Winston-Salem/Forsyth County
Utility Commission

Annual Report

for Fiscal Year 2014-2015

Winston-Salem • Forsyth County
City/County Utilities
Water • Sewer • Solid Waste Disposal

WINSTON-SALEM
CITY COUNCIL

Mayor: Allen Joines

City Council:

Vivian H. Burke, Mayor Pro Tempore,
Northeast Ward

Denise D. Adams, North Ward

Dan Besse, Southwest Ward

Robert C. Clark, West Ward

Molly Leight, South Ward

Jeff MacIntosh, Northwest Ward

Derwin L. Montgomery, East Ward

James Taylor, Jr., Southeast Ward

City Manager: Lee Garrity

Assistant City Manager: Gregory M. Turner

Utilities Director: Ron Hargrove

FORSYTH COUNTY
COMMISSIONERS

David R. Plyler, Chairman

Don Martin, Vice Chairman

Ted Kaplan

Richard V. Linville

Walter Marshall

Gloria D. Whisenhunt

Everette Witherspoon

County Manager: Dudley Watts, Jr.

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Winston-Salem/Forsyth County
Utility Commission
Suite 357, City Hall
101 N. Main St.
Winston-Salem, NC 27101

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City/County Utilities
Water • Sewer • Solid Waste Disposal

Letter of Transmittal

Utilities Administration

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The staff of the Utilities Division is pleased to submit the 2015 Annual Report of the Winston-Salem/Forsyth County Utility Commission. This report is the ninth annual report designed to provide educational background related to the water, sewer and solid waste operations as well as provide information related to the previous year's operational and planning processes. This edition highlights our solid waste management program and the balancing act faced by landfill operations of managing waste load versus air space utilization. While taking steps to address the waste stream into the facilities is a complex process, the Utilities Division is currently focusing on controlling the operational functions of the landfill in order to maximize air space. During the year an operational efficiency audit was conducted that resulted in a number of recommendations to utilize our resources more efficiently and effectively. With Commission approval, many of the efficiency initiatives have been implemented and benefits are beginning to be realized.

During fiscal year 2014-2015 our comprehensive wastewater collection system master plan was completed. The third and final major sewer basin being evaluated was Salem Creek. This comprehensive plan results in capital projects in each major sewer basin that are needed to serve the growth of the wastewater system through 2041 and beyond. Also during the year, construction began on several major projects in the South Fork basin including a major pumping station at the Muddy Creek Wastewater Treatment Plant that will handle increased flows over the 30 year planning window. The proposed projects from the master plan will require significant investment in wastewater infrastructure over the next 10 years in order to prepare for the anticipated future service demands.

As you read the report we hope that you will find that it is organized in a way to help you understand our administration, operations, capital improvements and financial focus areas. Thank you for taking the time to review this annual report and we hope you find it informative and helpful.

Gregory M. Turner, P.E.
Assistant City Manager

Ron Hargrove
Utilities Director

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City Council: Mayor Allen Joines; Vivian H. Burke, Mayor Pro Tempore, Northeast Ward; Denise D. Adams, North Ward; Dan Besse, Southwest Ward; Robert C. Clark, West Ward; Molly Leight, South Ward; Jeff MacIntosh, Northwest Ward; Derwin L. Montgomery, East Ward; James Taylor, Jr., Southeast Ward; City Manager: Lee D. Garrity

Forsyth County Commissioners: David R. Plyler, Chairman; Don Martin, Vice Chair; Ted Kaplan; Richard V. Linville; Walter Marshall; Gloria D. Whisenhunt; Everette Witherspoon; County Manager: Dudley Watts, Jr.

City/County Utility Commission: David Neill, Chairman; Randall S. Tuttle, Vice-chair; Wesley Curtis, Jr.; Harold E. Day; Tom Griffin; Harold R. Holmes; Duane Long; Paul S. McGill; Chris Parker; Jim Ruffin; Al H. Seymour

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TABLE OF CONTENTS

Letter of Transmittal 2

ADMINISTRATION

Overview 4

Organizational Chart 8

Utility Commission Members & Committees 9

History of the Utility Commission 9

OPERATIONS

Water Treatment & Distribution 10

Wastewater Collection & Treatment 10

Solid Waste 15

CAPITAL IMPROVEMENTS

Water Treatment & Distribution 18

Wastewater Collection & Treatment 21

FINANCIAL PERFORMANCE

Summary 26

Administration

The Winston-Salem/Forsyth County Utility Commission is an 11-member appointed body that oversees the publicly operated water, wastewater and solid waste facilities that serve Winston-Salem and Forsyth County. All decisions regarding the management of these facilities are delegated to the Commission by the Winston-Salem City Council and the Forsyth County Commissioners. Ownership and the responsibility for the disposal of these assets is the city's, pursuant to the original 1976 agreement that consolidated the city and county utility systems. The commission is responsible for:

- Overseeing the long-range planning, funding, operation and maintenance of water and wastewater treatment, water distribution and wastewater collection, and solid waste facilities;
- Setting rates, charging assessments, and providing improvements and extensions to utilities facilities;
- Reviewing utility extension policies and rate structures;
- Receiving comments and suggestions from the public and holding public hearings concerning matters under the authority of the commission; and
- Approving policies for all publicly owned water, wastewater, and solid waste disposal facilities.

Five members of the commission are appointed by City Council upon recommendation of the mayor; another five members are appointed by Forsyth County Board of Commissioners. The chairperson is appointed jointly by the mayor and the chairperson of the Forsyth County Board of Commissioners.

The commission chairperson serves a two-year term and is limited to five terms. Commission members serve staggered five-year terms and are limited to two terms.

GOVERNANCE

The Utility Commission has three standing committees:

- The Operations Committee considers items relating to the long-term operation of both the water/wastewater and solid waste disposal programs. Three commission members sit on the Operations Committee.
- The Finance Committee considers items related to the finances of both the water/wastewater and solid waste disposal programs. Four commission members sit on the Finance Committee.
- The Planning and Policy Committee considers changes to policies and procedures for the operation of the water/wastewater and solid waste disposal programs. Three commission members sit on the Planning and Policy Review Committee.

The chairperson of the commission appoints the members of each committee and designates one person as committee chairperson and another as vice-chairperson.

COMMISSION FINANCES

Funding to operate, maintain and extend water and sewer services comes from state loans, water and sewer user fees, assessments, interest earned on the commission's reserve funds, and from revenue bonds issued against the commission's revenue stream. Funds to operate and expand the solid waste disposal programs come from tipping fees and special obligation bonds approved by the City Council. The commission receives no finan-

CITY/COUNTY UTILITIES DIVISION PERSONNEL

Administration:	8
Water Treatment:	53
Water Distribution:	76
Wastewater Collection:	57
Wastewater Treatment:	90
Solid Waste Management:	35
Technical Support:	31
Customer Service:	16
Total:	366

cial support from property or sales taxes paid by citizens of Winston-Salem or Forsyth County. The Utility Commission has no authority to issue bonds or incur debts without prior approval from the City Council.

Utility Commission policies provide that capital improvement projects, such as plant expansions, major facility upgrades, transmission mains, outfalls, and pump stations, are funded through user fees charged to customers for water and sewer services. These facilities benefit all customers and therefore, all customers are expected to help fund them. Each year the Utility Commission determines if new projects in these categories should be paid for with generated balances from user-fee funds or financed with new debt.

These decisions are made based on the cost of financing and financial advisement from the city's chief financial officer. The local collection and distribution systems, known as street mains, are funded by the properties that they serve. When new properties are developed, system lines are required to be installed by the developer and subsequently dedicated to the Utility Commission for ownership and operation. When owners of existing properties request service extensions, the extension requests are provided for under the Utility Commission's petitioned programs.

The Utility Commission's policies for setting assessment rates follow the guidance established in the North Carolina general statutes. Each year the commission reviews construction costs from the previous year and sets a new assessment rate designed to recover the cost of a typical installation. New customers benefit from this process in that the rates they are assessed are based on the previous years' actual construction costs and are not adjusted upward for annual inflationary factors. In many cases, customers are not actually assessed for two to three years after the cost of the extension is established, allowing them a considerable discount against the actual cost of installation.

The Utility Commission's sound financial policies and the superior fiscal management of the utility system are reflected in the high credit ratings assigned to the system's revenue bonds. They carry an AAA rating from Standard and Poor's Rating Agency (one of 53 such ratings nationwide); Aa1 from Moody's Investor Service and AA+ from Fitch. High credit ratings allow the commission to sell bonds at lower interest rates when financing capital improvements. Given the projections of capital needs for the next five years, a lower cost of capital will enable the commission to meet those needs with greater savings.

COMMISSION OPERATIONS

The Utilities Division of the city of Winston-Salem is responsible for all day-to-day operation and maintenance of the water and wastewater treatment facilities and their associated collection and distribution systems, and solid waste facilities in accordance with policies established by the Utility Commission.

The Utilities Division also provides technical and administrative assistance to the commission and is responsible for capital improvements under the direction of the commission. Utilities Division management advises the commission regarding policy changes that will benefit citizens and future growth, maintenance and operation of the system.

The operations of the Utilities Division fall under the oversight of the city manager and an assistant city manager.

The Utilities Division and its staff adhere to the

City	No. of Customers	Monthly Charge	Median Household Income	*Cost of Service As % of Median Household Income
Durham	83,584	$51.44	$49,160	1.26%
Charlotte	253,557	$45.98	$52,375	1.05%
Greensboro	100,019	$38.58	$41,120	1.13%
Raleigh	177,000	$60.99	$54,448	1.34%
Winston-Salem	125,562	**$39.53	$40,148	1.18%

WATER & SEWER RATES FOR FIVE MAJOR MUNICIPALITIES (BASED ON 600 CF MONTHLY)[1]

* According to EPA data, cost of water and sewer are considered affordable if the total cost of service is less than 2.5% of the Median Household Income.

** Calculated using October 1, 2015 rates.

Source: Environmental Finance Center, UNC School of Government

same general processes and procedures regarding the operation of its systems as all other departments within the city of Winston-Salem.

The commission's financial assets are managed by the city Financial Management Services department. The city Office of Budget and Evaluation assists with preparation of the commission's budget. Negotiations for property acquisitions are conducted by the city Real Estate Office; the Winston-Salem/Forsyth County Purchasing Department manages all other system asset acquisitions.

The city Engineering Division provides the Utilities Division with design and project management services for main line extension projects. Additionally, due to the specialized nature of the work of division operations and facilities, outside consultants may be enlisted to provide assistance in those areas that are outside of staff expertise.

The City Attorney provides legal assistance to the commission and the Utilities Division when necessary. Major maintenance and repairs of the division's buildings are handled through the city Property Management Division.

Maximizing asset management at our landfills

Sound landfill operations have always been a balancing act between competing goals. On one hand, managers need to encourage sufficient use to cover their operating costs. But, given the expense and difficulty in establishing new landfills, they also need to get the longest possible life out of a landfill, which means not accepting too much waste too fast.

To help its landfills better accomplish both objectives, the Winston-Salem/Forsyth County Utility Commission retained Blue Ridge Services of Atascadero, Calif., to review all aspects of operations at the Hanes Mill Road and Old Salisbury Road landfills.

Both landfills had experienced declining waste streams, with a corresponding drop in revenues that began with the recession of 2008 and was exacerbated by private hauling companies transferring waste to landfills they operate outside Forsyth County.

