



Utilities Connection



December 2001

Utilities Data from November 2001

City of Melbourne Utilities Department

Florida Water Conservation Initiative looks for long-term approaches to sustain water supplies

In response to growing water demands, water supply problems and one of the worst droughts in Florida's history, the Florida Department of Environmental Protection (FDEP) led a statewide Water Conservation Initiative to identify measures to improve efficiency in all categories of water use.



City of Melbourne Utilities Department staff have attended all of the public workshops held at various locations in Central and South Florida participating in workgroups to identify and investigate methods to improve efficiency in all water use sectors. Each conservation idea was evaluated in terms of how much water it could save, how cost effective it is, and how easy it would be to implement.

The workgroups came up with a total of 60 recommendations and ranked them as high priority, medium priority or low priority.

Highlights of the recommendations in each of the six workgroup areas are:

Agricultural Irrigation: This is the largest water use sector in Florida and presents many opportunities for improved efficiency. Key among them are cost share programs to start technological improvements, more use of mobile irrigation labs to evaluate irrigation efficiency, improvements in the recovery and recycling of water, and greater use of reclaimed water for irrigation.

Non-Agricultural Irrigation: Water for watering lawns, landscaping, and golf courses can be significantly reduced through more efficient irrigation system design, installation and operation; and by reducing the amount of acreage that requires intensive irrigation.

Water Pricing: To send appropriate price signals to water users to help them conserve water, ideas generated include establishing conservation and drought rate structures to reduce wasteful use both in ordinary times and during drought; informative utility billing; and other techniques.

Industrial, Commercial and Institutional: These users can improve their efficiency through water use audits, improved equipment design and installation, certification for implementing industry specific conservation Best Management Practices, and greater use of reclaimed water.

Indoor Water Use: The greatest potential for conserving water comes from increasing the proportion of Florida homes and businesses that use water-

efficient toilets, clothes washers, shower heads and dishwashers.

Reuse of Reclaimed Water: This can be made more widespread and efficient by proper pricing, more metering of its use, and making progress on increasing reuse in Southeast Florida.

The specific recommendations, with their rankings, have been compiled in a draft report and three public workshops are being held in December, with comments to the FDEP due by January 11. Following this process the final report will be prepared. For some of the recommendations, legislative action or administrative rule change will be required.

If you would like more information on this program, please visit the FDEP web site at www.dep.state.fl.us/water/waterpolicy/init.htm.

November Highlights

The level of Lake Washington decreased during the past month. At the end of November the lake level was 14.79 feet above sea level. Water quality remains good.

The D.B. Lee Wastewater Treatment Plant received 3.6 inches of rain in November with five days of rain. The Grant Street Wastewater Treatment Plant received 4.5 inches of rain over 10 days.

Utilities Connection - Dec. 2001

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Utilities Data from Nov. 2001

Monthly Water Usage and Raw/Finished Water Quality Statistics

Water Usage

- ◆ Water pumped to service: 433,939,000 gallons or 14.465 MGD average
- ◆ Maximum finished water pumped to service: 15.429 on Nov. 29
- ◆ Water billed: 381,459,200 gallons
- ◆ Fire hydrant flushing: 12,324,100 gallons
- ◆ Fire Department water usage: 70,000 gallons
- ◆ Brevard County water usage – sewer flushing: 30,000 gallons
- ◆ Flushing and testing new water mains: 5,406 gallons
- ◆ Chlorides: 60 mg/L
- ◆ Color: 246
- ◆ Total dissolved solids (TDS): 233 mg/L

Well water quality

- ◆ pH: 7.8
- ◆ Alkalinity: 119 mg/L
- ◆ Total hardness: 593 mg/L
- ◆ Chlorides: 727 mg/L
- ◆ Color: 5
- ◆ TDS: 1,515 mg/L

Finished water quality - pumped to service

- ◆ pH: 7.8
- ◆ Alkalinity: 45 mg/L
- ◆ Total hardness: 144 mg/L
- ◆ Chlorides: 59 mg/L
- ◆ Color: 3
- ◆ Total dissolved solids (TDS): 237 mg/L

Water Quality Statistics

Lake water quality

- ◆ pH: 7.7
- ◆ Alkalinity: 58 mg/L
- ◆ Total hardness: 99 mg/L

Resident project representative keeps project running smoothly

While not a City employee, George Varall is becoming somewhat of a permanent fixture as a result of a series of major capital projects that have been taking place.

Varall is currently serving as the resident project representative for the \$15.5 million Phase III expansion of the D.B. Lee Wastewater Treatment Facility that will take two years to complete. Working as a consultant for the project's design engineers, Hazen and Sawyer, he ensures the project is being built according to specifications.

