

City of Gainesville
Public Utilities Department
Annual Report FY15



King Street Water Tank



FY15 Annual Report

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CITY OF GAINESVILLE

•
**DEPARTMENT OF
WATER RESOURCES**

•
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To Our Customers:

As I think back upon the events of the last year, there were several noteworthy events that occurred. Most revolve around the job our staff is doing, awards, increased sales, maintenance and production. You will see these efforts outlined in the following pages.

However, the most significant event was the Council's direction for the Utility to take over the City's Stormwater Operation. We have therefore been putting forth a significant effort to develop a Stormwater Management Program operated as an Enterprise fund utilizing a dedicated funding source. Our mission is to create a program that is fair, equitable and adequate to bring the stormwater/watershed system up the same high level of operation expected from our Water and Wastewater Divisions.

Henceforth, the department shall be known as the Department of Water Resources. After all....water is water is water!

As the Department looks forward to another year serving you, I will bid my farewell. I will be retiring the end of the calendar year. It has been a pleasure to serving you these past 24-plus years.

Kelly J. Randall, P.E.
Department of Water Resources Director



INTRODUCTION

The City of Gainesville's water system supplies potable water to a geographic area of approximately **400** square miles, including Braselton, Buford, Clermont, Flowery Branch, Gainesville, Gillsville, portions of the Lula and Oakwood areas, and unincorporated Hall County. The City maintains over **1,654** miles of underground water and sewer pipelines.

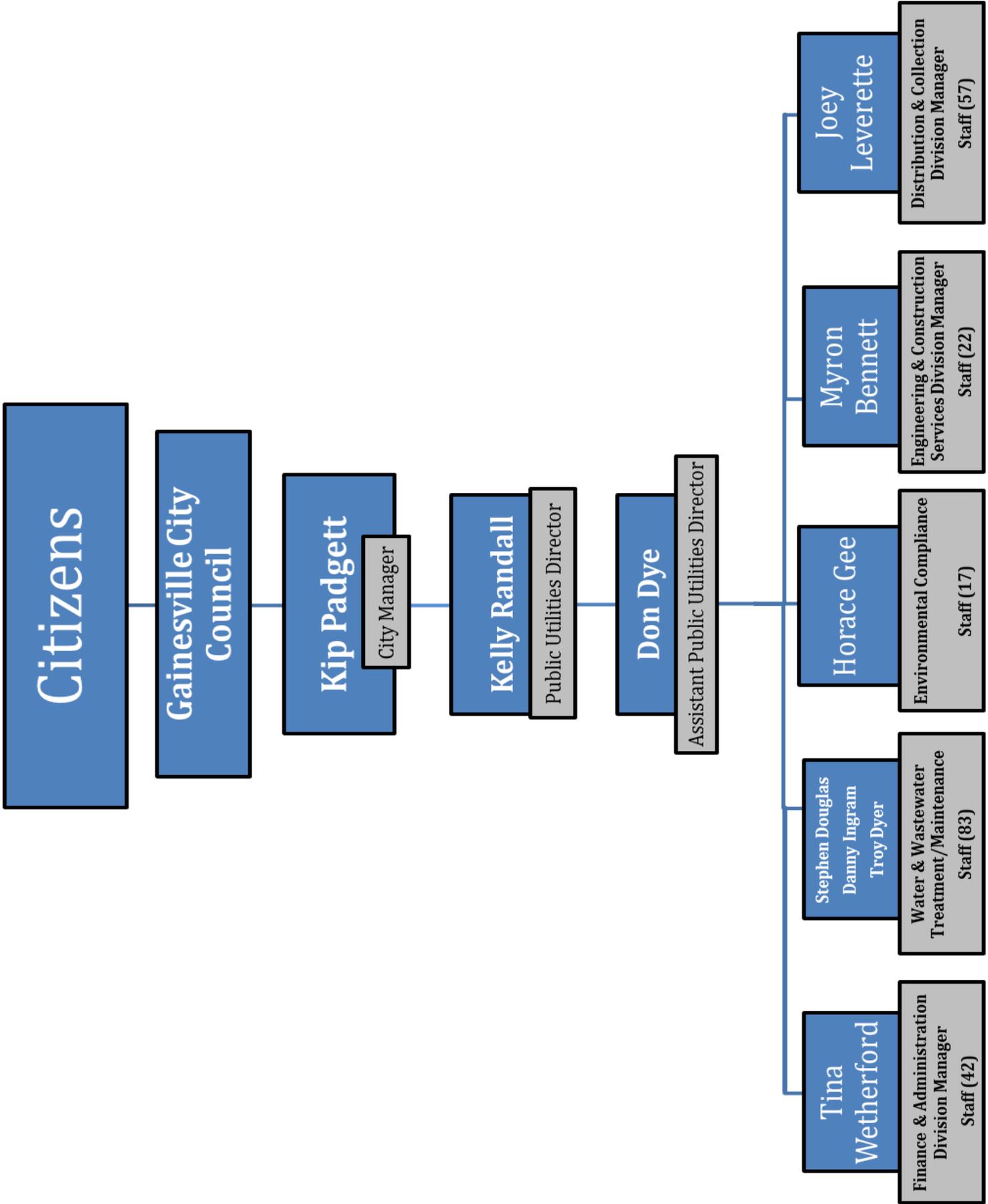
The source of supply of raw water for the System is Lake Lanier, an impoundment of the Chattahoochee River that is owned and operated by the U.S. Army Corps of Engineers. The Georgia Department of Natural Resources, Environmental Protection Division ("EPD") also governs water withdrawal from Lake Lanier through its water withdrawal permitting process. **It is the City of Gainesville Public Utilities Department goal to provide the highest level of service to our customers and ensure that Gainesville and Hall County residents have a continuous supply of the best water in Georgia.**

It takes a dedicated and determined group of men and women to accomplish the tremendous task of managing the community's water resources. The City of Gainesville's Public Utilities Department is comprised of several different divisions working together to manage the water and sewer systems. Each division contributes to the comprehensive management of these systems.

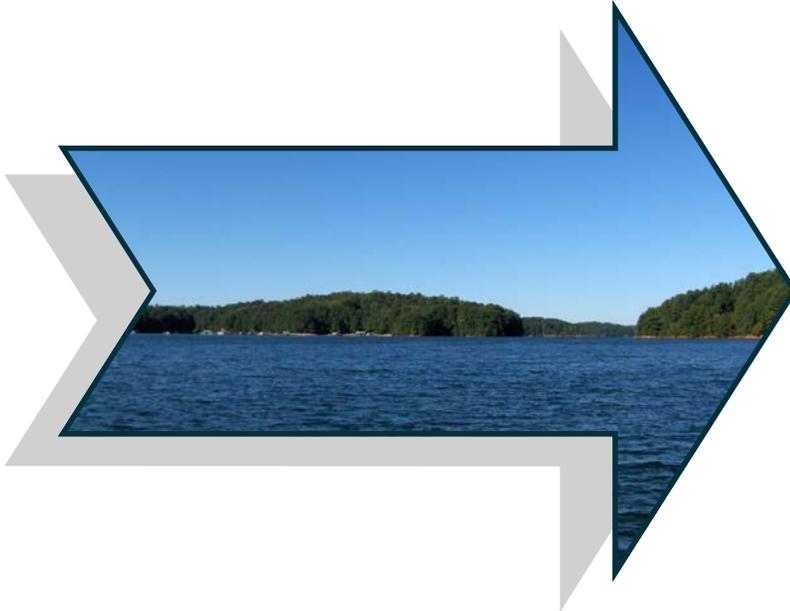
The Divisions are:

- **Finance & Administration**
- **Environmental Compliance**
- **Water & Wastewater Treatment Services / Maintenance**
- **Engineering & Construction Services**
- **Distribution & Collection Services**

The Divisions and their functions are further detailed in the Departmental sections of this report.



Lake Lanier Facts



- Constructed in the 1950s by the US Army Corps of Engineers
- **692** miles of shoreline
- **39,000** acres of water
- Its deepest point is about **160** feet deep
- Record high lake level = **1077.2** MSL (6 feet above full level) in **1964**
- Record low lake level = **1050.79** MSL (20 feet below full level) in **2007**

Source: [US Army Corps of Engineers](#)

<http://www.sam.usace.army.mil/Missions/CivilWorks/Recreation/LakeSidneyLanier.aspx>

Gainesville Public Utilities

FY15 at a Glance:

# of Authorized Positions	230
Miles of Water Mains	1363
Miles of Sanitary Sewer	291
Meters Served	53,301
# Active Water Accounts	49,443
# Active Sewer Accounts	9,794
# of Customers Served	133,496
New Water Connections (Water Meters Sold)	937
New Sewer Connections (Sewer Taps Sold)	343
Water Treatment Plants' Maximum Daily Capacity	35 MGD
Wastewater Treatment Plants' Maximum Daily Capacity	17 MGD

Fiscal Year 2015:

(July 1, 2014 through June 30, 2015)

This fiscal year has been another year filled with significant events and achievements for the City of Gainesville's Public Utilities Department. Our Department has received several awards this year in recognition of its dedication and excellence in conservation efforts, education, and public outreach. In addition, many important projects were begun, continued and completed by the Utility in FY 2015.

Environmental Fest

The City of Gainesville Public Utilities Department organized the third annual Environmental Fest at West Hall Middle School. Sixth grade students were able to rotate through 12 different stations throughout the day. They learned all about water and wastewater treatment, recycling, water quality testing, forestry and various other topics. They participated in trivia, played games, listened to stories, blew huge bubbles and enjoyed a fun day of hands on learning.



FY15 Highlights

Annual Adopt-A-Stream Cleanup

Each year, the City of Gainesville hosts a stream cleanup, held at various locations throughout Hall County. Volunteers remove litter and other debris from our waterways. In FY15, **2,800** pounds of trash and debris were removed from Flat Creek and Laurel Park by **283** volunteers.



In Partnership with:



FY15 Highlights

Chamber Chase 2015

The Greater Hall Chamber of Commerce's 8th Annual Chamber Chase 5K was held at Riverside Military Academy. The City of Gainesville's team, Chicken City Chasers, participated in the event.



Chicken City Chasers



PUD members at the
8th Annual
Chamber Chase



FINANCE AND ADMINISTRATION DIVISION

The Finance & Administration Division is comprised of two sections: **Customer Account Services** and **Finance & Administration**. The Division consists of **45** authorized positions which may be broadly categorized as **customer service representatives, customer advocates, billing staff, meter services/sales staff, warehouse staff, administrative and support personnel, financial and divisional management, Assistant Director and the Director**.

CUSTOMER ACCOUNT SERVICES

MISSION STATEMENT: To provide our customers with professional, accurate and efficient services.

SCOPE OF SERVICES

The **Customer Account Services (CAS)** group is responsible for providing customer service to over **52,500** water and sewer customers. The group is comprised of **31** authorized positions. Some services provided include, but are not limited to, answering customer calls, processing service applications, posting utility payments, billing, meter reading, meter sales, submitting and completing service requests, preparing adjustments and maintaining the billing software database.

FY15 Customer Account Services Statistical Indicators:

- 67,461** Customer calls handled
- 7,600** Applications for new service processed
- 248,700** Transactions posted (scanned and processed in house)
- 71,694** Payments made through our website
- 16,086** Payments made through our IVR (Interactive Voice Response)
- 117,591** Payments made electronically through our customer online bank
- 32,778** Service orders completed



Mrs. June Ray retired in February 2015 after **25 years** of service with the Public Utilities Department. June leaves the City with a great deal of knowledge and experience that will be greatly missed by the Utility.

