



**2010**

# **Utilities & Engineering Annual Report**



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## INTRODUCTION



Thank you for allowing us to serve you. Though the 2009/10 fiscal year presented as many challenges as previous years which again included reducing staff and budgets, the citizens of Catawba County, our customers and clients, continue to receive exemplary customer service which has become our trademark and goal. It is my pleasure to present to you the 2009/10 Catawba County Utilities and Engineering Annual Report reflecting the work of dedicated and skilled individuals.

The Utilities and Engineering Department functions include Administration, Building Services, Plan Review, Permit Center, Erosion Control, Local Code Compliance, Solid Waste Management, Landfill, Recycling, Waste Reduction, Water and Sewer Administration, and EcoComplex Development and Management. Utilities & Engineering is responsible for Water and Sewer construction projects in the unincorporated areas of the County; Landfill construction projects, and EcoComplex projects which are reported herein. The Solid Waste Management Enterprise Fund is fully self-supporting through user fees. The Building Services division also operates as fully self-supporting through user fees, but the Permit Center and Erosion Control divisions are subsidized by County General Fund contributions. The Water and Sewer fund operates as an enterprise fund employing multiple revenue streams, and the EcoComplex is a multi-faceted economic and ecological system that is funded through private, public, and university partnerships, grants, and the County.

Catawba County is a great community in which to live, work, and raise a family. The professional leadership from elected Board Members to knowledgeable and dedicated staff contributes to our excellent community.

If you have questions about any part of this report, our services, or any other Utilities and Engineering Department concerns, please feel free to contact our office by phone at 828.465.8261 or visit us on the web at <http://www.catawbacountync.gov/depts/u&e>.

Sincerely,

A handwritten signature in black ink that reads "Barry B. Edwards". The signature is written in a cursive, flowing style.

Barry B. Edwards, P.E.  
Director of Utilities and Engineering

## CONTACT INFORMATION

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# Building Services

The services of this division are provided to protect public safety by ensuring all buildings are constructed and/or remodeled in compliance with all North Carolina Building Codes while promoting economic development in a partnership with the building community. These services are provided through the reviewing of plans, issuing permits, and inspecting construction activities.

## Inspections

Provides consistent, timely and courteous advice and service to customers, contractors, businesses, homeowners, and the general public through the application of the State Building Codes.

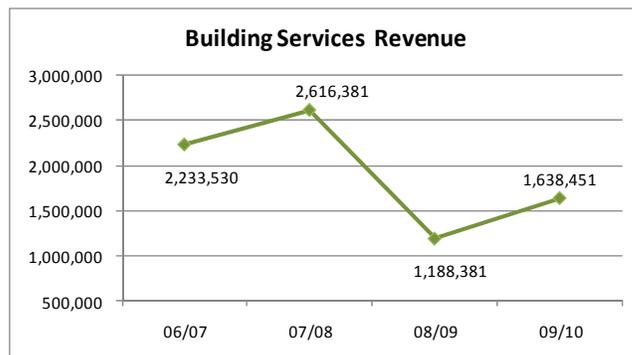
- 23,828 inspections were performed on all types of permits
- Inspectors averaged 12.23 inspections per day
- 66 inspections were performed at 43 public schools in accordance with NCGS 115C-525

The North Carolina Department of Insurance recommends that building inspectors perform between 8 and 12 inspections per day. However, Catawba County expects between 12 and 14 inspections per day.

## Revenue and Fees

Building Services is required to be self-supporting through permit and inspections fees. These fees are designed to recover 100% of the cost of operations. Catawba County adopted the International Code Council (ICC) fee schedule model that adjusts annually based on construction values and operational costs. Fees have remained unchanged for 4 years.

Revenue for FY 09/10 increased \$450,070 or 37.9% over FY 08/09. A permit fee of \$490,446 was received from Apple, Inc.; otherwise, revenue would have decreased 3.4% when compared to FY 08/09.



## Plan Review

Works closely with customers during the pre-construction phase offering Plan Review Services, Local Option Plan Review, NC Rehab Code assistance, Safety Inspections and Occupancy Permits.