In June 2013, Blue Ridge Services began its operations review with the primary goals of recommending ways to reduce costs, maximize landfill life, and improve the overall efficiency of the landfill system. The review looked at all aspects of landfill operations, including safety, efficiency, regulatory requirements, and protocols and procedures. After several months of observation and analysis, Blue Ridge identified the following major recommendations:

1. Reallocate machine inventory, reducing heavy equipment costs.
2. Change working face construction and daily waste covering process.
3. More effectively utilize the site's soil resources.
4. Develop more detailed plans for waste placement and progression of cells.
5. Change spotter and traffic direction policy.
6. Provide training for all affected members of the team.

In September 2014 Blue Ridge presented its findings to the Utility Commission. Based on the recom-

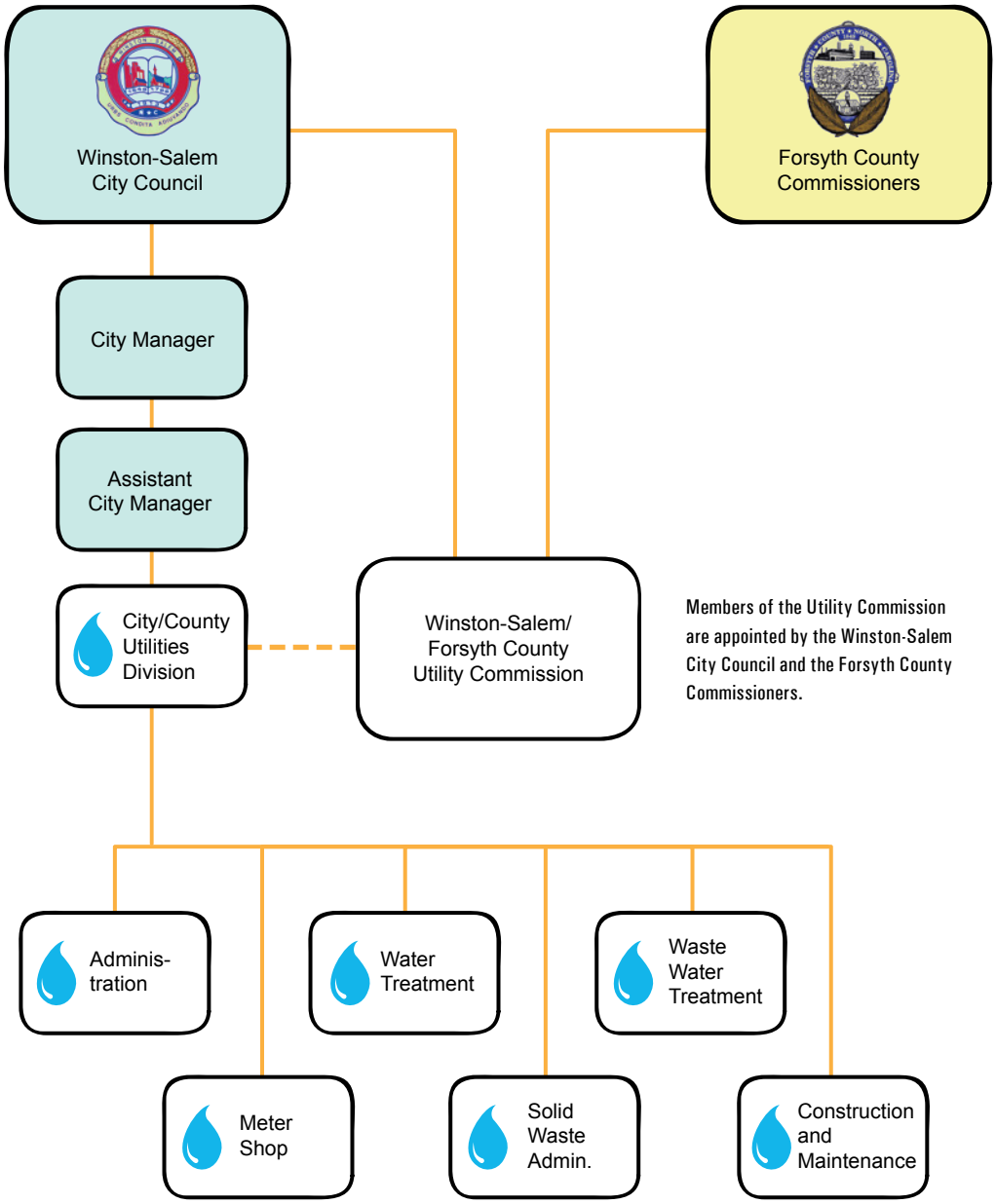
The Tarpomatic allows staff to deploy tarps easily and efficientyly to cover waste at the end of each working day.

mendations, Utilities staff has implemented the following changes in landfill procedures:

- To save airspace and conserve soil resources, the Hanes Mill Road Landfill is now using tarps instead of soil as daily cover. A new Tarpomatic® tarp system allows the staff to roll out tarps overnight and reel them back in the following morning, eliminating the need for a daily cover of soil. Weekly soil cover is provided in accordance with the landfill permit.
- The landfills are now using a larger and flatter (or "pancake") working face, which brings a number of advantages. The flatter surface and thinner layer of waste makes more efficient use of the compactor's weight and crushing teeth, allowing for better compaction that saves air space and extends the life of the working cell. The flatter, thinner layer also reduces rolling resistance and permits increased machine travel speed, which again makes more effective use of the teeth and requires fewer passes to achieve the desired level of compaction. This all translates into less wear and tear on the equipment, with corresponding savings in maintenance costs, downtime, and fuel consumption.
- To further ensure complete compaction and efficient use of air space, the staff has purchased a GPS-based landfill management system that transmits real-time information to site managers about how the equipment operators are placing and compacting waste. This allows operators to increase the density of waste, decrease fuel use, and accurately build slopes to proper contours the first time.
- Switching to a larger, pancake working face enabled the landfill to switch to a "typewriter" style of waste deposition on the working face, in which each customer vehicle arrives at the working face in a progressive (rather than hap-hazard) fashion. Once the end of the working face is reached, the process begins again, much like the return of a typewriter carriage. This allows the compactor to work on the half of the face where the customers are not dumping. Then, when the dozer has pushed the recently deposited waste, the compactor then moves to that area and the customers and dozer move to the area the compactor just worked.
- These operational changes have allowed the staff to implement a plan to reduce the amount of heavy equipment needed for daily operations. This reduction, and more efficient use of the remaining equipment, will reduce maintenance and fuel costs. The landfill staff has already seen fuel consumption decrease about 9 percent for the period of March thru July 2015 when compared with the same period in 2014.
- Staff has designed a custom-fabricated new spotter's station that greatly improves the efficiency and safety of personnel directing truck traffic and allows the spotter to more precisely direct trucks to the place where they should drop their loads.
- Hanes Mill Road Landfill is now using mobile litter fences to catch litter blowing off the working face. This will save money by reducing the need for hiring temporary workers to pick up litter.

These changes are saving money in the near term by reducing operating costs, and in the long term by extending the working life of the landfills, thus helping Utilities staff better meet the competing demands of covering landfill operating costs while maximizing landfill longevity.

ORGANIZATION CHART



The staff of the City/County Utilities Division are employees of the City of Winston-Salem and provide staff support for the Commission.

UTILITY COMMISSION MEMBERS

UTILITY COMMISSION

David Neill, Chairman
Randall S. Tuttle, Vice Chairman
L. Wesley Curtis, Jr.
Harold E. Day
Tom Griffin
Harold R. Holmes
Duane Long
Paul S. McGill
Chris Parker
James Ruffin
Al H. Seymour
Randall S. Tuttle

COMMITTEES

FINANCE
Randall S. Tuttle, Chairman
Paul S. McGill
Chris Parker
Tom Griffin

OPERATIONS
Harold R. Holmes, Chairman
Harold E. Day
L. Wesley Curtis, Jr.
James Ruffin

PLANNING & POLICY
Al H. Seymour, Chairman
Tom Griffin
Duane Long

STAFF

Gregory M. Turner, P.E.
Assistant City Manager

Ron Hargrove
City/County Utilities Director

History of the Utility Commission

The Utility Commission was created on April 20, 1976, through a joint consolidation agreement between Winston-Salem and Forsyth County. Under the terms of the agreement, the Utility Commission operates all water and sewer facilities throughout the city and the county under policies established by the commission and subject to the provisions and guidelines of the agreement.

When the agreement went into effect on July 1, 1976, Forsyth County conveyed all real property, equipment, supplies and materials constituting the county's water and sewer facilities, including existing water and sewer lines, to the city of Winston-Salem. The city agreed to pay off, from utility revenues, the county's water and sewer debt-service obligations. These debts were satisfied in FY 1999-2000.

The city and county amended the consolidation agreement in February 1990 to authorize the commission to provide solid waste disposal services and start a source reduction and recycling program. A second amendment, passed in October 1996, authorized the commission to charge customers outside Forsyth County a premium rate for water and sewer treatment services and to set aside half of the rate in excess of the Forsyth County rate in an economic development fund. Additionally, the second amendment allowed members of the Region I Council of Government to have separate contracts with the commission.

A third amendment to the consolidation agreement, approved in January 2003, allows the commission to purchase land with money in the Water and Sewer Utility Fund. The amendment stipulated that any such purchase must be consistent with Legacy, the planning guide of the City-County Planning Board.

SYSTEM GROWTH: THEN AND NOW

	1976	2015
Water		
Total Water Customers	54,985	125,562
Miles of Water Lines	1,046	2,273
Water Treated Per Day	29 MGD	36 MGD
Number of Employees	126	157
Sewer		
Total Wastewater Customers	31,385	96,255
Miles of Sewer Lines	690	1,750
WW Treated Per Day	21 MGD	29 MGD
Number of Employees	134	174
Budget		
Total Water and Sewer O&M Expenses	$8,554,963	$42,270,700

Operations

Water Treatment and Distribution

The Utility Commission operates three water treatment facilities. The R.W. Neilson, P. W. Swann and R.A. Thomas water plants can treat 48 million, 25 million, and 18 million gallons per day, respectively. The Neilson and Swann plants draw water from separate intakes on the Yadkin River. The Thomas Water Plant draws water from Salem Lake and the Yadkin River via a raw water transmission main from the Neilson Water Plant.

During Fiscal Year 2014-15 the water treatment plants combined to treat and pump approximately 13.2 billion gallons of water that met or exceeded all state and federal standards for drinking water quality which equates to an average daily demand of approximately 36.1 million gallons per day. This accomplishment reflects the quality and dedication of the employees who work year-round to provide safe drinking water to our customers.

The system serves a population of approximately 358,000 with a water distribution system that includes 2,273 miles of water distribution mains, 14 water tanks and seven pumping stations.

Facility Upgrades

The Utility Commission continues to invest in its dams, raw water pumping stations, water treatment facilities and distribution infrastructure to improve their efficiency and operation. During FY 2014-15 more than 46 miles of new main lines were added to the system that provides treated water to a large portion of Winston-Salem and Forsyth County. In addition, 4,733 feet of water lines, 151 connections and 24 valves were replaced.

