



PW/Utilities Connection



April 2006

Utilities Data from March 2006 City of Melbourne Public Works & Utilities Department

City completes storm pipe replacement work on Croton Road

With plenty of time to spare before this summer's hurricane season begins June 1, a stormwater pipe replacement project has been completed at the south end of Croton Road. The line carries all the stormwater flows from the large Fountainhead subdivision. A section of the pipe had collapsed last October during Hurricane Wilma.

The pipe failed due to the large volume of water that pushed through during the storm. It started leaking out of the joints and caused the line to cave in from the bottom.

Since then, a small portion of Croton Road, at the south end near the National Weather Service station, had been blocked to allow only one lane of traffic.

"The left side was starting to dip," according to foreman Dennis Burke. "It wouldn't have held through another storm. Our mission was to get it repaired before the start of this hurricane season."

Crews from the Streets & Stormwater Management Division recently performed all the work



A few days after Hurricane Wilma struck, crews from both Streets & Stormwater Management and Wastewater Collections worked together to temporarily attach a sewer pipe to a pole. This was used to hold it in place until repairs could be made to the broken stormwater pipe below it.

necessary to replace the pipe rather than using the services of an outside contractor.

Materials and restoration cost \$25,000. Streets & Stormwater Superintendent Bill Williams explained that an outside contractor likely would have cost at least \$300,000 for the complete project according to prior

estimates.

Besides simply replacing the pipe, the crews had to tie up fiber optic line, a water main and a wastewater pipe, all in the ground above the stormwater pipe.

"This is one of the biggest projects our division has done in-house with a lot of obstacles due to the various utilities," Williams said. "The guys did an extremely good job."

It took the crews six days to install the 160-feet of corrugated metal pipe for the project, and another three days for restoration including re-paving and sod installation.



Crews from the Streets & Stormwater Division shown working on the new pipe installation.

PW/Utilities Connection - April 2006

www.melbourneflorida.org

Public Works/Utilities Data from March 2006

Monthly Water Usage and Raw/Finished Water Quality Statistics

Water Usage

- ◆ Water pumped to service: 505,593,000 gallons or 16.309 MGD average
- ◆ Maximum finished water pumped to service: 17.271 MGD on March 18, 2006
- ◆ Fire hydrant flushing: 19,708,290 gallons
- ◆ Committed capacity: 3.8223 MGD
- ◆ Capacity available for development: 7.6364 MGD (Based on 12-month average daily flow)

Water Quality Statistics

Lake water quality

- ◆ pH: 7.9
- ◆ Alkalinity: 66 mg/L
- ◆ Total hardness: 112 mg/L

- ◆ Chlorides: 70 mg/L
- ◆ Color: 143
- ◆ Total dissolved solids (TDS): 228 mg/L

Well water quality

- ◆ pH: 7.7
- ◆ Alkalinity: 123 mg/L
- ◆ Total hardness: 600 mg/L
- ◆ Chlorides: 691 mg/L
- ◆ Color: 6
- ◆ TDS: 1,463 mg/L

Finished water quality - pumped to service

- ◆ pH: 8.4
- ◆ Alkalinity: 36 mg/L
- ◆ Total hardness: 82 mg/L
- ◆ Chlorides: 62 mg/L
- ◆ Color: 4
- ◆ Total dissolved solids (TDS): 245 mg/L

Generators placed to keep lift stations running in storms

Preparing for hurricane season, which starts June 1, has taken on a new level of importance following the past two destructive years. Predictions call for another very active season this summer.

One way the City is preparing is by taking measures to prevent sewage lift stations from overflowing due to power outages. This is of critical importance in protecting the health of Melbourne residents.

The City's Wastewater Collections Division has been working feverishly to complete the installation of 10 permanently-installed generators before the start of the season. The generators will keep the lift stations pumping in the event of power outages. Two other generators are also being installed to power important Public Works and Utilities buildings.

"We have done all of this \$80,000 project inhouse from the ground up," said Lift Station Supervisor Darrell



Electrician Kevin Burns, in white shirt on left, observes placement of a generator on Young Street. Shane Jones and John Taormina remove boom cords while Matt Burgeson and Wayne Noll prepare for installation. Oscar Vega also participated in the generator project.