H₂O: Help 2 Others



**The 4th year of the
H₂O Round up Program
Brought in \$18,034.11
This is 31.4% increase
from the previous year's
Contributions**

**Thank you
City of Gainesville
Utility Customers**

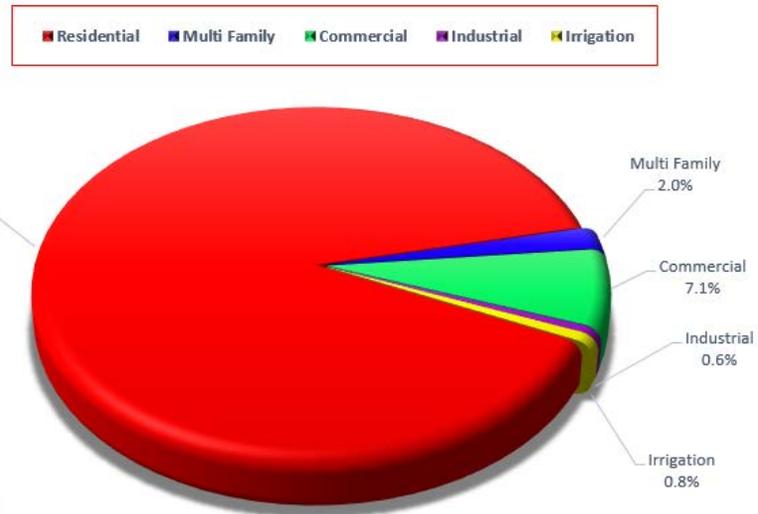
-Tina Wetherford
Finance & Administration Division Manager

The City of Gainesville Public Utilities Department launched its **Help 2 Others (H₂O) Round Up** program in early FY 2012. We partnered with the **Salvation Army's Project SHARE** in an effort to raise funds to assist those in need. City of Gainesville customers who choose to participate will have their utility bills rounded to the next whole dollar. These additional funds will be disbursed by the Salvation Army to fellow City of Gainesville utility customers facing financial hardship. The assistance will be used to help with water/sewer bills. All contributions are tax deductible.

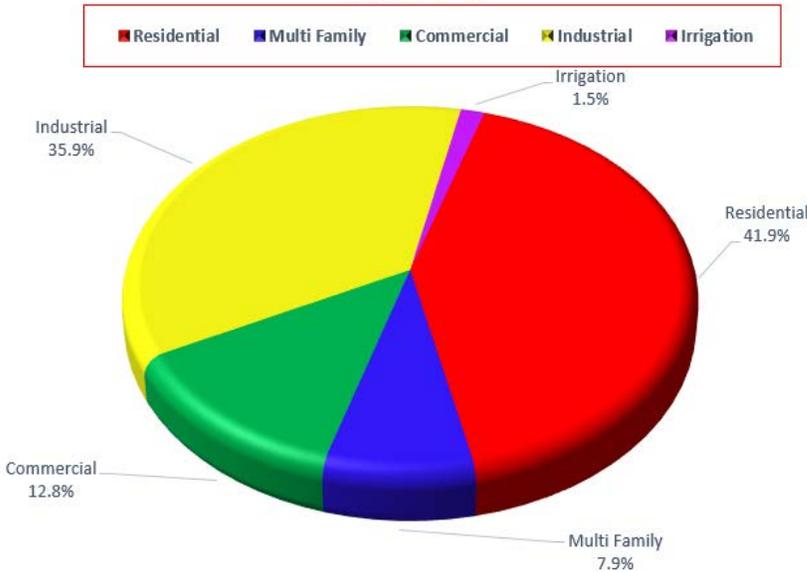
Our Customers: Water

As of June 30, 2015, **49%** of our water revenue comes from our residential customers, who comprise **89.6%** of our customer base. General Industry, though it makes up **0.6%** of our water customers, continues to comprise **30%** of water revenue and **35.9%** of water usage.

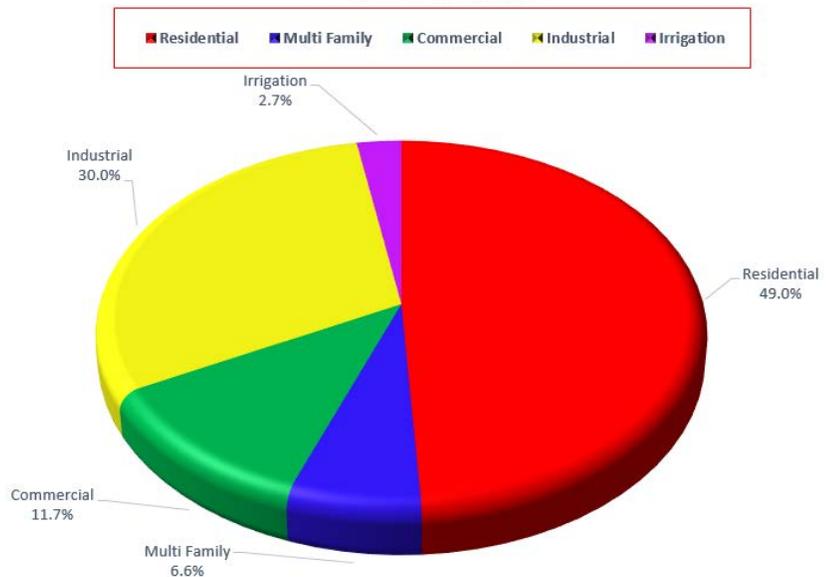
Water Customers



Water Use



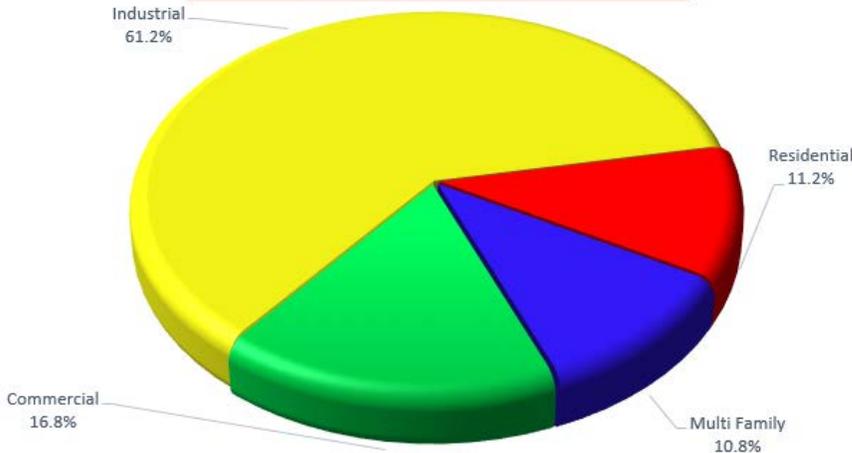
Water Revenue



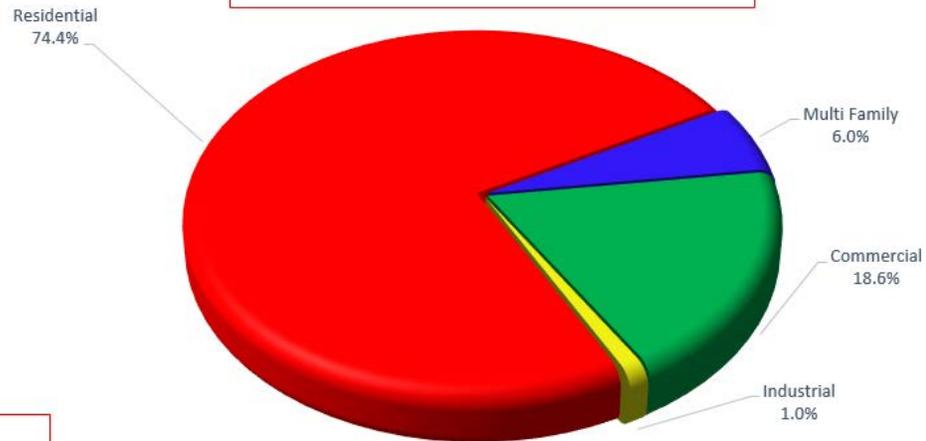
Our Customers: Wastewater

General Industry continues to be the largest user of wastewater services with **61.2%** of total wastewater usage and **57.8%** of total wastewater revenue. Commercial is the next highest with **16.8%** of wastewater use and **17.3%** revenue. Seventy-four percent of wastewater customers are residential, but their usage accounts for only **11.2%**. The revenue comparison is a slightly lower percentage at **10%** due to the fact that residential wastewater customers are billed for less than 100 % of water usage with a cap on the billable volume.

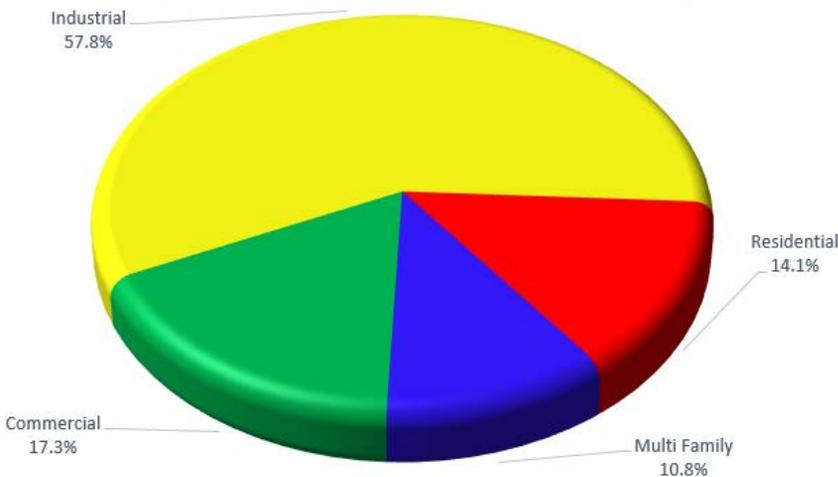
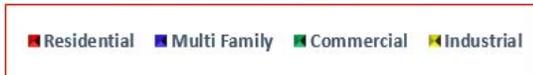
Wastewater Use



Wastewater Customers



Wastewater Revenue



FINANCE & ADMINISTRATION

MISSION STATEMENT: *To provide a stable financial position and administrative support for daily operations.*

SCOPE OF SERVICES

The **Finance and Administration** section has fourteen (14) authorized positions which include the Director, Assistant Director, Finance & Administration Division Manager, Accounts Payable, Customer Advocates, Inventory Control, Payroll, Purchasing and Warehouse personnel.

The group is responsible for financial planning for the Five-Year Capital Improvements Program, preparation and management of the operating and capital equipment budgets, performing cost-of-services analysis, evaluation of customer service “best practices,” payroll and personnel support, purchasing and inventory control, fleet and asset management, accounts payable, policy enforcement, utility debt collection, management of the 18,000 square foot administration building and the warehouse facility, and preparation of the annual report and other publications. This staff works closely with the Director in establishing long-term directions and goals for the Public Utilities Department, developing departmental policies and municipal codes, and providing essential support to all divisions.

