

PW/Utilities Connection



February 2008

Utilities Data from Jan. 2008

City of Melbourne Public Works & Utilities Department

Camera trailer built in-house for fraction of normal cost

Wastewater Collection Division staff have recently completed the conversion of an older enclosed trailer into a video inspection unit. By using existing equipment and doing the work themselves, what would have cost at least \$55,000 only cost \$5,000.

"They did a really good job," said Public Works & Utilities Director Bob Klaproth. "Their efforts have saved the City a lot of money and will allow them to increase their inspection work."

The new camera trailer compliments the division's existing camera van, providing both redundancy and also backup if the other is out of service for maintenance or repairs.

"We can now do two jobs at once or continue working on a job if the camera van is out of service for repairs," said Wastewater Collection Supervisor Mike Caruso. "We are normally out every day with the camera van."

Videos are taken of wastewater lines after the vac truck first cleans them out. The video is used for inspection of suspected breaks or problems, and also for preventive maintenance.

"We've never been able to do preventive maintenance to the extent as we will be able to now," said Caruso. "We didn't have enough people or equipment. Now we will be able to find problem areas before they develop into something major."

To construct the new camera trailer, they obtained

equipment from an old camera van that was set to go to City auction. Even though the equipment was old, it was not obsolete, according to Caruso. New camera equipment would have been very expensive.

Then they mounted the equipment from the old

van into the trailer, which will be brought to work sites hitched to a pickup truck.

Foreman Matt Simon, who first came up with the idea for the conversion, explained that electrician Kevin Burns performed all the electrical work needed for lighting, and for the computer and camera equipment. Mechanics and maintenance staff built the desk for the computer equipment, a storage bench, installed carpeting and metal over the bare wood floor, and plastic strips at the opening. The trailer is air conditioned to protect the computer

and electrical equipment. The plastic strips keep the cool air inside when the hatch is opened.

The division's other video inspection unit is a camera van, manufactured by Aries. The Streets & Stormwater Management Division also has an Aries camera van. Simon said a representative of the Aries Company observed the unit City staff had assembled inhouse.

"He said this one is awesome and looks just like some of the ones they build," said Simon.



Butch Burke, who with Ruben Rosado (not pictured), is one of the division's two maintenance technicians who operate the camera equipment. Burke is shown sitting at the computer. Others who were instrumental in constructing the camera trailer are electrician Kevin Burns (left), mechanic John Taormina, and maintenance worker Shane Jones.

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Monthly Water Usage and Raw/Finished Water Quality Statistics

Water Usage

- ◆ Water pumped to service: 458,357,000 gallons or 14.786 MGD average
- ◆ Maximum finished water pumped to service: 15.610 MGD on Jan. 7, 2008
- ◆ Fire hydrant flushing: 15,785,470 gallons
- ◆ Committed capacity: 4.7955 MGD
- ◆ Capacity available for development: 6.6144 MGD (Based on 12-month average daily flow)

Water Quality Statistics

Lake water

- ◆ Level: 13.98 feet above MSL on January 31, 2008 (Prior month comparison: 13.93 feet on Dec. 31, 2007)
- ◆ pH: 7.8
- ◆ Alkalinity: 63 mg/L

- ◆ Total hardness: 131 mg/L
- ◆ Chlorides: 93 mg/L
- ◆ Color: 302
- ◆ Total dissolved solids (TDS): 313 mg/L

Well water

- ◆ pH: 7.8
- ◆ Alkalinity: 119 mg/L
- ◆ Total hardness: 658 mg/L
- ◆ Chlorides: 793 mg/L
- ◆ Color: 5
- ◆ Total dissolved solids (TDS): 1,765 mg/L

Finished water - pumped to service

- ◆ pH: 8.5
- ◆ Alkalinity: 46 mg/L
- ◆ Total hardness: 90 mg/L
- ◆ Chlorides: 75 mg/L
- ◆ Color: 2
- ◆ Total dissolved solids (TDS): 311 mg/L

Demolition of the old north water treatment plant underway

A crumbling building and water clarifier comprise what is known as the north water treatment plant. Located near Melbourne's current water production facilities and wellfield, the plant was part of the original Eau Gallie water plant system.

