



PW/Utilities

Connection



October 2004

Utilities Data from Sept. 2004

City of Melbourne Public Works & Utilities Department

Hurricanes put Public Works & Utilities staff to the test

Mother Nature stormed through Melbourne in September packing a double-punch named Frances and Jeanne. They left the City reeling while putting the staff, equipment and resources to the ultimate endurance test.

“Public Works & Utilities Department employees met the many challenges and performed in an exemplary manner, keeping City services intact despite insurmountable and adverse conditions,” said department director Bob Klaproth. “They quickly restored those services that were lost or damaged during the storm.”

Each division has unique responsibilities to maintain transportation access, drainage, water and wastewater services during emergencies. At the same time, they are responsible for protecting and maintaining City facilities and equipment throughout the storm and afterward.

Each hurricane was unique, presenting different challenges, however, the common denominator between the two was overcoming the challenge of lost power supply and communications. When not functioning, both reeked havoc and caused special difficulties to overcome.

One testimony resonating from the storms is that the employees grew closer-knit, dropping divisional or turf boundaries, to work together as a unit to solve each unique problem.

Briefly, some of the noteworthy actions during the hurricanes are summarized below:

■ During Hurricane Frances, Facilities and Fleet Management crews were dispatched at the height of the storm to assist with a broken generator at the Sherwood Elementary School special-needs shelter. Air condition-

ers and lights were crucial for the health and comfort of those with special needs.

■ The Streets and Stormwater Division distributed some 18,000 filled sandbags for hurricanes Charley, Frances and Jeanne, with 200 tons of total sand provided to citizens. During

Jeanne, residents also had the option to self-fill bags from stockpiled sand, as time grew short. Sandbag operations were moved to the Dog Track on Wickham & Sarno Roads making distribution more efficient.

■ There was no interruption of water service or loss of pressure during Hurricane Jeanne.

■ The Streets Division responded early Sunday morning after Hurricane Jeanne. They provided an arrowboard and cones to the US-1 northbound lane cave-in at Avenue D until FDOT crews could arrive to

safely secure the roadway and direct traffic.

■ All of the City’s wastewater lift stations were without FPL power, relying only on standby emergency generators to keep the pump stations operating. To keep things running, employees transported portable generators, station to station, to keep them pumped down.

■ The Fleet Management Division coordinated fuel delivery to the generators and repaired mechanical and road equipment, such as police cars and backhoes. At least 30 tires had to be replaced from debris punctures.

Story continued on page 2

Editor’s Note: Due to the impact of Hurricanes Frances and Jeanne hitting back to back in September, the PW/Utilities Connection was not issued that month.



Facilities Maintenance crew collects 45-foot long, 400-pound street light poles, 11 of which fell down on the Melbourne Causeway following Hurricane Frances. The crew includes Greg Valenti, Don DeLoach, Lasalle Randall, John Striepe, George Wood, Gene Henderson and Superintendent Marv Sharp.

PW/Utilities Connection - Oct. 2004

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Public Works/Utilities Data from Sept. 2004

Monthly Water Usage and Raw/Finished Water Quality Statistics

Water Usage

- ◆ Water pumped to service: 435,879,000 gallons or 14.529 MGD average
- ◆ Maximum finished water pumped to service: 16.742 MGD on Sept. 8, 2004
- ◆ Water billed: 400,662,600 gallons
- ◆ Fire hydrant flushing: 37,750 gallons
- ◆ Fire Department water usage: 14,369,140 gallons
- ◆ Flushing and testing new water mains: 103,984 gallons
- ◆ Committed capacity: 1.983 MGD
- ◆ Capacity available for development: 9.207 MGD (Based on 12-month average daily flow)

- ◆ Total hardness: 81 mg/L
- ◆ Chlorides: 57 mg/L
- ◆ Color: 366
- ◆ Total dissolved solids (TDS): 177 mg/L

Well water quality

- ◆ pH: 7.7
- ◆ Alkalinity: 129 mg/L
- ◆ Total hardness: 621 mg/L
- ◆ Chlorides: 749 mg/L
- ◆ Color: 5
- ◆ TDS: 1,630 mg/L

Finished water quality - pumped to service

- ◆ pH: 8.2
- ◆ Alkalinity: 39 mg/L
- ◆ Total hardness: 77 mg/L
- ◆ Chlorides: 65 mg/L
- ◆ Color: 2
- ◆ Total dissolved solids (TDS): 245 mg/L

Water Quality Statistics

Lake water quality

- ◆ pH: 7.5
- ◆ Alkalinity: 55 mg/L

Hurricanes put staff to the test continued from page 1

■ The Facilities Maintenance Division helped with sandbagging and protecting records at the Police Department when the roof over the records was lost during the storm.

