CITY OF ROSENBERG

WATER CONSERVATION PLAN

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Public Water Supply Identification Number: 0790003
Fort Bend County

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TABLE OF CONTENTS

Section 1 – Introduction & Purpose

The City of Rosenberg (the "City"), a community located within central Fort Bend County, Texas, recognizing the need for efficient use of existing water supply and treatment facilities, shall adopt the following water conservation plan for the purposes of identifying and establishing principals and practices to effectively monitor and conserve the efficient use of available water supplies and distribution system capacity. This is an update of the current plan previously adopted on April 07, 2014. The plan was prepared in general accordance with The Texas Water Development Board's water conservation plan requirements contained in Title 31, Part 10, Chapter 363, Subchapter A, Rule 363.15 of the Texas Administrative Code.

Section 2 – Utility Profile

2.1 General Information & Population

The City's Water Utilities Department manages a water distribution service area of approximately 37.2 square miles and serves a population of over 38,868 residents. The area consists primarily of single family and light commercial with some scattered industrial development. Currently, the area is partially developed, but substantial growth is anticipated. The City provides potable water to its customers through a network of over 186 miles of transmission and distribution lines that provide service to 14,784 active water connections at the end of calendar year 2018. The official U.S. Census population count for the City in 2010 was 30,618, an increase of 27% from the 2000 Census.

2.2 Water Use Data, Supply System & Wastewater System

Appendix C to this Water Conservation Plan is an evaluation of the City's water and wastewater system completed using the TWDB's Water Conservation Utility Profile. The profile includes information regarding population, customer data, customer water use data, water supply system information, and wastewater treatment system information.

Section 3 – Conservation Goals

3.1 Five (5) & Ten (10) Year Targets

The purpose of this water conservation plan is to reduce long-term demand on limited water resources by encouraging more efficient water use practices in the City of Rosenberg. Table 1 below shows historical and projected per capita municipal water use for the City in gallons per capita per day (gpcd). Municipal use is the total water use less wholesale sales to other another utility for resale less sales to industrial users.

Table 1. Municipal Per Capita Water Use

Parameter	Historical 5 Year Average	Goals		
		Baseline	FiveYear Goal	TenYear Goal
Total GPCD	94	100	98	95
Residential GPCD	55	55	52	50
Water Loss GPCD	3	8	7	6
Water Loss Percentage	3	8	7	6

The City's water conservation goals include the following:

1. Achieve a 2024 per capita municipal water use of 98 gpcd (five-year goal) and a 2029 per capita municipal water use of 95 gpcd (ten-year goal).

   Continue the City's program of universal metering and meter maintenance.

3. Decrease the level of unaccounted water in the system to less than twelve percent (12%) in 2024 and subsequent years.

4. Raise public awareness of water conservation and encourage responsible public behavior though public education and information programs, as discussed in Section 4.3

3.2 Schedule

The State Water Conservation Implementation Task Force recommends that municipalities set goals of reducing per capita consumption by one percent (1%) per year. The goals proposed in this plan are structured so that consumption is reduced by one percent (1%) each year, meeting the ultimate goal within ten (10) years. The City will periodically evaluate the plan in accordance with State and Federal regulations to determine the extent, if any, that the plan needs modification.

Section 4 – Water Conservation Plan Elements

4.1 Metering of Raw Water & Universal Metering

The City meters all water produced at water plant facilities. Meters at City water production facilities are calibrated and tested at a maximum of three (3) year intervals in accordance with American Water Works Association (AWWA) standards to provide a minimum accuracy of plus or minus five percent (5%).

The ability to meter all water distribution and consumption uses allows the City to closely monitor actual water use, water losses, and prevent unauthorized use. All service connections in the City are metered. All production wells, pumping stations, interconnections, irrigation, parks, and municipal structures operated by the City are metered.

The City meters all water delivered by the City and will continue to provide a preventive maintenance program for its water meters, wherein regular scheduled testing, repairs, and replacement are performed in accordance with American Water Works Association (AWWA) standards.

4.2 Determination and Control of Water Loss

The goal of the City's water loss control program is to maintain unbilled water at or below ten percent (10%) of water produced, on a monthly basis. In order to meet this goal, the City has several programs in place, including routine water audits, visual inspections, a program of leak detection and repair, and meter testing and accuracy.

A. Routine Audits of Water System

The City Customer Services Department generates a monthly water loss report that compares metered production with metered consumption, as well as accounted-for and unaccounted-for water losses. This report provides an effective tracking system of water loss. The City will also complete a detailed water system audit following Texas Water Development Board (TWDB) guidelines at least once each year. TWDB rules only require this audit to be submitted once every five (5) years. The water system audit determines the volume of actual water loss, the identification of water loss sources, the status and condition of primary water meters, an analysis of water line breaks, an evaluation of underground leakage potential, and provides recommendations for meter replacement.

B. Leak Detection and Repair

The City administers a leak detection and repair program for its water distribution system. This program features a work order prioritization system for leaks needing repair and an inventory of equipment and materials needed to promptly repair all detected or reported leaks. The City's Capital Improvement Plan to upgrade its water distribution system also addresses high volume leaks.

4.3 Continuing Public Education Program

The City promotes water conservation issues by informing the general public in the following ways:

- Making water conservation information available to new customers
- Providing water conservation information to all customers upon request
- Coordinating education presentations, lectures, and demonstrations for schools, civic groups, and the general public upon request
- Publishing water conservation information on a regular basis in the City's utility bill insert or other written form
- Continue sponsorship of the Water Wise Program administered by the Fort Bend Subsidence District. This program teaches direct water conservation principals and concepts to public school elementary students who reside within the City's service area.