Built in the 1950s at about the same time as Melbourne's surface water plant was originally constructed, the plant served what was then the separate City of Eau Gallie. Melbourne and Eau Gallie merged in 1969. Both plants were running after the cities merged.

The north plant has been inactive since 1989. On the property, however, is an active water storage tank and pump station. The site also houses a field

office leased to the Florida Fish & Wildlife Conservation Commission.

Due to the age and deteriorated condition of the site, the City has a contract with Sunrise Systems of Brevard, Inc., of Cocoa, to demolish the old structures and remove debris for \$179,506.

"The old north plant has become a 'friendly nuisance'," said Public Works & Utilities Director Bob Klaproth. "It is being demolished because it no longer serves a purpose and it could pose liability issues."

Once the structures are demolished and the site is cleared, it may be made available for potential future water production facility plant expansion needs.



The old north plant, background, and the clarifier just prior to recent demolition.

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Wastewater Treatment Operational Summary and Reuse Statistics

D.B. Lee Water Reclamation Facility

- ◆ Treated this month: 127.05 MG
- ◆ Treated daily: 4.10 MGD
- ◆ Reuse production — total month flow: 48.33 MG
- ◆ Reuse average daily flow: 1.56 MGD
- ◆ Reuse number of days run: 30
- ◆ Plant efficiency, BOD removal: 99.6%
- ◆ Committed capacity: 1.3836 MGD
- ◆ Capacity available for development: 1.3081 MGD
(Based on 12-month average daily flow)
- ◆ Rainfall: 4.55 inches over 13 days

Grant St. Water Reclamation Facility

- ◆ Treated this month: 83.54 MG
- ◆ Treated daily: 2.69 MGD
- ◆ Reuse production — total month flow: 6.53 MG
- ◆ Reuse average daily flow: 0.21 MGD
- ◆ Reuse number of days run: 31
- ◆ Plant efficiency, BOD removal: 98.9%
- ◆ Committed capacity: 2.3046 MGD
- ◆ Capacity available for development: 0.2980 MGD
(Based on 12-month average daily flow)
- ◆ Rainfall: 2.83 inches over 11 days

A total of 54.86 million gallons of reclaimed water was produced during January, representing 26 % of total plant flows.

Water line replacements nearing completion in many areas

Old water pipes have been replaced and others soon will be in many areas of the City. These replacements are improving water quality, while increasing fire protection and water pressure.

Approximately 30,000 linear feet, or close to five miles, of water pipe have been replaced in the past year in the old Eau Gallie area, old Melbourne area, in Ballard Park, and in other selected streets that

had been having problems. The construction cost for these projects adds up to \$1.9 million.

The locations for water line replacements were selected based on age and material of the pipes. Those that were made of galvanized steel, cast iron and were undersized became priorities for replacement. Other considerations were number of customer complaints of dirty water, low water pressure, and inadequate or no



Workers with Maxwell Construction install new six-inch PVC pipe in Ballard Park.



A section of old pipe from Ballard Park showing tubercular corrosion.

fire protection.

“We used to do this work inhouse but it has become too much for us to handle,” said Utilities Engineer Michelle Shultz. “The contractors we have been using have been very competitive in their pricing and we’ve used several different ones on these

projects.”

Shultz explained that the replacements are resulting in significant water quality improvements. “It’s amazing to see the dif-

ference,” she said.

The water line replacements complement the unidirectional flushing program that is now underway. This \$1 million program will take place in 340 flushing zones. The entire water distribution system will be systematically flushed in less than a year, scouring the lines completely of any deposits and debris that may be in the lines.

