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Water Conservation Plan

1. INTRODUCTION AND OBJECTIVES

Having a dependable water supply has always been a key issue in the development of Texas. The growing population and economic expansion occurring in North Central Texas are placing increased demands on our water supplies. In order to meet the challenge of providing for our current and future needs we must learn to use the water we already have more efficiently. By stretching our existing supplies we can delay the need for new supplies, minimize the environmental impacts associated with developing new water resources, and postpone the high cost of building the infrastructure (dams, treatment facilities, and pipelines) necessary to capture, treat, and transport the additional water into our homes and businesses.

Recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing the development of water conservation plans for public water suppliers. TCEQ guidelines and requirements are included in Appendix A. The City of Mansfield has developed this water conservation plan in response to TCEQ guidelines and requirements.

The objectives of this water conservation plan are as follows:

- To reduce water consumption from the levels that would prevail without conservation efforts.
- To reduce the loss and waste of water.
- To improve efficiency in the use of water.
- To extend the life of current water supplies by reducing the rate of growth in demand.
- To educate the citizens of Mansfield about the need for water conservation and the benefits of conserving our most valued natural resource.

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

The TCEQ rules governing development of water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as “A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water.” The elements in the TCEQ water conservation rules covered in this conservation plan are listed below.

Minimum Conservation Plan Requirements

The minimum requirements in the Texas Administrative Code for Water Conservation Plans for Public Water Suppliers are covered in this report as follows:

- 288.2(a)(1)(A) – Utility Profile – Section 3 and Appendix B
- 288.2(a)(1)(C) – Specification of Goals – Section 4
- 288.2(a)(1)(D) – Accurate Metering – Sections 5.1 and 5.2
- 288.2(a)(1)(E) – Universal Metering – Section 5.2
- 288.2(a)(1)(F) – Determination and Control of Unaccounted Water – Section 5.4
- 288.2(a)(1)(G) – Public Education and Information Program – Section 6
- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 7
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 8.1
- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 9
- 288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 8.6 and Appendix C

Conservation Additional Requirements (Population over 5,000)

The Texas Administrative Code includes additional requirements for water conservation plans for cities with a population over 5,000:

- 288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 5.4, 5.5, and 5.6
- 288.2(a)(2)(B) – Record Management System – Section 5.3
- 288.2(a)(2)(C) – Requirement for Water Conservation Plans by Wholesale Customers – Section 8.5

Additional Conservation Strategies

TCEQ rules also list additional optional but not required conservation strategies, which may be adopted by suppliers. The following optional strategies are included in this plan:

- 288.2(a)(3)(A) – Conservation Oriented Water Rates – Section 7
- 288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 8.3
- 288.2(a)(3)(D) – Reuse and Recycling of Wastewater – Section 8.2
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 8.4
- 288.2(a)(3)(G) – Monitoring Method – Section 5.6

3. WATER UTILITY PROFILE

Appendix B to this water conservation plan is a modified water utility profile based on the format recommended by the TCEQ. Some additional sections were added in order to gather the information necessary to assess the effectiveness of the water conservation plan.

4. SPECIFICATION OF WATER CONSERVATION GOALS

Current TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. As part of plan adoption, each customer will develop 5-year and 10-year goals for per capita municipal use, following TCEQ procedures described in the water utility profile (Appendix B). The goals for this water conservation plan include the following:

- Maintain a per capita municipal water use below 155 gallons per capita per day in 2024 (5-year goal) and 150 gallons per capita per day in 2029 (10-year goal).
- ~~Keep the per capita municipal water use below 158 gallons per capita per day in 2018 (5-year goal) and 155 gallons per capita per day in 2023 (10-year goal).~~
- Maintain the level of unaccounted water in the system below 10% annually in 2014 2019 and subsequent years, as discussed in Section 5.4.
- Implement and maintain a program of universal metering and meter replacement and repair, as discussed in Section 5.2.
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 8.4.
- Raise public awareness of water conservation and encourage responsible public behavior through public communication and education programs, as discussed in Section 6.
- ~~Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 6.~~

5. METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR

One of the key elements in water conservation is careful tracking of water use and control of losses through illegal diversions and leaks. Careful metering of water deliveries and water use, detection and repair of leaks in the distribution system, and regular monitoring of unaccounted water are important in controlling losses.

