

PUBLIC UTILITIES

CITY OF BRENHAM

ANNUAL REPORT

FYE 2012

RELIABILITY.

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

PUBLIC UTILITIES

The Public Utilities Department went through several changes in 2012. Among these changes, the Assistant Director of Public Utilities was awarded the new position of Director of Public Works. With this, the Sanitation Department was separated from Public Utilities and is now under the supervision of the Director of Public Works.

Another big change was that within the Public Utilities Department, the position of Utility Compliance Manager was created. This position is to aid the departments in keeping with government regulations and compliance responsibilities for public awareness.

Public Utilities continues to have full responsibility for overseeing all of the departments making up the city's utility funds. Those departments being Electric, Gas, Water Treatment and Distribution, Wastewater Collection and Treatment and Utility Billing. Public Utilities continues to serve 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 accurate and prompt billing.

Together with the Communications Department, all service calls for the utility departments are distributed through Public Utilities. These calls include, but are not limited to, power outages, water or gas leak, and sewer stoppages. During 2012, the department dispatched over 2,500 calls.

In order to maintain the continued quality of service the city of Brenham provides, a set of sound practices for the infrastructure is in place. All departmental staff regularly attends conferences and other training classes to stay current on not only utility issues but also to ensure licenses are always current.

Other responsibilities of the Public Utilities Department are the city's wastewater pretreatment program, backflow prevention and the FOG program. All of 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.

In 2012, there were 4 separate requests to extend city utilities beyond the city limits. Due to the increase of these requests, a Utility Extension Committee was formed. With the formation of this committee, requests for the extension is presented to the committee. The committee assesses the request and if deemed beneficial to both parties, it is then presented to Council to be voted on. At the time of the voting it is then determined what cost will be shared between the city and the requestor.





BACKFLOW PREVENTION

The purpose of the backflow prevention program is to ensure that those businesses that are required to use backflow preventers, do so. The backflow prevention device prevents contaminated water or chemicals from flowing back into the public drinking water supply system. 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 on an annual basis.

FOG

In 2011, the City of Brenham passed an amendment to the Code of Ordinances providing for the protection of the city's sewer system by regulating the installation, maintenance and pumping frequency of grease traps for food processors/food establishments and grit trap users who discharge into the sewer system. The FOG (fats, oil, grease and grit) Program enforces this ordinance by regulating unnecessary discharges of fats, oil, grease and grit through established pumping schedules, based on size of business.

SCADA

The Public Utilities Department also oversees the SCADA (Supervisory Controlled And Data Acquisition) system. The system monitors the city's gas, water, wastewater and electrical system. The system also monitors 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.

In 2012 the SCADA department:

- Generated over 4,000 pages in reports and operator summaries on the SCADA ftp server
- Paged out over 100 alarms alerting personnel of abnormal conditions
- Beta tested a new webserver for SCADA to allow viewing on portable tablets and phones
- Installed 5 new RTUs in the field
- Upgraded 3 RTUs in the field (Atlow Tower, State Supported Living Center and the Industrial lift stations)
- Expanded the SCADA database by 340 points
- Implemented and installed the first phase of a wireless network for SCADA use
- Purchased the SNMP license for use on our SCADA system to communicate to network devices.
- Through SNMP, we are now monitoring 25 total network devices on SCADA

Public Utilities Personnel

Lowell Ogle

Director

29 years



Debbie Gaffey	Utility Compliance Manager	6 years
Nancy Stafford	Administrative Assistant	4 years
Cindy Turnbow	Administrative Secretary	10 years
Michele Glenz	Pre-treatment Coordinator	24 years
Daniel McCracken	SCADA System Manager	14 years
Luke Ongudu	AMI System Specialist	6 years
Jordan Prigge	Line Locate Technician	3 years

Achievements

Utility sales for 2012 were as follows;

281,490,681 KWHs (an decrease of more than 7,980,000 KWHs from 2011)

369,024 MCFs (a decrease of 24,539 MCFs from 2011)

872,381,300 gallons of water (an decrease of more than 123,980,000 gallons from 2011)

704,378,000 gallons of wastewater treated (a increase of more than 46,800,00 gallons from 2011)

During 2012 Public Utilities presented several items to Council for discussion and action to be taken. Those items were:

- Final payment to Mercer Construction for their work on the Highway 36 utility extension
- Agreement with O'Malley Engineers for the 2012 Water System Improvements engineering contract
- Amended the rate tariff relating to residential customer deposits
- Amended rate tariff for temporary construction service and added rate tariff for reclaimed wholesale water
- Agreement with Jones & Carter, Inc for engineering services on the expansion of water service at Valmont Industries
- Contract pricing for bulk water treatment chemicals
- Participation agreement between the City of Brenham and Valmont Industries for the water service expansion
- Contracted J Stowe & Co. for a Utility Rate and Cost of Service study
- Agreement with Jones & Carter, Inc for engineering services on the extension of the high pressure plane along Hwy 36 N and Burleson St.
- Awarded contract for sodium chlorite, chlorine dioxide generation equipment and tech services associated with chlorine dioxide process
- Amendment 1 to the Jones & Carter Valmont Water System Improvement project

