

THE PUBLIC UTILITIES DEPARTMENT



for the City of Brenham



RELIABILITY:
**THE ABILITY OF A SYSTEM TO PERFORM AND
MAINTAIN ITS FUNCTION IN ROUTINE
CIRCUMSTANCES, AS WELL AS HOSTILE OR
UNEXPECTED CIRCUMSTANCES.**

**ANNUAL REPORT
FYE 2013**

PUBLIC UTILITIES

From the Director:

The Public Utilities Department is a team of professionals dedicated to serving the citizens and utility customers of Brenham. The Department is composed of Electric, Gas, Water Treatment and Distribution, Wastewater Collection and Treatment, Mapping, Utility Compliance, and Utility Billing. Also under the direction of Public Utilities are the city's wastewater pretreatment program, backflow prevention and the FOG program. These programs are crucial to the continued control of pollutants discharged into the city's sewer system thereby reducing the amount of pollutants released into the environment.

The department's philosophy of service is illustrated in its mission statement: *The mission of the City of Brenham's Public Utilities Department is to provide quality services that are responsive to customer needs. Customer Satisfaction is achieved through economic responsibility by utilizing our human, financial and natural resources to their fullest potential. Our vision of a quality community will be built on foundations of the past while continuing to improve our services.*

Public Utilities serves over 7,600 customers providing them with safe, dependable natural gas and electricity as well as safe drinking water, environmentally sound wastewater collection and treatment, and prompt and accurate billing.

Service calls for the utility departments are distributed through Public Utilities. These calls include power outages, water or gas leaks, and sewer stoppages. During 2013, the department dispatched over 2100 calls and completed over 1900 locates

The city provides a set of sound practices for the infrastructure currently in place. All departmental staff regularly attend conferences and other training classes to stay current on not only utility issues but also to ensure licenses are always current.



Lowell Ogle Director 29 years





SCADA

The SCADA System (Supervisory Controlled and Data Acquisition) monitors the city's gas, water, wastewater and electrical systems as well as the automation of operations at the Water Treatment Plant. The ability of the SCADA system is continually being improved upon and the SCADA Manager continually attends classes in order to stay advanced in all aspects of the program.

During the 2012-2013 fiscal year, the SCADA department:

- Generated over 3000 reports and operator summaries
- Paged out over fifty alarms alerting personnel of abnormal conditions
- Added 8 new RTUs into the SCADA system
 - Lake SEL 734
 - State Supported Living Center underground reclosure
 - State Supported Living Center overhead reclosure
 - Salem Road Lift Station
 - West Stone cap control
 - West Lubbock reclosure
 - Blinn reclosure
 - Lake CL02 pump
- Performed a full upgrade to the Blue Bell flow meter and Budweiser RTUs
- Participated in the beta testing of the new SCADA client software, Smartvu
- Expanded the SCADA database by 350 points
- Installed and implemented the next phase of a SCADA network by implementing a wireless backhaul between the Water Plant, Wastewater Treatment and Central Warehouse locations.

BACKFLOW PREVENTION

A backflow prevention device is a check valve that prevents water from flowing backwards into a water supply line resulting in contaminated water. There are 151 businesses/industries in the City of Brenham's backflow prevention program. These businesses are responsible for installing and maintaining these devices by having them tested on an annual basis by certified testers that are registered with the city. Just a few examples of the types of businesses required to have backflow prevention devices are laundries and dry cleaners, commercial car washes, breweries, tanneries, slaughterhouses, printing facilities, supermarkets, nursing homes, barber shops and beauty salons. The backflow prevention program maintains a database of installed backflow prevention devices and ensures those devices are tested by sending out annual reminder notices. The city sent out 160 letters to locations having these devices.



FOG

Since the amendment to the Code of Ordinances was passed in 2011, the primary goal remains to reduce sanitary sewer overflows (SSOs) and collection system blockages to reduce the frequency of maintenance of jetting collection lines, protect the public health, and to inform and educate the residential, commercial, and industrial sectors of the proper way of disposing grease. During the Christmas holidays, the department ran radio ads in an effort to educate the public on the danger of pouring grease down sink drains. They were informed that this used grease could be taken the city's Recycling Center. This program works with businesses to help size traps and pumping schedules, make annual inspections, monitor compliance and enforcement activities, and maintain recordkeeping of manifest from registered grease haulers. Currently there are 103 grease trap/interceptors (all of which were inspected during the fiscal year) and 18 facilities with grit traps within the City of Brenham and 11 permitted grease/grit waste haulers. Three of those facilities are in pro-rating state.



