
ENTERPRISE FUND

MISSION

The mission of the Durham County Engineering Department is to protect regional water quality through the administration of the sewer use, stormwater and erosion control ordinances; to improve county facilities through the management of capital projects; to improve the county's environmental management particularly related to greenhouse gas emissions; and to preserve natural and scenic lands, farms and forests.

PROGRAM DESCRIPTION

The Utility Division is responsible for the operation and maintenance of the county's Triangle Wastewater Treatment Plant, the county's wastewater collection system, the coordination of new customer connections and the county's sewer system revenue collections.

The Triangle Wastewater Treatment Plant and collection system were operated and maintained under a contract with United Water from July 1, 2005 through February 17, 2009. Beginning February 18, 2009, the Triangle Wastewater Treatment Plant and collection system are operated and maintained directly by Durham County.

In addition to ongoing operations, one of the major initiatives of this division has been upgrades and expansions of the treatment plant to meet regulatory requirements and to provide adequate capacity for growth in the county's service area. The third phase of these improvements will provide new sludge handling facilities to produce a dewatered residual, which can be transported to an offsite facility for Class A stabilization. The dewatering facility design is currently being reviewed by the NCDENR Division of Water Quality, with construction scheduled to begin in Fiscal Year 2011 and operation in Fiscal Year 2012.

The Reuse Wastewater Capital Project scope was re-assessed with the two project partners (Wake County and the Town of Cary). The interlocal agreement on the supply capacity of the Reuse System was completed in Fiscal Year 2010. The design is being finalized, with construction scheduled to begin in Fiscal Year 2011 and operation to begin on July 1, 2011.

The county's treatment of wastewater from the Town of Cary is being extended until at least June 31, 2013 under an agreement between the county and the town. Cary currently sends approximately 1.8 million gallons per day to the county's plant for treatment. The proposed agreement between Durham County and Cary provides treatment of up to 6 million gallons per day.

The Utility Division is located at 5926 N.C. Highway 55 East. Office hours are Monday through Friday, 8:30 a.m. to 5:00 p.m. The division can be reached by telephone at (919) 544-8280 or by fax at (919) 544-8590.

2009-10 ACCOMPLISHMENTS

- Began operating the facility with Durham County staff. This required position development and recruitment (14 positions), server (local server and central SQL server) and desktop hardware installation, process software installation, vehicle purchases and tool purchases.
- Produced a higher quality effluent (less nitrogen and less phosphorus discharged) in 2010 calendar year as compared to 2009 calendar year.
- Achieved additional nitrogen reduction that exceeded permit requirements.
- Completed line cleaning required by State permit (10% of system).
- Completed the design of residuals dewatering project.
- Completed sludge removal for 2010 fiscal year, and prepared to start the 2011 sludge removal in first quarter of 2011 fiscal year.
- Participated in Upper Cape Fear River Basin organization
- Participated in stakeholder program related to nutrient management in Jordan Lake
- Participated in the Neighborhood College program

Sewer Utility Fund

Fund: 6006600000

| Summary | 2008-2009 | 2009-2010 | 2009-2010 | 2010-2011 | 2010-2011 |
|---------------------------|----------------------|--------------------|----------------------|--------------------|--------------------|
| | Actual | Original | 12 Month | Department | Manager |
| | Exp/Rev | Budget | Estimate | Requested | Recommended |
| ▽ Expenditures | | | | | |
| Personnel | \$856,264 | \$1,282,808 | \$1,176,691 | \$1,371,782 | \$1,371,782 |
| Operating | \$2,866,809 | \$2,766,911 | \$2,296,778 | \$2,681,763 | \$2,681,763 |
| Capital | \$150,349 | \$66,000 | \$66,630 | \$70,000 | \$70,000 |
| Transfers | \$660,000 | \$794,084 | \$794,084 | \$754,640 | \$754,640 |
| Other | \$1,184,009 | \$4,035,000 | \$3,265,436 | \$4,034,170 | \$4,034,170 |
| Total Expenditures | \$5,717,431 | \$8,944,803 | \$7,599,619 | \$8,912,355 | \$8,912,355 |
| ▽ Revenues | | | | | |
| Licenses & Permits | \$5,855 | \$3,000 | \$2,300 | \$2,300 | \$2,300 |
| Investment Income | \$191,639 | \$100,000 | \$54,188 | \$66,000 | \$66,000 |
| Enterprise Charges | \$8,157,762 | \$8,475,543 | \$8,362,483 | \$8,526,524 | \$8,526,524 |
| Sewer Connect. Fees | \$431,536 | \$366,260 | \$361,849 | \$313,360 | \$313,360 |
| Other Revenues | \$0 | \$0 | \$4,010 | \$4,171 | \$4,171 |
| Other Fin. Sources | \$33,834 | \$0 | \$0 | \$0 | \$0 |
| Total Revenues | \$8,820,625 | \$8,944,803 | \$8,784,830 | \$8,912,355 | \$8,912,355 |
| Net Expenditures | (\$3,103,194) | \$0 | (\$1,185,211) | \$0 | \$0 |
| FTEs | 21.00 | 21.00 | 21.00 | 22.00 | 22.00 |

