevard Yard workshop in your community. Find out more or find a workshop by visiting <http://brevard.ifas.ufl.edu/>.

For suggestions, comments, or questions about the
City of Cocoa Utilities Department
Call 321-433-8705 or email ddowns@cocoaf1.org