MAPPING

A GIS Technician works with maps and geographic data researching, gathering, analyzing, and adjusting the data and using it to create new maps, graphs, charts and databases.

Highlighted achievements during 2013 were:

- Added new subdivisions to mapping software and addressed new lots.
- Published additional maps for mobile data and field work (fire reports, street inventory, parks and recreation, crime map and Brenham Downtown Guide)
- Created windows for gas maps and hyperlinks for field work
- Completed DIMP work for Gas Maps and added addresses to services to combine meters from Incode
- Located and addressed all housing projects, mobile home parks and some apartments
- Provided graphic support for various city departments and events including printing and plotting
 - Posters for Story Night
 - TGA signs for Gas Department training
 - Signs for book sale
 - Brenham Uptown Swirl
 - Numerous other events



Ongoing Projects:

- Update and maintain utilities maps
- Scan and file utilities maps and drawings (digital mapping) for long term storage
- Scan architectural drawings and store in digital mapping

UTILITY COMPLIANCE

Utility Compliance provides technical and regulatory compliance needs for the utility departments; conducts market research and analysis for utility pricing; and oversees budget expenditures of the utility departments.

Essential Duties of the department are:

- Manage the development of compliance plans, specifications, and standards for the electric, gas, sanitation, water, wastewater collection, water treatment, and wastewater treatment departments
- Calculate and monitor monthly Power Cost Recovery Factor (PCTF) and Gas Cost Adjustment (GCA) pricing adjustments for electric and gas utilities to ensure proper pass-thru and recovery of fuel charges
- Oversees operations of the pretreatment, backflow prevent, and FOG programs
- Work directly with the director to ensure compliance with NERC, TRE, and ERCOT
- Monitor de-regulation of the electric and gas industry as well as develop and implement future plans for compliance
- Assists gas department with compliance with Texas Railroad Commission standards and regulations
- Ensures compliance with TCEQ and EPA requirements for backflow prevention, pretreatment, waster, wastewater, water treatment, and wastewater treatment
- Conduct audits of compliance programs and prepares status reports for each department
- Develop internal policies and procedures for utility operations to reduce exposure to legal liability for the City
- Assists with planning, budgeting, and tracking utility project expenditures and regulations
- Perform financial tasks, including budgeting and capital planning for utility departments

Special projects during 2013 :

- In an effort to raise children's awareness of the dangers in digging without knowing what's underground, Debbie Gaffey, along with the Gas Department, held a coloring contest with Brenham and Alton Elementary schools. The message was that accidents can be avoided by calling 811 before digging. Students were asked to color and decorate a specific page with utility lines indicated below the ground. They were judged on neatness, creativity, and correctness of underground utility line colors.
- This year, the Public Utilities Department co-sponsored the 5th Annual Texas Water Conference hosted by the Lone Star Water Forum. This forum is dedicated to the conservation of natural resources in Washington County through resource education.
- In recognition of Prevention and Gas Awareness Month, the City of Brenham shared a booth with Eagle Rock Energy at the Washington County Fair. Informational pamphlets were distributed and guests were asked to participate in a survey. A nightly drawing was held for prizes donated by area retail stores. In all, 312 surveys were completed.
- Implemented DoForms - automation of forms via tablets for capturing line locate and work order information. DoForms allows for easy retrieval of compliance data and compilation of compliance reports. First year implementation has focused on the Gas Department. We will be extending to other departments in the future.



