

## Appendix 5C-A

# Model Water Conservation Plan for Public Water Suppliers

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This appendix includes a Model Water Conservation Plan for Municipal Water Users in the ETRWPA. The model plan addresses the latest Texas Commission on Environment Quality requirements and is intended to be modified by each user to best reflect the activities appropriate to the entity. The model plan also includes sample appendices required:

- Appendix A – List of References
- Appendix B – Texas Commission on Environmental Quality Rules on Municipal Water Conservation Plans
- Appendix C – TCEQ Utility Profile
- Appendix D – TCEQ Water Conservation Implementation Report
- Appendix E – TWDB Annual Water Conservation Report
- Appendix F – City Council Resolution Adopting Plan

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# **Water Conservation Plan for [Entity]**

**Date**

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# Water Conservation Plan for [Entity]

## 1. INTRODUCTION AND OBJECTIVES

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.

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 document the level of recycling and reuse in the water supply.
- To extend the life of current water supplies by reducing the rate of growth in demand.

The water conservation plan presented in this document is a model water conservation plan intended for use as a template by retail public water suppliers in Region I. This model plan includes all of the elements required by TCEQ. In order to modify this plan, each water supplier will need to do the following:

- Complete the TCEQ water utility profile (provided in Appendix C).
- Complete the TCEQ water conservation implementation report (provided in Appendix D).
- Complete the Texas Water Development Board (TWDB) annual water conservation report (provided in Appendix E).
- Set five- and ten-year goals for per capita water use.
- Adopt ordinance(s) or regulation(s) approving the model plan.

The final adopted version should be provided to the TCEQ and the TWDB.

## **2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES**

### **2.1 Conservation Plans**

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.”<sup>1</sup> 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 C
- 288.2(a)(1)(B) – Record Management System – Section 4
- 288.2(a)(1)(C) – Specification of Goals – Section 5
- 288.2(a)(1)(D) – Accurate Metering – Section 6.1
- 288.2(a)(1)(E) – Universal Metering – Section 6.1
- 288.2(a)(1)(F) – Determination and Control of Water Loss – Section 6.2
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- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 8
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 9.2

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<sup>1</sup> Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.2, and Subchapter B, Rule 288.20, downloaded from <http://www.tnrcc.state.tx.us/oprd/rules/pdflib/288a.pdf>, May 2014.

- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 10
- 288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 9.5
- 288.2(c) – Review and Update Plan – Section 10

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 6.2, 6.3, and 6.4
- 288.2(a)(2)(B) – Requirement for Water Conservation Plans by Wholesale Customers – Section 9.4

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 8
- 288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 9.1
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 9.3
- 288.2(a)(3)(G) – Monitoring Method – Section 6.4

**3. WATER UTILITY PROFILE**

Appendix C to this water conservation plan is a sample water utility profile based on the format recommended by the TCEQ.

*[Water supplier is to complete the utility profile and provide information on the public water supply system and customers if appropriate for this section.]*

#### **4. RECORD MANAGEMENT SYSTEM**

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(1)(B), the record management system allows for the separation of water sales and uses into single-family residential, multi-family residential, commercial, public/institutional, industrial, agricultural, and wholesale categories. This information will be included in an annual water conservation implementation report, as described in Section 6.4 below.

For those entities whose record management systems do not currently allow for the separation of water sales as described above, they will move to implement such a system upon the purchase of new billing software.

#### **5. 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 water supplier will develop 5-year and 10-year targets for water savings to include goals for water loss programs and goals for municipal use in total gallons per capita per day (GPCD) and residential GPCD.]*

The goals for this water conservation plan include the following:

- Strive to attain the total per capita municipal water use below the specified amount in gallons per capita per day shown in the “Targets and Goals” section of Appendix D using a 5-year rolling average calculation. ( See 5-year and 10-year goals in Appendix D).
- Similarly, strive to attain residential per capita water use of *[gpcd]* by *[5 years]* and *[gpcd]* by *[10 years]*.
- Conduct water audits as required by the TCEQ and maintain water loss to *[insert amount]* percent of the total water used through existing and new maintenance programs.
- Raise public awareness of water conservation and encourage responsible public

behavior by a public education and information program, as discussed in Section 7.