5.1 Accurate Metering of Treated RAW Water Deliveries

The metering devices that measure raw water delivered to the City of Mansfield, Texas will be maintained within a minimum of +/- 5% accuracy. The largest raw water meter is located at the water treatment plant. This meter is an Endress Hauser, Pro-Mag W, which has an accuracy range of +/- 0.5%.

5.2 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement

All connections to the water system are metered connections. All meters will be maintained within an acceptable operating accuracy range as defined by the manufacturer or AWWA Standard for meter accuracy, which ever is more stringent. Dead meters and meters that indicate reduced usage will be flagged during the computerized billing process. These meters will be checked, field tested, and replaced when found to be out of manufacturer specifications or not meeting AWWA Standards.

All new meters installed as a new meter set or a meter replacement due to age and in-accuracy will be installed with an Advanced Metering Infrastructure (AMI) meter. The City of Mansfield will maintain a meter data management system for all AMI Meters.

5.3 Record Management System

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), the record management system allows for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information will be included in an annual water conservation report, as described in Section 5.6 below.

The City of Mansfield will continue to maintain a record management system that accounts for; raw water received, drinking water treated, drinking water pumped, water delivered, water sold, and water system loss. This record management system will continue to separate and account for monthly usage in the following customer categories; residential domestic, residential irrigation, commercial usage, commercial/industrial irrigation, builders / construction, institutional, and industrial.

5.4 Determination and Control of Unaccounted Water

Unaccounted water is the difference between raw water purchased from TRWD and metered deliveries to customers. Authorized but unmetered uses would include use for fire fighting, releases for flushing of lines, and uses associated with new construction. Unaccounted water can include several categories:

- Inaccuracies in customer meters. (Customer meters tend to run more slowly as they age and under-report actual use.)
- Losses due to water main breaks and leaks in the water distribution system.
- Losses due to illegal connections and theft.
- Other.

The City of Mansfield will continue to monitor and minimize unaccounted water use by; periodic visual field inspection of all water facilities, use of fire hydrant meters to quantify the volume of water lost during flushing, review of property occupancy, and monthly comparisons of historical metered usage. Additional measures will be taken at the water treatment plant to quantify process water.

As shown in the Water Utility Profile, unaccounted water has varied from 7.48% to 14.58% in the last five years. With the measures described in this plan, the City of Mansfield intends to maintain the unaccounted water below 10% in 2019 and subsequent years.

As shown in the Water Utility Profile, unaccounted water has varied from 7.5% to 13.9% in the last five years. With the measures described in this plan, the City of Mansfield intends to maintain the unaccounted water below 10% in 2014 and subsequent years.

5.5 Leak Detection and Repair

The City of Mansfield will continue to vigilantly monitor the water distribution system and customer service connections for water leaks, and address the repair of any leaks found in a manner that expeditiously stops water loss. All leaks will be isolated and repaired as soon as possible.

Meter readers watch for and report signs of illegal connections so they can be addressed quickly. Crews and personnel look for and report evidence of leaks in the water distribution system. Maintenance crews respond quickly to repair leaks reported by the public and city personnel. The City of Mansfield uses 2 three-man distribution line crews. Areas of the water distribution system in which numerous leaks and line breaks occur are targeted for replacement as funds are available.

While it is impossible for the City staff alone to identify all leaks, Citizens are provided an online water waste reporting tool through the city website. All water waste reports are distributed via email to the Operations Manager and Supervisor for prioritization and repair.

5.6 Monitoring of Effectiveness and Efficiency - Annual Water Conservation Report

Appendix B is a modified water utility profile form that will be used in the development of an annual water conservation report for the City of Mansfield. This form will be completed by May 1 of the following year and will be used to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities for the next year. The form records the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values. The modified water utility profile and annual water conservation report will also be sent to TRWD, which will monitor regional water conservation trends.