Working beyond divisional boundaries was a key to efficient storm preparation and recovery. For example, the Public Works & Utilities Department adopted a hands-on debris management philosophy to expedite pickup and removal of the tons of yard waste and other storm debris.

Storm debris collectors arrived from various parts of Florida and from other states, including Kentucky, Alabama, Oklahoma, Georgia and more, with 142 trailers and dump trucks used in the massive effort.



John Clark (far right) of the City's Streets & Stormwater Division, serves as a monitor, overseeing one of the crews collecting storm yard

At one point during the cleanup effort, there were 15 separate collection crews spread throughout the City. These crews were monitored by staff members from various and diverse City departments such as finance, water production, parks, streets, and engineering.

These monitors have logged hundreds of hours witnessing the debris collection and ensuring that the work is being performed efficiently and effectively, within FEMA guidelines. Between both storms, City staff logged countless hours ensuring a quick recovery.

Special thanks to Martha Campbell, project engineer with the Engineering Department, for contributing this story — another example of interdepartmental cooperation and teamwork.

PW/Utilities Connection - Oct. 2004

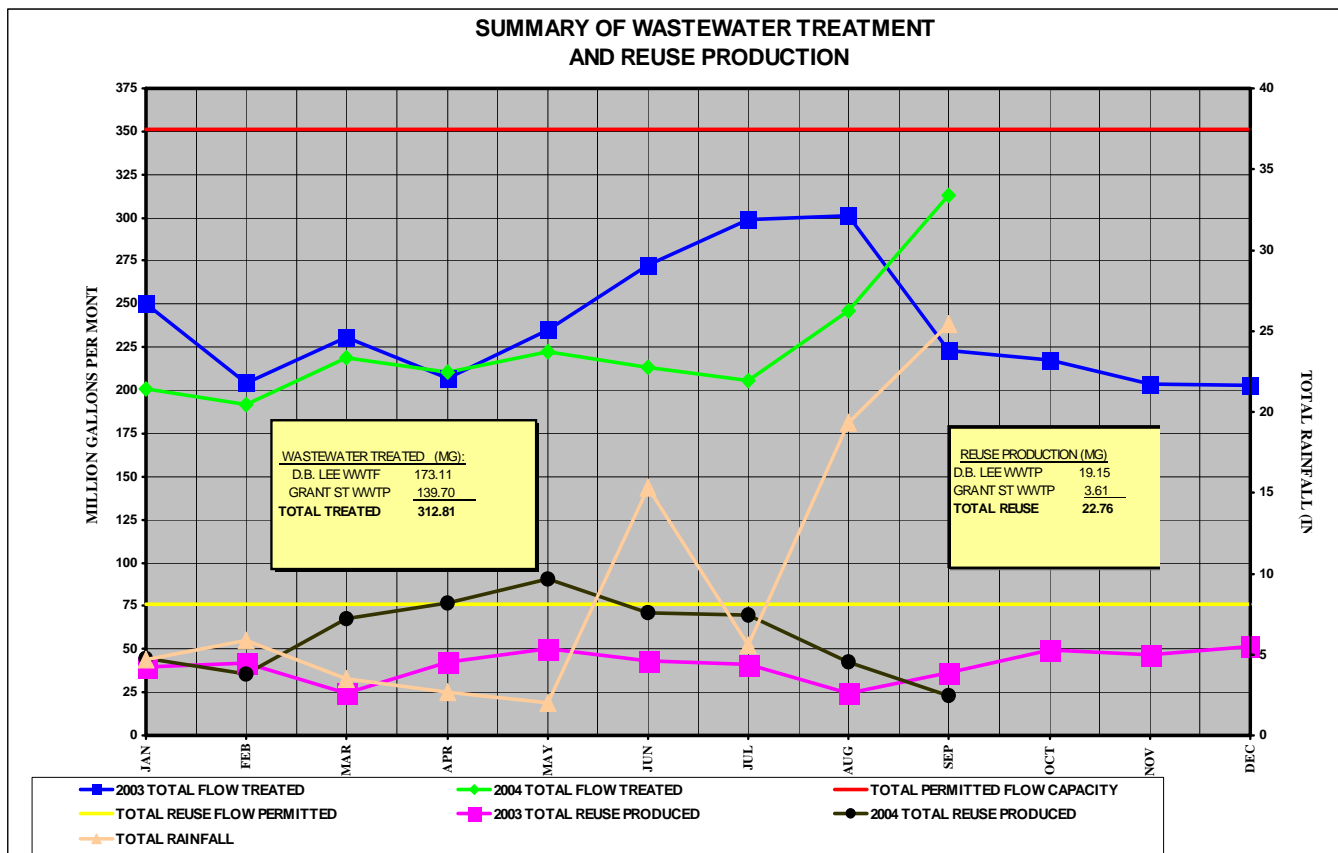
Wastewater Treatment Operational Summary and Reuse Statistics