## **6. 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. *[Water suppliers serving a population of 5,000 people or more or a having a projected population of greater than 5,000 people or more within the next ten years must include the following elements in their water conservation plans:]*

### **6.1 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement**

All customers of wholesale or retail public water suppliers, including public and governmental users, should be metered. In many cases, water suppliers already meter all of their water users. For those water suppliers who do not currently meter all of their water uses, these entities will implement a program to meter all water uses within the next five years.

Most water suppliers test and replace their customer meters on a regular basis. All customer meters should be replaced on a 15-year cycle. Those who do not currently have a meter testing and replacement program will implement such a program over the next five years.

### **6.2 Determination and Control of Water Loss**

Total water loss is the volume of water diverted or purchased minus water delivered to customers minus authorized but unmetered uses. (Authorized but unmetered uses would include use for fire fighting, releases for flushing of lines, etc.) The TWDB water loss

audit worksheet divides total water loss into apparent losses and real losses:

- Apparent water loss is water which is used by customers but for which the utility is not compensated. Reducing apparent losses increases the city's utility revenue but does not reduce water usage. Apparent water losses include:
  - Inaccuracies in customer meters. (Customer meters tend to run more slowly as they age and under-report actual use.)
  - Losses due to illegal connections and theft.
  - Systematic data handling errors
- Real water loss is water which is physically lost from the water system before it can be used by customers. Identifying and preventing real losses decreases a utility's costs and decreases water usage. Real water losses include:
  - Reported leaks.
  - Unreported leaks.

Measures to control water loss are part of the routine operations of water suppliers. Water audits are useful methods of accounting for water usage within a system. Water audits will be conducted by water suppliers in order to decrease water loss. Maintenance crews and personnel will look for and report evidence of leaks in the water distribution system. The leak detection and repair program is described in Section 6.3 below. Meter readers are asked to watch for and report signs of illegal connections, so they can be addressed quickly. Water loss is calculated as part of the water conservation implementation report (Appendix D) and the annual water conservation report (Appendix E).

### **6.3 Leak Detection and Repair**

City crews and personnel will look for and report evidence of leaks in the water distribution system. Areas of the water distribution system in which numerous leaks and line breaks occur are targeted for replacement as funds are available.

## **6.4 Monitoring of Effectiveness and Efficiency - Water Conservation Reports**

*[Entities that are required to submit a water conservation plan must also submit a water conservation implementation report with the plan (30 TAC 288.30(2)). This report includes statistics from the previous five-year implementation period. The TCEQ has provided a template on its web site.<sup>5</sup>*

*The Texas Water Development Board (TWDB) also requires entities that serve 3,300 connections or more, that hold a surface water right, or that are applying for or receiving more than \$500,000 in financial assistance from the TWDB to file an annual water conservation report with the TWDB by May 1 each year. This report includes statistics from the previous year. The TWDB has provided a template on its web site.<sup>6</sup>]*

A completed five-year water conservation implementation report is attached in Appendix D. The city will use this report to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities. In this report, the city has documented water use accounting, system data, per-capita water use and water loss, water conservation programs and activities, and estimated water savings for previous five years. In addition, the city has compared current per capita water use to the targets and goals established in this plan (Section 4.3).

An annual water conservation report will be completed by *[insert date]* of the following year and will be submitted to the TWDB. This report will record water use accounting, system data, targets and goals, per-capita water use and water loss, and water conservation programs and activities for the previous year. The report 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 report for *[last year]* is attached in Appendix E.

## **7. CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN**

The continuing public education and information campaign on water conservation includes the following elements: *[Water provider is to select the appropriate measures for its system.]*

- Insert water conservation information with water bills. Inserts will include material developed by the [water supplier] staff and material obtained from the TWDB, the TCEQ, and other sources.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Make the *Texas Smartscape CD*, water conservation brochures, and other water conservation materials available to the public.
- Make information on water conservation available on its website (if any) and include links to the *Texas Smartscape* website and to information on water conservation on the TWDB and TCEQ web sites.
- Provide water conservation materials to schools and utilize existing age-appropriate education programs available through the TCEQ and TWDB.
- Support the State-initiated Water Conservation Awareness and Education Campaign.