6. PUBLIC COMMUNICATION AND EDUCATION CAMPAIGN

The City of Mansfield will continue to promote conservation through public communication and education by:

- Participate in various conservation programs with the Tarrant Regional Water District:
 - Staff training and education
 - Public education partnership
- Promoting conservation awareness in schools
- Create a curriculum/program for students/kids with the goal of educating our future water conservationists.
- Communicate conservation information via the following:
 - City buildings: public library, City Hall, Mansfield Activities Center and Chris W. Burkett Service Center
 - City of Mansfield Website
 - Local businesses and other public places
 - Monthly E-newsletter
 - Social Media: Facebook, Nextdoor and Twitter
 - Annual Consumer Confidence Report
- Promote the online customer water portal:
 - Communicate conservation messages, news and promote upcoming classes and events
 - Encourage residents to monitor daily water use and to sign up for leak detection alerts
- Create and execute educational campaigns about the value of water and how usage affects everyone
- Keep staff educated by attending industry and local conferences, trainings, and meetings to stay informed on current topics and trends
- Participate in city and special events to communicate the value of water
- Highlight water utilities employees and educate residents about what we do
- Identify and maintain relationships with residents, water utilities and city employees, Mansfield ISD, industry partners, and local organizations and businesses.

- Participating in various conservation programs with the Tarrant Regional Water District.
- Promoting a consistent, regional message of conservation awareness in public and private schools.
- Making conservation information available at the public library and on the City of Mansfield website.
- Including a conservation message in the city's E-Newsletter.
- Ensuring that the annual consumer confidence report will continue to contain a conservation message for the entire service area.
- Encouraging local media coverage of water conservation issues and the importance of water conservation.
- Making the *Texas Smartscape* CD, water conservation brochures, and other water conservation materials available to the public at the City of Mansfield Utility Department and other public places.
- Water Department staff will participate in the *Texas Smartscape* workshops, teaching attendees how to develop water management strategies and proper irrigation scheduling.

7. NON-PROMOTIONAL WATER RATE STRUCTURE

With the intent of encouraging water conservation and discouraging waste and excessive use of water, the City of Mansfield has adopted an increasing block rate structure. The unit price for water increases with increasing water usage. Current water rates are shown in tables 7.1 and 7.2.

Table 7.1 Monthly Meter Charges

Meter Size (inches)	Total Charge	Meter Size (inches)	Total Charge	Meter Size (inches)	Total Charge
5/8 or 3/4	\$22.57	2	\$180.56	6	\$1263.92
1	\$56.43	3	\$361.12		
1 1/2	\$112.85	4	\$620.68		

Table 7.2 Volume Unit Charges

Water User	Type/Volume	Volume Unit Charge (\$ per 1,000 gal.)
Residential and Commercial Customers	0 to 2,000 gallons	Included in base
	2,000 to 32,000 gallons	\$3.29
	32,000 gallons or above	\$4.11
Industrial Customers	0 to 2,000 gallons	Included in base
	2,000 to 32,000 gallons	\$2.61
	32,000 gallons or above	\$3.26

8. OTHER WATER CONSERVATION MEASURES

8.1 Reservoir System Operation Plan

Tarrant Regional Water District is responsible for all reservoir operation. The City of Mansfield will continue to provide elected official representation on the Advisory Board and staff representation on the Technical Advisory Committee of the Tarrant Regional Water District.

8.2 Reuse and Recycling of Wastewater

The City of Mansfield does not own and operate its own wastewater treatment plant. The city's wastewater is treated by the Trinity River Authority.

8.3 Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures

The State of Texas has required water-conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.5 gallons per minute (gpm) for faucets, 3.0 gpm for showerheads, and 1.6 gallons per flush for toilets. Similar standards are now required nationally under federal law. These state and federal standards assure that all new construction and renovations will use water-conserving fixtures.

8.4 Water Waste Prohibition

Landscape irrigation and outdoor watering are responsible for a large portion of the water wasted in the state of Texas. The City of Mansfield will adopt the following conservation measures in an effort to reduce the amount of waster water:

- Prohibition of outdoor watering with sprinklers from 10:00 a.m. to 6:00 p.m. every day, year-round. Watering with hand-held hoses (provided that they are equipped with positive shut-off devices), soaker hoses, or hand-held dispensers is allowed.
- Requirement that all irrigation systems installed or receiving major repair work on or after May 1, 2008, be equipped with operational rain and freeze sensors. Existing residential irrigation systems are encouraged to be retrofitted with similar rain and freeze sensors.
- Requirement that all commercial and home owners' association (HOA) irrigation systems be equipped with operational rain and freeze sensors.
- Requirement that all irrigation systems installed or receiving major repair work on or after May 1, 2008, be equipped with controllers capable of multiple programs.
- Requirement that all irrigation systems installed or receiving major repair work on or after May 1, 2008, be equipped with an approved manual shut-off valve with lock-out capabilities. City personnel must be able to lock-out the valve with a standard padlock.

