

# PW/Utilities Connection



## August 2011

Utilities Data from July 2011

City of Melbourne Public Works & Utilities Department

## Survey shows satisfaction & increased recycling with carts

A phone survey was recently conducted by Waste Management, authorized and approved by the City of Melbourne, to gauge residents' satisfaction with the new cart system for garbage and recycling collection. The survey company asked six questions, and provided the opportunity for input on why responders like or don't like the program.

The independent polling company explained the margin for error was 4.11% and the confidence level in the results as 95%. There were 16,382 attempts to get 556 completed surveys. The responses came from 94 of 102 water routes in Melbourne, showing a very representative sampling.

The questions, with percentages of positive responses, were as follows:

1. Do you find the new cart collection program to be more convenient than the old method? Positive: 85.6%
2. Do the carts keep your neighborhood cleaner by preventing animals from tearing bags, trash blowing, etc.? Positive: 90.1%
3. Are the carts more aesthetically pleasing in your neighborhood than the old method? Positive: 91%
4. Are you recycling more with the new recycling cart than you were with the 14 gallon bins? Positive: 75.9%
5. What is your satisfaction with the new cart system over the old method? Positive: 90.6%
6. What is your satisfaction with Waste Management as Melbourne's solid waste collection provider? Positive: 93.3%

"I think the survey results reflect very positively for the new cart system," said Public Works & Utilities Director Ralph Reigelsperger. "A positive for the environment is



*Waste Management recycling trucks line up on the scale before off-loading the collected recycling at the local transfer station.*

that 75.9% of our residents are recycling more with the carts than they were with the old bins."

After the transition to carts, Melbourne's total residential recycling tonnage increased 58% from the previous year. The increase came from both the higher set-out rate and people generally recycling more with carts.

There were 504 positive comments given by responders. They noted that the

carts are easier to handle and more convenient; cleaner and keep animals out of the trash and the neighborhoods looking better; they like the size, attached lid and sturdy construction; they make recycling easier and it's good for the environment; they are economical since customers don't have to buy their own carts; and it is a generally better system.

Negative comments were given by 43 people surveyed. Fifteen said they are too big and hard to use; 16 said that not all items are removed and larger items left; two said they are unattractive; three said they don't like having to pay for an extra cart; and three said garbage is not picked up often enough.



*A recycling truck dumps its load at the transfer station. The local recycling is then loaded onto trucks and transported for sorting at a materials recovery center in Orlando.*

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## Monthly Water Usage and Raw/Finished Water Quality Statistics

### Water Usage

- ◆ Water pumped to service: 479,530,000 gallons or 15.469 MGD average
- ◆ Maximum finished water pumped to service: 16.825 MGD on July 31, 2011
- ◆ Fire hydrant flushing: 16,667,060 gallons
- ◆ Committed capacity: 2.5780 MGD
- ◆ Capacity available for development: 6.8073 MGD (Based on 12-month average daily flow)

### Water Quality Statistics

#### Lake water

- ◆ Level: 14.23 feet above MSL on July 31, 2011 (Prior month comparison: 12.43 feet on )
- ◆ pH: 7.5
- ◆ Alkalinity: 52 mg/L

- ◆ Total hardness: 168 mg/L
- ◆ Chlorides: 162 mg/L
- ◆ Color: 90
- ◆ Total dissolved solids (TDS): 443 mg/L

#### Well water

- ◆ pH: 7.5
- ◆ Alkalinity: 121 mg/L
- ◆ Total hardness: 701 mg/L
- ◆ Chlorides: 863 mg/L
- ◆ Color: 5
- ◆ Total dissolved solids (TDS): 1,911 mg/L

#### Finished water - pumped to service

- ◆ pH: 8.4
- ◆ Alkalinity: 51 mg/L
- ◆ Total hardness: 131 mg/L
- ◆ Chlorides: 135 mg/L
- ◆ Color: 1
- ◆ Total dissolved solids (TDS): 374 mg/L

## In-house RO project improves safety and saves money

The City had a contract with Cypress Construction & Coating, Inc. for painting the Reverse Osmosis (RO) Water Treatment Plant Operations building to preserve the structural integrity of the building. This \$249,880 contract included painting interior and exterior walls, high service pumps, and the RO process and chemical feed rooms.

In conjunction with the project, Water Production staff got started on a significant improvement project, designed and installed in-house, saving about \$50,000 from what it would have cost had an outside contractor done the work.

“Staff first demolished and removed the old equipment and electrical conduits from the walls in the sulfuric acid chemical feed room and set up a temporary chemical feed skid outdoors,” said Water Production



*Superintendent Fred Davis holds back portion of safety curtain to display one of the new skids.*

Superintendent Fred Davis.

After that, Davis explained that the contractor repaired the floors and walls damaged from acid leaks that had occurred since the structure was originally put into place in 1995. The contractor used a two-stage acid-resistant epoxy paint. Sulfuric acid is used for pH adjustment as part of the RO treatment process.

Staff purchased two complete pump skids, self contained and floor mounted, to replace the old wall mounted pumps that sat on concrete pedestals. Electrical and mechanical staff also did all the plumbing, electrical wiring for the pump skids and pump configuration. A safety curtain was installed to protect employees from any future leaks from the acid.

