ORDINANCE NO. 2015-07

AN ORDINANCE OF THE CITY OF BRIDGE CITY, TEXAS, ADOPTING A WATER CONSERVATION PLAN; PROVIDING FOR THE REPEAL OF ALL ORDINANCES IN CONFLICT; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, it is necessary that a Water Conservation Plan be adopted by the City of Bridge City; and

WHEREAS, such a program has been formally submitted to the Texas Water Development Board for approval; and,

WHEREAS, the City Council of the City of Bridge City believes that it is in the best interest of the City of Bridge City to adopt such program

NOW, THEREFORE BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BRIDGE CITY, TEXAS,

Section 1: That the City of Bridge City Water Conservation Plan attached hereto as Exhibit "A" and made part hereof for all purposes be, and the same is hereby, adopted as the official policy of the City for five years.

Section 2: That all ordinances of the City in conflict with the provisions of this ordinance be, and the same are hereby, repealed and all other ordinances of the City not in conflict with the provisions of this ordinance shall remain in full force and effect.

Section 3: Should any paragraph, sentence, subdivision, clause, phrase, or section of this ordinance be adjudged or held to be unconstitutional, illegal, or invalid, the same shall not affect the validity of this ordinance as a whole or any part or provision thereof, other than the part so declared to be invalid, illegal, or unconstitutional.

Section 4: This ordinance shall take effect immediately from and after its passage.

PASSED BY THE CITY COUNCIL, OF THE CITY OF BRIDGE CITY, TEXAS, this 21st day of July 2015.

/s/ Kirk Roccaforte

_____
KIRK ROCCAFORTE, Mayor

ATTEST:

/s/ Sherry Tisdale
_____
SHERRY TISDALE, City Secretary

/s/ Paul M. Fukuda
_____
PAUL M. FUKUDA, City Attorney

CITY OF BRIDGE CITY

WATER CONSERVATION PLAN

CITY OF BRIDGE CITY

260 RACHAL AVE. BRIDGE CITY, TX 77611 (409) 735-6801

JULY 2015

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SECTION I

INTRODUCTION

The City of Bridge City is located in Orange County in southeast Texas. Major highways through the city include State Highways 87, 1442 and FM 408. The city provides water and wastewater service to residential and commercial users and certain areas outside of the city limits.

The wastewater treatment plants and collection system are owned and operated by the city. The city has one wastewater plant. The wastewater treatment plant is located approximately 2500 ft. east of Hwy 87 down Bower St. The wastewater treatment plant discharges into a ditch which then flows to the Cow Bayou.

The city does not have a formal water conservation program to assist in reducing the amount of water consumed and wasted by those in its service area. In order to institute measures to encourage reduced water consumption and plan for future emergencies, a formal water conservation plan is needed.

The information herein represents the water conservation plan developed for and implemented by the City of Bridge City. This document has been developed, in part, in accordance with the guidelines of the Texas Water Development Board (TWDB) and through consultation with City officials. This document is in accordance with the 80th Texas Legislature amended 13.146 of the Texas Water Code which requires each retail public utility that provides potable water service to 3,300 or more connections to submit a water conservation plan to the Texas Water Development Board (TWDB).

SECTION II

LONG TERM WATER CONSERVATION PLAN

A. Targeted Goals for Municipal Water Use Conservation

The TWDB provides a tool for use in estimating the targeted goals for municipal water use conservation. The Water Conservation Utility Profile (TWDB Form WRD-264) was completed and is included as Attachment A. This form refers to the Certificate of Convenience and Necessity (CCN) and Services Area Map which is included as Exhibit A to this document.

The City of Bridge City is committed to conservation to avoid waste, save costs, and conserve water. This plan includes goals for long-term conservation including, but not limited to:

Periodic meter testing and repair.

Install meters at all City facilities.

Perform education and information activities (on-going).

In order to continue water conservation efforts, the City has established 5-year and 10-year target goals for reduction in municipal use including a schedule for implementing the plan to targeted reductions and a method of tracking the implementation and effectiveness. The following long-term goals have been adopted by the City of Bridge City:

1. Education and information will be provided on a yearly basis to all customers presenting non-wasteful uses of water and techniques that can be employed to conserve water. Based on the TWDB "most likely" scenario, a 2% savings in the average annual per capita use can be realized through education programs. This 2% goal equates to 2.7 gallons per capita per day (gpcpd) reduction (5-year average annual gpcpd of 132.6 multiplied by 2%).