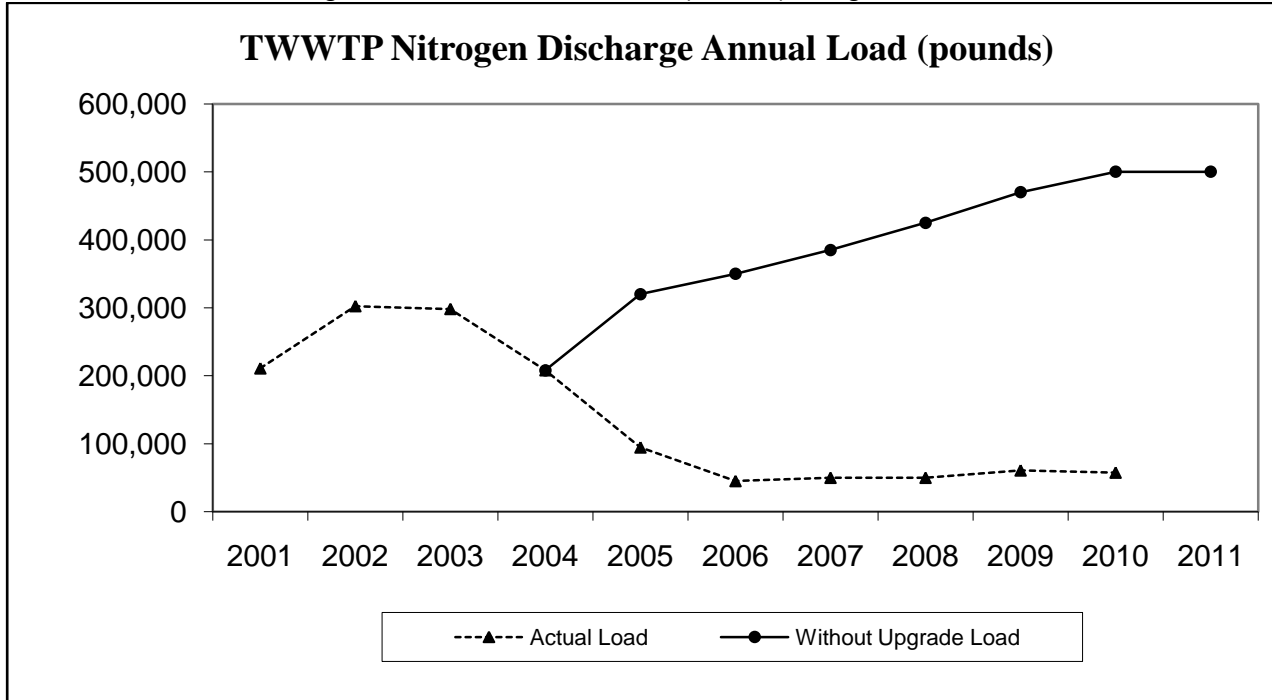
2010-11 HIGHLIGHTS

- The operations expenditure request for the Utility Division is a continuation request with an increase of \$32,619 (0.19%) from the FY 2009-10 approved budget.
- A new position is requested for a Pretreatment Lab Technician. The position will support the industrial pretreatment program and the certification of the laboratory. With NCDENR certification, most data will be available in one day instead of two weeks and permit limit and process control limit exceedance risks will be reduced. Some of the costs of the position will be offset by reduced contract laboratory charges.
- The debt service request decreases by \$870 and includes debt service for both existing bonds and the loans for the Phase III (Sludge Handling) project and the Reclaimed Water project.
- Sewer use by Durham County customers continues to decline. It is estimated that the wastewater usage by the Durham County customer base will decrease by eight percent in FY 2010. Assuming the decrease continues, but at a slower pace of six percent in FY 2011, the sewer rate must be increased to ensure debt service ratios are met. To ensure debt service coverage requirements are met, this budget request includes an eight percent (8%) increase in rates in FY 2011 from \$3.23/CCF to \$3.49/CCF.

| Bond Payments for Enterprise Fund Debt Service | | | |
|--|---------------------------------------|--------------------------------------|-------------------------------------|
| | 2009-2010 Commissioner Approved | 2010-2011 Department Requested | 2010-2011 Manager Recommended |
| BOND PRINCIPAL | \$2,560,000 | \$2,744,170 | \$2,744,170 |
| BOND INTEREST | \$1,440,000 | \$1,290,000 | \$1,290,000 |
| OTHER | \$35,000 | \$0 | \$0 |
| TOTAL | \$4,035,000 | \$4,034,170 | \$4,034,170 |

2010-11 PERFORMANCE MEASURES

Performance Measure: Triangle Wastewater Treatment Plant (TWWTP) Nitrogen Reduction



Story Behind the Last Two Years of Performance

Existing data has been used for baseline development and is shown on the graph. The “Without Upgrade” indicates a no action approach and is not appropriate because the National Pollutant Discharge Elimination System permit limits would not be met and the county would be subject to enforcement actions, including civil penalties. The Triangle Wastewater Treatment Plant has met the permit requirements since start up in 2005 and reduced the discharge nitrogen load by more than 80% as compared to the levels prior to the upgrade.

Strategies: What do you propose to do to improve program performance?

- The operation of the Triangle Wastewater Treatment Plant with Durham County staff has resulted in greater operator skill levels and greater job ownership as compared to the previous operation with temporary contract operators and supervisors. Additional operator training will be provided to further improve the performance of the facility and operation and maintenance team.
- The Triangle Wastewater Treatment Plant Superintendent and Operations Manager both are highly experienced in process control. Analyzing process data in programs such as OPS has resulted in improved process optimization for efficient wastewater treatment. The next improvement step will be the use of Statistical Process Control for monitored plant processes.
- A biodiesel byproduct will be tested at the facility as an alternative to the current carbon source. The alternative source is less expensive, has less price volatility, and is more environmentally sustainable.
- Have reclassified a Project Manager position as a SCADA (Supervisory Control and Data Acquisition) and Instrumentation Coordinator position. The new position will provide more support for day-to-day operations and reduce contract service costs for SCADA maintenance.

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