- Requirement that all irrigation systems be in compliance with current state design and installation regulations (Texas Administrative Code Title 30, Part 1, Chapter 344).
- Prohibition of designs and installations that spray directly onto impervious surfaces such as sidewalks and roads or onto other non-irrigated areas.
- Prohibition of poorly maintained sprinkler systems that waste water.
- Prohibition of outdoor watering during any form of precipitation.
- Prohibition of outdoor watering during a freeze or when the temperature has the potential of reaching 32°F.

Failure to comply with any portion of this section will constitute a violation and may be subject to enforcement.

Any of the following shall constitute major repair work:

- Any repair or maintenance that exposes the main line to the atmosphere.
- Any repair or maintenance that has an associated cost equal to or greater than \$500.00.

8.5 Requirement for Water Conservation Plans by Wholesale Customers

The City of Mansfield is a wholesale water supplier. Every contract for the wholesale sale of water that is entered into, renewed, or extended after the adoption of this water conservation plan will include a requirement that the wholesale customer and any wholesale customers of that wholesale customer develop and implement a water conservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code. The requirement will also extend to each successive wholesale customer in the resale of the water.

8.6 Coordination with Regional Water Planning Group and TRWD

Appendix C includes a letter sent to the Chair of the Region C Water Planning Group with this water conservation plan. A copy of this plan has also been sent to TRWD.

8.7 Requests for Variance

The Director of Utility Operations or his/her designee may grant temporary variance for water use prohibited by this plan if it is determined that an emergency condition resulting in an adverse affect to health, sanitation, or fire protection of a customer, person, or entity would result if a variance is not granted. Temporary variance may also be granted if it is determined that a customer, person, or entity is caused undue hardship or financial burden if a variance is not granted.

Outdoor watering at a service address with large multi-station irrigation systems may take place in accordance with a variance granted by the Director of Utility Operations or his/her designee if it is determined that the property can not be adequately irrigated in a single day.

Temporary variance may also be granted to playing fields which require watering to maintain league standards.

Skinned areas of sports fields may be watered as needed for dust control without applying for temporary variance.

In order to receive a written variance from the Director of Utility Operation or his/her designee the customer, person, or entity must provide a written request including:

- Name and address of the person requesting the variance.
- Location of the proposed water use.
- Detailed statement of potential damage and reason for the variance.
- The volume of water needed and specific purpose of water use.
- Period of time the variance is needed.
- Detailed statement of water conservation measures that are being used.
- Any diagram or other explanation that demonstrates the need for a variance.

Variances not retroactive and do not justify violations of the plan.

9. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

Mandatory water conservation measures will be enforced by warnings and penalties as follows:

- On the first violation, customers will be given a verbal warning that they have violated the mandatory water conservation measures. City staff will provide the customer with the information and educational materials needed to comply with the plan.
- On the second violation, customers will be issued a written warning that they have violated the mandatory water conservation measures.
- On the third and subsequent violations, a violation notice will be issued to customers, with minimum and maximum fines established by ordinance.
- After four violations have occurred, in a twelve month timeframe, the utility may cut off water service to the customer.
 - In order to restore water service, a customer must sign a statement of intent to comply with all applicable water conservation measures established or adopted by ordinance and pay a restore service fee.

The Director of Utility Operations or his/her designee may assess an administrative fee approved by the City Manager in addition to any criminal penalty assessed for a violation of this plan as described below. Administrative fees will not be assessed for verbal or written warnings. The administrative fee shall be assessed on the third and subsequent violations in order to recover costs associated with enforcement. Each day that a violation occurs shall constitute a separate violation.