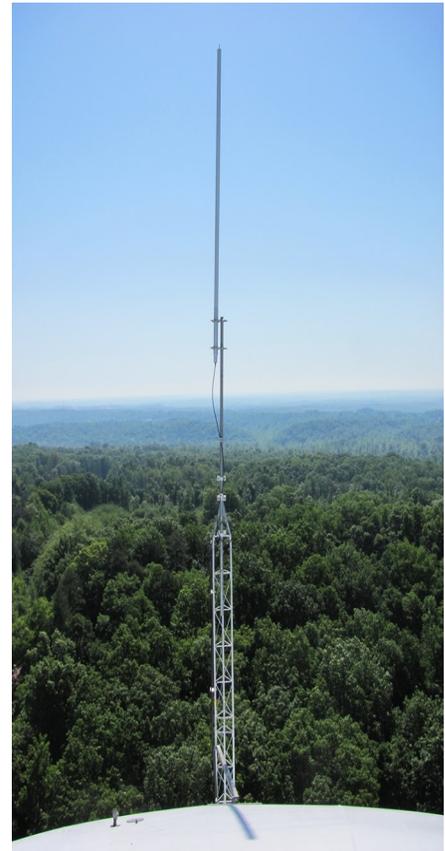
- Accounts Payable staff processed **7,197** invoices and **368** requisitions in FY15.
- Purchasing staff processed **348** requests for bids and proposals in FY15.



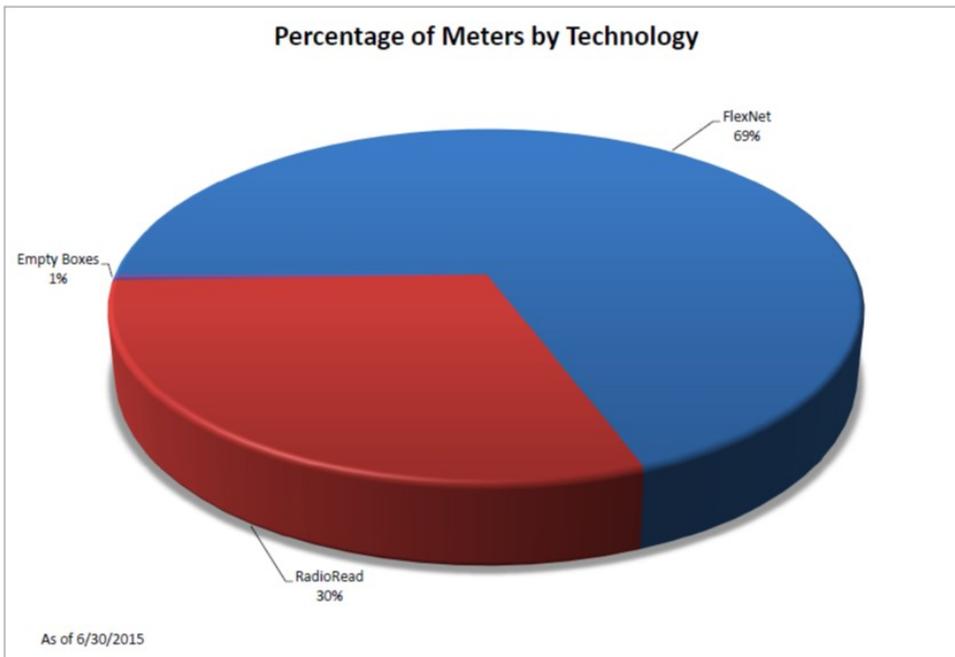
Meters and Supplies in the PUD warehouse

Automated Metering: The Smart Choice

The City of Gainesville currently has approximately 52,500 meters installed throughout its system. Over 99% of these meters are now automated in some form, whether it is Sensus FlexNet® or RadioRead™ technology. Sixty-nine percent of these meters are equipped with FlexNet® technology, the result of the Automated Meter Reading Project, which allows the meters to be read remotely through one of four Tower Gateway Base Stations and transmitted through a database server to the utility. This enables staff to continuously view hourly meter activity to monitor usage patterns and provide proactive leak detection. Customers are notified of potential leaks, saving them money and protecting our system from unnecessary water loss. RadioRead™, or drive-by automated reading system, reduces reading times and the Utility's costs by decreasing the amount spent on fuel to manually read meters.



FlexNet Tower



FlexNet 520M

FY 15 Financial Highlights

PUBLIC UTILITIES FUND
SUMMARY FINANCIAL STATEMENT
 For the twelve months ended June 30, 2015
UNAUDITED

Interim Statements

% of Year Remaining = 0.00%

	Revised Budget	Jun-15 YTD Actual	Remaining Balance	% Remaining
Revenues				
Intergovernmental	-	7,532	(7,532)	
Charges for services	57,259,034	64,390,549	(7,131,515)	
Investment income	20,000	33,901	(13,901)	
Miscellaneous	67,496	228,988	(161,492)	
Other financing sources/transfers in	1,000	80,804	(79,804)	
Transfers from E&R (Connection Fees)	1,862,505	3,192,441	(1,329,936)	
Total Revenues	59,210,035	67,934,215	(8,724,180)	
Expenses				
Riverside Water Treatment Facility	2,604,420	2,163,359	441,061	16.94%
Lakeside Water Treatment Facility	2,211,013	1,936,624	274,389	12.41%
Water Distribution	4,043,667	3,317,926	725,741	17.95%
Flat Creek Water Reclamation Facility	3,605,554	3,043,712	561,842	15.58%
Linwood Water Reclamation Facility	2,514,534	2,257,881	256,653	10.21%
Maintenance Services	2,781,498	2,344,671	436,827	15.70%
Sanitary Sewer	2,367,242	1,861,609	505,633	21.36%
Environmental Compliance and Permitting	1,834,756	1,392,276	442,480	24.12%
Engineering and Construction Services	2,261,527	1,760,268	501,259	22.16%
Customer Account Services	2,958,049	2,345,064	612,985	20.72%
Finance and Administration	1,974,660	1,616,747	357,913	18.13%
Subtotal - Expenses	29,156,920	24,040,137	5,116,783	17.55%
Bad Debt Expense	-	5,474	(5,474)	
Debt service	21,409,109	12,348,295	9,060,814	42.32%
Other financing uses/transfers out	8,937,085	3,347,660	5,589,425	62.54%
Total Expenses	59,503,114	39,741,566	19,761,548	33.21%
Excess (Deficiency) Revenues over Expenses	(293,079)	28,192,649		
Budgeted Fund Balance 6/30/14	293,079	-		

WATER AND WASTEWATER TREATMENT SERVICES DIVISION

The Water and Wastewater Treatment Services Division is comprised of three (3) sectional groups, categorized as: **Water Treatment** (Riverside and Lakeside), **Water Reclamation** (Flat Creek and Linwood), and **Maintenance Services**.

The **Water Treatment** group is responsible for pumping raw water from Lake Lanier, the treatment of that water to national drinking water standards at the Riverside and Lakeside Water Treatment Plants (WTP), and the distribution of the finished treated water into the system's water storage facilities.

The **Water Reclamation** group treats all of the collected wastewater to environmentally safe discharge standards by utilizing the treatment capacity made available at the Flat Creek and Linwood Water Reclamation Facilities (WRF)s.

The **Maintenance Services** group is responsible for maintaining all equipment located within the treatment plants, the operation and maintenance of sewer pump stations and potable water booster pump stations, while also providing groundskeeping services to miscellaneous areas of the Public Utilities Department, along with sewer right-of-way maintenance and inspections.



Damond Castleberry speaking to a class at the Riverside Military Academy.



James Jones demonstrating a filter backwash.



Groundskeeping Truck



The installation of a new hypochlorite tank.

WATER TREATMENT

MISSION STATEMENT: *To provide the highest quality drinking water in the most resourceful and economical way.*

SCOPE OF SERVICES

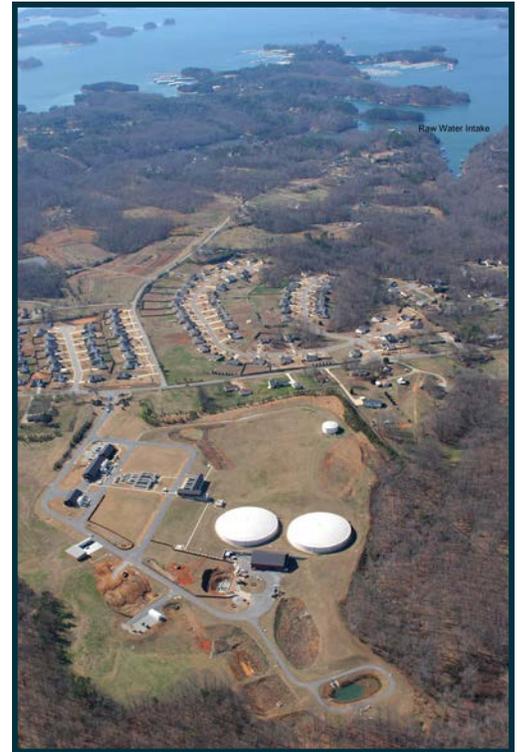
The **Water Treatment** group consists of the Water Operations Superintendent, two (2) Plant Managers, and twenty-eight (27) other staff members. This group is primarily responsible for the daily operations of the Riverside and Lakeside Water Treatment Plants (WTPs) and “finished” (i.e., treated) water storage facilities.

FACILITIES

The **Riverside WTP** has the capacity to produce and is permitted to process 25 Million Gallons per Day (MGD). The **Lakeside WTP** provides another 10 MGD of potable water for the community. Water is pumped from Lake Lanier to both treatment facilities and treated to be safe for residential, commercial, and industrial use. A high quality, uninterrupted supply of potable water free of objectionable turbidity, color, taste, and odor is produced.



Riverside Water Treatment Plant



Lakeside Water Treatment Plant

Treated water is stored in three clear wells at the Riverside WTP with a total combined on-site storage capacity of 12 MG. At the Lakeside WTP, there are two 5 MG clear wells for a total combined on-site storage capacity of 10 MG. In the distribution system, there is one 5 MG ground level storage reservoir (known as the High Street Tank). Six (6) elevated storage tanks provide additional storage capacity of 3.75 MG of finished water. The City has a total combined system storage capacity of 30.75 MG. This is enough stored water to serve customers for almost two days at current usage levels.

A Culture of Excellent Service to our community

The Water Treatment Division of the Water Resources Department continues a tradition of excellence. We have been recognized by the State of Georgia Environmental Protection Division as a utility in the “Outstanding Performance” category. Every three years our department is inspected by the Georgia Environmental Protection Division. We were inspected this past year. This inspection reviews every part of our drinking water system. They inspect from the Lake Lanier source to the customer’s meter. Our two water treatment plants scored 94/94.2 percent.

We also received another platinum award from the Georgia Association of Water Professionals. This recognizes our utility for meeting or exceeding all federal and state drinking water standards. We have had 12 years of meeting or exceeding all state and federal drinking water standards. The credit for this accomplishment goes to our staff as well as the support we receive from our council and community. Gainesville is a community which expects and supports excellence. We are very proud to be a small part of that tradition.



An array of the many awards won by one of our drinking water treatment plants.



We continue to maintain our facilities to insure we continue to provide water to our community. In the photograph to the left, Scott Benefield and James Jones inspect a replacement chemical tank for the Lakeside Water Treatment Plant.

One project this year is a concrete rehabilitation project. In the photograph below, weeping concrete is visible. They are the white vertical streaks on the concrete walls. The Riverside Water Treatment Plant was built in 1956 and over time, the concrete has degraded. We are now repairing all the degraded areas and restoring the concrete. This will ensure our drinking water facilities are here to serve our community for many more years.



In this photograph Belinda Folkes explains the computer systems which allow us to operate our plant processes and our water distribution system.