Maintenance and repair of the existing system assures our customers that all components of the infrastructure are in proper functioning condition. During FY 2014-15, several water treatment and distribution improvement projects were planned and/or constructed to provide reliable service to Utility Commission customers for many years to come. Significant projects include:

- Idol's Raw Water Pump Station Rehabilitation.
- Water Tank Rehabilitation.
- Chitty Pumping Station Electrical Improvements.
- Water System Master Plan Update.
- WSSU Distribution System Improvements.
- Water & Sewer GIS/Asset Management.
- Automated Meter Reading.
- NCDOT Road Widening Project Utility Relocations.

Details about these projects can be found in the Capital Improvements section of this report.

Wastewater Collection and Treatment

The Winston-Salem/Forsyth County Utility Commission operates two wastewater treatment plants. The Archie Elledge and Muddy Creek wastewater treatment plants have a combined treatment capacity of 51 million gallons per day. The collection system includes approximately 1,750 miles of sewer

Harper Road Lift Station construction workers leveling base of the wet well.

lines, 49 pumping stations and one chemical odor control stations. The Utility Commission and the Utilities Division staff work hard to meet or exceed the requirements mandated by the North Carolina Clean Water Act that regulate the collection system operations, and the National Pollutant Discharge Elimination System (NPDES) permits that regulate the operation of the treatment plants and the disposal of biosolids.

WASTEWATER TREATMENT

During FY 2014-15, the sewage plants treated 10.664 billion gallons of wastewater. The Archie Elledge wastewater treatment plant and the biosolids drying facility operated all year within the parameters established by state and federal permits. The Muddy Creek wastewater treatment plant experienced a weekly and monthly suspended solids violation in October of 2014. The wastewater plants removed 96.9 percent of regulated pollutants they received, far exceeding state and federal requirements. Approximately 23,963 tons of regulated pollutants were removed by the treatment processes during the period ending June 30, 2015.

The treatment and disposal of residual biosolids produced by the wastewater treatment plants is accomplished by anaerobic digestion followed by further processing at the biosolids drying facility. Methane, one of the longest lasting greenhouse gases, is captured in the treatment process before it escapes to the atmosphere. Each year more than 175 million cubic feet of methane is captured from the digesters and used as fuel to reduce the cost of running the plants.

The biosolids drying facility at the Elledge plant uses excess methane from the existing treatment process to dry dewatered biosolids into pellets that are similar to granular fertilizer and marketed commercially as Winston-Salem Soil Solution. During FY 2014-15 the dryer produced 5,411 dry tons of pelletized biosolids. The biosolids are beneficially reused in various agricultural settings through a contract marketing/hauling company.

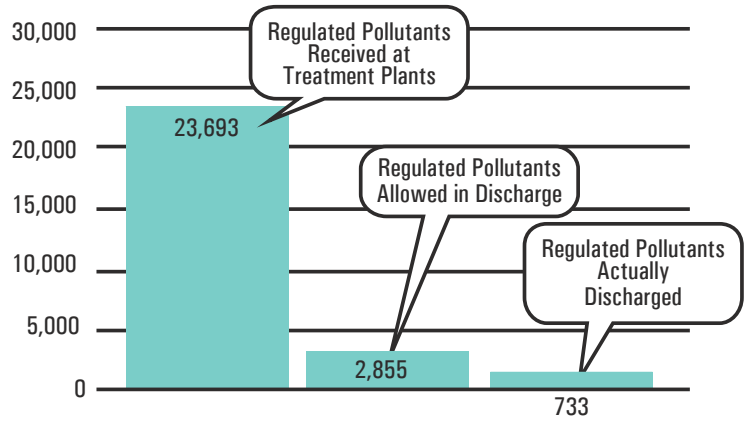
During FY 2014-15, several wastewater treatment improvement projects were implemented to provide reliable service to Utility Commission customers for many years to come. Significant projects include:

- Muddy Creek Clarifier Improvements.
- Various Plant Upgrade and Rehabilitation Projects.
- Harper Road Lift Station/Clemmons No. 1 Expansion.
- Reedy Fork Lift Station Relocation.
- South Fork Basin Capacity Improvements.
- Peters Creek Outfall Rehabilitation.

Details about these projects can be found in the Capital Improvements section of this report.

Wastewater Treatment Facilities Master Plan

In 2010, Utilities updated its master plan to forecast improvements needed over the next 20 years. Such factors as future regulations, capacity, wastewater flow projections and infrastructure condition were considered in developing the plan. The improvements identified were then prioritized to comply with existing and future regulatory require-



WASTEWATER TREATMENT PLANT EFFICIENCY

Tons of Pollutants per Year - FY 2014-2015

ments, to maintain facility reliability throughout the planning period, and to accommodate growth within the service area. Although sewer flows are projected to increase, new treatment capacity is not expected to be needed until 2021.

One of the significant factors that the master plan considered is the potential need to modify the treatment plants to remove nutrients from their effluent. The need for nutrient removal stems from the North Carolina Division of Water Resources' decision to list High Rock Lake as impaired by chlorophyll and turbidity. Chlorophyll is formed by microbiological growth that results from excessive amounts of nutrients (nitrogen and phosphorus) in the water. The sources of these nutrients vary but are mostly due to non-point sources such as run-off from farms and golf courses and point-source discharges, such as wastewater treatment plants. Turbidity is a measure of the clarity of the water. Erosion increases turbidity and impairs water by preventing sunlight penetration and increasing sediment deposition.

Once a water body is listed as impaired, the Division of Water Resources is required by the U.S. Environmental Protection Agency to issue a Total Maximum Daily Load limit. This limit determines how much contaminant load the water body can naturally assimilate. The limit would affect the commission's wastewater treatment plants because they discharge into the Yadkin River, which empties into High Rock Lake.

In light of this, the staff met with the Division of Water Resources in 2010 to discuss target limits for both nitrogen and phosphorus that could be required in future NPDES permits. These potential limits for nitrogen and phosphorus were used in the master planning effort to determine nutrient removal processes that could be implemented at the Elledge and Muddy Creek plants.

The NPDES permits for both treatment plants are renewed every five years; the current permits were scheduled to be renewed in 2014 but have not been updated by the state as of the fall of 2015. Discussions with the director of the Division of Water Resources indicated that "stringent limits are not likely to be in place when the new permit is issued." However, it is likely that the division would require an optimization study of the existing facilities to reduce nutrient loading. Based on these discussions, the Utilities Division staff anticipates that the 2014 permits (when issued) will not impose nutrient limits for nitrogen and/or phosphorus; this would postpone a major capital expenditure to construct nutrient removal processes at both wastewater treatment plants. However, more restrictive effluent limits on our treatment permits are anticipated before 2020.

The master plan report provides prioritization and planning level descriptions and cost estimates for the recommended improvement projects for 5-year, 10-year, and 20-year planning periods and is reflected in current as well as future capital plans presented to the Utility Commission.

WASTEWATER COLLECTION

The Utility Commission oversees the third-largest collection system in North Carolina and the Utilities Division has 57 employees dedicated to operating

Installing water and sewer services.

and maintaining the system. More than 99.99% of the wastewater generated by the system's customers was collected and delivered to the treatment facilities. Despite the staff's best efforts, sanitary sewer overflows (SSOs) will occur. Most overflows occur when sewer lines are obstructed either by root intrusion, blockages caused by an accumulation of fats, oils and grease, or by a build-up over time of certain non-disposable debris, such as paper towels, towelets, wet wipes, diapers, feminine hygiene products, etc.

Wastewater Collection System Permit Compliance

Since August 2005, the Utilities Division has been operating under a Wastewater Collection System Permit. In June 2014, the division received a renewed permit that is due to expire on July 31, 2021. This permit sets requirements on system performance, operations, maintenance, record keeping, monitoring and reporting, and inspection expectations that have immediate impact on the commission's operation. The permit also requires that system owners and operators demonstrate that a proactive and preventative maintenance program is in place to eliminate overflows.

The Utilities Division has spent significant effort refining preventive maintenance programs. Three preventive sewer line maintenance contracts have been put in place: chemical root control, hydraulic and mechanical cleaning of sewer lines, and right-of-way maintenance. Each maintenance contract can be renewed annually for up to five years. These contracts will supplement staff resources and help achieve the goals required in the permit.

Meeting the requirements for the collection system permit is the commission's highest priority. Accordingly, Utilities Division staff formed a sanitary sewer overflow reduction team that meets on a regular basis to identify projects to reduce overflows as well as infiltration and inflow into the sewer system.

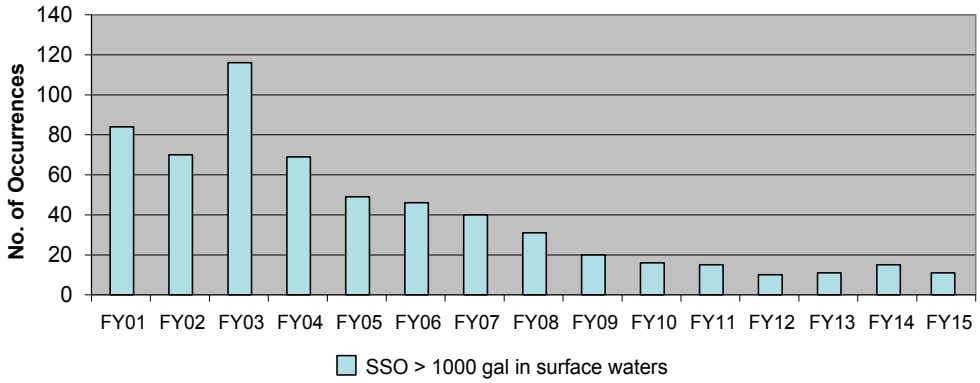
Overflow Reduction Efforts

Since the passage of the North Carolina Clean Water Act in 1999 the total volume of annual sewer overflows has been tracked against the baseline year of FY 1998-99. For FY 2014-15, the total volume of sewer overflows represents a 91.7 percent decrease from the volume reported for the baseline year.

There were a total of 86 sewer overflows during FY 2014-15, of which 15 were 1,000 gallons or more. While this is not the lowest recorded count of reportable sewer spills in our system history, it is consistent with our downward trend of reportable SSOs with last fiscal year being the lowest recorded in history at 82 reportable events. The overflows for FY 2014-2015 totaled 127,405 gallons. These overflows accounted for only 0.0011 percent of the billion gallons of wastewater the system collected during FY 2014-15. The goal, however, is to have zero sanitary sewer overflows from the sewer collection system.

Of the 86 sanitary sewer overflows in the collection system during FY 2014-15, 33 were attributed to grease accumulation. This continues a trend of decreasing grease-caused overflows over previous years and reflects the continued effectiveness of the commission's Grease Interceptor Ordinance (in place since 2003) and public education efforts.

PERFORMANCE SUMMARY OF SEWER COLLECTION SYSTEM



For example, staff, working with the city's Marketing & Communications Department, developed a "Can the Grease" brochure and associated educational materials. This information is routinely provided to the public at functions throughout the year. The reduction also reflects the proactive approach to cleaning sewer main lines and the publicly maintained portion of sewer connections. Sewer-line maintenance also prevents overflows due to the intrusion of tree roots and debris, which are the other major contributors to line blockages.

On September 2, 2014, the Environmental Protection Agency issued a Section 308 Letter requesting in-depth information on how the Utility Commission operates and maintains its sanitary sewer collection system. On October 2, 2014 the commission submitted a response to the EPA with all the requested information along with a summary outlining efforts in implementing long-term solutions and the staff effectiveness in reducing SSOs. While the EPA did issue a Notice of Violation due to the candidness in reporting of SSOs, the commission received a favorable response from the EPA as they decided not to issue any enforcement action at this time. Instead, the EPA will monitor the system for performance and trends to reduce SSOs over the next two years.