From left to right:

Michele Glenz	Pre-treatment Coordinator	25 years
Becky Squyres	GIS Technician	15 years
Debbie Gaffey	Utility Compliance Manager	7 years
Cindy Turnbow	Administrative Secretary	11 years
Daniel McCracken	SCADA System Manager	15 years
Jordan Prigge	Line Locate Technician	4 years
Luke Ongudu	AMI System Specialist	7 years
Nancy Stafford	Administrative Assistant	5 years

Utility sales for 2013 were as follows:

281,030,507 KWHs (a decrease of more than 460,000 KWHs from 2012)

402,656 MCFs (a decrease of 33,632 MCFs from 2012)

847,002,400 gallons of water (a decrease of more than 25,378,000 gallons from 2012)

672,065,000 gallons of wastewater treated (a decrease of more than 32,313,000 gallons from 2012)

Items presented to council during FYE 2013

Item	Description	Date Passed
Award Contract for Valmont Water Extension	Extend 12" water main from Industrial Blvd to Valmont property	11.1.12
Purchase 2013 Int'l chassis with debris vacuum for Wastewater Treatment	Clear stoppages, routine maintenance of sewer lines, remove debris from manholes and clean lines	2.21.13
Final payment to Keischnick for Valmont Water System Improvement	Final was \$8,378.25 under original bid	5.16.13
Accept bid from M&C Fonseca Construction for the 2013 Water Distribution System Improvements	Replace over 3,000 feet of water lines along Allison Street and up to Walnut. Bid at \$306,800	5.16.13
Accept bid from Brenntag Southwest and AOC Praxair	Bulk water treatment chemicals for the Water Treatment Plant.	6.6.13
Final payment to Supak Construction for the 2012 Water Distribution System Improvements	Replace 6" AC line with PVC along Bormann, Reimer, Longhofer, Westwind Dr and Windy Dr. Total of over 5,096 feet	6.20.13
Amend Rate Tariffs	Small and large industrial (electric) and natural gas rates	9.19.13
Accept bid from Dudley Construction for the utility extension along State Hwy 36 and Burleson Rd	Install over 4,000 ft of 12" PVC, 3,500 ft of 8" PVC, 8 fire hydrants as well as 8" PVC water main along Burleson and 12" tie-in to Lounge Rd-Total cost \$573,227.	9.19.13

UTILITY CUSTOMER SERVICE DEPARTMENT

The City of Brenham owns and operates the Electric, Gas, Water, Wastewater, and Sanitation departments. If you are a resident of Brenham and you wish to connect to any utility in your home or business, you must come to the utility customer service department. This department is the collection point for all money received by every department in the city such as the Collection Station, Recycling Center, the Animal Shelter, etc.

The supervisor, Wanda Kramer, along with her staff, oversees every aspect of this department from authorizing the distribution of utility bills, to ensuring all customers are accurately charged for all services to authorizing billing adjustments.

In April of 2013, Wanda received the Tyler Public Sector Excellence Award. This award was based on the combination of multiple Tyler packages benefiting the customers as well as the bottom line for the City of Brenham. Since 2002, we have added Tyler's Online Bill Pay, Tyler Output Processor and interfaced with Remit Plus which have directly minimized the costly use of paper and streamlined the billing process while simultaneously contributing to "go green" initiatives and providing top-notch customer service.



The Incode Computer System, Aqua Metric Database and Portalogic Software are all maintained in this department.



Wanda Kramer Supervisor 37 years



From left to right:

Shelley Addison	Assistant Supervisor	26 years
Linda Mooney	Utility Clerk	19 years
Lucy Hernandez	Utility Clerk	new employee
Nadine Layton	Cashier	8 years
Angeline Howard	Utility Clerk	1 year

During 2013, this department processed over 96,493 utility bills resulting in revenues over \$37,801,846 and penalties were assessed resulting in revenues of over \$236,243. The department issued over 8,700 customer service orders and assisted over 1300 customers with new applications. In an effort to support "GO GREEN", the department emailed 7,075 utility bills.

ELECTRIC DEPARTMENT



Alton Sommerfield Superintendent 34 years

The City of Brenham owns its own electric distribution system which was established in 1943. The main objective of the Electric Department is to provide safe, dependable and uninterrupted service to the residents and businesses in Brenham. The Electric Department provides the construction of new services and has the responsibility of the operation and maintenance of 118 miles of overhead and underground lines.

The department presently operates and maintains equipment at 2 substations. The substation locations are East Stone (South Substation) and Highway 105 (North Substation). The South Substation has 3 power transformers which connect to 7 main distribution switches. The North Substation has 2 power transformers which connect to 4 main distribution switches.

The Lower Colorado River Authority sells wholesale power to the City of Brenham and delivers the electricity to a substation owned by the LCRA. This substation is shared with the city of Brenham. The electricity is delivered to the substation at 138,000 volts and is "stepped down" to 7,200 volts through transformation. The city's electric system distributes that power throughout the city and it is eventually reduced to required voltage levels with transformers placed at each home or business.