D.B. Lee WWTP

- ◆ Treated this month: 173.11 MG
 - ◆ Treated daily: 5.77 MGD
 - ◆ Reuse production — total month flow: 19.15 MG
 - ◆ Reuse average daily flow: 0.64 MGD
 - ◆ Reuse number of days run: 19
 - ◆ Plant efficiency, BOD removal: 98.98%
 - ◆ Committed capacity: 0.861 MGD
 - ◆ Capacity available for development: 0.714 MGD
- (Based on 12-month average daily flow)*

Grant St. WWTP

- ◆ Treated this month: 139.7 MG
 - ◆ Treated daily: 4.55 MGD
 - ◆ Reuse production — total month flow: 3.61 MG
 - ◆ Reuse average daily flow: 0.12 MGD
 - ◆ Reuse number of days run: 30
 - ◆ Plant efficiency, BOD removal: 98.23%
 - ◆ Committed capacity: 0.622 MGD
 - ◆ Capacity available for development: 2.018 MGD
- (Based on 12-month average daily flow)*



Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 120
Cubic yards of material removed: 180.5
- ◆ Nighttime street sweeper — hours run: 98
Cubic yards of material removed: 110
- ◆ Asphalt repairs made: 37
- ◆ Tons of asphalt used: 29.25
- ◆ Feet of canals cleaned mechanically: 2,385
- ◆ Acres treated through aquatic spraying: 20
- ◆ Feet of storm drain pipe repaired: 300
- ◆ Concrete repairs: 18
- ◆ Cubic yards of concrete used: 20.5

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August and September Highlights

The level of Lake Washington increased significantly during the last two months. At the end of August the lake level was 15.93 feet above sea level. At the end of September it rose to 18.62 feet above sea level, the highest lake level recorded since 1967, which is as far as the records go back. This compares to the end of July, when it was 13.81 feet above sea level. Water quality remains good.

The D.B. Lee Wastewater Treatment Plant recorded 9.2 inches of rain during 15 days in August, and 11.85 inches of rain during nine days in September. The Grant Street Wastewater Treatment Plant received 10.15 inches of rain over 18 days during August, and 13.56 inches of rain over nine days during September. A total of 42.28 million gallons of reclaimed water was produced during August and a total of 22.76 million gallons was produced during September. This represents 17 percent of total plant flows for August and seven percent for September.

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

Water Projects

Recently Completed:

- ◆ Croton Road utility relocation associated with widening, \$593,257
- ◆ Trailer Haven waterline upgrades, \$195,905

Under Construction:

- ◆ Parkway Drive and Turtlemound water line extension, \$657,000
- ◆ Hibiscus booster station electric shut-off valves, \$75,777
- ◆ Wickham Road waterline replacement from SR 192 to Nasa Blvd., \$1,257,000
- ◆ Sludge handling facility motor control center and belt filter press control cabinets, \$175,685
- ◆ Waterline upgrade, Olde Eau Gallie, \$347,409
- ◆ Painting various structures at Lake Washington Water Treatment Plant, \$159,592
- ◆ Fee Avenue waterline replacement under FEC, \$120,330

Under Design or in Bid

Process:

- ◆ Phase II surface water treatment plant improvements
- ◆ Utility relocation in association

with NASA Boulevard realignment at Wickham Road

- ◆ Chemical feed upgrades at Canova Beach Booster Station
- ◆ Wickham Road ground storage tank and booster pump station
- ◆ Covered storage building at surface water treatment plant
- ◆ Eau Gallie River sub-aqueous crossing

Wastewater Projects

Recently Completed:

- ◆ Sewer manhole rehabilitation, Leewood Forest, \$123,525
- ◆ Inflow and infiltration elimination, Lift Station 6 area, \$317,953

Under Construction:

- ◆ Lift Station 24 replacement design, \$451,440
- ◆ Demolition of old treatment units at D.B. Lee WWTF, \$624,700

Under Design or in Bid

Process:

- ◆ New monitoring network for reuse system at DB Lee WWTP

Streets & Stormwater Projects

Recently Completed:

- ◆ Houston Street seawall rehabilitation, \$71,707
- ◆ Street milling and resurfacing of various streets, \$794,000
- ◆ Swift Street stormwater improvements, \$195,107

Under Construction:

- ◆ Sherwood Park drainage improvements, \$358,285
- ◆ Sarno Road/Bell Street drainage improvements, \$257,911
- ◆ Babcock Street realignment, \$1,394,649
- ◆ Eber Road widening from Babcock Street to Dairy Road, \$3,840,879

Under Design or in Bid

Process:

- ◆ Hoag Avenue paving and drainage improvements
- ◆ Upgrade of stormwater outfalls at Charles Dr./Almar Subdivision
- ◆ Upgrade of existing culvert crossing under Pirate Lane
- ◆ Pineapple Avenue pedestrian bridge at Cliff Creek

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