In summary, the wastewater collection system staff continued to operate the system in compliance with the state-issued permit. Improved operational performance was key in minimizing the total volume of sewer overflows. Although effort is currently being placed on operational performance and major system improvement projects, more effort will be required to meet the goal of zero overflows. As a result, more staff, equipment, information technology, and funding will be required to ensure success.

Wastewater Collection System Maintenance And Rehabilitation

During FY 2014-15, Utilities Division personnel cleaned 992,969 linear feet of sewer mains. The commission spent $245,249 to have contractors clean an additional 190,062 linear feet of large diameter sewer lines. In addition, a chemical root control contract provided for the treatment of 120,280 linear feet of sewer mains in FY 2014-15, further reducing the risk of sanitary sewer overflows occurring in the system.

Also, the commission funded the inspection of 69,245 feet of sewer mains using closed-circuit TV. Staff and contractors also improved the access to collection system easements through the inspection and mowing and clearing of approximately 54.4 miles of easements.

During FY 2014-15, the commission invested more than $5.43 million in sewer main rehabilitation projects. These projects replaced older, less reliable infrastructure with newer sewer lines, resulting in fewer leaks and service interruptions. These improvements corrected problems such as cracked pipes, misaligned joints, sagging lines, and root intrusion.

The majority of the rehabilitation projects included rehabilitating or replacing approximately 8,312 feet of gravity sewer mains, 159 manholes, and 98 service laterals. Most of the rehabilitated sewer mains ranged in size from 6 to 18

TABLE 1

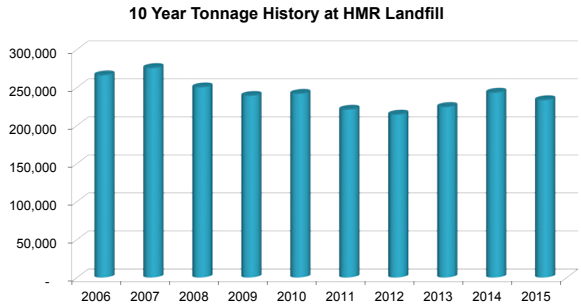
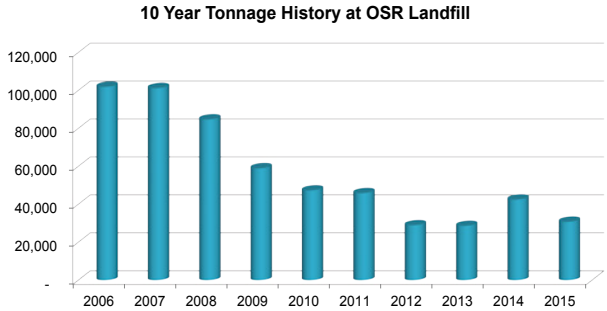


TABLE 2



inches and took place in the areas around 28th Street, Muddy Creek and Linville Spring.

Solid Waste

The Solid Waste Management program is responsible for operating the Hanes Mill Road Landfill, the Old Salisbury Road Construction and Demolition (C&D) Landfill, and Forum 52 and Overdale Yard Waste Composting Facilities. This program is also responsible for various other recycling and waste management efforts, including scrap tire and white goods recycling, and a program that diverts household hazardous and electronic waste from landfill disposal.

All programs are operated to deliver services as efficiently as possible and to meet or exceed regulatory standards and environmental protection criteria. The majority of programs are operated directly by Utilities' solid waste staff, a group of 35 professional, technical and operational employees. Contractors are used for select services to achieve greater efficiency and effectiveness.

The Solid Waste Management program managed more than 286,585 tons of municipal solid waste, construction and demolition debris, and yard waste during FY 2014-15. Recycled materials included 5,715 tons of scrap tires and 131 tons of appliances. The four facilities served an average of 426 vehicles per day, for a total of 126,399 vehicles during the year. This is a decrease of 4,223 vehicles from the previous year. Last year, there were two projects that generated significant additional tonnage at both landfills, so the decrease this year was not surprising. The trend of significant amounts of municipal solid waste being hauled out of Forsyth County (for disposal in privately operated landfills) continues.

To help mitigate this trend, and assure adequate revenues, the City/County Utility Commission continues to offer discounted tip fees for higher volume customers. This discounted rate was increased by $0.50 per ton, effective July 1, 2015, to help offset increasing costs of operation. Table 1 illustrates the fluctuations in the municipal solid waste stream over 10 years.

The waste stream at the Old Salisbury Road C&D Landfill has declined more significantly than the general waste stream in the last 10 years. This decline is attributed to economic conditions, and to the presence of a privately operated construction and demolition recycling facility located in Forsyth County that receives some of the waste that previously went to Old Salisbury Road. In FY 2014-15, 30,902 tons were received at the landfill, a decrease of 11,711 tons from the previous year's total of 42,613 tons. The higher tonnage in the previous year can be attributed to a large demolition project in the city. Table 2 shows the 10-year trend in C&D waste.

STATUS OF SOLID WASTE PROJECTS

Hanes Mill Road Landfill

The original portions of Hanes Mill Road Landfill date to the 1970s and are located on the east side of the railroad tracks that bisect the site. The oldest portions consist of approximately 70 acres of unlined area, with another 40

The North Carolina Chapter of the Solid Waste Association of North America held the 2015 Equipment Roadeo at Hanes Mill Road Landfill. Heavy equipment operators from across the state competed for prizes and trophies.

acres of lined cells immediately adjacent to the original unlined area. Permits were issued for a newer lined expansion area in the early 2000s, across the tracks to the west of the original landfill. The first cell of this expansion was placed into use in May 2005. A second, 14-acre lined cell (adjacent to the initial 22-acre cell) was completed in late 2006, and began receiving waste in April 2007. The construction of cells 3 and 4 began in late 2010, and was completed in late 2011. This added 17 acres of lined landfill cells to the 35 already constructed, for a total of 52 acres. The complete permitted landfill footprint will encompass about 90 acres, and is expected to provide landfill capacity for 20 or more years, based on current waste quantities received at the facility.

Landfill Gas System

The Hanes Mill Road Landfill has a landfill gas extraction system that collects gas generated by the decomposing waste. The gas is delivered to a power generation facility where it is converted into electrical power and sold back to the power grid. The power plant is operated by a contractor, DTE Biomass, operating locally as Salem Energy. More than 30 million kilowatt-hours of electricity were generated in 2015—enough electric energy to power 2,900 homes. Under its contract, DTE purchases the gas harvested from the landfill. The proceeds from the gas sales are invested in the solid waste enterprise fund, and over time these payments will offset the capital cost of installing the system components and operational costs of complying with air quality regulations.

Construction And Demolition Debris Management

The Old Salisbury Road C&D Landfill has adequate capacity to serve the community for many years to come. The fluctuating construction waste stream makes specific projections uncertain, but at current waste levels the landfill should last through 2030. The extended life of this facility and the presence of a C&D recycling facility in the county provide adequate time to conduct strategic planning and analysis of the various options for managing this waste stream.

Future Challenges And Opportunities

The solid waste funding structure has historically relied almost exclusively on tipping fees at its facilities to fund its operations, and to generate a fund balance to cover future capital expenditures. In light of the declining waste stream in recent years, the long-term financial modeling for the solid waste fund has been updated to reflect revised revenue and expense projections, particularly reduced recycling expenses.

For more than 15 years, the Solid Waste Enterprise Fund provided full funding for the city's curbside recycling program, Forsyth County's drop-off recycling program, and the recycling program in the Winston- Salem/Forsyth County public schools; while also covering the costs for its other solid waste management facility operations. In response to declining revenues in the solid waste fund, an inter-local agreement was executed that transitioned

The new yard waste processing contractor, Wallace Farm, will produce high quality finished compost from brush, limbs and leaves – a more sustainable end use for our community's yard waste.

the funding to Forsyth County for the cost of drop-off and school recycling programs, and to the city for its curbside recycling program. This phased transition was carried out between FY 2010-11 and FY 2013-14, making FY 2014-15 the first year of funding these programs fully by the city and county. Removing the costs of these programs improves the future outlook of the Solid Waste Enterprise Fund, and helps ensure that future capital needs can be met.

Utilities staff continues to monitor both operating and capital expenses in an effort to discover and implement cost-saving measures to further improve the fund balance. A comprehensive audit of landfill operations resulted in several initiatives that reduced costs, improved safety and will extend the life of the landfill.

In FY 2014-15, the master plan was updated for Hanes Mill Road Landfill, which identified several expansion options that could potentially extend the life even further. A study of alternative cover systems was also conducted during the year, with the goal of designing and permitting a cover system with a thinner profile that will not consume as much valuable airspace as the currently permitted one. Finally, staff continues to monitor overall economic and market conditions that drive the composition and magnitude of the waste stream, particularly the portion delivered to our landfills by the private sector. For example, the development of a privately operated landfill in a nearby county could potentially be a new factor in the regional marketplace if it competes with existing facilities for the local waste stream. With no legal or regulatory constraints on the hauling of waste in this region, the future of the waste stream, and therefore the revenues, associated with Utility Commission landfills is uncertain.

Other challenges and opportunities for the solid waste program are driven by state and federal regulatory changes. Electronic waste such as computers and televisions have been banned from landfills since 2011, and the associated funding source from the state provides additional revenue that partially funds the recycling of these items. The future of that program is uncertain at this point, as revisions are being considered at the state level. New stormwater requirements for composting sites issued by the N.C. Department of Environment and Natural Resources are resulting in additional expenses to manage stormwater at those sites. Because of this, the Overdale Road Composting Facility is in the process of being converted to a Treatment and Processing Facility. This different permit will allow the contractor on that site to grind and remove the yard waste, but not to compost on site. Reynolds Park Road Composting Facility has been eliminated as well, and will be developed into a city park.

Capital Improvements

The Utility Commission maintains an ongoing capital improvements program for its water and wastewater treatment plants and its collection and distribution systems to ensure that all commission facilities operate efficiently and within the requirements of state and federal regulations. The commission's capital improvements program is guided by master plans that look at such factors as future regulations, capacity, population growth, commercial and industrial growth, wastewater flow projections and infrastructure condition. Capital improvements identified through these master plans are then prioritized by fiscal year. During fiscal year 2014-2015, the commission's budget for water and sewer capital improvements totaled $43.6 million. Details about major projects are listed below.

Water Treatment and Distribution Projects

Chitty High Service Pumping Station – Standby Power And Electrical Improvements

The Chitty High Service Pumping Station comprises two pumping stations. The oldest station, built in 1961, has operated for more than 49 years with little capital investment. The equipment had aged beyond its useful life and the lack of available replacement parts rendered the equipment difficult to maintain. The 1986 pumping station has been in continuous service for 24 years and some capital improvement was needed to replace aging equipment and maintain the reliability of the station.

Under this project the existing electrical substation was replaced and new standby power generators were provided for the stations. New equipment included 4160-volt switchgear and generators, 480 volt generators, fuel storage tanks and transformer. The existing diesel driven pumps were removed from service and emergency power was provided by the new equipment. The 49-year-old motor control center was replaced with a new 4,160-volt motor-control center and new starters were installed.

