RESOLUTION NO. **04-23-09-2h**

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF COLLEGE STATION, TEXAS, APPROVING AN AMENDED CITY OF COLLEGE STATION WATER CONSERVATION PLAN AS REQUIRED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).

WHEREAS, the City Council of the City of College Station, Texas, adopted a Water Conservation Plan on June 27, 1996 and

WHEREAS, the City Council of the City of College Station, Texas, approved an updated Water Conservation Plan in October 2006 as a requirement for filing its application for a Bed and Banks permit with the TCEQ; and

WHEREAS, effective January 10, 2008, Water Conservation Plans are required to be reviewed and updated every five years to include specific quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use, in gallons per capita per day; now, therefore,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF COLLEGE STATION, TEXAS:

PART 1: That the City Council hereby approves an Amended Water Conservation Plan, a copy of which is attached hereto as Exhibit "A".

PART 2: That this resolution shall take effect immediately from and after its passage.

ADOPTED this 23rd day of April, A.D. 2009.

ATTEST:

Connie Hooper

City Secretary

APPROVED:

Lynn McIlhaney

MAYOR Mayor Pro Tem

APPROVED:

Carla A Robinson

City Attorney

Resolution No. 04-23-09-2h

CITY OF COLLEGE STATION

Water Conservation Plan

October 2009

Public Water Supply Identification Number: 0210002
Brazos County

David M. Coleman, P.E., Water Services Director

P.O. Box 9960
1601 Graham Road
College Station, TX 77842
979-764-3660
http://www.cstx.gov/utilities

College Station Utilities

Reliable, Affordable, Community Owned

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SECTION 1 – INTRODUCTION AND UTILITY PROFILE

INTRODUCTION

In accordance with the guidelines of the Texas Water Development Board (TWDB), the City of College Station (hereafter referred to as "the City") adopted a Water Conservation Plan in 1996 and updated it in 1998. In order to meet requirements of the Texas Commission on Environmental Quality (TCEQ), the City has updated its water conservation plan for adoption as a City resolution.

The resolution of the City Council adopting the Water Conservation Plan shall authorize the City to implement, enforce, and administer the program.

UTILITY PROFILE

Population and customer data

The City's Water Services Department manages a water distribution service area of 47 square miles and serves a population of over 80,000 residents. This population amount includes approximately 10,000 students attending and living on campus at Texas A&M University (TAMU) that are not actually served by the College Station water utility. Accounting for these students who reside in College Station, but are served by the TAMU water system, this leaves an actual water service population of over 70,000 residents. The City provides drinking water to its customers through a network of nearly 330 miles of transmission and distribution mains that provide service to over 36,400 water connections.

The official U.S. Census population count for the City in 2000 was 67,890, an increase of 29% from the 1990 Census. Population projections for College Station, described in 2006 Brazos Region G Regional Water Plan, forecast the City's population will reach 80,920 by 2010 and 94,526 by 2020. In comparison, the City's water consumption peak day demand is expected to increase to almost 25 MGD by 2010 and over 27 MGD by 2015.

Water use data

Table 1 below summarizes key water use statistics for 2003 – 2008. Average per person usage is given in gallons per capita per day (gpcd). Average and peak daily water demand is given in million gallons per day (MGD). . The peak day to average day ratio varies between 1.71 and 2.11, meaning that peak day demand is nearly twice the average demand.

The peak demand for the City is 22.9 MGD, reached in 2008. During high demand periods when large volumes of water are being pumped from the aquifer, the production capacity of the wells is reduced due to declining water levels of the aquifer. The City's water production and pumping system capacity is currently 23 MGD.