## **8. WATER RATE STRUCTURE**

*[If a water supplier has a decreasing block rate structure, it is recommended that a flat rate or increasing rate structure be adopted.]*

An increasing block rate water structure that is intended to encourage water conservation and discourage excessive use and waste of water will be adopted upon completion of the next rate study or within five years. An example water rate structure is as follows:

Residential Rates

1. Monthly minimum charge. This can (but does not have to) include up to 2,000 gallons water use with no additional charge.
2. Base charge per 1,000 gallons up to the approximate average residential use.
3. 2<sup>nd</sup> tier (from the average to 2 times the approximate average) at 1.25 to 2.0 times the base charge.
4. 3<sup>rd</sup> tier (above 2 times the approximate average) at 1.25 to 2.0 times the 2<sup>nd</sup> tier.
5. The residential rate can also include a lower tier for basic household use up to 4,000 gallons per month or so.

Commercial/Industrial Rates

Commercial/industrial rates should include at least 2 tiers, with rates for the 2<sup>nd</sup> tier at 1.25 to 2.0 times the first tier.

*[If a water supplier has an increasing rate structure, state the current rate structure as follows.]*

The [water supplier] has adopted an increasing block rate water structure that is intended to encourage water conservation and discourage excessive use and waste of water. The water rate structure adopted on [insert date] is as follows:

Residential Rates

*[To be completed by the supplier]*

Commercial/Industrial Rates

*[To be completed by the supplier]*

## **9. OTHER WATER CONSERVATION MEASURES**

### **9.1 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 2.2 gallons per minute (gpm) for faucets, 2.5 gpm for showerheads, and 1.28 gallons per flush for toilets. These standards assure that all new construction and renovations will use water-conserving fixtures.

Federal rules require that all clothes washers manufactured by 2007 use 9.5 gallons of water per cubic foot per cycle or less. These standards became more stringent for commercial clothes washers in 2013 and are scheduled to become more stringent for residential clothes washers in 2015 and again in 2018.

Federal rules require that all residential dishwashers manufactured on or after May 30, 2013, must achieve water consumption of 5 gallons per cycle or less.

The potential savings from these efficient fixtures can be significant, but historically have been difficult to measure independently from other factors.

### **9.2 Reservoir System Operation Plan**

*[Insert description of reservoir system operation plan if public supplier has such a plan.]*

*or*

The [water supplier] purchases water from [name] and does not have surface water supplies for which to implement a reservoir system operation plan.

### **9.3 Considerations for Landscape Water Management Regulations (Optional)**

*[The water supplier may choose to adopt landscape water management regulations as part of the development of this water conservation plan. These regulations are intended to minimize waste in landscape irrigation. The proposed regulations might include the following elements:*

- *Require that all new irrigation systems be in compliance with state design and installation regulations (TAC Title 30, Part 1, Chapter 344).*
- *Prohibit irrigation systems that spray directly onto impervious surfaces or onto other non-irrigated areas. (Wind-driven water drift will be taken into consideration.)*
- *Prohibit use of poorly maintained sprinkler systems that waste water.*
- *Prohibit outdoor watering during any form of precipitation.*
- *Enforce the regulations by a system of warnings followed by fines for continued or repeat violations.*
- *Implement other measures to encourage off-peak water use.]*

#### **9.4 Requirement for Water Conservation Plans by Wholesale Customers**

*[Required for cities with populations over 5,000.]*

Every contract for the wholesale sale of water by customers 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.

#### **9.5 Coordination with Regional Water Planning Group**

In accordance with TCEQ regulations, a copy of this adopted water conservation plan will be sent to the East Texas Region water planning group.

### **10. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN**

A copy of [an ordinance, order, or resolution] adopted by the [City Council or governing board] regarding this water conservation plan is attached to and made part of this plan

(Appendix F). The [ordinance, order, or resolution] designates responsible officials to implement and enforce the water conservation plan.

As required by TCEQ rules, the City will review this water conservation plan every five years, beginning in *[five years from date of plan]*. The plan will be updated as appropriate based on new or updated information. As the plan is reviewed and subsequently updated, a copy of the revised water conservation plan will be submitted to the TCEQ, the TWDB, and the East Texas Region water planning group for their records.

# *Appendix A*

*List of References*

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## Appendix A List of References

- (1) Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.2, and Subchapter B, Rule 288.20, downloaded from <http://www.tceq.texas.gov/assets/public/legal/rules/rules/pdflib/288a.pdf>, May 2014.

The following conservation plans and related documents were reviewed in the development of this plan.

