



PW/Utilities

Connection



May 2004

Utilities Data from April 2004

City of Melbourne Public Works & Utilities Department

Regulatory compliance coordinators keep plants on track

Detail-oriented and organized would describe the City's two regulatory compliance coordinators — essential skills for the type of work they perform.

Leigh Ann McDonald serves this role for the Wastewater Treatment Division, while Joan McGaughey handles the duties for the Water Production Division.

Five-year employee McDonald is a relative newcomer to the City, while McGaughey is a seasoned veteran. She started with the City more than 30 years ago — first as an operator trainee, and then going on to earn her C, B and A (which is the highest level) operator's licenses.

While many of their duties are similar, there are many differences as well. McDonald has been focusing much of her recent attention to the permit renewal process. Every five years a permit renewal must be prepared for each plant for submission to the Florida Department of Environmental Protection (FDEP).

"These permits are our 'recipe' from the FDEP," McDonald explained. "They authorize our capacity, flow limits, how much reuse we can distribute and certain other technical limits."

For each wastewater treatment plant, a three-and-a-half inch binder holds the six-section application, along with the attached reuse feasibility study.

In addition to work on these and other regulatory permits, McDonald handles ordering supplies for the plants, maintaining inventory in the warehouse and paper flow for the entire division, along with many other special projects.

"She is the central point of contact for all of the supervisors in the division," said Wastewater Treatment Superintendent Eric Blankman. "She is essential to our



Leigh Ann McDonald goes over wastewater treatment permit.



Joan McGaughey works on operator reports.

operation. She is a self starter, self motivated and gets along well with people."

Similarly, McGaughey keeps numerous records, also essential to water plant permitting. She prepares all the monthly operators' reports and orders and keeps track of the myriad of chemicals required in the water production processes.

She explained there are some 20 different chemicals used at the plants and the four booster stations where chemicals are also fed.

"We order approximately \$1 million worth of chemicals per year," said Water Production Superintendent Fred Davis. "She pulls all this together and manages that part of our budget."

In addition, Davis explained that she pulls together all the data from the operators and the two plants, along with the lab data, to compile the required reports for the FDEP.

"She contributes a lot in her role," Davis said. "If anyone is looking for historical data about plant operations, they can call her and she will find it in a matter of minutes."

McGaughey is currently serving as Region III chair of the Florida Water & Pollution Control Operators Association. The association provides training and other assistance to water and wastewater treatment plant operators throughout the state.

While both coordinators are challenged with keeping up with all the documentation, paperwork and new rules required by state and federal regulations, they are both well suited to the tasks and admired by their supervisors for the essential roles they perform in the operation of the plants.

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Monthly Water Usage and Raw/Finished Water Quality Statistics

Water Usage

- ◆ Water pumped to service: 494,866,000 gallons or 16.496 MGD average
- ◆ Maximum finished water pumped to service: 18.101 MG on April 4, 2004
- ◆ Water billed: 338,828,900 gallons
- ◆ Fire hydrant flushing: 15,406,651 gallons
- ◆ Fire Department water usage: 39,000 gallons
- ◆ Brevard County water usage – sewer flushing: 9,750 gallons
- ◆ Flushing and testing new water mains: 26,252 gallons
- ◆ Committed capacity: 1.4934 MGD
- ◆ Capacity available for development: 10.1868 MGD (Based on 12-month average daily flow)

- ◆ pH: 7.1
- ◆ Alkalinity: 64 mg/L
- ◆ Total hardness: 132 mg/L
- ◆ Chlorides: 95 mg/L
- ◆ Color: 186
- ◆ Total dissolved solids (TDS): 291 mg/L

Well water quality

- ◆ pH: 7.3
- ◆ Alkalinity: 118 mg/L
- ◆ Total hardness: 602 mg/L
- ◆ Chlorides: 718 mg/L
- ◆ Color: 6
- ◆ TDS: 1,459 mg/L

Finished water quality - pumped to service

- ◆ pH: 8.1
- ◆ Alkalinity: 37 mg/L
- ◆ Total hardness: 104 mg/L
- ◆ Chlorides: 87 mg/L
- ◆ Color: 2
- ◆ Total dissolved solids (TDS): 277 mg/L

Water Quality Statistics

Lake water quality

Project will result in better water for Indialantic neighborhood

Residents in an Indialantic neighborhood are enjoying the results of a recent project to replace two-inch galvanized steel water distribution pipe with new PVC pipe. The old pipe had been in place since the early 1960's.

Not only had the existing pipe formed tuberculations, or a build up of deposits and minerals that are common on the rough-walled steel pipe, but the pipes ran into a dead-end causing water problems due to lack of circulation.

"The tuberculation in the steel pipe severely restricts the flow of water and deposits can break loose causing dirty water complaints," said Utilities Operations Superintendent Tom Hogeland. "While the material is not harmful, it does cause the water to have a brownish appearance," Hogeland explained.

The 1,800 feet of new PVC pipe was installed on



Installing new 6-inch line for one of the new fire hydrants as part of the project are Bernie Neanover (foreground) and Donnie Thompson. In the background are Foreman Tim Mulligan (right) and Dave Riley. Odell Wadlington and John Hummel were also part of the crew for the project.

Genesee Avenue and Watson Drive near the

northern city limits of Indialantic. In addition, two new fire hydrants were added and the system has been looped by making connections to the water main on each end which will provide better circulation.

In order to not disrupt driveway access or traffic, directional drilling was employed in this well-established, upscale neighborhood. Directional drilling allows the pipe to be placed under driveways and roads with minimal disruption. In addition, the new mini track-hoe was used, also to

minimize the impact of construction.

