

Cleaning water

Residents get first-hand look at high-tech reclamation

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How long does it take you to shower or wash dishes? Now ask yourself this: How long does it take to clean the water that cleans you?

Recently, Charlotte County Utilities invited local residents to learn first-hand what happens to our water after we take a shower, wash our dishes or flush a toilet during a recent tour of the Rotonda Water Reclamation Facility.

Wastewater is treated in three ways: Biological, mechanical and chemical.

When the water comes into the reclamation facility it starts its 12-hour journey at the head works. Screens sort out all solid waste in screening drums. All the solid waste from the screening drums is compacted and shipped out.

“We have found a lot of different things in the drums over the past few years,” facility manager John McGinnis said, “including old rags to pieces of music CDs.”

From there, wastewater moves into a grit chamber and then into an aeration tank. Air is pumped into the water to help microorganisms thrive, which helps turn ammonia into nitrates. Next up is the MBR — membrane biological reactor. The MBR is made of long thin perforated tubes filled with thousands of holes.

“The MBR looks like long strings of spaghetti,” McGinnis said.

Water is forced through the MBR for further filtration. Each strand produces one gallon of water an hour. Periodically the strands need to be flushed and cleaned. All this is done automatically via a computer monitoring system.

For the final step, the water goes through a weir system and treated with bleach and citric acid to help rid it of any pathogens that may be present.

What happens to the water after all this high-tech treatment?

The water is checked to see if it meets or exceeds the Florida Department of Environmental Protection standards and is either accepted and put into tanks or storage ponds for future use, or rejected and put into lined retention ponds and put through the facility for further treatment.

The reclaimed water is used for irrigation on a number of area golf courses and residential neighborhoods to help maintain the grounds.

“We cannot sustain life without good, clean water,” said John McGinnis, the facility manager.

“We need to protect clean water, not just for drinking but also for habitat and recreational use.”

Facility history facts

In the year 2000, Charlotte County Utilities acquired the facility, which had been privately run.

By September 2009, the facility had been updated and enlarged.

The entire facility now covers 37 acres and can handle 2 million gallons of wastewater a day. Currently the facility handles 1 million gallons a day. So as more people move into the area, it will not need to be expanded for a while.

The Rotonda Water Reclamation Facility has staff who are trained and earned at least three levels of licensing for water treatment. The facility is located at 3749 Kendall Road in Rotonda West. For more information, visit www.charlottecountyfl.com.



HERALD PHOTOS BY ROBERT NELSON

The headworks at the Rotonda Water Reclamation Facility is the start of a 12-hour journey from wastewater to reclaimed water.



John McGinnis talks about the rotary drum screens that sift out all the solids that enter the facility. "This is the worst-smelling station," McGinnis said. "From here it only gets better." James and Sharron Rask listen nearby.



John McGinnis shows the tour group the inside of the rotary drum screens that are first of a four-stage process to reclaim waste water at the Rotonda Water Reclamation Facility.



Facilities manager John McGinnis explains the process of introducing air into the effluent to help break down wastewater that enters the facility.



RIGHT: The weir system is part of the final stage of the water's 12-hour journey. Bleach is introduced to help kill any pathogens that may be left in the water. From here, the water is checked to see if it meets the Florida Department of Environmental Protection standards as reclaimed water.



RIGHT: From left, Don Oppenheim, James and Sharron Rask and Dan Danielson listen to John McGinnis as he explains the importance of reclaiming water for future use.



HERALD PHOTO BY ROBERT NELSON

From left, James Rask and Dan Danielson listen to facilities manager John McGinnis as he talks about the quality of water as it passes through various stages of high-tech filtration during a recent tour of the Rotonda Water Reclamation Facility.