- (2) Freese and Nichols, Inc.: *Draft Model Water Conservation Plan for North Texas Municipal Water District Member Cities and Customers*, prepared for the North Texas Municipal Water District, Fort Worth, February 2014.
- (3) Freese and Nichols, Inc.: *Water Resource and Emergency Management Plan*, prepared for the North Texas Municipal Water District, Fort Worth, April 2014.
- (4) Dallas Water Utilities: *City of Dallas Drought Contingency Plan*, adopted by the City Council, Dallas, February 26, 2014.
- (5) Texas Commission on Environmental Quality: *Drought Contingency Plan for a Retail Public Water Supplier*, accessed online at <http://www.tceq.texas.gov/assets/public/permitting/watersupply/drought/20191.doc>, June 2014.
- (6) Texas Commission on Environmental Quality: *Utility Profile and Water Conservation Plan Requirements for Municipal Use by Retail Public Water Suppliers*, TCEQ Form No. 10218, revised June 14, 2013, accessed online at <http://www.tceq.texas.gov/assets/public/permitting/forms/10218.docx>, June 2014..
- (7) Texas Commission on Environmental Quality: *Water Conservation Implementation Report Public Water Supplier*, TCEQ Form No. 20646, revised September 18, 2013, accessed online at <http://www.tceq.texas.gov/assets/public/permitting/watersupply/conservation/20646.docx>, June 2014.
- (8) Texas Water Development Board, *Water Conservation Plan Report – Retail Water Supplier*, TWDB Form No. 1966, revised August 13, 2013, accessed online at [http://www.twdb.texas.gov/conservation/municipal/plans/doc/RWS\\_1966.pdf](http://www.twdb.texas.gov/conservation/municipal/plans/doc/RWS_1966.pdf), June 2014.
- (9) Texas Water Development Board: *Report 362 Water Conservation Best Management Practices Guide*, Austin, November 2004.

# *Appendix B*

*Texas Commission on Environmental  
Quality Rules on Municipal Water  
Conservation Plans*

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**Texas Administrative Code**

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

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(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.

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**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 C*

*TCEQ Utility Profile*

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## Texas Commission on Environmental Quality

### UTILITY PROFILE AND WATER CONSERVATION PLAN REQUIREMENTS FOR MUNICIPAL WATER USE BY RETAIL PUBLIC WATER SUPPLIERS

This form is provided to assist retail public water suppliers in water conservation plan development. If you need assistance in completing this form or in developing your plan, please contact the conservation staff of the Resource Protection Team in the Water Availability Division at (512) 239-4691.

Name: Click to add text

Address: \_\_\_\_\_

Telephone Number: (    ) Fax: (    )

Water Right No.(s): \_\_\_\_\_

Regional Water Planning Group: \_\_\_\_\_

Form Completed by: \_\_\_\_\_

Title: \_\_\_\_\_

Person responsible for implementing conservation program: \_\_\_\_\_ Phone: (    )

Signature: \_\_\_\_\_ Date:  /    /

**NOTE: If the plan does not provide information for each requirement, include an explanation of why the requirement is not applicable.**

**UTILITY PROFILE**

**I. POPULATION AND CUSTOMER DATA**

*A. Population and Service Area Data*

1. Attach a copy of your service-area map and, if applicable, a copy of your Certificate of Convenience and Necessity (CCN).
2. Service area size (in square miles):  
(Please attach a copy of service-area map)
3. Current population of service area:
4. Current population served for:  
Water \_\_\_\_\_  
Wastewater \_\_\_\_\_

5. Population served for previous five years:

| <i>Year</i> | <i>Population</i> |
|-------------|-------------------|
| _____       | _____             |
| _____       | _____             |
| _____       | _____             |
| _____       | _____             |
| _____       | _____             |

6. Projected population for service area in the following decades:

| <i>Year</i> | <i>Population</i> |
|-------------|-------------------|
| 2020        | _____             |
| 2030        | _____             |
| 2040        | _____             |
| 2050        | _____             |
| 2060        | _____             |