Table 1. Municipal Water Demand 2004 – 2008

Year	2004	2005	2006	2007	2008
Peak GPCD	268	286	276	215	284
Annual Average GPCD	127	155	149	126	137
Peak Day (MGD)	18.81	20.62	20.42	16.48	22.90
Average Day (MGD)	8.93	11.14	11.05	9.64	11.63
Peaking Factor	2.11	1.85	1.85	1.71	1.97

Water Production and Delivery System

The City utilizes ground water for its public water supply and since 1980 College Station has developed its own water production facilities. The City has eight groundwater wells, six of which withdraw groundwater from the Simsboro Sand formation of the Carrizo-Wilcox Aquifer, and two of which withdraw groundwater from the Carrizo and Sparta formations. The City's wellfield is located

northwest of Bryan in the vicinity of Sandy Point Road near Old San Antonio Road. Cooling towers located at the Sandy Point Pump Station cool the raw water from 118° F down to approximately 85°. The water is then pumped through a raw water transmission line to the Dowling Road Pump Station in College Station. Here the water is treated to meet Safe Drinking Water Act standards before being pumped to storage and distribution facilities. The City's water distribution system includes two ground storage reservoirs and two elevated storage tanks, providing a total storage capacity of 13 million gallons.

Wastewater Collection and Treatment System
Raw wastewater in College Station travels through a network of over 260 miles of wastewater collection lines to one of two wastewater treatment plants, the Carter's Creek Wastewater Treatment Plant and the Lick Creek Wastewater Treatment Plant. The two wastewater treatment plants and numerous lift stations serve a population of over 70,000 people, with an average daily discharge of 6 to 7 MGD and maximum daily wastewater treatment capacity of 11.5 MGD.

SECTION 2 – CONSERVATION GOALS

CONSERVATION GOALS

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 College Station. Its primary goals are to reduce peak seasonal water demand and reduce the peaking factor on the water production and delivery system.

Goal 1: Reduce peak daily water demand
Goal 2: Reduce peaking factor

TCEQ rules require the City build capacity to meet escalating peak daily demands, which, as discussed in Section 1, can be up to twice the average demand. Thus, reducing those peak demands will enable the City to defer new capital expenditures for production facilities, and better use of available water resources.

The City aims to reduce peak demand through two methods: programs targeted at reducing peak per capita demand, and programs aimed at reducing the peaking factor. Table 2 outlines projected targets for reducing per capita demand and peaking factor. The State Water Conservation Implementation Task Force recommends that municipalities set goals of reducing per capita consumption by 1% per year. The goals proposed in this plan are structured so that consumption is reduced by 1% each year, meeting the ultimate goal within ten years.

Table 2. Municipal per capita water use goals

Year	2008	2013	2018
Peak GPCD	284	270	256
Annual Average GPCD	137	137	137
Peaking Factor	1.97	1.90	1.81

Goal 3: Maintain unaccounted-for water at or below 10%

Table 3. Water Accountability

Year	2006	2011	2016
Demand			
Unaccounted-for Water (Gallons)			
Unaccounted for Water (%)	10%	9%	8%

In any system, water loss may occur due to leaks, line breaks, meter inaccuracies, theft, and other issues. The City monitors water production and water billing on a monthly basis and tracks system

water loss on a percentage basis. The City has consistently maintained an average water accountability rating of 10%, meaning that water billed is greater than or equal to 90% of water produced. At a minimum, the City will continue to meet this target, and investigate ways to improve water accountability at or above 90%.

Time frame for achieving conservation goals
The three goals outlined above are designed to be achieved within 10 years of the date of adoption of this Plan. 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 3 – STRATEGIES TO ACHIEVE CONSERVATION GOALS

WATER RATE STRUCTURE

The City utilizes an inclining water rate structure to encourage 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. The City implemented this inclining water rate structure in Fiscal Year 2008. The current rate structure charges monthly service charges based on meter size, plus a uniform rate per thousand (1000) gallons up to 10,000 gallons. After 10,000 gallons, the rate per thousand increases $0.60 per thousand gallons per 5000 gallon block up to 26,000 gallons. All residential usage above 26,000 gallons is billed at a uniform rate of $4.86 per thousand (1000) gallons(City Ordinance No. 3116).

Currently, commercial rate structure charges monthly service charges based on meter size, plus a uniform water usage rate per thousand (1000) gallons. City Staff is currently researching the option of altering the commercial rate structure in order to meet conservation goals.

This rate structure will be 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.