- Violations involving irrigation systems with lock-out capabilities.
 - The Director of Utility Operations or his/her designee may install a lock on an irrigation system found to be operating in violation of this plan on more than three occasions and shall assess an administrative fee as approved by the City Manager (if applicable).
 - Notice shall be left on the premise to advise the owner/operator that the irrigation system has been locked; and
 - Notice shall be sent by United States Postal Service to the person recorded as the city's water customer notifying that person that a violation has been found and that the irrigation system has been locked. The notice shall also state the amount of the assessed administrative fee and shall advise the person of the procedures for payment of the fees and the procedure to request removal of the lock.
- Violations involving irrigation systems without lock-out capabilities.
 - The Director of Utility Operations or his/her designee shall leave notice on the premise to advise the owner/operator that the person was in violation of

this plan and has been assessed an administrative fee as approved by the City Manager (if applicable).

- Notice shall be sent by United States Postal Service to the person recorded as the city's water customer notifying that person that a violation has been found. The notice shall also state the amount of the assessed administrative fee and shall advise the person of the procedures for payment of the fees.
- Violations of mandatory water conservation measures not involving an underground irrigation system.
 - The Director of Utility Operations or his/her designee shall leave notice on the premise to advise the owner/operator that the person was in violation of this plan and has been assessed an administrative fee as approved by the City Manager (if applicable).
 - Notice shall be sent by United States Postal Service to the person recorded as the city's water customer notifying that person that a violation has been found. The notice shall also state the amount of the assessed administrative fee and shall advise the person of the procedures for payment of the fees.
- It shall be unlawful for any person to tamper with, cause damage to, or remove a locking device placed on an irrigation system by the Director of Utility Operations or his/her designee.
- The locking device will be removed from the irrigation system by the Director of Utility Operations or his/her designee within three (3) working days after payment is received from the customer.
- The Director of Utility Operations or his/her designee may require that an irrigation system comply with all current regulations and ordinances if:
 - The customer or irrigation system is found to be in violation of this plan on four (4) separate occasions;
 - In the opinion of the Director of Utility Operations or his/her designee, the violation warrants immediate compliance; or
 - The design, installation, or operation of the irrigation system prohibits the efficient use of water.
- Failure to pay assessed administrative fees within the indicated timeframe will constitute a separate violation of this plan.

APPENDIX A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES ON MUNICIPAL WATER CONSERVATION PLANS

**Texas Commission on Environmental Quality Rules on Water Conservation Plans
for Municipal Uses by Public Water Suppliers**

<u>TITLE 30</u>	ENVIRONMENTAL QUALITY
<u>PART 1</u>	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
<u>CHAPTER 288</u>	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
<u>SUBCHAPTER A</u>	WATER CONSERVATION PLANS
RULE §288.2	Water Conservation Plans for Municipal Uses by Public Water Suppliers

(a) A water conservation plan for municipal water use by public water suppliers must provide information in response to the following. If the plan does not provide information for each requirement, the public water supplier shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. All water conservation plans for municipal uses by public water suppliers must include the following elements:

(A) a utility profile in accordance with the Texas Water Use Methodology, including, but not limited to, information regarding population and customer data, water use data (including total gallons per capita per day (GPCD) and residential GPCD), water supply system data, and wastewater system data;

(B) a record management system which allows for the classification of water sales and uses into the most detailed level of water use data currently available to it, including, if possible, the sectors listed in clauses (i) - (vi) of this subparagraph. Any new billing system purchased by a public water supplier must be capable of reporting detailed water use data as described in clauses (i) - (vi) of this subparagraph:

- (i) residential;
 - (I) single family;
 - (II) multi-family;
- (ii) commercial;
- (iii) institutional;
- (iv) industrial;
- (v) agricultural; and,
- (vi) wholesale.

(C) specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in total GPCD and residential GPCD. The goals established by a public water supplier under this subparagraph are not enforceable;

(D) metering device(s), within an accuracy of plus or minus 5.0% in order to measure and account for the amount of water diverted from the source of supply;

(E) a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement;

(F) measures to determine and control water loss (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to

determine illegal connections; abandoned services; etc.);

(G) a program of continuing public education and information regarding water conservation;

(H) a water rate structure which is not "promotional," i.e., a rate structure which is cost-based and which does not encourage the excessive use of water;

(I) a reservoir systems operations plan, if applicable, providing for the coordinated operation of reservoirs owned by the applicant within a common watershed or river basin in order to optimize available water supplies; and

(J) a means of implementation and enforcement which shall be evidenced by:

(i) a copy of the ordinance, resolution, or tariff indicating official adoption of the water conservation plan by the water supplier; and

(ii) a description of the authority by which the water supplier will implement and enforce the conservation plan; and

(K) documentation of coordination with the regional water planning groups for the service area of the public water supplier in order to ensure consistency with the appropriate approved regional water plans.