2. As part of education measures, customers will be encouraged to retrofit old plumbing fixtures with water conserving units. The TWDB has set a "most-likely"

goal of 20.5 gpcpd by replacing old plumbing fixtures. Education will also help in reduction of summer usage. Seasonal water uses from June to September have represented approximately 30% of the total annual production over the last 5 years. This seasonal peak can be offset with an increasing water charge as the usage rises. The seasonal per capita usage is 15.8 gpcpd (calculated by multiplying the 5-year average annual gpcpd of 79 by 20% for a typical East Texas city). The "most likely" conservation scenario can achieve a 7 % reduction in this use. The resulting gpcpd seasonal use reduction provides approximately 5.53 gpcpd in water savings (79 multiplied by 7%).

3. Unaccounted for water from water production to the consumers on the system will be reduced from the previous 5-year average of 6.61%. This loss should be reduced to no more than 20%. The associated potential savings by reducing unaccounted for water loss is 10.71 gpcpd (derived from multiplying dry-year per capita water use of 80 gpcpd which occurred in 2008 by the difference in reduction of water loss from 6.61% to5.89% =80*(6.61%-20%)=10.71gpcpd). This goal will require ongoing metering and operational adjustments as well as continual repair of old lines and meters in the distribution system. The result will be a decrease in per capita water consumption thus reducing water demands on the system.

These goals provide a total potential for reducing water use by 10.71gpcpd. This would reduce the average year annual per capita use from 80 to 69.29 gpcpd. The City intends to meet one half of this goal within 5 years of plan adoption (2015) and the second half of this goal within 10 years of plan adoption (2020).

B. Unaccounted for Water Loss Reduction

Unaccounted for water is water that is supplied to the system but is not metered to a user. For example, unaccounted for water occurs when flushing distribution mains or when water is used for fighting fires. Unaccounted for water also involves any losses to the system through faulty meter readings or distribution leaks. These losses to the system should be calculated and reported on an annual basis. To meet this objective, the following concepts should be included in the water loss audit program:

1. Universal Metering of Customer Uses

It is essential that all customers and water users be metered. All unmetered users must have meters installed to reduce unaccounted for water in system and provide more accurate water use audits.

2. Periodic Meter Testing and Repair

A maintenance program of meter testing and repair is essential in gathering accurate data on the water system. To ensure problems detected on a consistent and methodical basis, all meters owned by the City will be tested according to the following schedule:

- Master Meters- Test annually.
- Customer Meters (larger than 1 ½") – test every 3 years.
- Customer Meters (smaller than 1 ½") – test every 10 years. (To avoid testing every customer meter in one year, stagger testing should be utilized to ensure that an equal number of meters are tested each year.)

Monthly meter readings should also be checked versus previous readings to determine if there is a dramatic change in water use. A large variation would indicate that the meter is not operating properly and should be investigated further. Meter readers should be trained to recognize possible problems, be alert for system leaks, and report abnormal situations.

C. Education and Information

According to the document titled "Guidelines for Municipal Water Conservation and Emergency Water Demand Management" prepared by the TWDB (November 1991), statistics for municipal water uses in Texas indicate many areas in which water can be conserved or better utilized. Some of the facts about municipal water uses include:

- Seasonal use (primarily for landscape irrigation) average 20-30% of the total annual municipal use.
- Single family homes often use half of the water purchased in the summer months for exterior purposes such as lawn watering and car washing.
- Residential in-home water consumption indicates that 40% is used for toilet flushing, 35% for bathing, 14% for laundry, and 11% for kitchen needs.

As can be seen from these water use facts, a great potential exists for reducing water consumption if the public is informed concerning water conservation practices. In, fact a municipality can employ low cost investments to educate the public on how to save water inside homes, with landscaping practices, and in recreational activities. The focus of public education, therefore, relies on proper communication.

Various medias exist for effectively communicating water conservation information. Some of these methods include television, radio, and newspaper announcements and advertisements; posters and public displays; exhibits at fairs, contests, and school programs; bill inserts, brochures, pamphlets, and newsletters; and speaker's programs. The vehicle by which information is distributed is dependent on the changing availability of these media types. It is also dependent on the future approaches taken by the City officials in educating the public. At a minimum, the City of Bridge City will provide education and information to its citizens through the following vehicles.

1. Water Conservation Literature for Customers

   The City will maintain water conservation materials available to customers at all times. General water conservation brochures will be available to all customers through displays at City Hall, public events, and large shopping centers. New customer packets will also be developed to deliver the water conservation message when a new connection is made or account is transferred. Various literature is available for distribution to the current and future customers, and Bridge City specific documents can be developed as deemed appropriate and necessary by City officials.

2. School Programs

   The City will work in cooperation with the Bridge City Independent School District at regular intervals. At a minimum the City shall provide conservation videos, brochures, and/or lectures/presentations by City representatives.