Riverside and Lakeside Statistical Indicators

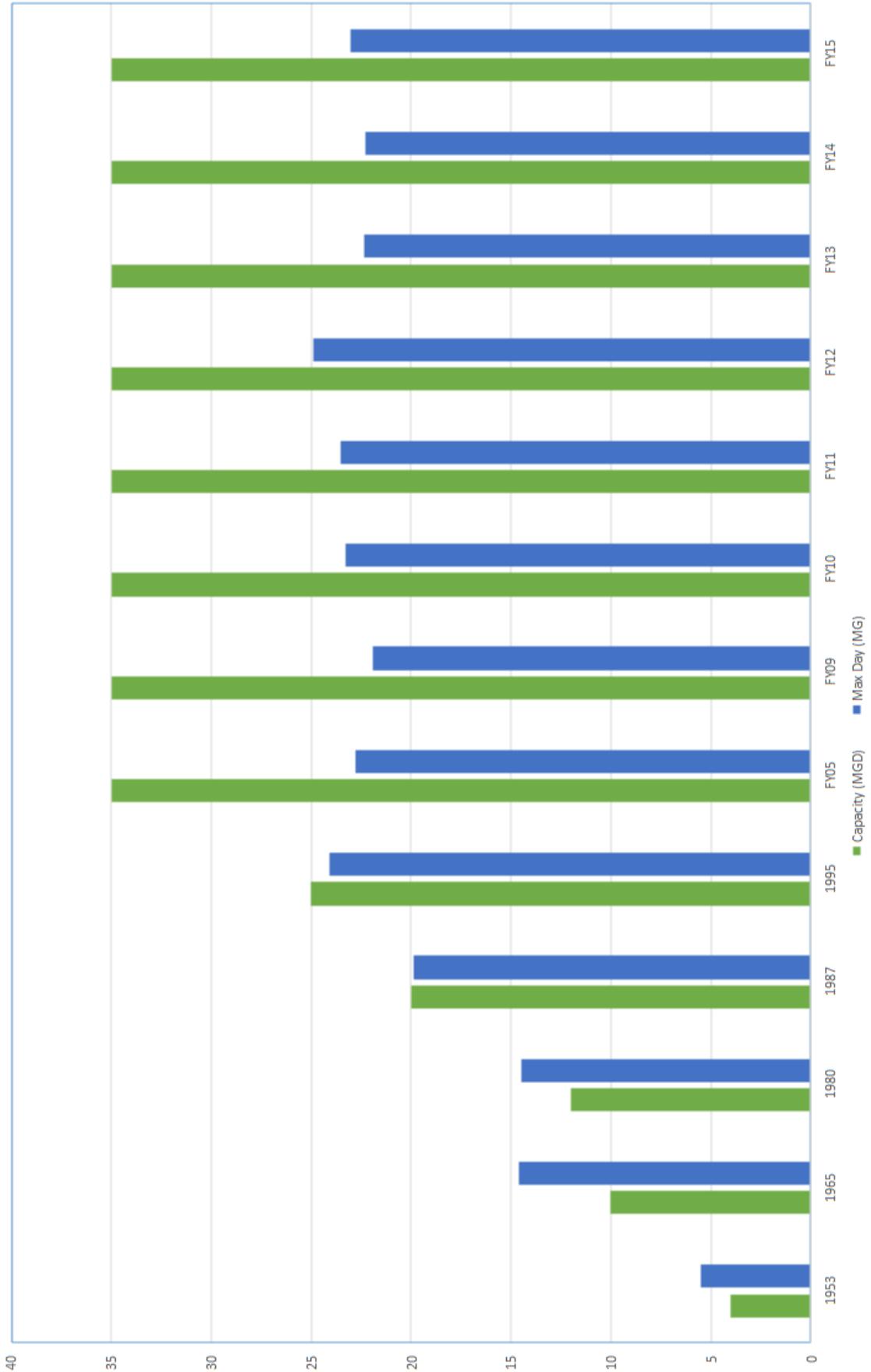
	FY12	FY13	FY14	FY15
Filtering Capacity (MGD)	35	35	35	35
Filtering Permitted Capacity (MGD)	35	35	35	35
PERMITTED—Raw Water Withdrawal				
Maximum 24 Hour (MGD)	35	35	35	35
Monthly Average not to Exceed (MGD)	30	30	30	30
ACTUAL—Raw Water Withdrawal				
Maximum 24 Hour (MGD)				
Riverside	18.80	15.50	15.50	16.00
Lakeside	10.30	10.23	10.21	10.32
Monthly Average (MGD)	18.20	17.20	17.07	17.80
Total—Raw Water Withdrawal (MG)	6,629.0	6,262.3	6,231.0	6,498.0
Pumped To System				
Max Day (MG)	24.90	22.35	22.26	23.05
Average Day (MG)	17.70	16.73	16.68	17.64
TOTAL (MG)	6,461.0	6,106.5	6,086.4	6,438.6
Sludge Disposal (Tons)	953	945	941	915



MGD = Million Gallons Per Day MG = Million Gallons

The following is a chart indicating the annual average treatment plant capacities of the facilities and the maximum day water treated.

Water Treatment Capacity



WATER RECLAMATION

MISSION STATEMENT: *To protect water quality by treating wastewater safely and effectively.*

SCOPE OF SERVICES

The Water Reclamation group's facilities include the Flat Creek and Linwood WRF's. This group is also responsible for the monitoring and polling of sixty (60) wastewater pump stations, and responds to all after-hour emergency calls regarding water and wastewater.

FACILITIES:

The **Flat Creek WRF**, with the capacity 12.0 MGD, is the larger of the two (2) WRF's in the system. Treatment at Flat Creek includes grit removal, primary treatment with dissolved air floatation, activated sludge biological treatment, clarification, and disinfection by ultraviolet radiation. Residual solids from the treatment process are thickened in settling tanks and de-watered using plate-and-frame type presses. The dewatered residuals are transported to ERTH Products, LLC, a privately owned composting facility in Plains, Georgia. At the ERTH facility, environmentally-friendly composting of these residual solids and peanut hulls takes place. This compost is later sold as a soil conditioner.



Flat Creek WRF

The **Linwood WRF** is a new Advanced Tertiary Treatment facility, which includes membrane filtration. This 5.0 MGD treatment facility provides the additional treatment necessary to comply with new Lake Lanier discharge standards through the use of activated sludge biological treatment and disinfection by ultraviolet radiation. Residual solids from the treatment process are thickened and de-watered using a belt press. The dewatered residuals are transported to ERTH Products, where it is composted and sold as a soil conditioner.



Linwood WRF

Accomplishments:

The City of Gainesville's Public Utilities continually seeks ways to enhance operational and cost efficiency. The following are improvements implemented by the water reclamation group in FY 2015:

Flat Creek

Chemical usage cost overall was 16.9% less in FY15 compared to FY14, but the annual treated flow was 3.4% less as well. With a constant strategy of producing the best quality of water at the most economical price, we were in budget with 5% of our chemical budget remaining at the end of the year. I would like to emphasize this is due to good management and duties carried out by our team of professional operators.

Power consumption increased by 1.1% compared to FY14, although annual treated flow was 3.4% less as stated above. Although Georgia Power had peak kWh price increases as high as 80 cents per kilowatt hour, staff was able to maintain an average cost throughout the year ranging from 5.2 cents per kWh to 9.94 cents per kWh. The increase being held to only 1.1% was accomplished by dropping our flow through the facility down to 4-MGD during peak hour energy demands when indicated by Georgia Power Direct online pricing sent to staff.

Linwood

Chemical usage cost overall was 22.5% less in FY15 compared to FY14, although the annual treated flow was 6.8% higher. Even with higher flows, with our constant strategy of producing the best quality of water at the most economical price, we were still in budget with 2.3% of our chemical budget remaining at the end of the year. I would like to emphasize this remaining balance is due to good management, and duties carried out by our team of professional operators.

Same as at Flat Creek, the power consumption increased, but was substantially higher at 7.9% compared to FY14. However, as stated above, the annual treated flow was 6.8% higher as well. Although Georgia Power had peak kWh price increases as high as 80 cents per kilowatt hour, staff was able to maintain an average cost throughout the year ranging from 5.84 cents per kWh to 10.80 cents per kWh.

This was accomplished by cutting back on any equipment possible during peak hours such as blowers for the equalization tank and air circulation fans in dewatering when not occupied by staff.

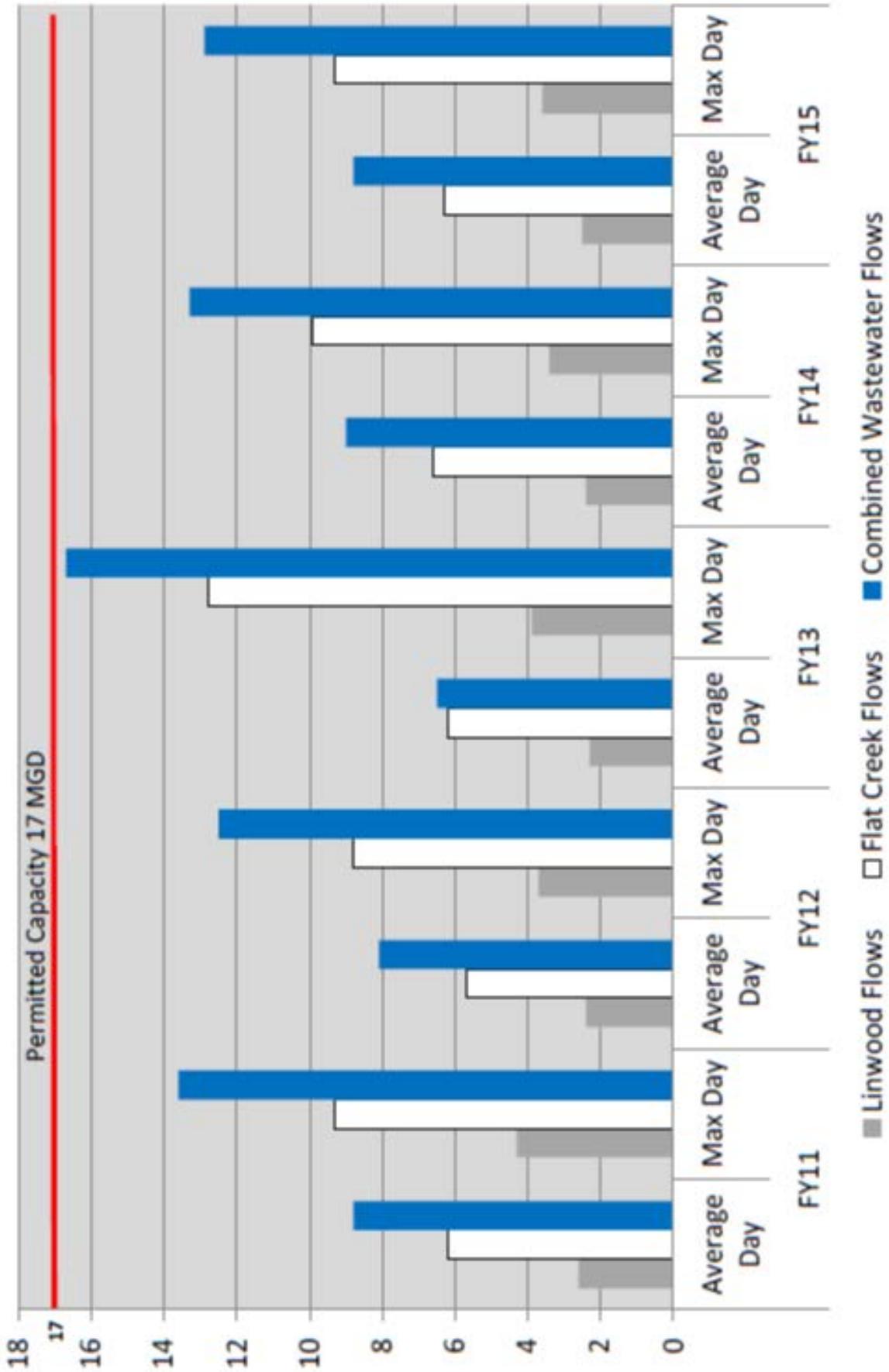
Flat Creek and Linwood Statistical Indicators