- 734 sets of plans were reviewed averaging 4.2 days; 4 were Express Plan Review
- 2,555 total inspections were performed by Plan Review Officials, 1,614 were safety inspections
- The NC Rehab Code was utilized on 13 projects, 490 Rehab Code inspections were performed

## Human Resources

In order to remain self-supporting, 7 Building Inspector positions and 1 Permit Center position have been reduced over the past two years. Based on our expected number of inspections, staff will not be added back until the number of inspections per day is consistently at or above 14 and revenue is sufficient to fund additional positions.

# Building Services, cont.

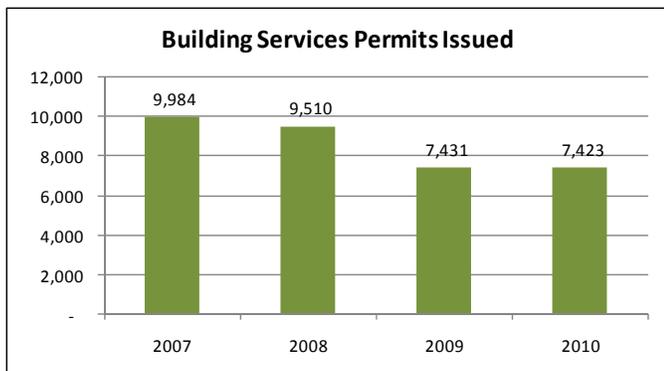
## Permit Centers

Provide timely and consistent issuance of permits and fee assessment for Building Services, Planning and Zoning, Environmental Health, Fire Marshal's Office, Erosion Control and Water and Sewer.

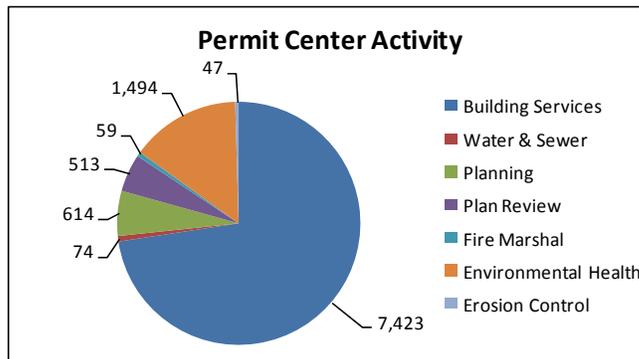
Two locations are available for our customer's convenience; in the Government Center in Newton and in Hickory City Hall in Hickory. Both locations are open from 8:00 a.m. to 5:00 p.m., Monday through Friday.

- 7,423 permits associated with Building Services were issued
- 1,841 were building permits

Building Services permits for FY 09/10 decreased by 8 permits when compared to FY 08/09, remaining stable when compared to FY 08/09:



- 244 new residential structures were permitted
- 10,224 permits and fees were processed by the Permit Centers
- 1,494 permits were for Environmental Health
- 514 permits were for Planning and Zoning



## Green Permitting Incentive Program

Provides incentives through permit fee rebates for building and renovating in accordance with green/sustainable programs, such as Energy Star, Leadership in Energy and Environmental Design (LEED), or NC Healthy Built Homes.

- 9 new houses qualified obtaining Energy Star certifications
- 1 electrical and 1 mechanical project

## Citizen Access Portal

Provides customers online access to County billing accounts, scheduling inspections, reviewing inspection results, permit issuance and more.