3. Newspaper Advertisement

   The City will publish conservation oriented articles in the local newspaper at regular intervals. At a minimum, articles or advertisements will be placed in the paper at the beginning of each summer to remind all users of the need for water conservation.

D. Non-Promotional Water Rate Structure

The current water rate structure is an increasing block scale for water charges where the cost per unit of water used increases for each unit purchased. Current charges for water service conform to the schedule shown in Table 1.

E. Leak Detection and Repair Programs

A leak detection, location, and repair program is an important part of reducing water losses in the system. While the City does not currently have a leak detection program, a monthly accounting of the amount of water pumped from Bride City versus the metered to consumers is currently being maintained. Unaccounted for water can be monitored by examining these records and reduced as sources are located and eliminated. The City of Bridge City will initiate a continual process of repair and replacement of old lines and water meters to reduce unmetered losses.

F. Retrofit Program

Through the education and information program, plumbers and water consumers will be encouraged to retrofit old fixtures (such as plumbing fixtures, lawn watering equipment, and water using appliances) with water saving devices. The education process will focus on the advantages of installing water conservation devices as well as the availability of these items.

G. Means of Implementation and Enforcement

The City Administrator or his/her duly appointed representative will act as the Administrator of the Water Conservation Plan. The Administrator will oversee the execution and implementation of all elements of the plan and be responsible to oversee the keeping of adequate records for program verification. As means of implementing and enforcing this plan, all plan elements discussed in this document have been adopted by City Ordinance of the City of Bridge City (see Appendix B).

H. Schedule for Implementing Plan to Achieve Targets and Goals

The City of Bridge City will adhere to the following schedule, to achieve the targets and goals for water conservation:

- Calibrations of meters for all treated water deliveries shall be conducted annually.
- The City of Bridge City meter replacement program shall be as follows:
    1.) Meters will continue to be monitored for accuracy as outlined in Section B.2 above, and replaced on a fifteen year cycle.
- Water audits shall be conducted annually
    1.) Real water losses shall be identified and corrected
    2.) Real water losses shall be minimized by replacement or deteriorating water mains and appurtenances, as is conducted by the City of Bridge City staff on and on-going basis.
- The City of Bridge City will mail out material developed by the staff, materials obtained from the Texas Water Development Board (TWDB), Texas Commission on Environmental Quality (TCEQ) or other sources semi-annually (once in the spring and once in the summer) to all customers.
- The leak detection program described in the plan is currently in use by the City of Bridge City, which reduces real water losses.
    1.) Inspections of all water mains by visual inspection which is conducted monthly.

I. Tracking Targets and Goals

The staff shall track targets and goals by utilizing the following procedures:

- Logs shall be maintained for meter calibration, meter testing, and meter replacement programs.
- Annual water audits shall be documented and kept in the Utility Department files.
- Staff shall keep a record of the number of mail-outs distributed semi-annually.
- Logs shall be maintained for the Utility's Leak Detection Program, including but not limited to the following:
    1.) Annual inspections of all water mains fittings and connections.

J. Periodic Reviews and Evaluations

The City is obligated to the TWDB (under 31 TAC 363.71) to submit an annual report describing the implementation, status, and quantitative effectiveness of the water conservation program. This annual report is due within 60 days after the anniversary date of the loan closing for each year that the City is under financial obligation to the TWDB. The Administrator will undertake the task of completing this annual report.

K. Coordination with the Regional Water Planning Group

The service area of the City of Bridge City is located within the Region I Water Planning Area and the City of Bridge City has provided a copy of the Plan to the Region I Water Planning Group. Appendix C is a copy of the letter transmitting the Water Conservation plan to the Chair of the Region I Water Planning Group.

TABLE 1. WATER RATES

CITY OF BRIDGE CITY

WATER AND SEWER RATES

EFFECTIVE OCTOBER 1, 2014

WATER RATES:

INSIDE CITY LIMITS:

0 - 2,000 GALLONS (MINIMUM)---------- $ 11.25

3,000 - 5,000 GALLONS---------- $ 3.00 PER 1,000

OVER 50,000 GALLONS---------- $ 2.66 PER 1,000

OUTSIDE CITY LIMITS: DOUBLE THE ABOVE INSIDE CITY LIMIT RATES.

SEWER RATES:

INSIDE CITY LIMITS:

0 - 2,000 GALLONS (MINIMUM)---------- $ 11.15

3,000 - 5,000 GALLONS---------- $ 3.15 PER 1,000

OVER 50,000 GALLONS---------- $ 3.16 PER 1,000

OUTSIDE CITY LIMITS: DOUBLE THE ABOVE INSIDE CITY LIMIT RATES.