UTILITY CUSTOMER SERVICE DEPARTMENT

The Supervisor of this department has the advanced customer service work of supervising daily activities of Utility Billing and Collections. The Supervisor:

- Supervises cashiers
- Trains subordinates
- Evaluates work of subordinate employees
- Authorizes printing/distribution of utility bills
- Ensures all customers are accurately charged for all services
- Authorizes billing adjustments
- Processes credit balance refunds, verifies deposit refunds and mails refund checks
- Process and verifies non-payment turn-offs; processes and verifies re-checks for non-payment turn-offs
- Monitors delinquent and collection functions. Oversees processing and verifies illegal consumption of customers
- Deals with difficult customer problems

Under the direction of the Supervisor of this department, the staff has the responsibilities of:

- Processing the billing of all charges to utility customers including electric, gas, water, sewer and trash
- Collect and monitor payments and process shut-off notices
- Assist customers in the understanding of the utility bills
- Oversee the set-up of new customer accounts and process security deposits
- Process all updates and changes to the customer accounts throughout the month
- Conduct all other aspects of the utility billing processes

All employees within the department have extensive knowledge of the utility billing software (Incode) and its functions.

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

Wanda Kramer Supervisor 37 years



Shelley Addison Assistant Supervisor 24 years
Nadine Layton Cashier 7 years
Linda Mooney Utility Clerk 17 years
Joyce Pelley Utility Clerk 6 months

During 2012, this department processed over 92,500 utility bills resulting in revenues over \$36,285,000 and penalties were assessed resulting in revenues of over \$279,000. The department issued over 4,500 customer service orders and assisted over 1,200 customers with new applications.

ELECTRIC DEPARTMENT



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 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.



This department spent much of the winter/spring on the Blue Bell main feeder upgrade. The off peak construction allows the circuit to be taken out of service for upgrade. The department has been replacing the conventional meters with new AMR meters. Over the course of the meter change out program, the Electric Department has changed 6,926 of the 6,946 meters. The balance of the meters to be changed out are the more complex commercial meters requiring additional upgrades or customer outages for completion.

The Electric Department continues to implement the rotten pole change out program replacing poles that have rotted or have been damaged. Each year 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 department has completed the overhead to underground conversion in the Walnut Hill Subdivision.



Projects completed during 2012:

- Purchased new bucket truck
- Remodeled an adjoining storage/workshop
- Extended service at Blue Bell maintenance building
- Changed out poles & transformers for the Johnson St. rehab – Phase II
- Continuing with service installation in the Woodbridge Subdivision-Phase
- Major upgrade of the Blinn feeder on Jackson St. Replaced poles and hardware from Lubbock to 1st Street.
- Replaced old underground cable and transformers at Stone Hollow Apartments
- Added automatic capacitor controls along with additional relay controllers.



Electric Distribution Personnel

Alton Sommerfield

Superintendent

33 years



Don Bolenbarr	Assistant Superintendent	24 years
Brett Church	Senior Lineworker	13 years
Paul Kasproicz	Senior Lineworker	34 years
Jesse Vela	Lineworker II	18 years
James Antkowiak	Lineworker II	14 years
Ryian Marshall	Lineworker II	13 years
Jason Lange	Lineworker II	17 years
Curtis Martin	Lineworker I	6 years
Cody Hodges	Apprentice Lineworker	2-1/2 years
Trevor Eckert	Apprentice Lineworker	new employee

GAS DEPARTMENT

For the ninth year in a row, the City of Brenham Gas Department has achieved a rating of 98 or above by the TML Intergovernmental Risk Pool. The department continues to be rated “excellent” for its performance rating. Each year, the TML Risk Pool performs a gas utility survey. 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 provide safe and reliable gas service to its over 4,000 customers.

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 business 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 115 miles of gas mains and over 4,200 customers. The department has installed 2,808 AMR meter kits of the 4,283 meters in service. To prevent atmospheric corrosion of the meters, the department has a painting plan in place. During 2012 503 meter loops were painted.

The department also completed over 3,400 work orders, installed 46 new services, abandoned 13 old service lines, repaired 60 meter loop leaks, 15 service line leaks and removed 272 old or stopped meters from the system.

Other work completed by the department:

- Installed a 4” main on Hwy 36 S
- Completed the Southwest Industrial Park extension
- Installed a 4” main on Old Chappell Hill Rd
- Installed a 4” main on Cantey St.





Ande Bostain	Superintendent	27 Years
Gary Marburger	Crew Leader	14 Years
Joe Moore	Customer Service/Gas Tech II	16 Years
Haney Wilkerson	Gas Tech II	18 Years
Chris Bugaj	Gas Tech I	5 Years

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 make 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.