Due to changes in the distribution system since the station was put in service, the pumps experienced abnormal wear. Based on an evaluation of the current and projected water demand, the number of pumps was decreased from eight to five. All of the new pumps are located in the 1961 station and the 1986 building houses the new generator and switchgear. The construction contract was awarded in December 2012 and the project was completed January 2015.

Total project budget: $7,598,160. Total expenditures through FY 2015: $5,884,311.

Water Distribution System Improvements

This project provides multi-year funding for water distribution improvements throughout the city and county. This project

Sides Road Water Tank before and after recoating work.

funds such planned work as valve exercising as well as unanticipated miscellaneous projects that arise throughout the fiscal year, such as rehabilitating portions of the water system, chlorination booster projects, structure adjustments, system-wide asset replacement planning, and other miscellaneous water system improvements.

Total budget for FY 2015: $1,000,000. Funded projects during FY 2015: $1,000,000.

Water Treatment Rehabilitation And Upgrades

This project provides for general building, grounds, and equipment maintenance at the system's three water plants. The project also provides for the purchase of costly replacement parts and repairs that are needed for the continuous operation and maintenance of the plants.

Total budget for FY 2015: $471,000. Total expenditures during FY 2015: $418,631.

Water Tank Rehabilitation

This project consists of structural repairs, lead paint abatement, and coating replacement for elevated and ground storage tanks. Each of the tanks included in this project has been in service at least 20 years. An engineering firm that specialized in tank maintenance has inspected all the tanks included and this repair program is based on its recommendations. The goal of the project is to maximize the service life of these structures and to bring them into compliance with current Occupational Safety and Health Administration (OSHA) and American Water Works Association (AWWA) standards. During 2014-15 repairs and recoating to the Sides Road Ground Water Storage Tank were completed.

Total budget for the Sides Road Tank Rehabilitation: $1,032,911. Total expenditures during FY 2015: $364,630.

Water & Sewer GIS/Asset Management

This project will create a new Geographical Information System mapping and database of the water and sewer systems. The GIS mapping will utilize Global Positioning System technology to tie existing mains and manholes to current GIS data. The project includes the cost to collect data on the water and sewer systems. Once complete the database will be used for capital improvement planning, maintenance planning and scheduling, and storing information on existing systems. The systems will combine data from other agencies (e.g., Tax Office, Planning, Engineering, etc.), which will allow maps to overlay other various facets of information on top of the water and/or sewer systems. To date, information has been collected on 70 percent of our asset inventory.

Total project budget: $3,883,400. Expenditures through FY 2015: $2,416,633.

Idols Pump Station generator pad with stockpiled control cabinets.

Automated Meter Reading/Infrastructure

This multiyear project will evaluate, install, and retrofit meters within the entire water system with an automated meter reading system. An automated meter reading system is technology that collects data from water meters and transfers that information to a central database for billing.

Currently there are approximately 8,000 meters in our system with automated capabilities that were installed during a pilot project. These 8,000 meters are capable of transferring data to a handheld device by a "drive by" reading otherwise known as Automated Meter Reading (AMR). Newer technology allows for the transfer of data and meter reading through a network which would eliminate the need to "drive by" meters to register the read. This technology is called Automated Meter Infrastructure (AMI). AMI and AMR systems record meter readings in intervals of one hour or less. AMI differs from traditional AMR in that it enables two-way communications with the meter. The readings are communicated back at least daily to the office for monitoring and billing. Both AMI and AMR technology would greatly reduce the amount of time required to read all meters in our system and provide enhanced information to our customers about their usage patterns.

This project will also help provide more detailed information regarding customer accounts and usage. Currently the system has 16 bi-monthly billing cycles with anywhere from 6,700 to 8,400 accounts in each cycle.

During FY 2016, staff will evaluate proposals to determine the feasibility of constructing an AMR/AMI system. Once the evaluation is complete, a recommendation will be presented to the Utility Commission to determine next steps regarding automated meter reading technology for our system.

Total project budget: $10,000,000. Expenditures through FY 2015: $2,141,953.

NCDOT Road Widening Project Utility Relocations

The N.C. Department of Transportation has identified various projects in Forsyth County scheduled for road widening or other improvements that began in 2013 and following years. In accordance with NCDOT policies, the water and sewer lines in the project right-of-ways may need to be relocated. This project will fund the water- and sewer-line relocations for these projects. A few of the current projects identified include the Northern Beltway-eastern section, Salem Connector Relocation, Macy Grove Road interchange at Interstate 40, and several bridge-replacement projects. This budget will provide funding for the utility relocations as NCDOT constructs projects.

Total project budget: $5,810,000. Expenditures through FY 2015: $4,987,537.

Winston-Salem State University Distribution System Improvements

This project will eliminate encroachment of a 24-inch water main easement on the Winston-Salem State University campus and ensure quality of service provided by the Thomas Water Treatment Plant's transmission mains. The project is being completed in two phases, replacing/ relocating approximately 7,980 feet of trans-

Harper Road wastewater lft station valve vault construction.

mission mains that range in size from 12 to 30 inches. Construction of phase one was completed in May 2010 within budget. Phase two includes replacing a 20-inch and 24-inch water line with a new 30-inch water line and is on schedule for award of a construction contract in FY16. Construction is expected to be completed a year after contract award.

Total project budget: $5,946,060. Total expenditures through FY 2015: $1,719,590.

Idols Pump Station Rehabilitation – Phase Ii

The Idols Pump Station supplies raw water to the Neilson and Thomas Water Treatment plants. The motor and starter for Raw Water Pump 3 will be replaced with a motor and starter similar to those previously installed during Phase I. An electrical platform including 4,160-volt emergency generators, switchgear, 480-volt generator (with manual transfer switch), fuel storage and transformer will be constructed, and the existing diesel locomotive engine and right angle drive will be removed from service. The design is complete and the project was bid in the spring of 2015 and construction has started.

Total project budget: $5,100,000. Total expenditures through FY 2015: $1,675,574.

Wastewater Collection and Treatment Projects

Harper Road Lift Station/ Clemmons No. 1 Expansion

Construction of a new lift station off Harper Road in Clemmons will expand sanitary sewer service areas in Clemmons and Lewisville. Additionally, construction will avert the need to expand the Tanglewood Lift Station, by diverting to the new lift station the flow from the existing Clemmons No. 1 lift station, which currently flows to Tanglewood Lift Station.

The project will also include upgrades at Clemmons No. 1 Lift Station.

The new Harper Road Lift Station will discharge directly into the Muddy Creek Interceptor. The existing submersible pumps at Clemmons No. 1 will be replaced with 700 gpm submersible pumps. Other improvements will include the installation of a stand-by generator and other related electrical gear. To convey flow from Clemmons No. 1 to the new Harper Road Lift Station, a 10-inch force main, approximately 5,800 linear feet, will be routed parallel with Blanket Bottom Creek until it reaches the new station.

The new Harper Road Lift Station will include a cast-in-place concrete wet well designed to accommodate four submersible pumps to meet build-out flow conditions. The station will include a weight handling system, stand-by generator and ATS, SCADA system, and an odor control system. Approximately 10,400 linear feet of 20-inch force main will be installed to convey flow from the new Harper Road Lift Station to the Muddy Creek interceptor.

Separate contracts were awarded for the force main and the pump station construction. The force main was completed in September 2015 and the pump station is scheduled for comple-

Ardmore area sewer line rehabilitation using pipe bursting.

tion in January 2016.

Total project budget: $6,211,300. Total expenditures through FY 2015: $3,671,011.

Ardmore Area Water And Sewer Rehabilitation

This multiyear project provides for the evaluation and rehabilitation of the Ardmore neighborhood water and sewer systems. Due to the large size of the Ardmore neighborhood, the age of the water and sewer systems, and the historical aspects of the area, a master plan approach was pursued to develop an overall project approach for the rehabilitation of these systems. The Ardmore area has been divided into 12 sub-basins and the master plan has prioritized each area to develop the overall project plan and budget.

The first construction phase of the project addressed immediate repair needs across the entire Ardmore basin and was completed in FY2010-11. During FY2011-12, construction in Ardmore Basin 10 was completed. Construction is complete in Ardmore Basin 11. The Ardmore Basin 1 contract has been let with work expected to begin in January 2016.

Total project budget: $7,156,287. Total expenditures for FY 2015: $286,252.

21st, 22nd, & 23rd Street Rehabilitation

The scope of this project includes the complete rehabilitation of existing water and sewer lines on 21st, 22nd, 23rd, and surrounding streets. The project limits include streets within the boundaries of Liberty Street to the west, 25th Street to the north, Bowen Boulevard to the east and 14th Street to the south. The project is being designed and constructed to address sewer and water system issues that have resulted in sanitary sewer overflows and a high volume of work orders for maintenance staff.

The project includes engineering design, easement acquisitions, construction, and construction management. The first construction phase of the project addressed immediate repair needs across the entire basin and was completed in September 2012. Construction in the highest priority basin, Basin 1, was completed in August 2014. The remaining basin has been divided into 2 projects. Contracts for both have been awarded and work is expected to start in late 2015.

Total project budget for FY 2015: $5,858,281. Total expenditures during FY 2015: $298,964.

Wastewater System Master Plan

The Winston-Salem/Forsyth County Utility Commission is currently updating its Wastewater Master Plan, formerly known as the 201 Wastewater Facilities Plan, to account for the demands of growing population, industrial and commercial development, and aging infrastructure that will be placed on its wastewater collection and treatment system. The master plan will guide wastewater system capital improvement projects over a 30-year period. The plan will identify and prioritize wastewater system improvements to ensure that the commission can meet future regulatory requirements, maintain system capacity and reliability, and accommodate growth.

The wastewater collection

Reedy Fork lift station relocation site with control building and emergency generator.

system comprises approximately 1,750 miles of sewer lines in three sewer basins: Muddy Creek, Salem Creek, and South Fork Creek. Lines in the Salem Creek and South Fork Creek basins flow to the Archie Elledge Wastewater Treatment Plant. It has a permitted capacity of 30 million gallons a day and has an average treatment flow of 17.0 million gallons a day. The sewer lines in the Muddy Creek basin flow to the Muddy Creek Wastewater Treatment Plant. It is permitted for 21 million gallons a day and has an average flow of 15.5 million gallons a day.

The master plan study was completed for the South Fork basin in 2012-13. The Muddy Creek basin study was completed in 2013-14. Salem Creek basin study was completed in 2014-15 and the final combined report was received in May 2015.

Total project budget: $2,300,070. Total expenditures through FY 2015: $2,275,143.

Reedy Fork Lift Station Relocation

The Reedy Fork lift station was conveyed to the Utility Commission under the terms of a 1996 agreement with the Town of Kernersville. The pump station is located on an abandoned wastewater treatment plant site just inside Guilford County and next to Triad Park. The pump station was built in 1982 and was in poor condition. Outdated equipment made it difficult to obtain replacement parts and perform necessary maintenance and repairs. The station was a confined space and required additional time, safety measures, and costs when inspections and repairs were performed. In addition, a portion of the outfall supplying flow to the pump station traverses upstream wetlands that was a significant source of infiltration and inflow.

The scope of this project included decommissioning of the existing pump station, designing and constructing a new pump station upstream of the wetlands, and conducting a downstream hydraulic capacity study of the wastewater interceptors in the South Fork sewer basin. The project was completed in January 2015.

Total project budget: $10,893,450. Total expenditures through FY 2015: $4,718,850.