Manchester. "This includes electrical, mechanical and concrete work."

Once these newest generators are up and running, 34 of the City's 85 lift stations will have the permanent units. They range in size from 30 kw to 125 kw and have been strategically placed at the major lift stations and at locations that typically lose power during storms. In addition, the division maintains nine portable

generators that can be transported to wherever they are needed.

"We haven't had any spills because of the ways our guys respond after hurricanes," Manchester said. "We monitor all of our lift stations through telemetry which tells us the condition of each one."

With the new generators in place, the division will have more time to help the other divisions with their

PW/Utilities Connection - April 2006

Wastewater Treatment Operational Summary and Reuse Statistics

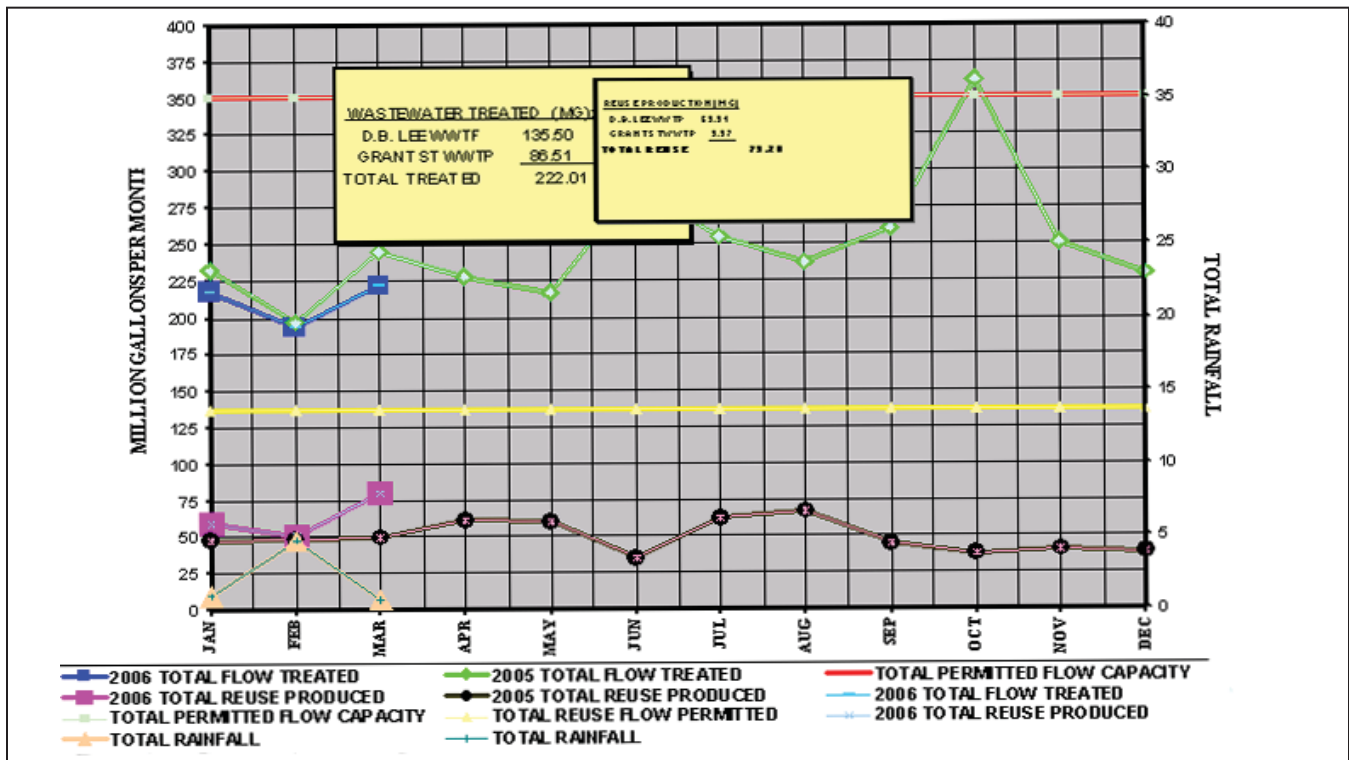
D.B. Lee WWTP

- ◆ Treated this month: 135.5 MG
- ◆ Treated daily: 4.37 MGD
- ◆ Reuse production — total month flow: 69.31 MG
- ◆ Reuse average daily flow: 2.24 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 98.50%
- ◆ Committed capacity: 1.3525 MGD
- ◆ Capacity available for development: 0.0733 MGD
(Based on 12-month average daily flow)