- 75 customers paid \$5,814 on their billing accounts utilizing the citizen's access portal-online module through the County's web site
- 1,327 inspections were scheduled online; footing inspections were scheduled online most frequently with 130 requests
- 346 inspections were scheduled through the Interactive Voice Response (IVR) system

To learn more...go to

<http://www.catawbacountync.gov/depts/u&e/building.asp>

# EcoComplex & Resource Recovery Facility

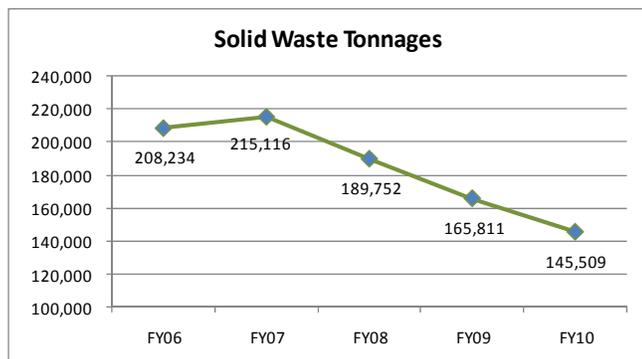
The EcoComplex is a developing system that intends to recover all useable products and by-products from a group of private and public partners located in a close-knit, defined area. This group of partners work together to use each other's products or by-products either as a source of energy (electricity, steam, or heat) or as a raw material for the production of their own product. Focusing on making and using "green" energy and on the economic development of Catawba County, the EcoComplex is centered in and around the Blackburn Resource Recovery Facility (landfill). This report highlights a few of the components that are currently under design or construction as well as existing components.

## Blackburn Resource Recovery Facility

Provides an efficient and convenient means of municipal solid waste disposal; secures long-term landfill capacity; and ensures environmentally friendly waste disposal solutions for County citizens. Two landfills are in operation; the Municipal Solid Waste (MSW) landfill and the Construction and Demolition (C&D) landfill.

Solid Waste Management operates as an enterprise fund self-supported through user fees requiring no tax revenue contributions.

The County continues to experience a decline in waste streams for both the MSW and C&D landfills. Waste received in FY 09/10 was 145,509 tons which was 20,302 tons less than FY 08/09. Over the past 5 years, waste tonnages have declined an average of 15,681 tons per year.



## Revenue and Fees

The decreased landfill tonnages directly affect revenues. FY 09/10 landfill "user fees" revenues are down 7.11% when compared to FY 08/09 revenues.

## Methane Gas-to-Energy Facility

Provides a win-win situation for both the citizens and the environment by converting methane gas, which is naturally produced in the landfill, into a revenue producing operation. Three engine-generator sets each have the capacity to generate approximately 1 Megawatt of electricity per hour. The engines are fueled by methane gas and generate enough electricity to power about 1,400 average size homes.

- 17,450 megawatt hours of electricity was produced
- Gross revenue totaled \$688,353
- \$591,647 from Duke Energy sales
- \$65,048 from Green Certificate sales
- \$12,275 from the Department of Energy for Renewable Energy Production Incentive (REPI) program

17,450 Megawatt hours of electricity is equivalent to avoiding the carbon dioxide emissions of 2,396 cars or 29,144 barrels of oil or 65 railcars worth of coal!

## EcoComplex, cont.

### **Biodiesel Research & Production Facility**

Creates a center for biodiesel research and production through a partnership with Appalachian State University (ASU). Their research will include the production and testing of biodiesel fuel being produced onsite and by several companies in the region. Additional research will be on the growing of crops around the landfill, testing which ones grow best in our climate while producing the best oils for biodiesel. Currently, canola and sunflowers are being grown and tested. Construction of the facility is expected to be completed in December 2010.



### **Crop Processing Facility**

Will process the crops grown on idle landfill property and buffer areas. It will receive, clean, dry, store and crush the harvested crops, which will then be processed into two products (oil and meal) that individually, have a higher value than seed alone. The oil will be cleaned and stored for future processing into biodiesel fuel. The seed meal has many potential uses such as a livestock feed additive, anaerobic digester feedstock, and a greenhouse soil amendment. The bid opening for construction is scheduled for January 2011.

To learn more... go to

<http://www.catawbacountync.gov/depts/u&e/eco-complex.asp>

### **Wood Gasification Energy Facility**

Component of the EcoComplex will use sawdust, shavings, bark and chips from Gregory Wood Products, Pallet One, and the Blackburn Landfill to generate electricity, heat and steam energy. This component is being developed through partnerships with GE Energy and Nexterra. Design of this Facility is underway. The Facility is expected to be operational in the fall of 2012.