"I'm protecting the City to make sure we get what we want from the designers, and the designers so they get what they want from the builders," Varall explains. "I make sure it is being built according to the design specs and that it is staying on time and in budget."

No newcomer to looking out for City projects, for the past 10 years Varall has served in this capacity, but for other engineering firms, for the Phase IIA and Phase IIB projects at the D.B. Lee plant, and also for the Lake Washington and Post Road widening projects.

The Phase III project increase the treatment capacity necessary to meet Melbourne's growing needs. "It's a fast-paced project," says Varall. "You have to be right on top of it because it goes so fast."



Resident Project Representative George Varall (foreground) speaks with Robert Ragin of The Crom Corporation, the subcontractors that are building the two carousel anoxic/aerobic tanks for the project. Wharton Smith is the general contractor for the project. Carl Davis, also with The Crom Corporation, is standing on the scaffolding.

This major plant expansion project should be complete by August 2003.

Utilities Connection - Dec. 2001

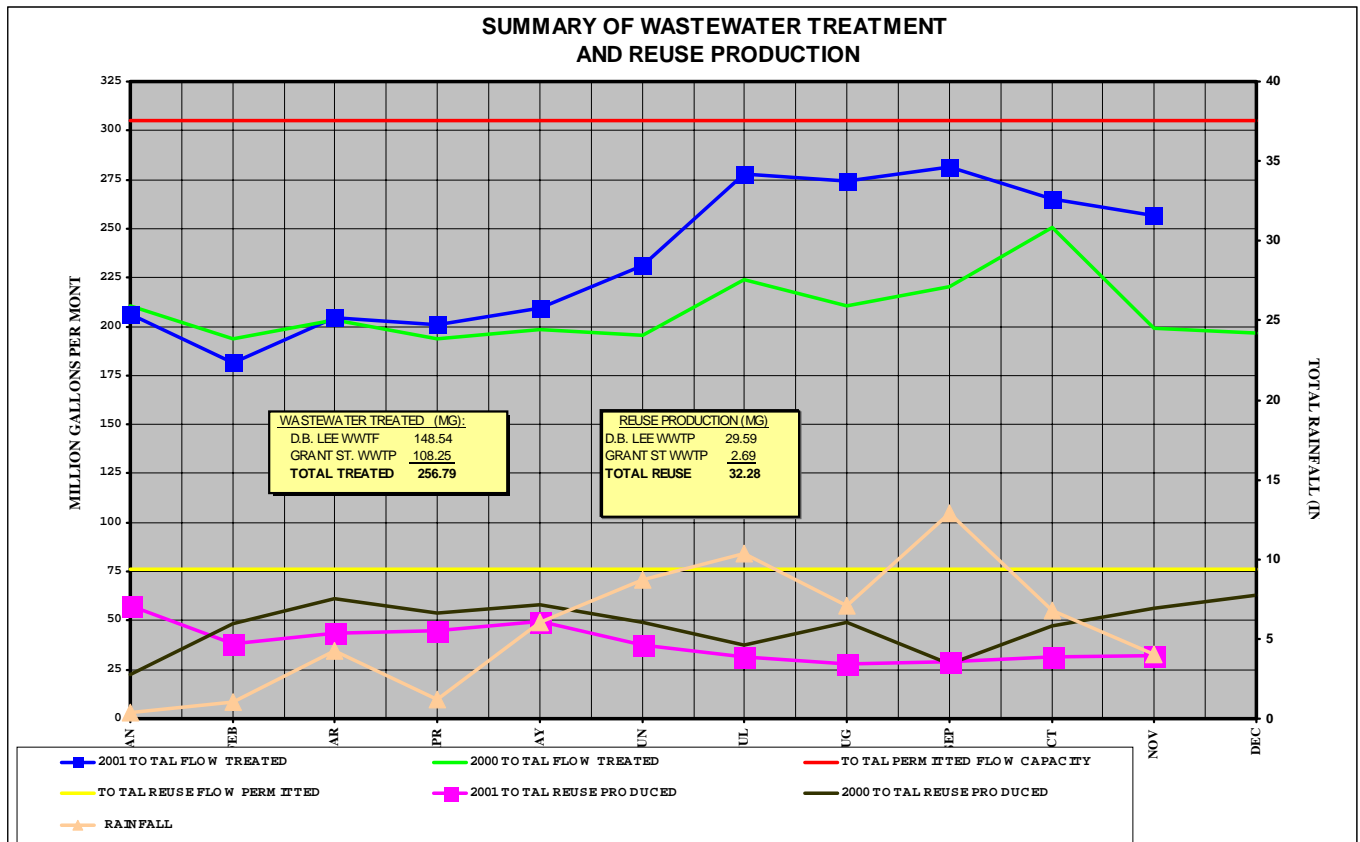
Wastewater Treatment Operational Summary and Reuse Statistics