South Fork Basin Capacity Improvements Program

This multiyear project will fund design and construction projects to provide additional capacity in the South Fork basin as indicated by the Master Plan. The South Fork basin includes more than 386 miles of sewer mains. Earlier capacity studies in this basin indicated the need to increase capacity of the collection system. These studies indicate that capacity may be impeded by inflow and infiltration (I&I) to the main outfalls serving this basin. Additional review of I&I and potential pipe-size restrictions continued through the Wastewater System Master Plan.

The master plan has been completed for the South Fork basin and short- and long-term needs have been identified. The identified needs include two gravity sewer replacement and parallel pipes projects, upgrading an existing pump station, installing a force main between the Muddy Creek WWTP and Elledge WWTP and a new consolidated headworks facility and pumping

Muddy Creek excavation for the influent pump station.

station at Muddy Creek Wastewater Treatment Plant. The consolidated headworks facility and pumping station is needed to prevent the Muddy Creek plant from exceeding its current rated and peak hourly flow capacities by transferring a portion of the influent raw wastewater to the Elledge plant, and to accommodate excess wet weather flows with diversion to storm water equalization.

The consolidated headworks and pumping station facility will have an ultimate firm capacity of 150 million gallons per day. A 30-inch diameter force main is proposed to transfer the flow from the new pumping station at the Muddy Creek plant to the Elledge plant. Design started in January 2013 and construction started on the new consolidated headworks in January 2015.

Total project budget: $110,748,331. Total expenditures through FY 2015: $14,482,750.

Archie Elledge Wastewater Treatment Plant Rehabilitation And Upgrades

This project provides for the replacement of digester heating equipment at the Elledge Wastewater Treatment Plant. The project includes the replacement of three boilers and associated hot water recirculation pumps and fuel pumps. The heat exchanger located in the Instrumentation and Controls and Electrical building will also be replaced. This project also provides multi-year funding for general building, grounds, and equipment purchases.

Total budget for FY 2015: $680,000. Total expenditures during FY 2015: $109,980.

Muddy Creek Wastewater Treatment Plant Rehabilitation And Upgrades

This project provides multi-year funding for general building, grounds, and equipment maintenance for the Muddy Creek Wastewater Treatment Plant. The project provides for the purchase of costly replacement parts and repairs that are needed for the continuous operation and maintenance of the plant.

Total project budget for FY 2015: $80,000. Total expenditures during FY 2015: $45,319.

Muddy Creek Wastewater Treatment Plant Clarifier Improvements

This project included the replacement of sludge scraper equipment, the addition of baffles, construction of one new secondary clarifier, and the addition of return activated sludge pumping capacity at the Muddy Creek wastewater treatment plant. The sludge scraper equipment in the existing primary clarifiers was replaced with scrapers that can be operated independently for each clarifier unit. Although there are four separate clarifier units, the existing bridge-type scrapers operate in pairs so that a shutdown for maintenance or any other reason removes two of the four clarifiers from service. This negatively affects the loading and performance of downstream processes and the overall reliability of the entire wastewater treatment plant. The upgraded units allow greater reliability within the existing clarifiers.

This project also included an evaluation of the performance of the existing secondary clarifiers and return activated sludge pumping system at the Muddy Creek plant. The existing secondary clarifiers experienced performance issues as flow increased even when flow is well within

Muddy Creek wastewater treatment plant with completed clarifier #5.

normal loading guidelines. Dye testing and velocity measurements were conducted and identified. The specific issues were correctable with the installation of baffles within each clarifier.

In addition, the return activated sludge pumps could not pump at their designed capacity. The shortfall is suspected to be caused by excessive suction-side headloss. The source of the excessive headloss was investigated during the clarifier study. This project was completed in December 2014.

Total project budget: $14,628,335. Total expenditures through FY 2015: $14,346,742.

Wastewater Collection System Improvements

This project provides multiyear funding for inspection, evaluation, design, and construction of sanitary sewer rehabilitation projects throughout the wastewater collection system. In many areas of the sewer system, the pipes and manholes are 60, 70, or 80 years old and have exceeded their design life. Manholes have deteriorated and pipes have cracked and broken. These problems cause backups, cavities/voids underground, flow problems, and infiltration/inflow and result in sanitary sewer overflows and extra cost at the plants for treatment.

Total budget for FY 2015: $3,000,000. Funded projects during FY 2015 total: $3,000,000.

Peters Creek Outfall Rehabilitation

This project provides for rehabilitating existing sewer lines and replacing an aerial sewer line and siphon with a new aerial line along Peters Creek between 4th Street and Crafton Street. The project is being designed and constructed to address sewer system issues that have resulted in sanitary sewer overflows and a high volume of work orders for maintenance staff. The project includes engineering design, easement acquisitions, construction, and construction management.

The contract has been awarded and work is expected to start in late 2015.

Total project budget: $1,793,666. Total expenditures through FY 2015: $250,544.

Paddington Lane, Allison Avenue, North Lakeside Drive And Monarcus Creek

This project consists of replacing or rehabilitating aging sewer lines on Paddington Lane, Allison Avenue and North Lakeside Drive to resolve sanitary sewer overflows and high volumes of work orders for the maintenance staff. The work along Monarcus Creek consists of relocating a manhole located in a stream and stabilizing the stream bank at the site.

The contract has been awarded and work is expected to start in late 2015.

Total project budget: $4,111,479. Total expenditures through FY 2015: $375,315.

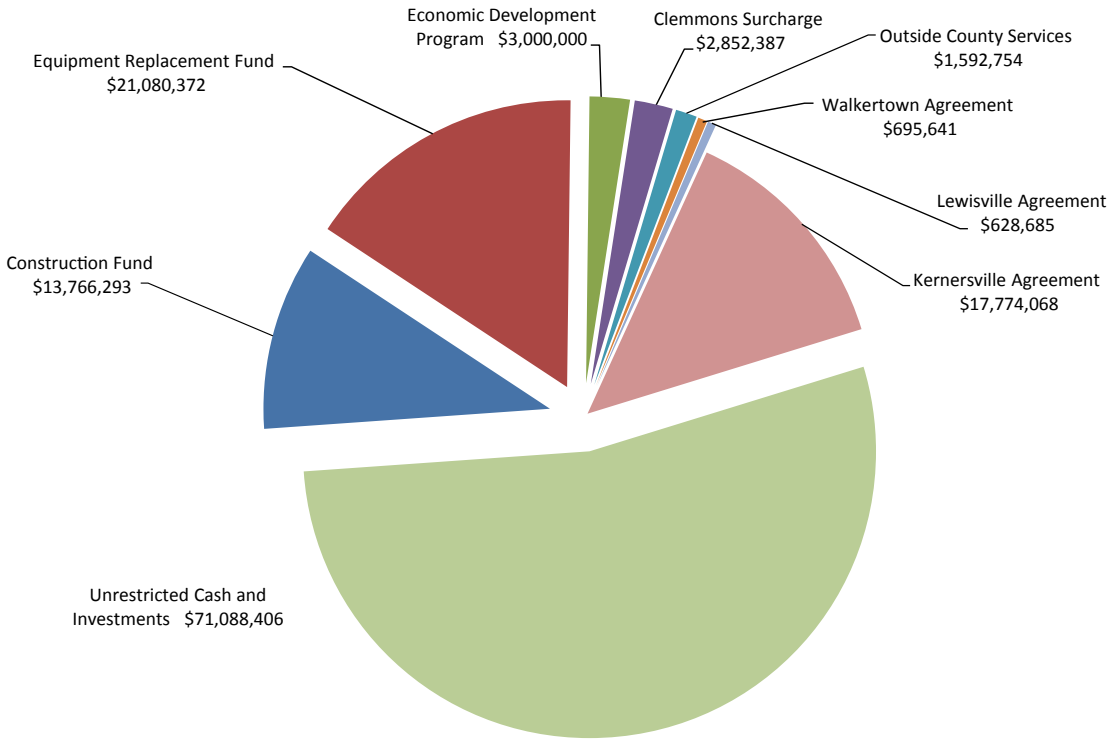
Muddy Creek Wastewater Treatment Plant Combined Heating And Power

This project consists of installing a generator that will generate electricity from methane gas generated at the Muddy Creek Wastewater Treatment Plant. The electricity will be sold to Duke Energy and the heat generated by the process will be used to heat the plant boilers.

Work is expected to start in early 2016.

Total project budget: $1,851,000. Total expenditures through FY 2015: $92,245.

WINSTON-SALEM/FORSYTH COUNTY UTILITY SYSTEM RESTRICTED CASH AND INVESTMENTS



DEFINITIONS FOR RESERVES:

Trustee Construction Fund: This fund holds unspent revenue bond proceeds that can only be used for the purposes for which the bonds were issued.

Clemmons, Kernersville and Walkertown Reserves: These fund are generated from the rates charged to customers in Clemmons, Kernersville and Walktertown. The City-County Utility Commission holds these funds in trust for these municipalities to be used for their water and sewer systems.

Equipment and Replacement Fund: Excess water and sewer revenues restricted for major maintenance and capital expenditures. This fund is currently being used to fund PAYGO annually for CIP.

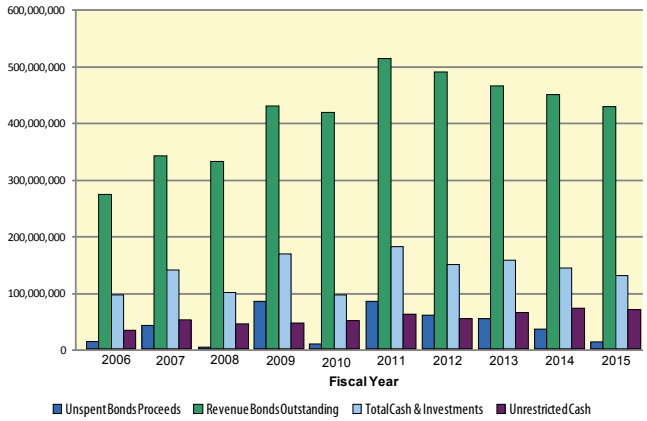
Economic Development Reserve: In April 1987, the City-County Utility Commission set aside $3 million to advance to businesses locating in industrial parks within Forsyth County for the extension of water and sewer infrastructure.

Outside County Services Reserve: In 1995 and 1996, the City Council and the Forsyth County Board of Commissioners amended the 1976 agreement establishing the Utility Commission to authorize the Commission to charge customers outside Forsyth County higher rates than those charged to customers within the county. The amendment also authorized the Utility Commission to set aside up to 50% of the revenue generated from these higher rates to be used for economic development projects approve by the City Council and the Forsyth County Commissioners.

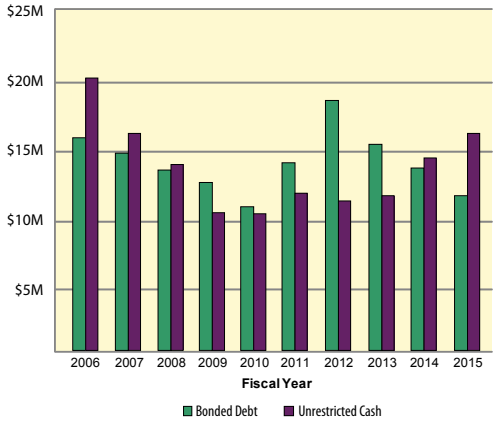
Unrestricted: Funds used to pay for operations and those portions of the Utility Commission's Capital Improvement Plan not funded with Revenue Bonds or the Equipment & Replacement Funds.