	FY12	FY13	FY14	FY15
Flat Creek Permitted Discharge Limits				
Flat Creek Weekly Avg. not to exceed (MGD)	15	15	15	15
Flat Creek Monthly Avg. not to exceed (MGD)	12	12	12	12
Flat Creek – Max. Day Flow (MG)				
Flat Creek – Max. Day Flow (MG)	8.8	12.8	9.9	9.3
Flat Creek – Avg. Day Flow (MG)	5.7	6.2	6.6	6.3
Flat Creek – Total Treated (MG)	2,080	2,269	2,390	2,307
Flat Creek – Biosolids Disposal (Dry Tons)	2,451	2,485	2,910	3,055
Linwood Permitted Discharge Limits				
Linwood Weekly Avg. not to exceed (MGD)	6.25	6.25	6.25	6.25
Linwood Monthly Avg. not to exceed (MGD)	5	5	5	5
Linwood – Max. Day Flow (MG)				
Linwood – Max. Day Flow (MG)	3.7	3.9	3.4	3.6
Linwood – Avg. Day Flow (MG)	2.4	2.3	2.4	2.5
Linwood – Total Treated (MG)	876	836	857	915
Linwood – Biosolids Disposal (Dry Tons)	391	391	388	355
Combined Facility Total Treated (MG) -----				
Combined Facility Total Treated (MG) -----	2,956	3,105	3,247	3,222
Combined Total Biosolids Removal (Dry Tons)---				
Combined Total Biosolids Removal (Dry Tons)---	2,842	2,876	3,298	3,410



Flat Creek WRF

Fiscal Year Wastewater Flows (2011 - 2015)



When fully staffed, we continue cross training our relief operators between the two facilities. Having someone trained to fill in on short notice reduces unscheduled overtime. Even with cross training in place, we still had an increase in overtime of 8.9% at the Flat Creek Water Reclamation Facility and a 4.9% increase at the Linwood WRF. Though both facilities had difficulties throughout the year keeping staff, Flat Creek was short two positions for the major part of the year.

Even though staffing has been an issue the year, through dedicated staff and succession planning, both facilities have maintained a standard operational status. Through the fiscal year we hired one assistant plant manager, two supervisors and nine new operators. Out of the staff turnover, two were due to retirement, one due to personnel reasons and the others were claims of higher wages or better benefits at other facilities. Kudos to the City on the rate study. Morale is up due to pay increases for most of our staff and bonuses to those that were not eligible for rate increases.

During this fiscal year, more than 60 tours have been conducted at our wastewater treatment facilities consisting of over 600 attendees ranging from local schools, college classes, organizations and local citizens.



Flat Creek Water Reclamation Facility Tour

2015 Fiscal Year Goals & Objectives

Flat Creek:

Utilize new technologies to improve efficiencies and reduce cost.

- Flat Creek Water Reclamation Facility staff will evaluate installation of inline analytical equipment for phosphorus monitoring, thus providing more efficient alum feed rates reducing chemical cost.
- This goal has been met. Staff has analytical data providing an estimated 21% reduction in alum feed resulting in a potential annual savings of over \$27,000. Moreover, research has provided proof of the same results or greater at other facilities.

Increase public awareness of city operations, financial positions and programs.

- Flat Creek Water Reclamation Facility will create a presentation in DVD format to give a standard version of the plant process at public facility tours, and to educate students as to the important role we play in protecting the environment.
- No DVD was developed, but we did create different versions of the Power Point presentation to custom tailor the information to the ages and educational level of each group. One was a very basic approach with non-technical information, while another centered on high school or college students with a higher level involving micro-organisms and chemistry.

Promote beautification of public areas with an eye on internal facilities.

- Flat Creek Water Reclamation Facility will replace the sun shielding over the top of Section A of the tertiary treatment system with new aluminum framework that will improve effectiveness against accumulation of algae on the lamella tube plate settler, extending the life of the sunblock fabric.
- After extensive debate over the use of an aluminum framework, the suggestion of using PVC pipe as a floating framework seemed to be the more economic choice. The PVC pontoons were fabricated by the operators and new sunblock netting has been installed over both tertiary trains.

Linwood:

Utilize new technologies to improve efficiencies and reduce costs.

- Linwood Water Reclamation will participate with Flat Creek staff in evaluating the installation of inline analytical equipment for phosphorus monitoring thus providing more efficient alum feed rates reducing chemical cost.
- This goal has been met. Linwood is in concurrence with the analytical findings at Flat Creek WRF providing an estimated 21% reduction in alum usage.

Increase public awareness of City operations, financial position and programs.

- Linwood Water Reclamation Facility will provide tours of their facility to schools and the general public thereby increasing their grasp of Linwood's operational program and financial position
- Linwood conducted 55 tours consisting of over 365 students and numerous water professionals from all over the State.

Promote beautification of public areas with an eye on internal facilities.

- Linwood Water Reclamation Facility will install an irrigation system thus enhancing the view of this facility's external public appearance.
- Rip-rap that was placed along the roadway on the lower portion of property by the Lake has been removed and irrigation system was installed. Aesthetic quality of area has been enhanced and utilized by employee events.

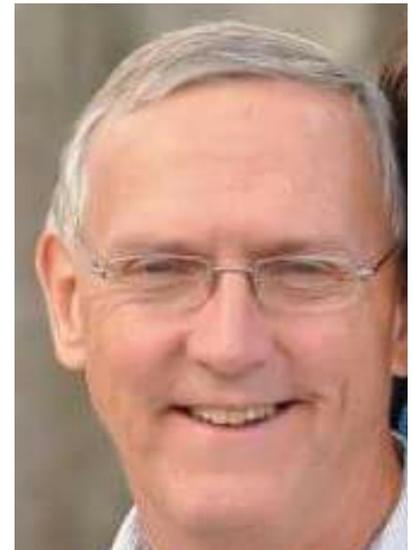
MAINTENANCE SERVICES

MISSION STATEMENT: *To efficiently maintain all Public Utilities plants, pump stations, and buildings.*

SCOPE OF SERVICES

The **Maintenance Services Division** consists of a Maintenance Manager, Superintendent, and three sections: Maintenance, Pump Stations, and Groundskeeping, for a total of twenty-five positions. The Maintenance section consists of crews that are responsible for preventative, routine, and emergency repairs of fixed operating equipment at all PUD facilities. The Maintenance crews conduct electrical, HVAC, plumbing, mechanical, and other repairs as necessary. A pump mechanic and an electrician are on standby at all times to handle after-hour situations. The Pump Stations section monitors and maintains over 65 water and sewer pump stations throughout Gainesville and Hall County. The Groundskeeping section is responsible for grounds maintenance at all Public Utilities plants, water tanks, and pump stations as well as the Bradford Street shop. In addition, the Groundskeeping crew is responsible for general maintenance which includes painting, cleaning, and other duties as needed.

Mr. Troy Dyer took the role of Maintenance Manager in September 2014 and brought a wealth of knowledge and experience to the table. Originally part of the maintenance division in 1999, Troy rose through the ranks over the past 15 years, first as instrumentation and control specialist, then to Maintenance Superintendent.



FY 15 Statistical Indicators:

- **Total Repair Work Orders = 2,507**
- **Total PM Work Orders = 2,162**
- **After Hours Emergency Calls = 192**



In November 2014, the Maintenance Department upgraded its over 12-year-old maintenance software and implemented the use of iPads for work order tracking. The new software allows electronic data submission versus unnecessary paper work in an attempt to “go green.” We can now track work orders and equipment data electronically and there is no end to the data we can compile. We look forward to expanding this database and better serving the Public Utilities Department.

ENVIRONMENTAL COMPLIANCE

The **Environmental Compliance group** is responsible for the city's water quality laboratory, the industrial pretreatment program, commercial wastewater management, environmental monitoring program, forestry management, public education program, water conservation program and various other projects and programs as assigned. The Environmental Compliance offices and staff are located in the Environmental Services Laboratory at 2641 Old Flowery Branch Road, Gainesville, GA 30504.

MISSION STATEMENT: *Provide first rate quality assurance through management of water resources.*

SCOPE OF SERVICES

The **Environmental Compliance** staff consists of a total of **18** authorized positions working in five major areas of quality control and quality assurance. These programs support the successful operation of the Department's water and wastewater treatment plants, help to ensure the quality of drinking water to the customers, and provide for the protection and improvement of the community's water resources. The staff also endeavors to efficiently assist and educate residential and commercial customers, as well as the general public.

The **Environmental Compliance** group manages the City's Water Quality Laboratory, Industrial Pretreatment Program, Environmental Monitoring Program, Water Conservation Program and various other projects and programs as necessary to provide support for the PUD. **The Following is a summary of responsibilities for this group:**

- The **Laboratory** staff provides quality and legally defensible analytical services to the Environmental Compliance section, other divisions of the PUD and other departments of the City of Gainesville. All tests are conducted in accordance with the United States Environmental Protection Agency (US EPA) and Georgia Environmental Protection Division (GA EPD) regulations by following Standard Methods for the Examination of Water and Wastewater and American Society for Testing Methods. Laboratory services help to ensure the high quality of Gainesville's drinking water and that wastewater operations are in compliance with all state and federal regulations. The laboratory staff also provides water testing services to the City of Gainesville, Hall County and surrounding county residents.



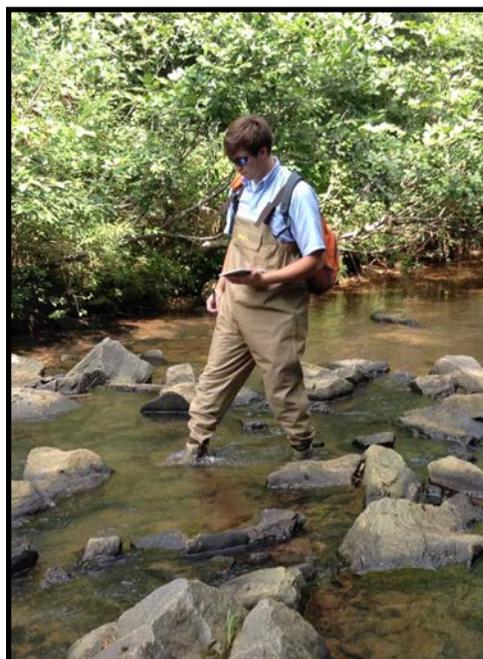
- A. Josh Pass is setting up samples to test for fecal coliform in stormwater samples.
- B. Paula Glasper is preparing samples to test for total phosphorous.
- C. Haley Hill is weighing total dissolved solids from industry effluent samples.