Grant St. WWTP

- ◆ Treated this month: 86.51 MG
- ◆ Treated daily: 2.79 MGD
- ◆ Reuse production — total month flow: 9.97 MG
- ◆ Reuse average daily flow: 0.32 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 98.21%
- ◆ Committed capacity: 1.5383 MGD
- ◆ Capacity available for development: 0.3884 MGD
(Based on 12-month average daily flow)

Summary of Wastewater Treatment and Reuse Production



Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 182.5
Cubic yards of material removed: 216
- ◆ Nighttime street sweeper — hours run: 105
Cubic yards of material removed: 95
- ◆ Asphalt repairs made: 37
- ◆ Tons of asphalt used: 28.2
- ◆ Feet of canals cleaned mechanically: 4,800
- ◆ Acres treated through aquatic spraying: 21
- ◆ Feet of storm drain pipe repaired: 7
- ◆ Concrete repairs: 26
- ◆ Cubic yards of concrete used: 49

PW/Utilities Connection - April 2006

www.melbourneflorida.org

Utilities Data from March 2006

March Highlights

The level of Lake Washington dropped during the last month. At the end of March, the lake level was 12.23 feet above sea level. This compares to the lake level at the end of February, when it was 13.72 feet above sea level.

The D.B. Lee Wastewater Treatment Plant recorded 0.30 inches of rain during one day in March. The Grant Street Wastewater Treatment Plant received 0.35 inches of rain over one days during March. A total of 79.28 million gallons of reclaimed water was produced during March. This represents 36% percent of total plant flows.



A group of recently hatched Muscovy ducklings Learn to swim with their mother. To the enjoyment of many employees, the ducks have taken up residence in the stormwater pond located at the City's Public Works Complex. Muscovy ducks are year-round Florida residents.

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

Water Projects

Recently Completed:

- ◆ Chlorine scrubber at Avenue B booster station, \$102,000

Under Construction:

- ◆ Phase II surface water treatment plant improvements, \$11,322,000
- ◆ Miscellaneous two-inch to six-inch waterline upgrades, \$874,857

Under Design or in Bid

Process:

- ◆ Wickham Road ground storage tank and booster pump station
- ◆ Automatic transfer switch and generator enclosure at the surface water treatment plant's belt press building
- ◆ A1A water main interconnect
- ◆ Pineda Causeway 16" water main
- ◆ Wickham Road 8" water main
- ◆ Babcock Street water line relocation between Fee Avenue and Melbourne Avenue

- ◆ 36" water main clearing, Phase II
- ◆ Waterlines in annexation areas — Deerwood and El Dorado

Wastewater Projects

Recently Completed:

- ◆ Garage doors at Grant Street WWTP

Under Construction:

- ◆ Crane Creek sub-aqueous bypass main, \$54,745

Under Design or in Bid

Process:

- ◆ Reuse master plan
- ◆ Water & Wastewater Operations maintenance building
- ◆ Lift Station #55 upgrade
- ◆ Electrical upgrade to the sludge belt press building at D.B. Lee and Grant Street WWTPs

- ◆ D.B. Lee WWTP administration building

- ◆ Lift Station #43 (Front Street) upgrade

- ◆ Bell Street sewer aerial crossing
- ◆ Reuse interconnect

Streets & Stormwater

Projects

Under Construction:

- ◆ Eber Road widening from Babcock Street to Dairy Road, \$3,840,879

Under Design or in Bid

Process:

- ◆ Babcock and Hibiscus intersection improvements
- ◆ Gramling Park Road drainage improvements
- ◆ Melbourne Avenue drainage at Pennwood Avenue

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