The activities of the Electric Department are operated primarily out of the Electric Fund and are financed by revenues collected from the sale of electric power to utility customers. The city also maintains an Electric Reserve Fund, into which funds are deposited and used for major electric system repairs and improvements.

The Electric Department continues to implement the rotten pole change out program replacing poles that have rotted or have been damaged. Annually, approximately 850-900 utility poles are inspected and treated. In addition, approximately 35 poles per year are replaced improving reliability as well as improving the safety to the public, personnel and equipment. The department also continues to carry out the tree and vegetation trimming program. This increases system reliability by reducing tree related outages and reducing damage claims resulting from these tree related incidents.

The meter change out continued throughout the year, out of the over 6,900 conventional meters to be changed to the new AMR meters, only five large complex meters remain to be changed.





Projects completed during 2012-2013:

- Part 2 of the Blue Bell Reconstructor project. Two miles of overhead line were increased in size
- Installed 3000 amp service for new Blue Bell cold storage
- Changed out cable and rebuilt the power transformer for the Blue Bell vault
- Began working on Blinn project. This will improve the internal electric network inside the campus
- The West Lubbock Main Feeder Upgrade. This project replaced 17 poles along with crossarms and transformers.
- Muse Street Circuit Upgrade – changed out 12 poles, copper conductor and transformers.
- Brenham Clinic – completed service upgrade and changed out transformer
- Installed taller poles at Highway 36 and 577 to accommodate oversize traffic



From left to right:

Don Bolenbarr	Asst Superintendent	25 years
Brett Church	Sr Lineworker	19 years
Jesse Vela	Lineworker II	20 years
James Antkowiak	Lineworker II	15 years
Ryian Marshall	Lineworker II	15 years
Jason Lange	Lineworker II	9 years
Curtis Martin	Lineworker I	7 years
Trevor Eckert	Apprentice Lineworker	1 year
Brian Kroboth	Apprentice Lineworker	new employee
James Atkinson	Apprentice Lineworker	new employee

GAS DEPARTMENT

The city's Gas Department has earned a rating of "99" or better since 2004, with (7) "100" ratings by the TML Intergovernmental Risk Pool. This year was no exception earning another "100" performance rating, demonstrating the city's commitment to safety and efficiency. Performance is rated on 6 categories; Documents and Records, Pipeline Safety Compliance, Unaccounted for Gas, Safety and Training, Qualification of Personnel and Gas System Condition and Integrity. The department is dedicated to gas system safety excellence and to providing safe and reliable gas service to over 4,300 customers.

Ande Bostain Superintendent 29 years

The city's natural gas is purchased from Eagle Rock Energy. It is delivered to the city's main gate station at a pressure of over 600 psi. Gate Stations have three purposes. First of all, they reduce the pressure in the line from the transmission level to distribution levels. Then, an odorant is added so that consumers can smell even small quantities of gas. Lastly, the gate station measures the flow rate of the gas to determine the amount being received.

From this gate station, the natural gas moves into "mains" ranging in size from 1-1/4 inches to 6 inches in diameter and is delivered to homes and businesses at safe pressures from 4 oz to several pounds. Regulators located adjacent to each customer's meter reduces the pressure according to the needs of the customer.

The Gas Department maintains over 118 miles of gas mains. To prevent atmospheric corrosion of the meters, the department has a painting plan in place. During 2013, 1731 meter loops were painted.

In July, the Texas Railroad Commission sent auditors to inspect the city's Distribution Integrity Management Program (DIMP). The purpose of DIMP is to ensure the safety and reliability of the city's gas distribution system by meeting the requirements detailed in 49CFR, Subpart P, by identifying and working to reduce both known and potential threats to the system and by working to mitigate potential consequences to public safety, property, and the environment, should any of those threats be realized. The city had no violations.

The department also completed over 1344 work orders, installed 47 new services, abandoned 10 old service lines, repaired 73 meter loop leaks, 14 service line leaks, 15 main line leaks and removed 230 old or stopped meters from the system.

Other work completed by the department:

- Installed a 2" main in Ralston Creek Sub division(G & R side)
- Installed a 2" main on Gun & Road Rd to Cantey (2 way feed)
- Replaced section of 2" steel main on 1100 block of W. Alamo
- Replaced a section of 2" steel main behind Peachtree Dr.