- The **Industrial Pretreatment** section administers the Industrial Pretreatment Program as mandated by the Federal Clean Water Act. Local businesses and industries are regulated and educated concerning wastewater discharges and changing federal, state and local wastewater discharge requirements. This group also inspects and monitors these discharges in order to protect the wastewater treatment plants, workers, sewer system and receiving streams. Gainesville's Fats, Oils, and Grease (FOG) program also resides under the umbrella of the Industrial Pretreatment section. This program manages the maintenance of facilities and disposal of commercial waste from commercial users of the collection system. This program also coordinates with designers during the preconstruction process of commercial and industrial facilities.
- The **Environmental Monitoring** group conducts visual site inspections on various creeks, performing chemical and microbiological sampling of area waters, quarterly stream walks, biological monitoring, and public awareness, education and participation to help protect local water resources and the surrounding environment. Environmental Monitoring provides a quality assurance function for the wastewater facilities and collection system and conducts environmental monitoring and public outreach activities as prescribed in the City's Watershed Management Plan and Municipal Separate Storm Sewer System (MS4) Notice of Intent (NOI) in order to detect and eliminate local water quality problems.
- The **Water Conservation Program** actively provides literature, programs, education and workshops within the Gainesville/Hall County community on ways residents can conserve their drinking water supply. This section communicates the current regulations of the State of Georgia's outdoor water use plan within the community and ensures Gainesville is following the Metropolitan North Georgia Water Planning District's water conservation plan. The program has continued offering Gainesville's Plumbing Retrofit Program, informative programming on the local TV-18 network, and water efficiency workshops.

Additionally, Environmental Compliance is actively involved in watershed protection through participation in the Community Watershed Assessment Project, the Metropolitan North Georgia Water Planning District (MNGWPD), the Upper Chattahoochee Basin Group and the Georgia Adopt-A-Stream program.



A. Brian Wiley, the Environmental Monitoring Coordinator, shows East Hall Middle School students how to test for the pH level in the creek.



B. Kinsey Hughes, Commercial Wastewater Inspector, looks at a grease trap to make sure it is functioning properly.



C. Cody Charles, Environmental Specialist, completes a quarterly stream walk on Balus Creek. He walks from the cove at Lake Lanier to the headwaters.

Environmental Compliance FY15 Statistical Indicators	
# of Lab Samples Analyzed	8,449
Total Analyses Conducted by Lab Services	33,353
Drinking Water/New Line Samples	1,878
Pretreatment Program Compliance Inspections	2,975
Environmental Site Inspections	2,973
Environmental Samples	810
Public Presentations	133

- * In addition to the formal annual inspections, an additional **2,975** visits were made to industrial and commercial facilities to inspect and sample for compliance with the pretreatment program. The total number of visits has decreased due to a change in our SOP to reduce our cost, while maintaining the same level of performance.
- * The Fats Oils and Grease (FOG) program tracks **304** facilities, primarily restaurants, which use grease traps as their only pretreatment of wastewater prior to discharge to the City’s collection system. Additional FOG accomplishments for FY15 included the inspection and permitting of **51** commercial waste transportation vehicles.
- * The Environmental Monitoring Program centers on the requirements to support water resource protection as specified in the Watershed Assessment Project (with specific emphasis on the directives of the Watershed Management Plan). Other regulatory drivers for this program now include Gainesville’s Municipal Separate Storm Sewer System (MS4) and the requirements for pollution prevention Best Management Procedures at municipal facilities involved in industrial activity such as transportation shops and the airport. The result has been more time spent in public outreach (such as employee pollution prevention education, the Adopt-A-Stream program and water conservation education). During FY15, staff inspected **2,973** sites for environmental issues and collected **810** samples.
- * Public presentations are conducted as part of the division’s public outreach program as recommended by the Watershed Management Plan, Phase II MS4 requirements, Phase II Municipal Facilities Permit coverage, and as part of the city’s water conservation efforts. This effort is to educate the community about protection of local water resources. In FY15, **133** presentations were conducted.



A. The Stormwater Program Civil Engineer inspects a stormwater catch basin for potential problems.

B. The Environmental Monitoring Coordinator checks an area creek for pH, dissolved oxygen, conductivity and temperature.

Water Efficiency

The City of Gainesville continues to promote water efficiency throughout the community through public participation and involvement. Customers continue to take advantage of the plumbing retrofit program by removing inefficient fixtures and replacing them with a 1.28 gpf (gallon per flush) toilets. There were 229 retrofit rebates issued in FY15. The program also includes multi-family and commercial properties. Numerous properties have taken advantage of the new rebate program. Several City of Gainesville residents also participated in the free residential water assessments to help locate leaks and possibly save money by learning about water saving opportunities in their homes. Free Conservation Kits are also provided to any interested water customer. These kits contain a free showerhead, faucet aerators and dye tablets to test the toilets for leaks.

Classroom and community presentations for all ages are still the “backbone” for spreading the water efficiency message. Staff work at the request of teachers and area organizations to present water saving measures that everyone can easily accomplish.



West Hall Middle School students take part in a trivia game during Environmental Fest.



Conservation Crusader at the water festival after the Water Drop Dash.



Celebrating with Reagan Britt who was the Hall County winner for the Water Essay contest. The contest is through the Metropolitan North Georgia Water Planning District.



The Running Toilet was around town to highlight World Toilet Day.

Community Education and Involvement

Community education and involvement are an integral part of raising awareness and ensuring sustainability of our natural resources. In FY15, the City of Gainesville conducted **133** public presentations. These ranged from elementary schools to adult trainings for watershed protection and opportunities for volunteer involvement.

Classes continue to enjoy Adopt-A-Stream training for chemical and biological monitoring. Approximately **283** individuals participated in this year's Rivers Alive clean up. The event was very successful with **2,800** pounds of trash removed from Flat Creek and Laurel Park. Environmental Fest was conducted with West Hall Middle School's 6th grade. Students rotated through 12 different hands-on stations to learn all about water, recycling and forestry.

Lola the Water Waster has a tendency to waste water because she loves it too much. Conservation Crusader is usually close by to try to set her straight. The Conservation Crusader participated in the 3rd Annual Water Drop Dash and education fair held in Roswell along the Chattahoochee River.



- A. Volunteers participating in the Rivers Alive Cleanup remove an old bumper from along Flat Creek.**
- B. Conservation Crusader and Lola the Water Waster visit Gainesville Elementary School.**
- C. West Hall Middle School students learn all about water during Environmental Fest.**
- D. An Environmental Specialist talks to UNG students about water quality and environmental monitoring.**

ENGINEERING AND CONSTRUCTION SERVICES DIVISION

The Engineering and Construction Services Division began the fiscal year with 23 full-time authorized positions. These positions may be broadly categorized as engineers, technicians, inspectors, permitting staff, and support staff.

MISSION STATEMENT: *To effectively execute assigned projects to meet the defined needs of our community.*

SCOPE OF SERVICES

The Engineering and Construction Services Division not only represents the Public Utilities Department (PUD) but also the City as a whole on all Capital Improvements Projects (CIP) throughout design and construction, review and permitting of private development projects, and administration of the Backflow Prevention Program. The services provided by the group may be summarized as follows:

- In-house design, bidding, and construction services associated with water mains and sanitary sewer system improvements
- Project management functions related to services provided by various consulting engineers
- Computerized water and wastewater systems mapping, graphical presentation, and geographic information system (GIS) management
- Archival functions associated with technical plans and documents for the PUD.
- Hydraulic analysis and overall planning activities associated with water and wastewater systems
- Construction management and inspection on all private developments that propose to connect to the City's water and/or wastewater systems
- Project concept and design, contract administration, construction management services of CIP for PUD, Public Works, Parks and Recreation, and other City departments as directed by the City Management from inception to completion of project. Project and construction management services are also provided for other local governments when required by intergovernmental agreement. These services are charged to the actual project to prevent Public Utilities from subsidizing them.
- Transitioning of Stormwater functions into the Engineering and Construction Division from Public Works Engineering Department including Stormwater design and construction.
- Payment and reimbursement processing for all projects related to the CIP
- Maintenance of all financial records related to the CIP as well as construction contracts and records from project inception to completion.



Other functions consist of the following:

- ◇ Periodic updating and maintaining water main and sanitary sewer extension and/or Replacement lists
- ◇ Field surveying
- ◇ Five-year CIP development and tracking
- ◇ Preparation of the Department's presentation at the annual workshop with the City Council
- ◇ Evaluation of new water and wastewater products to determine if they meet PUD standards
- ◇ Coordination and preparation of annual updates of the Department's Standard Specifications
- ◇ Negotiation and purchasing of land and easements required to construct projects; processing and maintaining associated documents, databases and files.

The **Permitting** group provides management of private development permitting and the **Backflow Prevention Program**. The Permitting group also provides assistance with in-house design and project management of sanitary sewer system replacement and extension projects. The following is a summary of responsibilities for this group:

Permitting:

- Review and permitting of all commercial, industrial, and residential developments which propose to connect to the City's water or wastewater systems to ensure compliance with the department's standards and specifications.
- Transitioning Stormwater plan review and permitting from Public Works to Public Utilities Department.
- Coordination activities with the Georgia Environmental Protection Division (GA EPD) associated with delegation of review compliance.
- Coordination activities with the Gainesville and Hall County Planning Departments for issuance of development permits through the City and the County plan review committees.
- Coordination activities associated with Gainesville and Hall County Building Inspections Departments and their issuance of Certificates of Occupancy (CO's) for projects that require PUD's inspections.
- Coordination activities with the Gainesville and Hall County Planning Departments concerning annexation requests for sanitary sewerage services, as well as rezoning and variance request activities.
- Preliminary investigation to determine water and/or wastewater systems connection feasibility for future private developments.
- Preparation of water and sanitary sewer availability letters.
- Easement acquisition associated with water and wastewater systems located within private development projects.
- Coordination of activities for inspection of approved private development projects.
- Review and approval of as-built drawings for newly constructed public water and wastewater systems.
- Review and approval of fire sprinkler system drawings and subsequent coordination with the billing office for applicable sprinkler system fees.
- Production and updating of development guidelines and associated plan review checklists.

Backflow:

- Inspection of new and existing backflow prevention device installations.
- Tracking of required annual backflow test reports.
- Tracking of City-approved backflow testers.
- Conduct monthly mail-out notifications to customers for any outstanding backflow prevention requirements.
- Production and updating of backflow prevention specifications and installation guidelines.
- Conduct inspections of private wells and reclaimed water systems for illegal cross-connection with City's water distribution system.
- Testing, maintaining and repairing existing backflow preventers on City facilities.
- Fire hydrant flow testing.



STATISTICAL INDICATORS:

The following statistical indicators have been compiled to provide a more clear and quantifiable picture of the Engineering and Construction Services Division's accomplishments during FY15:

- Provided project management and construction management / resident engineering services on **12** capital improvement projects that were completed in FY15 and **33** on-going capital improvement projects for Gainesville's Public Utilities Department, Public Works Department, Administrative Services and Parks and Recreation Agency.
- Provided construction inspection and management for the following connections to the Public Utilities' water and wastewater system:
 1. Approximately **7.08** miles of water main and **72** fire hydrants. These figures include capital improvement projects, private development water mains, private fire mains and private fire hydrants.
 2. Approximately **3.07** miles of gravity sanitary sewer, **75** new manholes and 0.54 miles of force main.
- Completed scanning of approximately **1,800** plan sheets.
- Created approximately **15** graphical exhibits including the PUD's presentation for the annual Workshop with the City Council and GAWP Level 2 Leadership Academy.
- Field located approximately 300 water and sanitary sewer features of the Stormwater Maintenance.
- Addition of Stormwater features to the organization's online GIS maps.
- Completed the impervious landcover dataset for use in development of the Stormwater Maintenance Program.
- Created and updated Stormwater maps to assist with transitioning into Stormwater Maintenance Program.
- Developed pilot projects to explore a formal Asset Management Program.
- Supplied various documents in regards to an Open Records Request concerning ongoing litigation related to the Tri-State Water Dispute between Georgia, Alabama, and Florida.