SUMMARY OF FINANCIAL STATEMENTS

WATER AND SEWER FUND



SOLID WASTE FUND



Water and Sewer Utility Fund

For FY 2014-15, total operating revenues were $93,221,504. This was $1,524,374 more than budgeted, up $6,362,676 from FY 2013-14. The 7.3 percent increase in revenue is primarily due to an unexpected increase in water consumption.

Operating expenditures totaled $38,198,229, which was $4,454,226 less than the budgeted expenses of $42,652,455. The bulk of the operational expense savings were in the areas of salary savings due to numerous vacant positions during the year, reduced treatment chemical costs, and other expense savings in supplies, equipment maintenance, electricity, and contracted services. Investment income for the fiscal year was $2,303,024, a decrease of $6,861,902 over the previous year.

The fund ended the fiscal year with $132,478,606 in cash and cash equivalents. This is $5,510,830 less than the $137,989,436 in cash and cash equivalents the fund had at the start of the fiscal year and includes unspent bond proceeds of $13,766,293 at June 30, 2015.

Accounting for debt service, investment income, and all other non-operating costs, the Water and Sewer Utility Fund ended the 2014-15 fiscal year with an increase of net position of $16,921,176 (full accrual basis).

Solid Waste Fund

The Solid Waste Fund ended FY 2014-15 with total net position of $43,025,362 reflecting a net increase in position of $731,937 (full accrual basis), after adjusting for non-operating costs.

Operating revenues for the solid waste fund for FY 2014-15 were $9,382,726. This was $196,336 more than the budgeted revenues of $9,186,390, and $989,359 less than the actual revenues for FY 2013-14 at $10,372,085. The decrease in revenue is directly related to a decrease in waste tonnage disposed at Hanes Mill Road Landfill and at Old Salisbury Road Landfill.

Operating expenditures totaled $6,565,934, or $1,452,309 less than the budgeted amount of $8,018,243. Expenses were reduced in the areas of: salary savings due to vacant positions, reduced equipment maintenance costs, and reduced costs for contracted services and fuel. Transfers in from the Stormwater, Water and Sewer funds were $350,740, to cover the cost of the household hazardous waste management facility, 3RC.

The unrestricted net cash at the end of 2015 was $16,243,005, and restricted cash was $16,123,637. The restricted portion of the fund represents money designated for closure and post-closure care of the landfill.

City of Winston-Salem, North Carolina
Enterprise Funds

Water and Sewer Utility Fund - Statement of Net Position
June 30, 2015 and June 30, 2014

Assets	2015	2014
Current Assets		
Cash and cash equivalents	$ 71,088,406	$ 68,102,587
Receivables, net of allowance for uncollectibles		
Accounts	12,530,439	11,754,635
Assessments	332,994	424,751
Total receivables	12,863,433	12,179,386
Inventories	2,722,509	3,027,204
Total current assets	86,674,348	83,309,177
Noncurrent Assets		
Restricted Assets		
Cash and cash equivalents		
Equipment and replacement fund		
Reserved	47,623,907	39,521,229
Construction		
Trustee construction fund	13,766,293	30,365,620
Total cash and cash equivalents	61,390,200	69,886,849
Net pension asset	1,197,030	-
Property and Equipment		
Land	16,012,007	15,952,172
Buildings	279,851,880	276,732,875
Improvements other than buildings	757,988,746	737,098,121
Machinery and equipment	21,609,286	20,582,839
Construction in progress	75,950,920	63,612,323
Total property and equipment	1,151,412,839	1,113,978,330
Less accumulated depreciation	406,626,420	382,179,210
Property and equipment, net	744,786,419	731,799,120
Total noncurrent assets	807,373,649	801,685,969
Total assets	894,047,997	884,995,146
Deferred Outflows of Resources		
Contributions to pension plan in current fiscal year	817,392	796,311
Charge on refunding	2,226,351	2,776,681
Accumulated increase in fair value of hedging derivatives	21,676,041	20,268,559
Total deferred outflows of resources	24,719,784	23,841,551
Liabilities		
Current Liabilities		
Accounts payable	20,291,861	16,991,268
Accrued payroll	310,965	271,287
Accrued vacation	240,228	245,198
Accrued interest payable	1,197,463	1,311,963
Unearned revenue	2,600	6,029
Current maturities		
Contracts payable	492,377	308,196
Bonds payable	20,470,000	19,650,000
Total current liabilities	43,005,494	38,783,941
Noncurrent Liabilities		
Contracts payable from restricted assets	5,385,544	3,082,245
Accrued vacation	678,038	682,005
Net pension liability	-	2,568,660
Contracts payable	6,275,046	634,114
Bonds payable	428,492,565	449,527,282
Derivative instrument	21,676,041	20,268,559
Total noncurrent liabilities	462,507,234	476,762,865
Total liabilities	505,512,728	515,546,806
Deferred Inflows of Resources		
Pension deferrals	3,018,981	-
Charge on refunding	798,789	773,784
Total deferred inflows of resources	3,817,770	773,784
Net Position		
Net investment in capital assets	304,250,286	294,048,045
Unrestricted	105,186,997	98,468,062
Total net position	**$ 409,437,283**	**$ 392,516,107**

City of Winston-Salem, North Carolina
Enterprise Funds

Water and Sewer Utility Fund - Statement of Revenues, Expenses, and Changes in Net Position
For the Fiscal Years Ended June 30, 2015 and 2014

	2015	2014
Operating Revenues		
Sales		
Water	$ 47,221,629	$ 43,710,446
Sewer	38,825,150	36,295,993
Industrial waste surcharge	3,492,047	3,286,785
Total sales	89,538,826	83,293,224
Charges for services		
New connections	435,458	328,236
Special area and privilege charges	364,110	217,701
Main line capital cost revenue	117,500	106,927
Other charges for services	2,809,667	2,906,312
Total charges for services	3,726,735	3,559,176
Other	(44,057)	6,428
Total operating revenues	93,221,504	86,858,828
Operating Expenses		
Personal services	15,410,089	16,588,568
Maintenance and operations	21,989,861	21,415,765
Total operating expenses before depreciation	37,399,950	38,004,333
Depreciation	24,606,962	24,119,614
Total operating expenses	62,006,912	62,123,947
Operating income	31,214,592	24,734,881
Nonoperating Revenues (Expenses)		
Intergovernmental revenue	1,602,170	1,603,898
Investment income (loss)	2,274,525	9,098,660
Gain (loss) on disposal of assets	3,382	45,975
Damage settlements	25,934	9,977
Interest and fiscal expense	(20,208,610)	(19,047,295)
Amortization of financing costs	291,254	166,508
Total nonoperating expenses, net	(16,011,345)	(8,122,277)
Income (loss) before capital contributions and transfers	15,203,247	16,612,604
Capital Contributions		
Conveyances	2,463,146	639,963
Intergovernmental revenue	100,394	-
Other	-	15,384
Total capital contributions	2,563,540	655,347
Operating Transfers Out		
General fund	(62,101)	(62,720)
Capital projects fund	(549,683)	-
Solid waste disposal fund	(233,827)	(209,912)
Total transfers out	(845,611)	(272,632)
Change in net position	16,921,176	16,995,319
Total net position - beginning, as previously stated	-	377,293,137
Restatement		(1,772,349)
Total net position - beginning, as restated	392,516,107	375,520,788
Total net position - ending	**$ 409,437,283**	**$ 392,516,107**

City of Winston-Salem, North Carolina
Enterprise Funds

Water and Sewer Utility Fund - Statement of Cash Flows
For the Fiscal Years Ended June 30, 2015 and 2014

	2015	2014
Cash Flows from Operating Activities		
Cash received from sales	$ 92,534,028	$ 85,935,865
Cash payments to suppliers for goods and services	(18,384,573)	(18,642,216)
Cash payments to employees for services	(16,147,138)	(16,556,459)
Net cash provided by operating activities	58,002,317	50,737,190
Cash Flows from Noncapital Financing Activities		
Intergovernmental revenue	1,602,170	1,603,898
Transfers out	(295,928)	(272,632)
Net cash provided (used) by noncapital financing activities	1,306,242	1,331,266
Cash Flows from Capital Financing Activities		
Proceeds from issuance of bonds	53,166,872	-
Proceeds from issuance of state loans	5,271,434	
Intergovernmental revenue	100,394	-
Capital contributions	-	15,384
Transfers out	(549,683)	-
Acquisition of property and equipment	(30,111,983)	(35,792,272)
Retirement of bonds	(19,800,000)	(18,955,000)
Retirement of refunded bonds	(52,715,000)	-
Retirement of contracts payable	(523,667)	(322,827)
Interest and fiscal expense paid on bonds	(20,458,979)	(21,545,815)
Interest and fiscal expense paid on contracts payable	(98,309)	(61,460)
Debt issuance costs	(1,432,808)	-
Proceeds from sale of assets	3,382	63,496
Damage settlements	25,934	9,977
Net cash provided (used) by capital financing activities	(67,122,413)	(76,588,517)
Cash Flows from Investing Activities		
Investment income	2,303,024	9,164,926
Net increase (decrease) in cash	(5,510,830)	(15,355,135)
Cash and Cash Equivalents July 1	137,989,436	153,344,571
Cash and Cash Equivalents June 30	**$ 132,478,606**	**$ 137,989,436**
Reconciliation of Cash and Cash Equivalents		
Cash and cash equivalents - current	$ 71,088,406	$ 68,102,587
Cash and cash equivalents - restricted	61,390,200	69,886,849
Cash and Cash Equivalents June 30	$ 132,478,606	$ 137,989,436
Reconciliation of Operating Income to Net Cash Provided by Operating Activities		
Operating income	$ 31,214,592	$ 24,734,881
Adjustments to reconcile operating income to net cash provided by operating activities		
Depreciation expense	24,606,962	24,119,614
Pension expense	49,602	-
Change in assets and liabilities		
(Increase) decrease in receivables	(684,047)	(927,267)
(Increase) decrease in inventories	304,695	(127,630)
Increase (decrease) in accounts payable	3,300,593	2,901,179
Increase (decrease) in accrued payroll	39,678	37,467
Increase (decrease) in unearned revenue	(3,429)	4,304
Increase (decrease) in accrued vacation	(8,937)	(5,358)
(Increase) decrease in deferred outflows of resources for pensions	(817,392)	-
Total adjustments	26,787,725	26,002,309
Net cash provided by operating activities	**$ 58,002,317**	**$ 50,737,190**

City of Winston-Salem, North Carolina
Enterprise Funds

Water and Sewer Utility Fund - Schedule of Revenues, Expenditures, and Transfers - Budget (Non-GAAP Basis) and Actual
For the Fiscal Year Ended June 30, 2015