From left to right:

Haney Wilkerson	Gas Tech II	19 years
Joe Moore	Customer Service/Gas Tech II	18 years
Chris Bugaj	Gas Tech I	7 years
Gary Marburger	Crew Leader	15 years

WATER SYSTEMS

Water Treatment

The process of water distribution starts with identifying a source of water and determining what kind of treatment may be needed to make it usable. The water is moved through treatment facilities and then into distribution systems. This movement of water through the system is controlled by the Water Treatment Plant who makes decisions about when to release water for distribution and how much to release at a time. Brenham's Water Treatment Plant receives and treats water supplied from Somerville Lake. The City of Brenham has a contract with the Brazos River Authority for 4,200 acre feet per year or, approximately 1,360,000,000 gallons. The water is pulled from the lake through an intake structure and pump station. The water is then treated with a primary disinfectant, Chlorine Dioxide. Once the water reaches the plant it is stored in a raw water tank. Chloramines are then added to complete the disinfection process. It is then pumped further into the plant.

One of the most critical services provided by the Water Treatment Department is to deliver safe drinking water. Steps used by the Water Treatment Plant to provide safe drinking water to the community:

- **Coagulation and Flocculation** – chemicals with a positive charge are added to the water which neutralizes the negative charge of dirt and other dissolved particles in the water. When this happens, the particles bind with the chemicals and form larger particles called floc.
- **Sedimentation** – due to the weight, floc settles to the bottom of the clarifiers. This process is called sedimentation. Large pre-settling and sludge removal basins are used to help aid in the water treatment process.
- **Filtration** – Once all of the floc has settled to the bottom, the “clear” water on top will then pass through varying compositions of filters, i.e. sand, gravel, and charcoal to remove dissolved particles such as bacteria, viruses, parasites, and chemicals.
- **Disinfection** – Chloramines are added to complete the disinfection process. This process protects the water from contaminants as it is piped to homes and businesses.

The plant has a state-of-the-art SCADA (Supervisory Control & Data Acquisition) system which gives the water treatment operators the ability to monitor the status of every part of the water treatment process as well as five remote sites within the city at all times. The plant has a generator capable of powering the plant for several days during emergency conditions.

In 2013, the Water Treatment Plant pumped 1,085,397,000 gallons of water from Somerville Lake. This was a decrease of over 26,830,000 from 2012 due to more rain during 2013. The highest monthly pumpage, 128,377,000 gallons occurred during August 2013, while the lowest was in February at 59,017,000 gallons.

In 2013, over \$267,000 dollars were spent for chemicals used in the treatment of the water.





From left to right:

John Gerland	Chief Operator	9 years
Tanner Randermann	Plant Operator Trainee	new employee
Gregory Franco	Plant Operator	13 years
Kevin Post	Plant Operator	8 years
Fred Schultz	Plant Operator	5 years

Water Distribution

Water distribution is the process of bringing water to consumers. But distribution is not just about getting supplies of water to people who need it but ensuring that it is used efficiently and to provide access to safe water.

The Water Distribution Department is responsible for the construction, connection, operation and maintenance of the city's water transmission and distribution lines. The department oversees 153 miles of water mains, 2750 water valves and over 800 fire hydrants. Water is distributed through a series of mains ranging in size from 2 inches to 12 inches in diameter. The department is on call 24 hours a day and serves more than 7,100 connections. These services include the repair of water leaks and water main breaks. The department is dedicated to providing a safe and reliable supply of potable water to all residential and commercial/industrial accounts located in the Brenham area. The water system in Brenham is rated superior by the State of Texas through the Texas Commission on Environmental Quality. The Water Distribution Department is also involved in the meter change out program.