The project was completed in-house in a month at a cost of approximately \$13,000. According to Hogeland, if the project had been contracted out, the costs would have more than doubled.

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Wastewater Treatment Operational Summary and Reuse Statistics

D.B. Lee WWTP

- ◆ Treated this month: 129.41 MG
- ◆ Treated daily: 4.31 MGD
- ◆ Reuse production — total month flow: 66.61 MG
- ◆ Reuse average daily flow: 2.22 MGD
- ◆ Reuse number of days run: 30
- ◆ Plant efficiency, BOD removal: 98.68%
- ◆ Committed capacity: 0.7194 MGD
- ◆ Capacity available for development: 1.0757 MGD
(Based on 12-month average daily flow)

Grant St. WWTP

- ◆ Treated this month: 81.20 MG
- ◆ Treated daily: 2.71 MGD
- ◆ Reuse production — total month flow: 10.06 MG
- ◆ Reuse average daily flow: 0.34 MGD
- ◆ Reuse number of days run: 30
- ◆ Plant efficiency, BOD removal: 97.99%
- ◆ Committed capacity: 0.4638 MGD
- ◆ Capacity available for development: 2.0712 MGD
(Based on 12-month average daily flow)

New mini-sweeper to keep sidewalks and bike paths clean

Joggers, roller-bladers, bike-riders and walkers will soon be enjoying bike paths and sidewalks that are free of glass, rocks and other debris thanks to the City's newly-purchased mini sweeper.

The Tennant Sidewalk Sweeper was delivered in mid-May and will be put into service toward the end of the month. At a cost of \$29,632 the sweeper will take care of the City's 16 miles of bike paths and countless miles of sidewalk.

A simple one-button operation makes the machine easy to operate. It has a side broom that sweeps material into the main broom. The main broom then sweeps the material into the hopper, which can hold 900 pounds. The drive is similar to that



Mike Giorgio tries out the new sweeper. The division now has five sweepers in its fleet.

of a golf cart.

"This is something we badly needed," said Assistant Streets and Stormwater Superintendent Mike Giorgio. "It will reduce the potential of falling for people using the bike paths and sidewalks and will give the City a neater appearance. It's also another way to reduce stormwater runoff pollutants so it will help keep the Indian River Lagoon cleaner."

In the past an old tractor with an attached power broom had been used for bike paths, but was too wide for sidewalks. According to Giorgio, it also created a big cloud of dust, which was not healthy for the operator or passersby to breathe. The old power broom was sold at a recent City auction.

Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 447
Cubic yards of material removed: 186
- ◆ Nighttime street sweeper — hours run: 89
Cubic yards of material removed: 81
- ◆ Asphalt repairs made: 18
- ◆ Tons of asphalt used: 67.35
- ◆ Feet of canals cleaned mechanically: 8,357
- ◆ Acres treated through aquatic spraying: 15
- ◆ Feet of storm drain pipe repaired: 275
- ◆ Concrete repairs: 17
- ◆ Cubic yards of concrete used: 73

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April Highlights

The level of Lake Washington decreased slightly during April. At the end of the month, the lake level was 13.07 feet above sea level. That compares to the end of March reading of 13.46 feet above sea level. Water quality remains good.

The D.B. Lee Wastewater Treatment Plant recorded 1.4 inches of rain during three days in April. The Grant Street Wastewater Treatment Plant received 1.29 inches of rain over five days during the month.

A total of 76.67 million gallons of reclaimed water was produced during April. This represents 36 percent of total plant flows for the month.

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

Water Projects

Under Construction:

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

Under Design or in Bid

Process:

- ◆ Phase II surface water treatment plant improvements
- ◆ Utility relocation in association with NASA Boulevard realignment at Wickham Road
- ◆ Painting various structures at Lake Washington Water Treatment Plant
- ◆ Chemical feed upgrades at Canova Beach Booster Station
- ◆ Hibiscus booster station electric shut-off valves
- ◆ Wickham Road ground storage tank and booster pump station
- ◆ Parkway Drive and Turtle mound water line extension

- ◆ Covered storage building at surface water treatment plant
- ◆ Fee Avenue waterline replacement under FEC
- ◆ Eau Gallie River sub-aqueous crossing

Wastewater Projects

Recently Completed:

- ◆ Large (36") diameter sewer rehabilitation, \$669,465

Under Construction:

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

Under Design or in Bid

Process:

- ◆ Lift Station 24 replacement design
- ◆ New monitoring network for reuse system at DB Lee WWTP
- ◆ Demolition of old treatment units at D.B. Lee WWTF

Streets & Stormwater Projects

Recently Completed:

- ◆ Rio Lindo canal dredging, \$457,289

Under Construction:

- ◆ Street milling and resurfacing of various streets, \$794,000
- ◆ Sarno Road/Bell Street drainage improvements, \$257,911
- ◆ Swift Street stormwater improvements, \$195,107
- ◆ Babcock Street realignment, \$1,394,649

- ◆ Houston Street seawall rehabilitation, \$71,707

Under Design or in Bid

Process:

- ◆ Lime Drive cul de sac
- ◆ Hoag Avenue paving and drainage improvements
- ◆ Eber Road widening from Babcock Street to Dairy Road
- ◆ Upgrade of stormwater outfalls along Charles Dr./Almar Subdivision
- ◆ Upgrade of existing culvert crossing under Pirate Lane
- ◆ Baffle box at Cliff Creek
- ◆ 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