Fire Hydrants Improvement Project

FY 2015 Water Main and Sanitary Sewer Construction and Abandonment History

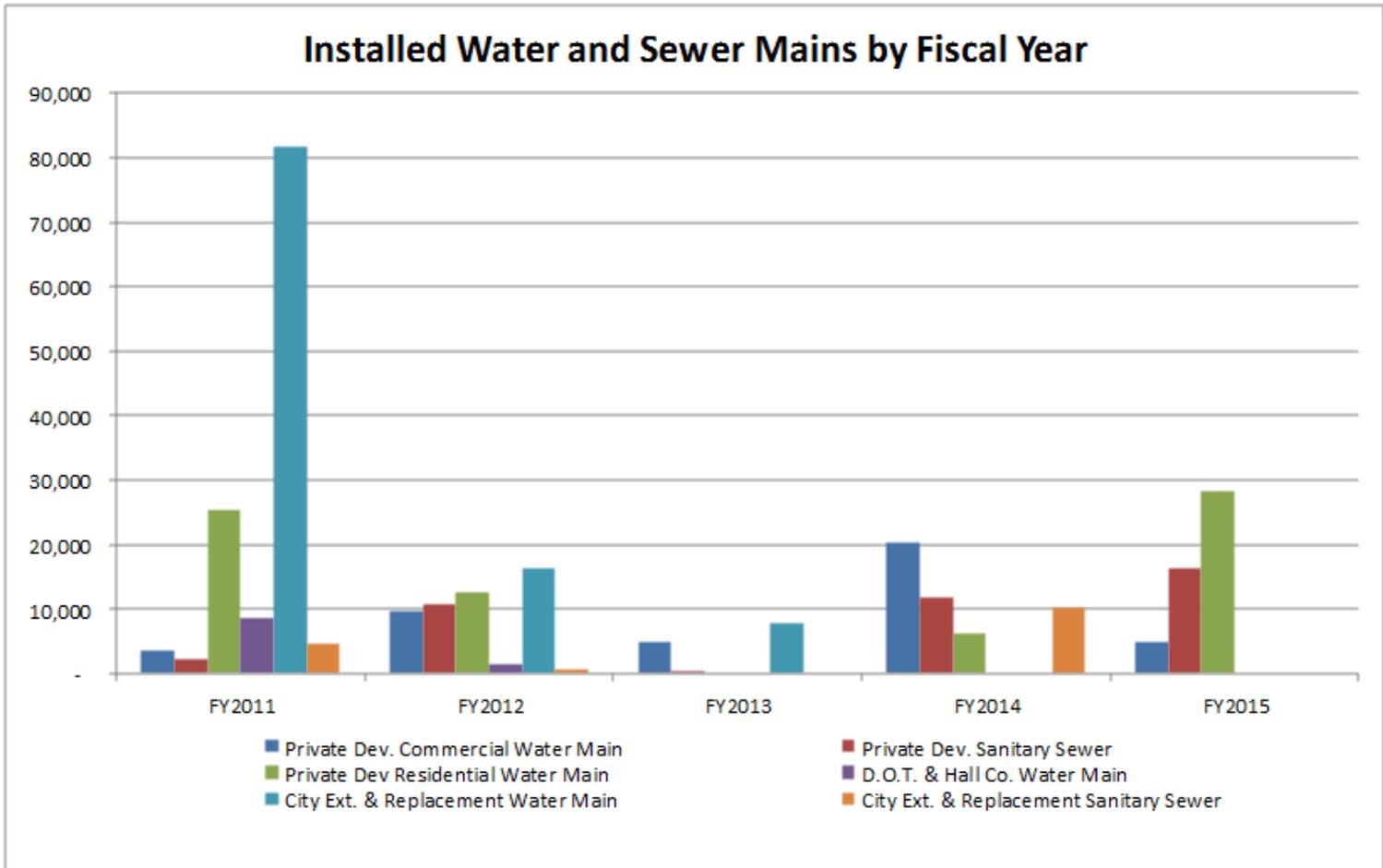
SANITARY SEWER CONSTRUCTION/ABANDONMENT HISTORY						
YEAR	Gravity Sewers Constructed/Rehabilitated (Miles)	Manholes Constructed	Force Main Constructed (Miles)	Gravity Sewers Abandoned (Miles)	Manholes Abandoned	Force Main Abandoned (Miles)
FY10	2.33	71	2.73	0.57	12	1.21
FY11	1.30	51	2.31	0.66	14	0.10
FY12	1.49	49	1.01	0	0	0.46
FY13	0.09	2	0	0	0	0
FY14	3.25	63	0.51	0.26	8	0
FY15	3.07	75	0.54	0	0	0

WATER LINE CONSTRUCTION/ABANDONMENT HISTORY (PUBLIC FACILITIES ONLY)			
YEAR	Water Lines Constructed (Miles)	Fire Hydrants Installed	Water Lines Abandoned (Miles)
FY10	15.28	111	3.90
FY11	22.62	165	0.54
FY12	7.61	73	2.77
FY13	2.41	30	0.51
FY14	5.04	62	0
FY15	6.28	63	0



Water Main Improvement Project

TYPE OF INSTALLATION	FY 2011 TOTAL (FT.)	FY 2012 TOTAL (FT.)	FY 2013 TOTAL (FT.)	FY 2014 TOTAL (FT.)	FY 2015 TOTAL (FT.)
PRIVATE DEV. COMMERCIAL WATER MAIN	3,590	9,741	4,872	20,313	4,884
PRIVATE DEV. SANITARY SEWER	2,323	10,725	485	11,873	16,221
PRIVATE DEV. RESIDENTIAL WATER MAIN	25,405	12,720	0	6,275	28,304
D.O.T. & HALL CO. WATER MAIN	8,615	1,415	0	0	0
CITY EXT. & REPLACEMENT WATER MAIN	81,828	16,289	7,829	0	0
CITY EXT. & REPLACEMENT SANITARY SEWER	4,540	530	0	10,348	0



PERMITTING FY15 STATISTICAL INDICATORS

The following is the statistical indicator information for the **Permitting Group**:

- Reviewed **138** development plans and issued **95** development permits through City of Gainesville/Hall County Planning & Zoning Department.
- Reviewed **204** architectural drawings and **9** fire sprinkler system drawings.
- Reviewed and approved **247** proposed water service connections through the plan review and permitting process.
- Reviewed and approved **9** City of Oakwood, **2** Town of Braselton, **2** City of Flowery Branch and **1** City of Buford developments through direct permitting coordination with these jurisdictions.
- Reviewed **871** commercial building permits (**833** in unincorporated Hall County and Gainesville and **38** in Oakwood).
- Reviewed **22** applications for rezoning, variances, or annexations through the City of Gainesville's Planning and Appeals Board.
- Reviewed **74** applications for variances, conditional use, proposed amendments or rezonings through the Hall County Planning Commission.
- Forwarded **34** new construction projects to the Engineering and Construction Services Division. These projects required water and/or sanitary sewer construction inspections.
- Collected a total of **\$93,079.78** in fees for water and sanitary sewer inspections that were performed by the Construction Management Division personnel and for fire hydrant flow testing.
- Conducted **64** backflow preventer inspections.
- Received and logged **6,782** backflow preventer test reports.
- Issued **0** variances for backflow preventer installation locations.
- Issued **5,477** first, second, and third notices to existing customers with overdue or failed annual backflow prevention device test reports, and issued **488** notices to device testers to provide up-to-date calibration and certifications.
- Conducted **16** fire hydrant flow tests for proposed private developments.
- **167** City backflow devices were tested, **2** new backflow devices were installed, and **14** existing devices were repaired.

PROJECTS COMPLETED DURING FY15:

- 1) FY14 Water Meter Replacement Project.
- 2) Telemetry System Improvements Project.
- 3) Lakeside Water Treatment Plant Dry Storage Building Project.
- 4) Linwood Water Reclamation Facility Discharge Pipe Easement from U.S. Army Corps of Engineers Project.
- 5) Water Tank Maintenance Project (1st year of 2nd - 2 year contract).
- 6) Public Utilities Administration Building Security Renovations Project.
- 7) FY15 Cedar Creek Reservoir Dam Inspection and Identified Repairs.
- 8) Organized, Managed and Completed activities associated with the Departments Annual Workshop presentation for the City Council.
- 9) Island Drive Stormwater Improvements Project.
- 10) Heritage Place Stormwater Improvements Project.
- 11) Holly Drive Stormwater Improvements Project.
- 12) Parks and Recreation Linwood Nature Preserve Trailhead Project.



Lakeside Water Treatment Plant Dry Storage Building

ACTIVE PROJECTS MANAGED DURING FY15 BUT CARRIED FORWARD :

- 1) Cargill Sanitary Sewer Improvements Project - Phase II and III.
- 2) Pump Station No. 23 Improvements Project.
- 3) Water Distribution System Storage Tanks Maintenance Program.
- 4) FY13 Water Treatment and Water Reclamation Facilities Maintenance Project.
- 5) State Route 347/Friendship (Lanier Islands Parkway) and Thompsons Mill Road Utilities Relocation Project.
- 6) State Route 284/Clarks Bridge Replacement Utilities Relocation Project.
- 7) Flat Creek Stream Restoration/Cargill to Gainesville Mill Project - Phase I.
- 8) Riverside Drive Water Treatment Plant Chemical System Upgrade Project.
- 9) FY16 Cedar Creek Reservoir Dam Inspection and Repairs.
- 10) City of Gainesville Administration Building Renovations.
- 11) Flat Creek Water Reclamation Facility Sludge Digester Repair.
- 12) Corrugated Metal Sanitary Sewer Replacements Project.
- 13) Flat Creek Water Reclamation Facility Dissolved Air Flotation (DAF) Engineering Study.
- 14) FY13 Water Main Improvements Project.
- 15) FY14 Water Main Improvements Project.
- 16) PUD Administration Building HVAC Replacement Project
- 17) Riverside Drive Water Treatment Plant Concrete Evaluation and Repair Project.
- 18) State Route 11/U.S. 129 Athens Highway Utilities Relocation Project.
- 19) Chattahoochee Golf Course Stormwater Improvements Project.
- 20) Woodlake Drive Stormwater Improvements Project.
- 21) Valley Road Stormwater Improvements Project.
- 22) Flat Creek Litter Trap Project.



Pump Station No. 23 Improvement Project

ACTIVE PROJECTS MANAGED DURING FY15 BUT CARRIED FORWARD (CONT'D):

- 23) Spout Springs Road Utilities Relocation Project.
- 24) S.R. 369/Browns Bridge Road Chattahoochee River Bridge Replacement Project.
- 25) S.R. 53/Dawsonville Highway Chestatee River Bridge Replacement Project.
- 26) Lanier Island Parkway Utilities Relocation Project (McEver Road to Lake Lanier Islands).
- 27) Stormwater Management Program.
- 28) Asset Management Program Development.
- 29) Parks and Recreation Frances Meadows Multi-Purpose Field Improvements Project.
- 30) S.R. 13/ Atlanta Highway Utilities Relocation Project.
- 31) Roosevelt Square Stormwater Improvements Project.
- 32) Fire Station # 2 Relocation Project.