### **Biosolids Processing Facility**

Will replace the existing Regional Sludge Management Facility. The new facility will have the capacity to serve the wastewater sludge management needs of the County and Unifour region for approximately 20 years. Design of this Facility has reached 30%.

### **Wood Ethanol Facility**

Will create a center for studying wood and cellulose ethanol with raw materials being supplied by EcoComplex partners. Through a partnership with the University of North Carolina-Charlotte, they will research naturally occurring fungi to convert wood into a form more easily usable for ethanol production.

### **Multi Feedstock Anaerobic Digester**

Will potentially process multiple waste products, such as agricultural and food wastes, algae, animal wastes including cow and chicken manure, grease waste, and wastewater sludge, into biogas to produce renewable electricity and heat through an internal combustion engine. Once operational, this facility is expected to generate ½ megawatt per hour of green energy. A partnership has been formed with the University of North Carolina-Charlotte aimed at developing an organic management system that will collaborate with the County's landfill gas-to-energy facilities. Research and development on his Facility is underway.

# Erosion Control, Local Code Compliance

This division protects regional water quality through the administration of a local soil sedimentation and erosion control program and protects the health, safety, and general welfare of the citizens of Catawba County through the implementation of the local code compliance program.

## Erosion Control

Provides timely plan review, permitting and inspection services in a team approach to contractors and developers. The County provides erosion control services to the cities of Hickory, Conover, and Claremont and the towns of Brookford, Catawba, Long View, and Maiden in addition to the unincorporated areas of the county. (The City of Newton has its own program.)



This picture shows an excellent example of soil sedimentation and erosion control.

## Plans, Permits and Inspections

- 18 new projects approved, totaling 153 acres
- 18 sets of plans were reviewed averaging 6.1 days
- 1,037 inspections were performed for erosion control permits

## Violations

- 117 violation cases were opened for investigation
- 494 inspections were performed on violation cases
- 150 violation cases were closed

## Educational Outreach

- 6 presentations were given
- 469 people were reached through all outlets of erosion control education

### Did you know...?

There is not a grass height ordinance in the unincorporated areas of the county. We get many calls about neighbors not mowing their grass, especially during summer months. However, if you live within a municipality, contact the city to determine if a grass height ordinance is applicable.

## Local Code Compliance

Works with property owners in the unincorporated areas of the county to obtain compliance in areas of solid waste, junk vehicles and the Unified Development Ordinance (zoning). Staff assists citizens and property owners in multiple areas of code compliance, education, and community awareness through a team approach providing information, and assistance to enable code compliance.

- 925 new cases were opened for investigation
- 1,156 inspections were performed; 58 Junk Vehicles; 530 Zoning; 568 Solid Waste
- 245 cases were closed by being brought into compliance or the complaint was found to be unjustified

To learn more...go to

<http://www.catawbacountync.gov/depts/u&e/c/odecompliance.asp>

# Recycling, Waste Reduction & Education

Catawba County is currently ranked 2<sup>nd</sup> in the State per capita in recycling due to its forward thinking approach to recycling and waste reduction. The County has continued to rank in the top five counties in North Carolina for recycled materials for the last nine years.

## Commercial Program

Recognizes area businesses for their outstanding environmental leadership and efforts in the workplace to reduce, reuse, recycle and buy recycled products. The program is free and voluntary and available to any business in the County that practices the 4R's (reduce, reuse, recycle, rebuy).

- 13 businesses partnered with the County during FY 09/10

## Educational Outreach

Provides information and education through participating in area events such as Earth Day/Arbor Day, Farm City Week, Hickory's Oktoberfest, and Claremont Day; school events like Environmental Awareness Hands-On Field Day; civic and organizational meetings; tours of the Landfill and EcoComplex; and sponsoring Tarp Day at Convenience Centers and the presentation of "The Queen of Green".