Streets and Stormwater Management Monthly Summary

- ◆ Daytime street sweeper — hours run: 118.5
Cubic yards of material removed: 354
- ◆ Nighttime street sweeper — hours run: 134
Cubic yards of material removed: 144.5
- ◆ Asphalt repairs made: 52
- ◆ Tons of asphalt used: 41.1
- ◆ Feet of canals cleaned mechanically: 940
- ◆ Acres treated through aquatic spraying: 21
- ◆ Feet of storm drain pipe repaired/replaced/lined: 280
- ◆ Feet of storm drain pipe installed: 250
- ◆ Feet of storm drain pipe cleaned: 420
- ◆ Storm inlets cleaned and repaired: 17
- ◆ Concrete repairs: 33
- ◆ Cubic yards of concrete used: 51.5

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Renovations underway for older lift station #46 at BCC

An older wastewater lift station, located on Wickham Road at Brevard Community College is under construction. The renovation will bring it up to industry standards and will increase its size to provide for the needs of expected development growth in the service area.

The lift station's service area is located in the boundary of Post Road, Parkway Drive, and Wickham Road.

Stormwater & Underground of Titusville is the contractor for this \$198,916 project. Work is expected to be completed by the end of March.



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

Water Projects

Recently Completed:

- ◆ Country Road annexation water line extension, \$408,702
- ◆ Phase II surface water treatment plant (SWTP) improvements, \$11,322,000

Under Construction:

- ◆ Rehabilitation to RO wells #1, 2 & 3, \$692,725
- ◆ Backup well #4, \$1,320,900
- ◆ Eau Gallie water line replacement, Phase I, Segments V & VI, \$336,800
- ◆ 2007 misc. water line replacements - Phase I (Ballard Park), \$351,000
- ◆ 2006 misc. water line replacements, \$559,426
- ◆ North water treatment plant demolition, \$179,506
- ◆ Water line upgrade at Turtle-mound Road - Grand Haven subdivision
- ◆ 2007 misc. water line replacements (Phase II - Ballard Park)

Under Design or in Bid Process:

- ◆ Automatic transfer switch and generator enclosure at the surface water treatment plant belt press building
- ◆ Pineda Causeway 16" water main
- ◆ Wickham Road 8" water main
- ◆ Eau Gallie water line replace-

ment, portion of segments I & II, Phase II

- ◆ Survey and easement clearing for 30" water main at Jones Road between John Rodes Blvd. & Ellis Road (Phase III)
- ◆ Scrubber blow down pump station and force main
- ◆ Pineda tank & booster station

Wastewater Projects

Recently Completed:

- ◆ FY '07 CIPP rehabilitation projects, \$1,200,000

- ◆ Reuse master plan, phase II

Under Construction:

- ◆ Various manhole rehabilitation projects, \$274,340
- ◆ Electrical upgrade to the sludge belt press building at D.B. Lee and Grant Street WRFs, \$406,900
- ◆ FIT/Leonard Weaver wastewater collection rehabilitation, \$2,100,000
- ◆ D.B. Lee WRF administration/operators building, \$748,000
- ◆ Lift Station #46 (BCC) renovations, \$198,916

Under Design or in Bid Process:

- ◆ Lift Station #29 (Aurora & Mary-

wood) Grant Place Lift Station and sewer force main

- ◆ Sarno Road force main improvements
- ◆ Grant Street WWTP admin. bldg.
- ◆ Hibiscus Blvd. reuse project
- ◆ Nasa Blvd. reuse project
- ◆ Grant Street WRF reuse construction, phase I
- ◆ DB Lee WRF and Grant Street WRF emergency generator and fuel storage improvements
- ◆ South end reuse expansion, Phase I & II

Streets & Stormwater Projects

Recently Completed:

- ◆ Melbourne High School storm drain replacement, \$335,045

Under Construction:

- ◆ FY '07 CIPP pipe rehabilitation projects, \$1,350,000
- ◆ Hickory Apartments/Lane Pontiac emergency drainage repair, \$92,547

Under Design or in Bid Process:

- ◆ Babcock and Hibiscus intersection improvements

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