S.R 347 / Friendship and Thompsons Mill Road Utilities Relocations Project

DISTRIBUTION AND COLLECTION DIVISION

The Distribution and Collection Division is comprised of two sections: **Water Distribution** and **Wastewater Collection**. The major functions and tasks of these two groups are: the operation and maintenance of the water distribution and wastewater collection system, providing a safe environment to the public, and ensuring that quality and reliable water and sewer service are provided to our customers. These tasks include: repairing minor water leaks and water main breaks, inspection and maintenance of fire hydrants and valves, flushing water to improve water quality, locating or marking water and sewer lines, cleaning and inspecting sewer lines, and clearing easements to ensure ready access.

WATER DISTRIBUTION

MISSION STATEMENT: *To ensure the distribution of safe drinking water by maintaining the City's water system.*



SCOPE OF SERVICES

The Water Distribution staff, which includes the Division Manager, performs the following functions: provides utility locates, assists with water and sanitary sewer repairs, performs right-of-way maintenance, repairs and services fire hydrants, performs vehicle and equipment maintenance, performs water valve maintenance, and carries out all welding activities and tool fabrication. The Administrative and Managerial team of this Division provides administrative and management support. The Division's Manager and Superintendents represent the City of Gainesville on various committees and State professional organizations, as well as provide input on future system expansion planning.



STATISTICAL INDICATORS

The Division maintains approximately **8,838** fire hydrants in the water distribution system. Each fire hydrant is inspected annually with the assistance of the local fire departments. In FY15, **399** fire hydrants were repaired, serviced, or replaced in order to ensure fire protection for our community. The group inspected **1,601** water valves in FY15 and **896** were repaired, raised, or serviced.

Determining the location of utilities is another function the Division performs related to water distribution. In FY15, a total of **24,010** locates were performed by the Division. All utility providers are required by state law to mark their utility locations prior to beginning work. This requirement prevents costly damages, reduces outages to customers, and provides for the general safety of those performing utility work.

WATER LOSS PREVENTION

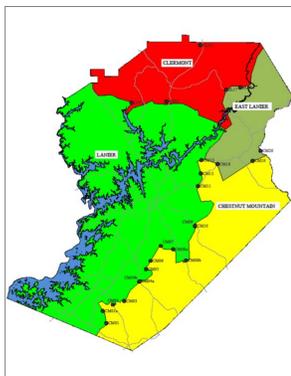
Dry conditions and population growth place a strain on our water resources, creating the urgent need for water efficiency and conservation. Each year, utilities lose large volumes of treated water through inefficiencies in the supply process. Water loss control is vital in order to reduce the burden on existing water resources, increase the reliability of our water supply, and keep water rates low for customers. The City of Gainesville uses a hands-on, proactive approach to combat water loss in our system. The City's proactive leak detection efforts save the Utility thousands of dollars annually (see chart below). Since its implementation 5 years ago, a data logging system allows the City to locate hard-to-find leaks. The system uses sophisticated software to record and download sounds into files for analysis. The software evaluates the sounds for leaks and produces graphical and tabular results as to its location. Leaks are repaired quickly (most within 24 hours of notification) and proficiently (with use of standard repair methods and materials). The utility also continuously replaces pipes to improve the integrity of the distribution system and reduce leaks.

CALENDAR YEAR	# of Leaks Found	Gallons Recorded/ Recovered	Production Costs Sav- ings*
2010	7	1,260,160	\$2,696.40
2011	27	16,910,000	\$36,187.40
2012	26	20,626,061	\$44,139.64
2013	27	9,659,080	\$20,670.26
2014	19	10,442,880	\$22,348.02
5-Year	106	58,898,181	\$126,041.72

Pressure management is another important tool in water loss control. The City of Gainesville's Water System has 4 pressure zones and over 20 Pressure Control Valves that help maintain desired pressures for fire

*\$22,348.02 in production cost saved based on the cost of \$2.14 for producing the "next thousand gallons" of treated water.

** Estimated numbers of miles.



The City of Gainesville's
4 Pressure Zones

protection while easing strain on water mains and reducing water loss from leaks.

Water theft is a source of water loss that also impacts our water supply. To combat unauthorized use, the City of Gainesville has over 500 fire hydrant locks in place to prevent theft. Weekly reports and investigations are also conducted to locate unauthorized consumption via water meters at locations in which no one is currently signed up to receive service. In addition, the City has developed policies to deter and identify meter tampering.

A locked fire hydrant



WATER LOSS AUDIT

In 2010, the **Georgia Water Stewardship Act** was established to encourage and improve water conservation to enhance Georgia's water supply. The Act requires that all Georgia public water systems serving 10,000 or more people complete an annual water loss audit, beginning in 2012. The City of Gainesville Public Utilities Department submitted its second Water Loss Audit to the GAEPD in FY 2013. The Distribution Division spearheaded the audit, with the assistance of a team of staff members from various divisions. The audit is an examination of records and financial accounts to check for accuracy and provide accountability. The assessment's purpose is to identify areas and causes of water loss, to improve water efficiency within the state's public water systems, and to serve as a catalyst for creating a culture of water conservation among water managers.

Gainesville Public Utilities scored a **74** out of **100** on the audit, which is considered a slightly above average score in the State of Georgia. The Utilities Infrastructure Leakage Index (ILI) is a very important benchmark for water system planning and can be used as a target-setting mechanism. It was established in FY15 at **1.29**. The ILI is unique to each water system, but is a very important leak reduction target number when considering water resource availability, financial goals, and other operational considerations of Gainesville's water system.



A copy of this year's Water Audit is available upon request.

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 74 out of 100 *****

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Volume from own sources

2: Customer metering inaccuracies

3: Unauthorized consumption

STORMWATER

The Division became responsible for maintenance and operation of the City's Stormwater System on July 1, 2014. The division is responsible for responding to complaints related to flooding, and the general upkeep of the stormwater system within the City's various sub-basins of the water shed. The stormwater system consist of approximately 900,000 feet of various types of stormwater piping ranging in size from 6" to 120" in diameter. Division staff conducted over 600 inspections of storm facilities as part of the annual MS4 program, and generat-ed 95 work orders related to needed storm system repairs. Cleaning storm pipes and catch basins is a part of the maintenance function of the division, and the division removed over 32,000 pounds of debris from the storm structures in FY15. The Division continues to strive to make the City's stormwater system more reliable and enhance water quality in the City of Gainesville.



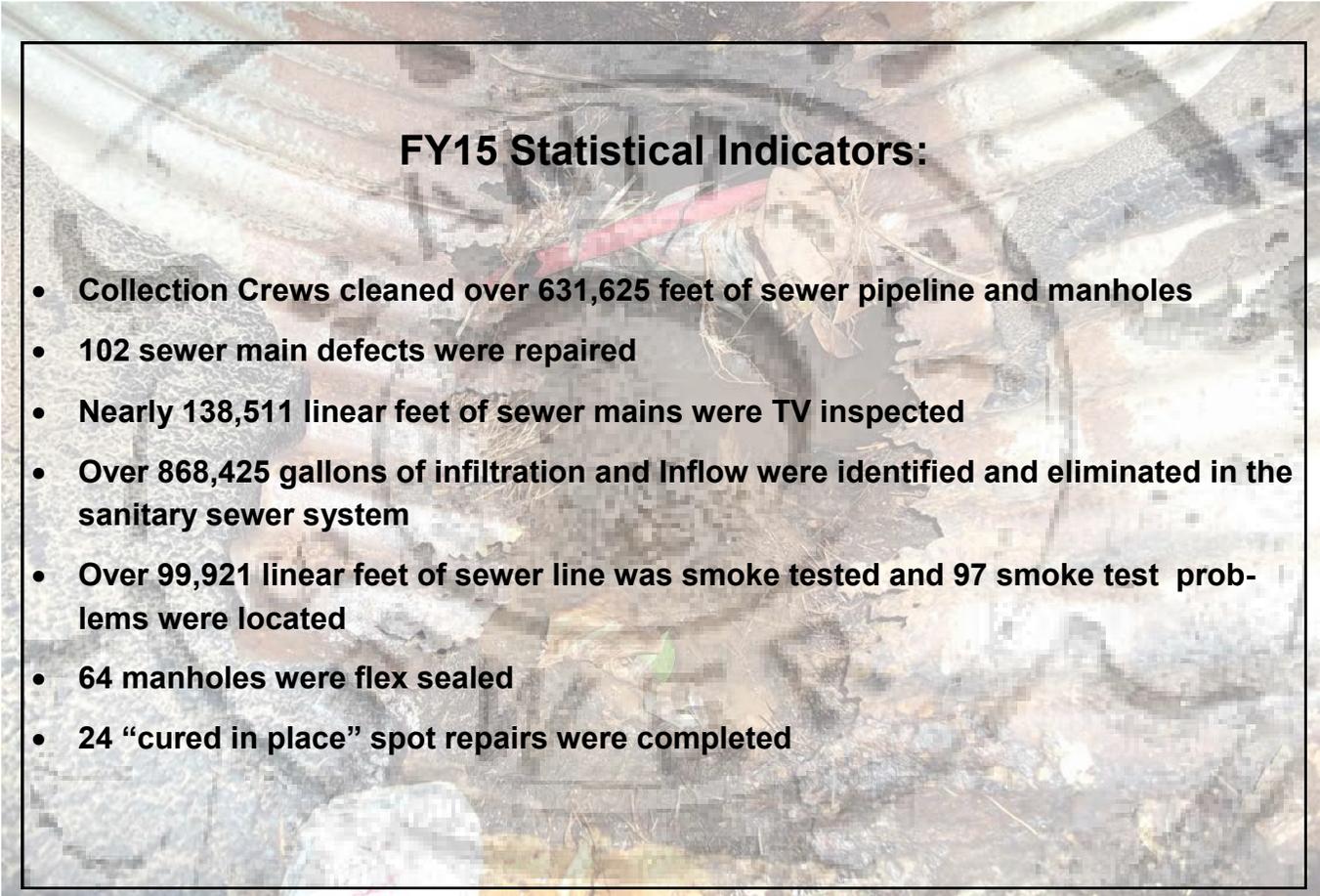
WASTEWATER COLLECTION

MISSION STATEMENT: *To ensure the environmentally safe collection and transportation of sanitary sewage by maintaining the City's sewer system.*

SCOPE OF SERVICES

The Wastewater Collection staff is responsible for ensuring that the collection system is operating properly. One major preventative maintenance function of the Utility is cleaning sanitary sewer collection pipelines. These efforts greatly reduce the possibility of environmentally-damaging sewer overflows and prevent isolated sewer problems for our customers.

The Inflow and Infiltration (I&I) Team, which is a technical group responsible for identifying and eliminating groundwater and rainwater flows into the sanitary sewer collection system, is also part of the Collection Division. This team conducts flow monitoring, manhole inspections, CCTV inspections, and smoke testing within the sewer system.



FY15 Statistical Indicators:

- **Collection Crews cleaned over 631,625 feet of sewer pipeline and manholes**
- **102 sewer main defects were repaired**
- **Nearly 138,511 linear feet of sewer mains were TV inspected**
- **Over 868,425 gallons of infiltration and Inflow were identified and eliminated in the sanitary sewer system**
- **Over 99,921 linear feet of sewer line was smoke tested and 97 smoke test problems were located**
- **64 manholes were flex sealed**
- **24 “cured in place” spot repairs were completed**