	Budget	Actual	Variance Favorable (Unfavorable)
Operating Revenues			
Sales			
Water	$ 46,795,340	$ 47,221,629	$ 426,289
Sewer	38,335,380	38,825,150	489,770
Industrial waste surcharge	3,266,410	3,492,047	225,637
Total sales	88,397,130	89,538,826	1,141,696
Charges for services			
New connections	250,000	435,458	185,458
Special area and privilege charges	545,000	364,110	(180,890)
Main line capital cost revenue	100,000	117,500	17,500
Other charges for services	2,405,000	2,809,667	404,667
Total charges for services	3,300,000	3,726,735	426,735
Other	-	(44,057)	(44,057)
Total operating revenues	91,697,130	93,221,504	1,524,374
Operating Expenditures			
Personal services	18,075,700	16,177,879	1,897,821
Maintenance and operations	24,541,935	21,987,912	2,554,023
Capital outlay	34,820	32,438	2,382
Total operating expenditures	42,652,455	38,198,229	4,454,226
Operating income	49,044,675	55,023,275	5,978,600
Nonoperating Revenues (Expenditures)			
Intergovernmental revenue	1,666,110	1,602,170	(63,940)
Investment income	-	2,303,024	2,303,024
Proceeds from sale of assets	-	3,382	3,382
Damage settlements	-	25,934	25,934
Interest and fiscal charges	(23,082,510)	(21,875,596)	1,206,914
Principal retirement	(20,223,050)	(20,323,667)	(100,617)
Total nonoperating expenditures, net	(41,639,450)	(38,264,753)	3,374,697
Income before capital contributions and transfers	7,405,225	16,758,522	9,353,297
Capital Contributions			
Conveyances	-	2,463,146	2,463,146
Intergovernmental revenue	-	100,394	100,394
Total capital contributions	-	2,563,540	2,563,540
Transfers Out			
General fund	(77,540)	(62,101)	15,439
Capital projects fund	(633,930)	(549,683)	84,247
Solid waste disposal fund	(233,830)	(233,827)	3
Total transfers out	(945,300)	(845,611)	99,689
Change in net position - modified accrual basis	**$ 6,459,925**	**$ 18,476,451**	**$ 12,016,526**

Reconciliation of Modified Accrual Basis to Full Accrual Basis

Change in Net Position - Modified Accrual Basis	$ 18,476,451
Depreciation	(24,606,962)
Amortization of financing costs	291,254
Capital outlay	32,438
Principal retirement	20,323,667
Book value of disposed assets	(1,949)
Interest expense, net of investment income, capitalized on construction projects	1,638,487
Deferred outflows of resources for contributions made to pension plan in current fiscal year	817,392
Pension expense	(49,602)
Change in Net Position - Full Accrual Basis	**$ 16,921,176**

City of Winston-Salem, North Carolina
Enterprise Funds

Solid Waste Disposal Fund - Statement of Net Position
June 30, 2015 and June 30, 2014

	2015	2014
Assets		
Current Assets		
Cash and cash equivalents	$ 16,243,005	$ 14,495,372
Accounts receivables, net of allowance for uncollectibles	222,559	574,500
Due from other governments	48,193	71,790
Total current assets	16,513,757	15,141,662
Noncurrent Assets		
Restricted Assets		
Cash and cash equivalents		
Landfill closure and postclosure costs	16,123,637	15,495,545
Total cash and cash equivalents	16,123,637	15,495,545
Net pension asset	124,812	-
Property and Equipment		
Land	11,616,288	8,966,453
Buildings	3,735,025	3,655,255
Improvements other than buildings	49,016,810	46,411,489
Machinery and equipment	7,574,145	7,314,979
Construction in progress	1,117,352	6,086,350
Total property and equipment	73,059,620	72,434,526
Less accumulated depreciation	32,285,943	28,841,743
Property and equipment, net	40,773,677	43,592,783
Total noncurrent assets	57,022,126	59,088,328
Total assets	73,535,883	74,229,990
Deferred Outflows of Resources		
Contribution to pension plan in current fiscal year	85,227	83,029
Charge on refunding	34,488	68,977
Total deferred outflows of resources	119,715	152,006
Liabilities		
Current Liabilities		
Accounts payable	722,605	682,340
Accrued payroll	33,215	25,784
Accrued vacation	34,438	32,718
Accrued interest payable	12,683	16,820
Landfill closure and postclosure costs	216,000	2,903,000
Current maturities		
Contracts payable	483,216	472,761
Bonds payable	2,193,100	2,135,000
Total current liabilities	3,695,257	6,268,423
Noncurrent Liabilities		
Accrued vacation	74,852	71,936
Landfill closure and postclosure costs	15,907,637	12,592,545
Net pension liability	-	267,828
Contracts payable	574,614	770,874
Bonds payable	10,054,476	12,105,392
Total noncurrent liabilities	26,611,579	25,808,575
Total liabilities	30,306,836	32,076,998
Deferred Inflows of Resources		
Pension deferrals	314,782	
Charge on refunding	8,618	11,573
Total deferred inflows of resources	323,400	11,573
Net Position		
Net investment in capital assets	27,494,141	28,166,160
Unrestricted	15,531,221	14,127,265
Total net position	$ 43,025,362	$ 42,293,425

City of Winston-Salem, North Carolina
Enterprise Funds

Solid Waste Disposal Fund - Statement of Revenues, Expenses, and Changes in Net Position
For the Fiscal Years Ended June 30, 2015 and 2014

	2015	2014
Operating Revenues		
Charges for services	$ 9,367,880	$ 10,350,572
Other	14,846	21,513
Total operating revenues	9,382,726	10,372,085
Operating Expenses		
Personal services	1,604,032	1,695,137
Maintenance and operations	4,871,981	5,012,387
Total operating expenses before depreciation	6,476,013	6,707,524
Depreciation	3,543,728	3,444,883
Total operating expenses	10,019,741	10,152,407
Operating income	(637,015)	219,678
Nonoperating Revenues (Expenses)		
Intergovernmental revenue	891,000	852,189
Investment income (loss)	384,704	1,506,405
Gain (loss) on disposal of assets	11,213	489
Damage settlements	-	63,129
Interest and fiscal expense	(346,918)	(386,379)
Amortization of financing costs	78,213	78,213
Total nonoperating expenses, net	1,018,212	2,114,046
Income (loss) before transfers	381,197	2,333,724
Transfers In (Out)		
General fund	-	(552,329)
Water and sewer utility fund	233,827	209,912
Stormwater management fund	116,913	104,801
Total operating transfers in (out)	350,740	(237,616)
Change in net position	731,937	2,096,108
Total net position - beginning, as previously stated		40,382,116
Restatement		(184,799)
Total net position - ending, as restated	42,293,425	40,197,317
Total net position - ending	**$ 43,025,362**	**$ 42,293,425**

City of Winston-Salem, North Carolina
Enterprise Funds

Solid Waste Disposal Fund - Statement of Cash Flows
For the Fiscal Years Ended June 30, 2015 and 2014

	2015	2014
Cash Flows from Operating Activities		
Cash received from sales	$ 9,734,667	$ 9,951,204
Cash payments to suppliers for goods and services	(4,191,573)	(4,086,651)
Cash payments to employees for services	(1,672,021)	(1,696,974)
Net cash provided by operating activities	3,871,073	4,167,579
Cash Flows from Noncapital Financing Activities		
Intergovernmental revenue	914,597	815,480
Transfers in	350,740	314,713
Transfers out	-	(552,329)
Net cash provided (used) by noncapital financing activities	1,265,337	577,864
Cash Flows from Capital Financing Activities		
Proceeds from issuance of bonds	251,975	398,464
Acquisition of property and equipment	(364,326)	(483,066)
Retirement of bonds	(2,135,044)	(2,026,486)
Retirement of contracts payable	(544,500)	(552,894)
Interest and fiscal expense paid on bonds	(290,305)	(327,527)
Interest and fiscal expense paid on contracts payable	(74,402)	(84,871)
Proceeds from sale of assets	11,213	489
Damage settlements	-	63,129
Net cash used by capital financing activities	(3,145,389)	(3,012,762)
Cash Flows from Investing Activities		
Investment Income (loss)	384,704	1,506,405
Net increase (decrease) in cash	2,375,725	3,239,086
Cash and Cash Equivalents July 1	29,990,917	26,751,831
Cash and Cash Equivalents June 30	**$ 32,366,642**	**$ 29,990,917**
Reconciliation of Cash and Cash Equivalents		
Cash and cash equivalents - current	$ 16,243,005	$ 14,495,372
Cash and cash equivalents - restricted	16,123,637	15,495,545
Cash and Cash Equivalents June 30	$ 32,366,642	$ 29,990,917
Reconciliation of Operating Income to Net Cash Provided by Operating Activities		
Operating income	$ (637,015)	$ 219,678
Adjustments to reconcile operating income to net cash provided by operating activities		
Depreciation expense	3,543,728	3,444,883
Pension expense	5,171	
Change in assets and liabilities		
(Increase) decrease in receivables	351,941	(420,881)
Increase (decrease) in accounts payable	52,316	89,933
Increase (decrease) in accrued payroll	7,431	(245)
Increase (decrease) in accrued vacation	4,636	(1,592)
Increase in landfill closure and postclosure costs	628,092	835,803
(Increase) decrease in deferred outflows of reources for pensions	(85,227)	-
Total adjustments	4,508,088	3,947,901
Net cash provided by operating activities	**$ 3,871,073**	**$ 4,167,579**

City of Winston-Salem, North Carolina
Enterprise Funds

Solid Waste Disposal Fund - Schedule of Revenues, Expenditures, and Transfers - Budget (Non-GAAP Basis) and Actual
For the Fiscal Year Ended June 30, 2015

	Budget	Actual	Variance Favorable (Unfavorable)
Operating Revenues			
Charges for services	$ 9,160,840	$ 9,367,880	$ 207,040
Other	25,550	14,846	(10,704)
Total operating revenues	9,186,390	9,382,726	196,336
Operating Expenditures			
Personal services	1,906,070	1,684,088	221,982
Maintenance and operations	6,112,173	4,871,981	1,240,192
Capital outlay	-	9,865	(9,865)
Total operating expenditures	8,018,243	6,565,934	1,452,309
Operating income	1,168,147	2,816,792	1,648,645
Nonoperating Revenues (Expenditures)			
Intergovernmental revenue	883,430	891,000	7,570
Investment income	507,770	384,704	(123,066)
Proceeds from sale of assets	-	11,213	11,213
Interest and fiscal charges	(567,700)	(360,570)	207,130
Principal retirement	(2,715,570)	(2,679,544)	36,026
Total nonoperating expenditures, net	(1,892,070)	(1,753,197)	138,873
Income (loss) before transfers	(723,923)	1,063,595	1,787,518
Transfers In			
Water and sewer utility fund	233,830	233,827	(3)
Stormwater management fund	116,920	116,913	(7)
Total transfers in	350,750	350,740	(10)
Change in net position - modified accrual basis	**$ (373,173)**	**$ 1,414,335**	**$ 1,787,508**

Reconciliation of Modified Accrual Basis to Full Accrual Basis

Change in Net Position - Modified Accrual Basis	$ 1,414,335
Depreciation	(3,543,728)
Amortization of financing costs	78,213
Capital outlay	9,865
Principal retirement	2,679,544
Interest expense, net of investment income, capitalized on construction projects	13,652
Deferred outflows of resources for contributions made to pension plan in current fiscal year	85,227
Pension expense	(5,171)
Change in Net Position - Full Accrual Basis	**$ 731,937**

Winston-Salem • Forsyth County
City/County Utilities
Water • Sewer • Solid Waste Disposal

Winston-Salem/Forsyth County
Utility Commission
Suite 357, City Hall
101 N. Main St.
Winston-Salem, NC 27101

ON THE COVER:
Hanes Mill Road Landfill