7. List source or method for the calculation of current and projected population size.

*B. Customers Data*

Senate Bill 181 requires that uniform consistent methodologies for calculating water use and conservation be developed and available to retail water providers and certain other water use sectors as a guide for preparation of water use reports, water conservation plans, and reports on water conservation efforts. A water system must provide the most detailed level of customer and water use data available to it, however, any new billing system purchased must be capable of reporting data for each of the sectors listed below. [http://www.tceq.texas.gov/assets/public/permitting/watersupply/water\\_rights/sb181\\_guidance.pdf](http://www.tceq.texas.gov/assets/public/permitting/watersupply/water_rights/sb181_guidance.pdf)

1. Current number of active connections. Check whether multi-family service is counted as  Residential or  Commercial?

| <i>Treated Water Users</i> | <i>Metered</i> | <i>Non-Metered</i> | <b>Totals</b> |
|----------------------------|----------------|--------------------|---------------|
| Residential                | _____          | _____              | _____         |
| Single-Family              | _____          | _____              | _____         |
| Multi-Family               | _____          | _____              | _____         |
| Commercial                 | _____          | _____              | _____         |
| Industrial/Mining          | _____          | _____              | _____         |
| Institutional              | _____          | _____              | _____         |
| Agriculture                | _____          | _____              | _____         |
| Other/Wholesale            | _____          | _____              | _____         |

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

| <i>Year</i>                | _____ | _____ | _____ |
|----------------------------|-------|-------|-------|
| <i>Treated Water Users</i> | _____ | _____ | _____ |
| Residential                | _____ | _____ | _____ |
| Single-Family              | _____ | _____ | _____ |
| Multi-Family               | _____ | _____ | _____ |
| Commercial                 | _____ | _____ | _____ |
| Industrial/Mining          | _____ | _____ | _____ |
| Institutional              | _____ | _____ | _____ |
| Agriculture                | _____ | _____ | _____ |
| Other/Wholesale            | _____ | _____ | _____ |

3. List of annual water use for the five highest volume customers.

| <i>Customer</i> | <i>Use (1,000 gal/year)</i> | <i>Treated or Raw Water</i> |
|-----------------|-----------------------------|-----------------------------|
| 1. _____        | _____                       | _____                       |
| 2. _____        | _____                       | _____                       |
| 3. _____        | _____                       | _____                       |
| 4. _____        | _____                       | _____                       |
| 5. _____        | _____                       | _____                       |

**II. WATER USE DATA FOR SERVICE AREA**

*A. Water Accounting Data*

1. List the amount of water use for the previous five years (in 1,000 gallons). Indicate whether this is  diverted or  treated water.

| <i>Year</i>   | _____ | _____ | _____ | _____ | _____ |
|---------------|-------|-------|-------|-------|-------|
| <i>Month</i>  | _____ |       |       |       |       |
| January       | _____ | _____ | _____ | _____ | _____ |
| February      | _____ | _____ | _____ | _____ | _____ |
| March         | _____ | _____ | _____ | _____ | _____ |
| April         | _____ | _____ | _____ | _____ | _____ |
| May           | _____ | _____ | _____ | _____ | _____ |
| June          | _____ | _____ | _____ | _____ | _____ |
| July          | _____ | _____ | _____ | _____ | _____ |
| August        | _____ | _____ | _____ | _____ | _____ |
| September     | _____ | _____ | _____ | _____ | _____ |
| October       | _____ | _____ | _____ | _____ | _____ |
| November      | _____ | _____ | _____ | _____ | _____ |
| December      | _____ | _____ | _____ | _____ | _____ |
| <b>Totals</b> | _____ | _____ | _____ | _____ | _____ |

Describe how the above figures were determine (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. Amount of water (in 1,000 gallons) delivered/sold as recorded by the following account types for the past five years.

| <i>Year</i>          | _____ | _____ | _____ | _____ | _____ |
|----------------------|-------|-------|-------|-------|-------|
| <i>Account Types</i> | _____ |       |       |       |       |
| Residential          | _____ | _____ | _____ | _____ | _____ |
| Single-Family        | _____ | _____ | _____ | _____ | _____ |
| Multi-Family         | _____ | _____ | _____ | _____ | _____ |
| Commercial           | _____ | _____ | _____ | _____ | _____ |
| Industrial/Mining    | _____ | _____ | _____ | _____ | _____ |
| Institutional        | _____ | _____ | _____ | _____ | _____ |
| Agriculture          | _____ | _____ | _____ | _____ | _____ |
| Other/Wholesale      | _____ | _____ | _____ | _____ | _____ |