4.4 Non Promotional Water Rate Structure

The City's water rate structure utilizes the cost-of-service method, which is based on costs incurred for services provided by the Water Utilities Department. The current rate structure charges monthly service charges based on meter size, plus a uniform water usage rate per thousand (1,000) gallons (Code of Ordinances Section 29-50). A copy of the current water rate structure is included as Appendix D.

The City utilizes an inclining water rate structure to encourage residential customers to reduce both peak and overall water usage, while fairly allocating cost of service to each customer class. Under an inclining rate structure, the rate per thousand gallons increases as the amount of water used increases. This rate structure is reviewed on a regular basis to ensure that the rates adequately recover the cost of service and meet the goals of this water conservation plan.

In 2013, the City also established a rate structure for Type I reclaimed water used for irrigation purposes. The reclaimed water rate is not subject to the Subsidence (GRP) Fee, which is currently $2.20 per 1,000 gallons of potable water used. This lower overall rate serves as an incentive for users to convert from potable water to reclaimed water to meet irrigation needs.

4.5 Optional Plan Elements

A. Plumbing Code and Retrofit Program

The City has adopted the International Plumbing Code, which requires the use of water saving, Ultra Low Flow (ULF) fixtures to be installed in new construction and in the replacement of plumbing in existing structures.

The City educates the residents, plumbers, and contractors on the benefits of retrofitting existing facilities with water saving devices through its public education program. In addition, the City will evaluate the feasibility and cost effectiveness of implementing an Ultra-Low Flow (ULF) rebate program or similar incentive program that would offer cash rebates or other incentives to water customers that replace old toilets, showerheads, and other fixtures with new ULF models.

B. Landscape Water Management

The City provides information about the methods and benefits of water conserving landscaping practices and devices, through public education to homeowners, business owners, landscape architects and designers, and irrigation professionals. The following methods are encouraged:

- The use of Xeriscape (trademark) and "Water Wise" landscaping techniques, including drought tolerant plants and grasses for landscaping new homes and commercial areas.

- The use of drip irrigation systems when possible or other water conserving irrigation systems that utilize efficient sprinklers and considerations given to prevailing winds.

- Making sure that ornamental fountains or similar water features are designed to recycle water and use minimal amounts of water.

C. Water Reuse

The goal for the City's water reuse program is to reduce peak demand on the potable water system by switching non-potable uses of water, such as athletic field irrigation, to reuse water. In 2009, the City received authorization from the TCEQ to reuse its treated wastewater effluent from Wastewater Treatment Plant No. 2 as Type 1 reuse water, the highest quality of reuse water.

The first phase of the reuse project completed in 2009, included the construction of reclaimed water infrastructure to serve the City's Seabourne Creek Park and Athletic Complex. Athletic field irrigation and other landscaping water uses were converted from potable water to reclaimed water. In 2013, the City Council approved a reclaimed water distribution system master plan and completed Phase Two construction, which expanded the distribution system network to areas beyond the park complex. As part of the Phase Two project, the City partnered with Lamar Consolidated Independent School District (LCISD) to convert the athletic field and landscape irrigation uses at the B. F. Terry High School complex to reclaimed water. The Texas State Technical College campus was also

designed and constructed to utilize reclaimed water for landscape irrigation purposes. Additional customers are also able to connect to the reclaimed water distribution system for irrigation purposes. This system provides an excess of 500,000 gallons per day of reclaimed water, further reducing demand on the potable water system. Phase Three is currently under design and will expand the distribution system to properties within the Rosenberg Business Park, and along Bryan Road and Spacek Road. In the future, the City plans to expand its water reuse program to include additional parks, school campuses and public spaces. Consideration will be given to providing reuse water to area Municipal Utility Districts.

The City has also converted two (2) major wastewater treatment plants from potable process and wash down water to non-potable process and wash down water. Wastewater Treatment Plant No. 2 was converted in 2008 and Wastewater Treatment Plant No. 1A was converted in 2012. This has resulted in potable water use reduction exceeding one million gallons per month at each plant.

Documented use of approximately 191 million gallons of reclaimed/reuse water has been recorded in lieu of potable water for calendar year 2018.

4.6 Reservoir Systems Operation Plan

The City does not own any reservoirs within a common watershed or river basin.

4.7 Records Management System

The City administers a comprehensive record management system that accounts for water use characteristics throughout the water system and allows for the separation of aggregate water sales and water usage characteristics into customer-specific categories. The system is configured to provide the following water use information:

- Water production
- Water sales
- Water consumption
- Water losses

4.8 Requirement for Water Conservation Plans for Wholesale Water Supply Contracts

The City will, as part of contracts for the sale of water to any other entity re-selling water, require that entity to adopt applicable provisions of the City's water conservation and drought contingency plan or have a plan in effect previously adopted and meeting the basic requirements of 30 TAC Chapter 288. These

provisions will be through contractual agreement prior to the sale of any water to the water re-seller.

4.9 Record Management and Performance Measures

The City will compile an annual report on the Water Conservation Plan, to include the following:

- Summary of public information issued in the previous year
- Effectiveness of Water Conservation Plan in reducing peak and overall water consumption
- Per capita water consumption for the previous calendar year
- Implementation progress and status of plan

4.10 Implementation and Enforcement

Appendix A contains a copy of the City ordinance adopting this water conservation plan. The ordinance designates responsible officials to implement and enforce the water conservation plan.

4.11 Coordination with Regional Water Planning Group

Appendix B includes a copy of the letter sent to the Chair of Region H Water Planning Group with this water conservation plan.