(2) Additional content requirements. Water conservation plans for municipal uses by public drinking water suppliers serving a current population of 5,000 or more and/or a projected population of 5,000 or more within the next ten years subsequent to the effective date of the plan must include the following elements:

(A) a program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system;

(B) a requirement in every wholesale water supply contract entered into or renewed after official adoption of the plan (by either ordinance, resolution, or tariff), and including any contract extension, that each successive wholesale customer develop and implement a water conservation plan or water conservation measures using the applicable elements in this chapter. If the customer intends to resell the water, the contract between the initial supplier and customer must provide that the contract for the resale of the water must have water conservation requirements so that each successive customer in the resale of the water will be required to implement water conservation measures in accordance with the provisions of this chapter.

(3) Additional conservation strategies. Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements in paragraphs (1) and (2) of this subsection, if they are necessary to achieve the stated water conservation goals of the plan. The commission may require that any of the following strategies be implemented by the water supplier if the commission determines that the strategy is necessary to achieve the goals of the water conservation plan:

(A) conservation-oriented water rates and water rate structures such as uniform or increasing block rate schedules, and/or seasonal rates, but not flat rate or decreasing block rates;

(B) adoption of ordinances, plumbing codes, and/or rules requiring water-conserving plumbing fixtures to be installed in new structures and existing structures undergoing substantial modification or addition;

(C) a program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;

(D) reuse and/or recycling of wastewater and/or graywater;

(E) a program for pressure control and/or reduction in the distribution system and/or for customer connections;

(F) a program and/or ordinance(s) for landscape water management;

(G) a method for monitoring the effectiveness and efficiency of the water conservation plan; and

(H) any other water conservation practice, method, or technique which the water supplier shows to be appropriate for achieving the stated goal or goals of the water conservation plan.

(b) A water conservation plan prepared in accordance with 31 TAC §363.15 (relating to Required Water Conservation Plan) of the Texas Water Development Board and substantially meeting the requirements of this section and other applicable commission rules may be submitted to meet application requirements in accordance with a memorandum of understanding between the commission and the Texas Water Development Board.

(c) A public water supplier for municipal use shall review and update its water conservation plan, as appropriate, based on an assessment of previous five-year and ten-year targets and any other new or updated information. The public water supplier for municipal use shall review and update the next revision of its water conservation plan every five years to coincide with the regional water planning group.

Source Note: The provisions of this §288.2 adopted to be effective May 3, 1993, 18 TexReg 2558; amended to be effective February 21, 1999, 24 TexReg 949; amended to be effective April 27, 2000, 25 TexReg 3544; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective December 6, 2012, 37 TexReg 9515

APPENDIX B

FORM FOR WATER UTILITY PROFILE AND WATER CONSERVATION REPORT

APPENDIX B
Customer Water Conservation Report
Due May 1 of Every Year

Name of Utility: _____

Address & Zip: _____

Telephone Number: _____ **Fax:** _____

Form Completed By: _____

Title: _____

Signature: _____ **Date:** _____

Name and Phone Number of Person/Department responsible for implementing a water conservation program:

UTILITY PROFILE

I. POPULATION CUSTOMER DATA

A. Population and Service Area Data

1. Service area size (square miles): _____

2. Current population of service area: _____

3. Current population served by utility:

a: water _____

b: wastewater _____

4. Population served by water utility
service area for the previous five years:

5. Projected population for
in the following decades:

<u>Year</u>	<u>Population</u>
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_____	_____
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_____	_____
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_____	_____
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_____	_____
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_____	_____
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<u>Year</u>	<u>Population</u>
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<u>2010</u>	_____
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<u>2020</u>	_____
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<u>2030</u>	_____
-------------	-------

<u>2040</u>	_____
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<u>2050</u>	_____
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<u>2060</u>	_____
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5. List specific source(s)/method(s) for the calculation of current and projected population:

B. Active Connections

1. Current number of active connections by user type. Check whether multi-family service is counted as Residential ____ or Commercial ____.