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 water supply. This process is called sedimentation.
- **Filtration** – Once all of the floc has settle 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** – Once filtration is complete, a disinfectant, the water is temporarily stored in a “clearwell” where Chloramines are added to complete the disinfection process. This process protects the water from germs when it is piped to homes and businesses.

In 2012, the Water Treatment Plant pumped 1,112,227,000 gallons of water from Somerville Lake. This was a decrease of over 515,000,00 from 2011. This was due to drought. The highest monthly pumpage , 120,055,000 gallons occurred during August 2012, while the lowest was in February at 56,263,000 gallons.

In 2012, over \$306,700 dollars was spent for chemicals used in the treatment of the water.





Dane Bybee

Superintendent

13 years

John Gerland

Chief Operator

7 years

Gregory Franco

Plant Operator

12 years

Kevin Post

Plant Operator

6 years

Caroline Martin

Plant Operator

1 year

Fred Schultz

Plant Operator

3 years

Johnny Randermann

Maintenance Tech III

24 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 145 miles of water mains, 2800 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 water leaks and water main breaks. The department is dedicated to providing a safe and reliable supply of potable water to all residents 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. During 2012 2,516 were changed out for the AMI Sensus meters. As of March, 2013, the program is 80% complete.



The department:

- Responded to 1,069 calls
- Installed 64 new water taps and 21 new sprinkler system taps.
- Replaced 7 fire hydrants, repaired 33 fire hydrants.
- Testing was suspended on May 11, 2011 to conserve water due to drought, money to have all of the fire hydrants flow and pressure tested was budgeted and will be done by the time this report is completed.
- Installed 5800 feet of new water main and replaced 700 feet replacement of main.





Water Distribution Personnel

Dane Bybee	Superintendent	13 years
Shawn Bolenbarr	Crew Leader	6 years
Henry Beckermann	Equipment Operation I	8 years
Chris Kokemor	Maintenance Worker I	4 years
Justin Bennett	Maintenance Worker I	new employee
Cleveland McBride	Maintenance Worker I	new employee

Work was completed on extending the following mains:

- Kuhn Lane West to the railroad tracks
- Longwood Drive, for Industrial Park Expansion
- Highway 36 South past Brenham State Supported Living Center
- Highway 36 North at Blue Bell crossing Highway 36 North
- Westwood Lane for the 290 West improvements
- Relocation of 300 feet of water main for the HEB remodel

WASTEWATER COLLECTION



Wastewater collection (or sewer construction) is a complex process involving pipelines and sewer mains to transport waste to the Wastewater Treatment Plant for treatment. 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 2012, the Wastewater Collection Department accomplished the following:

- Completed the installation of 2700 feet of 8 inch main and 7 manholes along Hwy 36 N.
- Installed 1500 feet of 6 inch main and 4 manholes along FM 389.
- Extended 900 feet of 6 inch line and 2 manholes to an address outside the city limits
- Completed the sewer installation for the Amphitheatre
- Installed a lift station and over 1700 feet of 2-1/2 inch force main along Hwy 36 south to an address outside the city limits.
- Lowered the sewer line on Charles Lewis Street in order to accommodate another tap



In 2012, the Wastewater Collection Department responded to 367 service calls involving sewer backing up, sewer odors, and installed 59 sewer taps.

Bobby Keene, Jr. Superintendent

3 years



Stephen Scheffer	Crew Leader	18 years
Chuck Boggan	Equipment Operator I	38 years
Terry Fielder	Customer Service Tech	25 years
Colton Fondren	Maintenance Worker I	1 year
Stephen Nittscke	Maintenance Worker I	1 year

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 the weirs to the 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 is governed by strict Federal and State limits and only after this process can the water be discharged into Hog Branch Creek.

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 4,000 yards of biosolids resulting in over \$20,000 in sales.

In March of 2012 an ordinance was passed by City Council allowing the City of Brenham to change the procedures in how companies purchase bulk water for non-essential needs. The system is known as Reclaimed Water. Non-essential items are items such as industrial and manufacturing processing, residential irrigation, irrigation for urban or rural uses, food crops, municipality-owned right-of-way, road and other construction activities, and process water. Previous to this procedure, Brenham allowed companies to purchase bulk water drawn from fire hydrants throughout our distribution system. This change was a large result of the extreme drought in 2011. By using Reclaimed Water it allows the city to decrease the demand of potable water in which drinking water is supplied to our residents and businesses. It is also a huge benefit to the customers utilizing the Reclaimed Water. Reclaimed Water is sold for \$4.00/1000 gallons whereas potable water is sold at a rate of \$5.01/1000 gallons.

in 2012, the Wastewater Plant has sold over \$5,000 in reclaimed water.



Bobby Keene, Jr.

Superintendent

3 years



Joshua Homan

Plant Operator

7 years

Roger Kmiec

Plant Operator

20 years

Glen Kristoff

Plant Operator

12 years

Johnny Randermann

Maintenance Tech III

24 years