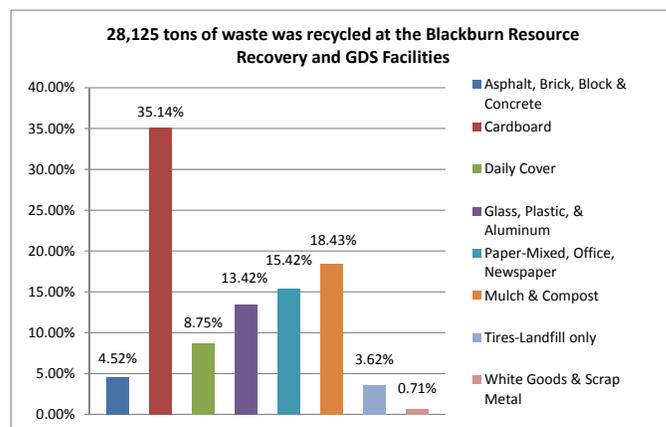
- 9,679 people are estimated to have been reached through all outlets of education
- 75 presentations were given
- 38 tours of the Landfill and/or EcoComplex were given

### Did you know...?

There are upcoming landfill bans. The State of North Carolina (§130A-309.10) has banned televisions and computer equipment from landfills effective July 1, 2011. There are 14 landfill bans. Look for new programs to develop next year.

## Recycling by the Numbers

28,125 tons of waste recycled during FY09/10  
 35.14% consisted of cardboard, ranked highest  
 363.04 pounds recycled per citizen  
 \$110,657.96 was spent on recycled content products by County Government in office & janitorial supplies, bulbs, & printing



## Household Hazardous Waste Events

Held bi-annually in the spring and fall, these events provide a safe environmentally friendly means of disposal for this type of waste as well as electronics.

- 1,516 vehicles representing 2,140 households passed through the drive-up collections
- 183,299 pounds of hazardous waste and electronics waste was collected

To learn more...go to

<http://www.catawbacountync.gov/depts/u&e/solwasmg.asp>

# Water and Sewer

The Water and Sewer program strives to provide a source of clean drinking water and environmentally responsible sewage disposal in the unincorporated areas of the county by working in cooperation with the municipalities. The Water and Sewer program operates as an enterprise fund, which means that the revenue generated by the water and sewer program stay within the enterprise fund until needed for a water and/or sewer project.

## Southeastern Catawba County (SECC)

The County owns the water distribution system in the SECC area of the county. The City of Hickory through an interlocal agreement provides the operations, maintenance and management of the system.

Revenue of \$1,164,028 has been received through the revenue sharing agreement with Hickory on water lines in the SECC area since its inception in 2001.

Currently there are

- 33 commercial customers
- 596 residential customers

## Revenue and Fees

Water and Sewer program operates as an enterprise fund, which means that the revenue generated by the program stays within the fund until needed for a water and/or sewer project. Water and Sewer operations and projects are funded from capital fees, municipal revenue sharing and revolving loan contracts, septage haulers, state and federal grants, 1.5 cents of the ad valorem tax rate, a portion of the ¼ cent sales tax as well as interest on investments.

Total water and sewer revenue for FY 2010 was \$4,906,155, which includes

- \$336,148 from revenue sharing contracts with municipalities
- \$148,640 from water and sewer capital fees

## Did you know...?

If your faucet is dripping at the rate of one drop per second, you can expect to waste 2,700 gallons of water per year.

## Needs

As population densities increase so does the demand for services such as water and sewer. These demands have been and will continue to be experienced in Catawba County and will increase as the County continues to develop and grow in population. In order to address the most pressing water and sewer challenges and demands, the County has developed an 8-year Capital Improvement Plan for water and sewer projects which is updated annually with the adoption of the County budget.

## Current projects

Projects in various stages of progress at year's end:

- Blackburn-Plateau Water Supply
- SECC Water Supply Phase III Pump Station and Storage Tank
- Hickory-Catawba Wastewater Treatment Plant Upgrade
- Highway 150 Sewer
- Bunker Hill/Oxford Sewer
- Heatherbrook Subdivision Water
- Royal Heights Subdivision Water
- Blackburn Elementary School Sewer

To learn more...go to

<http://www.catawbacountync.gov/depts/u&e/sew/erpg.asp>