Treated water users	Metered	Not-metered	Total
Residential			
Commercial			
Industrial			
Public			
Other			

2. List the net number of new connections per year for most recent three years:

Year	<u>20XX</u>	<u>20XX</u>	<u>20XX</u>
Total	_____	_____	_____

C. High Volume Customers

List annual water use for the ten highest volume customers (indicate if treated or raw water delivery). Provide date of most recent water use audit – if never audited, please indicate so.

	Customer	Use (1,000 gallons / year)	Treated / Raw Water	Date of Last Water Use Audit
(1)				
(2)				
(3)				
(4)				
(5)				
(6)				

(7)				
(8)				
(9)				
(10)				

II. WATER USE DATA FOR SERVICE AREA

A. Water Accounting Data

1. Amount of water use for previous five years (in 1,000 gal.):

Total Diverted and Treated Water Deliveries and Sales by Month					
Month	Year				
	20XX	20XX	20XX	20XX	20XX
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total					

Indicate how the above figures were determined (e.g., from a master meter located at the point of a diversion from the source or located at a point where raw water enters the treatment plant, or from water sales).

2. Indicate whether water is supplied from:

a. Untreated surface water sources: _____

b. Another utility as treated water: _____

2a. For entities that treat their own water:

Does utility operate a raw water intake? If so, indicate intake location and minimum elevations of safe operation.

Location of raw water intake

Elevation

_____	_____
_____	_____
_____	_____
_____	_____

2b. For entities that purchase treated water from another utility, list water supply sources and quantity purchased from each source:

Treated water sources
purchased

Quantity

_____	_____
_____	_____
_____	_____
_____	_____

3. Amount of water (in 1,000 gallons) delivered (sold) as recorded by the following account types for the past five years.

Account Type	Year				
	20XX	20XX	20XX	20XX	20XX
Residential					
Commercial					
Public / Institutional					
Industrial					
Wholesale					
Other					
Total Sold					

Residential:

Single + multifamily residences

Commercial: Restaurants, retail, office

Public / Institutional: Municipal, airports, schools, hospitals

Industrial: Large manufacturing

Wholesale: Deliveries to successive customers

Other: Uses not included in above categories.
Please describe:_____

4. Calculate gallons per capita per day by account types for the past five years.

Account Type	Gallons per capita per day by Account Type (Total water diverted (or treated) / population / 365)				
	20XX	20XX	20XX	20XX	20XX
Residential					
Commercial					
Public / Institutional					
Industrial					
Wholesale					
Other					
Total					

5. List previous five years records for water loss (the difference between water diverted (or treated) and water delivered (or sold)). The goal for percent of unaccounted for water is 12%.

<u>Year</u>	<u>Amount (gal.)</u>	<u>% of Total Water Diverted or Treated</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

6. List previous five years records for water reuse. Reuse is the authorized use for one or more beneficial purposes of use of water that remains unconsumed after the water is used for the original purpose of use and

before that water is either disposed of or discharged or otherwise allowed to flow into a watercourse, lake or other body of state-owned water.

<u>Year</u>	<u>Amount (gal.)</u>	<u>% of Total Water Diverted or Treated</u>
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7. Municipal per capita water use (in gallons per day) for previous five years. Municipal per capita water use is the sum total of water diverted into a water supply system for residential, commercial, and public and institutional uses divided by total population served. GPCD includes water losses.

<u>Year</u>	<u>Population</u>	<u>Total Water Diverted (or Treated)(1,000 gal.)</u>	<u>Municipal Per Capita Use (GPCD)</u>
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7. Previously stated per capita goals: 5-year: _____ 10-year: _____
 (by 200X) (by 200X)
8. Did water use (GPCD) increase or decrease from previous year? _____
Percent increase or decrease from previous year? _____
9. Briefly discuss reasons for the increase or decrease in municipal water use.

APPENDIX C

LETTER TO REGION C
WATER PLANNING GROUP

APPENDIX C
Letter to Region C Water Planning Group

Date

Mr. Kevin Ward
Chair, Region C Water Planning Group
Trinity River Authority
P.O. Box 60
Arlington, TX 76004

Dear Mr. Ward:

Enclosed please find a copy of the water conservation plan for customers of the City of Mansfield. I am submitting a copy of this plan to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules.

Sincerely,

Jeff Price
Director, Water Utilities
City of Mansfield