D.B. Lee WWTP

- ◆ Treated this month: 148.54 MG
 - ◆ Treated daily: 4.95 MGD
 - ◆ Reuse distribution — total month flow: 26.59 MG
 - ◆ Reuse average daily flow: 0.99 MGD
 - ◆ Reuse number of days run: 30
 - ◆ Plant efficiency, BOD removal: 98%
 - ◆ Committed capacity: 0.2103 MGD
 - ◆ Capacity available for development: 0.3572 MGD
- (Based on 12-month average daily flow)*

Grant St. WWTP

- ◆ Treated this month: 108.25 MG
 - ◆ Treated daily: 3.61 MGD
 - ◆ Reuse distribution — total month flow: 2.69 MG
 - ◆ Reuse average daily flow: 0.09 MGD
 - ◆ Reuse number of days run: 11
 - ◆ Plant efficiency, BOD removal: 98.6%
 - ◆ Committed capacity: 0.3646
 - ◆ Capacity available for development: 1.4079
- (Based on 12-month average daily flow)*



Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 105.6
Cubic yards of material removed: 91
- ◆ Nighttime street sweeper — hours run: 74
Cubic yards of material removed: 83
- ◆ Asphalt repairs made: 40
- ◆ Tons of asphalt used: 95.5
- ◆ Feet of canals cleaned mechanically: 12,800
- ◆ Acres treated through aquatic spraying: 26
- ◆ Storm inlets repaired: 11
- ◆ Feet of storm drain pipe repaired: 140
- ◆ Concrete repairs: 11
- ◆ Cubic yards of concrete used: 200

Utilities Connection - Dec. 2001

www.melbourneflorida.org

Utilities Data from Nov. 2001

Lake Washington Surface Water Treatment Plant Improvement Project Update



Actiflo treatment unit gets weather protection

A fabric canopy roof system, on top of the Actiflo treatment system, is shown in the photo. The fabric roof system is a PVC coated polyester structural fabric that is UV light resistant and mildew and stain resistant. The roof structural support system is designed to withstand wind speeds upwards of 130 miles per hour.



Demolition of old filters begins

Demolition of old filters one through four has begun at the water plant. The old filters are being demolished. New deep bed filters are being constructed in their place. The new filters will be constructed similarly to filters five and six that were completed earlier in the project.

What's Done, What's Underway and What's Coming Up

Water Projects

Under Construction:

- ◆ Surface water treatment plant improvements, \$23.4 million
- ◆ Utility relocation associated with U.S. 1 widening, \$1,060,000
- ◆ Dairy Road water line, \$354,800
- ◆ Well flushing lines at the RO WTP, \$120,300
- ◆ Sarno Service Road waterline replacement, \$39,000

Recently Awarded:

- ◆ Painting/rehabilitation of Oak Street elevated water tank, \$101,900

Under Design or Ready for Bid:

- ◆ Aquifer exemption - RO potable water byproduct disposal at D.B. Lee WWTP injection well system
- ◆ Lake Washington waterline extension

- ◆ U.S. 1 utility relocations — Post Road to Pineda Causeway

Wastewater Projects

Recently Completed:

- ◆ D.B. Lee & Grant St. sludge facility improvements, \$62,568

Under Construction:

- ◆ Phase III improvements at D.B. Lee & Grant St. WWT Plants, \$15,587,000

Under Design or Ready for Bid:

- ◆ Lift Station No. 15 replacement
- ◆ Trickling filter upgrade at Grant Street WWT Plant

Streets & Stormwater Projects

Recently Completed:

- ◆ Dawn Drive, \$109,650

Under Construction:

- ◆ Pineapple Avenue Sidewalk, \$313,906

Under Design or Ready for Bid:

- ◆ Paving of miscellaneous streets
- ◆ Dove Street paving
- ◆ Rio Lindo dredging -- surveying and preliminary engineering
- ◆ Garfield Street stormwater outfall relocation
- ◆ Parkway Drive realignment study from Stewart Road to Florida East Coast Railroad
- ◆ Eber Road widening from Babcock Street to Dairy Road
- ◆ Sarno Road/Bell Street drainage improvements

For more information about this report, please contact the Melbourne Utilities Administration Department at (321) 674-5761 or send an e-mail to utilitiesadmin@melbourneflorida.org