WASTEWATER REUSE

The City has received authorization from the TCEQ to reuse its treated wastewater effluent as Type I reuse water, the highest quality of reuse water. The goal for the City's water reuse program is to reduce peak demand on the potable (drinking) water system by switching non-potable uses of water, such as athletic field irrigation, to reuse water. In 2006 the City has completed a feasibility study of providing reuse water for irrigation at City-owned parks and facilities.

The first part of this plan will include extending reclaimed water infrastructure to the City's two main parks: Veterans Park and Athletic Complex, and Central Park. The City hopes to complete the first phase of its water reuse program by 2011. When this system is fully implemented, it will provide nearly 1 million gallons per day of reclaimed water to the parks, reducing demand on the potable water system. In the future, the City plans to expand its water reuse program to include large volume commercial customers, such as shopping centers and business parks.

WATER LOSS CONTROL MEASURES

The goal of the City's water loss control program is to maintain unaccounted-for water (unbilled authorized and unbilled unauthorized usage) water at or below 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, a program of leak detection and repair, and meter testing and accuracy.

Routine Audits of Water System
The Water 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 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

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 annual rehabilitation program to upgrade its water distribution system also addresses high volume leaks. The City also conducts an annual distribution system rehabilitation program that replaces the high water loss sections of the distribution system. This program is based on findings of monthly water loss reports and the leak detection program.

Universal Metering
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, swimming pools, parks, and municipal structures operated by the City are metered.

Meters at water production pump stations are calibrated and tested annually in accordance with American Water Works Association (AWWA) standards to provide a minimum accuracy of plus or minus five percent (5%).

The City 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.

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

PUBLIC EDUCATION PROGRAM

The City's public education program typically makes at least 6,000 direct customer contacts each year through presentations, booths at community fairs, and plant tours. This figure does not include indirect contacts through utility bill inserts, newspaper and radio ads, and similar programs. The City promotes water conservation issues by informing the public in the following ways:

- Making water conservation information available to new customers
- Making residential water audits available to all customers
- Providing water conservation information to all customers upon request

- Coordinating educational presentations, lectures, and demonstrations for schools, civic groups, and the general public
- Providing exhibits at public events held throughout the year
- Publishing water conservation information on a regular basis in the City's utility bill insert or other written form
- Providing book covers with a water conservation message for College Station ISD students
- Participating in community environmental education activities with the City of Bryan and other local organizations to promote water conservation education
- Supporting annual events and demonstrations relating to water conservation and environmental issues that affect water supply and quality

WHOLESALE WATER SUPPLY CONTRACTS

The City will, as part of contracts for 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 §288. These provisions will be through contractual agreement prior to the sale of any water to the water re-seller.

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 is evaluating 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. The City is hopeful to have rebate programs enacted FY 09-10.

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™ 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. Additional point credits are given to commercial landscapes that employ water-efficient irrigation systems.

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

- Working with area landscape supply businesses and nurseries to encourage them to sell locally adapted, drought tolerant plants and grasses along with efficient irrigation systems, and to promote use of these materials through demonstrations and advertisements.

- The City is now offering landscape irrigation audits which include a system checkup, an efficiency check, and a general irrigation schedule.

PERFORMANCE MEASURES AND REPORTING

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
- Report on meter testing program
- Summary of water loss control program
- 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.

COORDINATION

Recognizing that each City has similar water systems and customer bases, and similar needs for water conservation, the City of College Station and the City of Bryan worked together in developing similar water conservation plans.

Coordination with Drought Contingency and Water Emergency Plan: The Water Conservation Plan shall work in accordance with the related City of College Station Ordinance, Drought Contingency and Water Emergency Plan, first adopted in January 2000 and as it may be revised from time to time.

Coordination with Regional Water Planning Group: The City of College Station will provide this Water Conservation Plan to the Brazos Region (Region G) Water Planning Group, as designated by the TWDB.

Coordination with Groundwater Conservation District: The City of College Station will provide this Plan to the Brazos Valley Groundwater Conservation District.

Resolution No. 04-23-09-2h

APPENDIX A: Resolution of the College Station City Council adopting Water Conservation Plan

APPENDIX B: Transmittal Letter to Brazos Region G Regional Water Planning Group

APPENDIX C: Transmittal Letter to Brazos Valley Groundwater Conservation District