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## Wastewater Treatment Operational Summary and Reuse Statistics

### D.B. Lee Water Reclamation Facility

- ◆ Treated this month: 120.32 MG
- ◆ Treated daily: 3.88 MGD
- ◆ Reuse production — total month flow: 39.96 MG
- ◆ Reuse average daily flow: 1.29 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 99.6 %
- ◆ Committed capacity: 0.6035 MGD
- ◆ Capacity available for development: 2.4231 MGD  
(Based on 12-month average daily flow)
- ◆ Rainfall: 5 inches over 11 days

### Grant St. Water Reclamation Facility

- ◆ Treated this month: 93.89 MG
- ◆ Treated daily: 3.03 MGD
- ◆ Reuse production — total month flow: 29.24 MG
- ◆ Reuse average daily flow: 0.94 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 98.65%
- ◆ Committed capacity: 1.0101 MGD
- ◆ Capacity available for development: MGD  
(Based on 12-month average daily flow)
- ◆ Rainfall: 2.92 inches over 11 days

A total of 69.20 million gallons of reclaimed water was produced during July, representing 32 % of total plant flows.

## In-house project underway to replace stormwater pipe

In-house crews have almost completed work to replace 56 feet of deteriorated corrugated metal pipe with 38-inch by 60-inch elliptical concrete stormwater pipe on Mustang Road. The work will take less than 30 days to complete.

The old pipe was failing causing the road to cave in. The road is maintained by the City while the ditch is maintained by the County.

The work also included



Working on the project, from back, are Shane Buckelew, Josh Baker, and Luis Burdett. Not pictured are Joel Mendolia, William McDonald and Foreman Joe Gervais.

building two catch basin junction boxes and installing 24 feet of pipe on the southeast corner, covered by dirt, to allow the County access to the ditch for maintenance. The crew also installed concrete header walls on both sides of the ditch for erosion control.

“This was an unanticipated project,” said Streets & Stormwater Superintendent Billy Williams. “By doing it ourselves, we saved time and money.”

## Streets and Stormwater Management Monthly Summary

### Street Sweeper

- ◆ Daytime street sweeper — hours run: 86
- ◆ Cubic yards of material removed: 343

### Canal & Ditch Maintenance

- ◆ Feet of canals cleaned mechanically: 4,436

### Aquatic Spraying

- ◆ Acres treated through aquatic spraying: 21

### Inlet Maintenance

- ◆ Storm inlets cleaned: 28
- ◆ Storm inlets repaired: 10
- ◆ Cubic yards of material removed from drains: 6

### Storm Drain Pipe Repair & Maintenance

- ◆ Feet of storm drain pipe repaired: 2
- ◆ Feet of storm drain pipe cleaned: 2,590
- ◆ Feet of storm drain pipe replaced: 56
- ◆ Feet of new storm drain pipe installed: 48

### Concrete Work

- ◆ Concrete repairs: 11
- ◆ Cubic yards of concrete used: 32

### Asphalt Work

- ◆ Asphalt repairs made: 86
- ◆ Tons of asphalt used: 40.75

### Water Usage

- ◆ Vac truck & yard usage (gallons): 36,500

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

### Water Projects

#### Recently Completed:

- Interior and exterior painting of Reverse osmosis water treatment plant, \$249,880

#### Under Construction:

- Reverse osmosis wellfield rehabilitation, \$331,270
- Pressure-sustaining valves, \$213,000
- Reverse osmosis byproduct (concentrate) pipeline extension, \$1,104,134

#### Under Design or in Bid Process:

- Apollo Boulevard extension utility relocation (anticipated bid date: 8/28/2011)
- Wickham Road reconstruction, 8" waterline (anticipated bid date: 9/28/2011)

### Wastewater Projects

#### Under Construction:

- Grant Street Water Reclamation Facility reuse improvements, phase I, \$5,216,025
- Water Reclamation Facilities generator and fuel storage

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

improvements, \$2,643,881

- Lift Station 55 to 23 replacement of sewer force main, \$1,607,188
- Rehabilitation of Lift Station 63
- 10" force main conversion to reclaimed main, \$150,000

#### Under Design or in Bid Process:

- D.B. Lee Water Reclamation Facility expansion and miscellaneous improvements
- Lift Station 25 rehabilitation

### Streets & Stormwater Projects

#### Recently Completed:

- Spain outfall drainage basin improvements, \$129,539

- Fee Avenue/Apollo Boulevard stormwater pond & culvert replacement, \$483,495

#### Under Design or in Bid Process:

- South Sarno Road drainage improvements
- Babcock Street medians, Phase 3, Apollo Boulevard to Almar Drive (design completed, anticipated bid date: Fall 2011 pending grant funding, Babcock Street from Brevard Drive to Alma Drive only)
- D.B. Lee Water Reclamation Facility ditch restabilization
- Shenandoah outfall drainage basin improvements
- Spain outfall drainage basin improvements phase II

## Water rec lab earns testing certificate

The City's water reclamation laboratory is required to submit to annual testing to maintain its NPDES certification at the Grant Street Water Reclamation Facility. NPDES is an acronym for the National Pollutant Discharge Elimination System, authorized by the Federal

Clean Water Act to protect natural water bodies from pollution. It is administered in the state by the Florida Department of Environ-



From left, lab tech Curt Saal; supervisor Mark Kramer, displaying the most recent certificate; and lab tech Greta Barner

mental Protection (FDEP). The lab certification is a component of the City's overall NPDES permit.

Testing is required for 10 separate parameters at the Grant Street facility due to its location on Crane Creek, a tributary of the Indian River Lagoon.

"Potentially, reclaimed water and secondary effluent could be discharged into Crane Creek," said Environmental Compliance Supervisor Mark Kramer.