The department:

- During 2013, 2,526 meters were changed out for the AMI Sensus meters. As of September 30, 2013, the program was 98% complete
- Responded to 1,069 calls
- Installed 48 new water taps, replaced 11 existing taps/service lines, and 12 new sprinkler system taps.
- Replaced 6 fire hydrants and repaired 28
- Flow and pressure tested 849 fire hydrants
- Installed 4,570 feet of new water main
- Replaced 2,680 feet of main

Work was completed on extending the following mains:

- **Valmont and Salem Road line extension and replacement**
A total of 4,570 feet of water line
 - 3,470 feet installed by Kieschnick Construction
 - 1,100 feet installed by city employeesinstalled 9 new hydrants
- **Abandoned old and installed new main from Blue Bell to Longhofer**
- **2,680 feet of line replaced for the 2013 Water Distribution System Improvements**





Water Distribution Personnel

From left to right:

Joshua Daniels	Maintenance Worker 1	new employee
Henry Beckermann	Equipment Operation I	9 years
Kyle Moudry	Maintenance Worker I	new employee
Shawn Bolenbarr	Crew Leader	7 years
Chris Kokemor	Maintenance Worker II	6 years



WASTEWATER SYSTEMS



Bobby Keene Superintendent 3 years

Wastewater Collection

Wastewater collection (or sewer construction) is a complex process involving pipelines and sewer mains to transport waste to the Wastewater Treatment Plant. It is imperative to have experienced personnel to ensure the system sustainability and to minimize the risks of accidental release into the environment. The Wastewater Collection Department is responsible for the integrity of over 135 miles of sewer mains and over 2,100 manholes.

In 2013, the Wastewater Collection Department completed the following projects :

- Assisted Water Distribution with the installation of AMI meters
- Replaced 1800 feet of 6 inch force main at the State Supported Living Center
- Maintenance jetted over 4,000 feet of problem sewer mains and T.V.d the problem mains to find the cause of the problem
- On Salem Road, the department installed 1,800 feet of new 6 inch sanitary sewer main, 4 manholes and installed a new lift station with (2) 2.5 horsepower pumps

In 2013, the Wastewater Collection Department responded to 355 service calls involving sewer backing up, sewer odors, and installed 41 sewer taps.



From left to right:

Clark Akers	Crew Leader	1 year
Terry Fielder	Customer Service Tech	25 years
Arthur Morgan	Maintenance Worker I	new employee
Chuck Boggan	Equipment Operator I	38 years



Bobby Keene Superintendent 3 years



Reclaimed Water Station

Wastewater Treatment

Wastewater treatment is the process of removing contaminants from wastewater and household sewage, both industrial effluents and domestic waste.

Steps involved in wastewater treatment are:

- **Primary** - Wastewater is screened using (2) mechanical bar screens to eliminate objects, like large solids. It is then taken to a primary settling basin.
- **Secondary** - The wastewater then flows through a grit chamber where sand and grit is removed. It then flows to a diverter box and sent to the aeration tanks where it is aerated for additional treatment with bacteria and other organisms. After aeration, the wastewater then flows to a clarifier for the solids to settle and the water to flow through to the chlorine contact chambers.
- **Tertiary** – this is the final stage whereas the wastewater flows to the chlorine contact chamber where it is treated with Chlorine followed by de-chlorination with Sulfur Dioxide.

This process of treating effluent is governed by strict Federal and State limits. Only after this process can the water be discharged into Hog Branch Creek. Some of this treated effluent is pumped to the city's Reclaimed Water Station. This water is sold and used by the city and county's various departments, contractors, or anywhere where potable (drinking) water is not required. By the end of the fiscal year, the Wastewater Plant had sold over \$15,937 in reclaimed water.

The remaining solids left on the bottom of the clarifiers are pumped into (4) large digesters, pumped to the belt press and treated as Class "A" biosolids. These biosolids are then sold to local farmers and ranchers as a soil enhancer. The department produced 4,385 yards of biosolids resulting in over \$18,325 in sales.

The City of Brenham Wastewater Plant accepts septic and port-a-can waste. Currently there are 16 permitted waste haulers that hold permits with the city. They discharge their waste at a specific spot at the plant where a manifest is filled out and pH is taken. The city maintains these manifests for billing purposes. For the fiscal year 2013, the City of Brenham's wastewater plant received 715,179 gallons with revenue of \$60,074.92.

All total, including septic, port-a-can, residential and commercial, the Wastewater Plant treated 672,065,000 gallons of wastewater.

Bobby Keene, Jr.

Superintendent

3 years



From left to right:

Stephen Scheffer

Chief Operator

18 years

Roger Kmiec

Plant Operator

20 years

Glen Kristoff

Plant Operator

12 years

Johnny Randermann

Maintenance Tech III

24 years



Hog Branch Creek