3. List the previous records for water loss for the past five years (the difference between water diverted or treated and water delivered or sold).

| <i>Year</i> | <i>Amount (gallons)</i> | <i>Percent %</i> |
|-------------|-------------------------|------------------|
| _____       | _____                   | _____            |
| _____       | _____                   | _____            |
| _____       | _____                   | _____            |
| _____       | _____                   | _____            |
| _____       | _____                   | _____            |

*B. Projected Water Demands*

If applicable, attach or cite projected water supply demands from the applicable Regional Water Planning Group for the next ten years using information such as population trends, historical water use, and economic growth in the service area over the next ten years and any additional water supply requirements from such growth.

**III. WATER SUPPLY SYSTEM DATA**

*A. Water Supply Sources*

List all current water supply sources and the amounts authorized (in acre feet) with each.

| <i>Water Type</i> | <i>Source</i> | <i>Amount Authorized</i> |
|-------------------|---------------|--------------------------|
| Surface Water     | _____         | _____                    |
| Groundwater       | _____         | _____                    |
| Contracts         | _____         | _____                    |
| Other             | _____         | _____                    |

*B. Treatment and Distribution System*

1. Design daily capacity of system (MGD):
2. Storage capacity (MGD):
  - a. Elevated \_\_\_\_\_
  - b. Ground \_\_\_\_\_
3. If surface water, do you recycle filter backwash to the head of the plant?  
 Yes       No      If yes, approximate amount (MGD):

**IV. WASTEWATER SYSTEM DATA**

*A. Wastewater System Data (if applicable)*

1. Design capacity of wastewater treatment plant(s) (MGD):
  
2. Treated effluent is used for  on-site irrigation,  off-site irrigation, for  plant wash-down, and/or for  chlorination/dechlorination.

If yes, approximate amount (in gallons per month):

3. Briefly describe the wastewater system(s) of the area serviced by the water utility. Describe how treated wastewater is disposed. Where applicable, identify treatment plant(s) with the TCEQ name and number, the operator, owner, and the receiving stream if wastewater is discharged.

*B. Wastewater Data for Service Area (if applicable)*

1. Percent of water service area served by wastewater system: \_\_\_\_\_ %
  
2. Monthly volume treated for previous five years (in 1,000 gallons):

| <i>Year</i>   | _____ | _____ | _____ | _____ | _____ |
|---------------|-------|-------|-------|-------|-------|
| <i>Month</i>  | _____ | _____ | _____ | _____ | _____ |
| January       | _____ | _____ | _____ | _____ | _____ |
| February      | _____ | _____ | _____ | _____ | _____ |
| March         | _____ | _____ | _____ | _____ | _____ |
| April         | _____ | _____ | _____ | _____ | _____ |
| May           | _____ | _____ | _____ | _____ | _____ |
| June          | _____ | _____ | _____ | _____ | _____ |
| July          | _____ | _____ | _____ | _____ | _____ |
| August        | _____ | _____ | _____ | _____ | _____ |
| September     | _____ | _____ | _____ | _____ | _____ |
| October       | _____ | _____ | _____ | _____ | _____ |
| November      | _____ | _____ | _____ | _____ | _____ |
| December      | _____ | _____ | _____ | _____ | _____ |
| <b>Totals</b> | _____ | _____ | _____ | _____ | _____ |

# *Appendix D*

*TCEQ Water  
Conservation  
Implementation Report*

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## Texas Commission on Environmental Quality

### Water Conservation Implementation Report Public Water Supplier

This five year report must be completed by entities that are required to submit a water conservation plan to the TCEQ in accordance with Title 30 Texas Administrative Code, Chapter 288. Please complete this report and submit it to the TCEQ. If you need assistance in completing this form, please contact the Resource Protection Team in the Water Availability Division at (512) 239-4691.

### CONTACT INFORMATION

Name of Entity:

Public Water Supply Identification Number (PWS ID): [Click here to enter text.](#)

CCN numbers: [Click here to enter text.](#)

Water Right Permit numbers: [Click here to enter text.](#)

Wastewater ID numbers: [Click here to enter text.](#)

Check all that apply:

- Retail Public Water Supplier
- Wholesale Public Water Supplier

Address: [Click here to enter text.](#) City: [Click here to enter text.](#) Zip Code: [Click here to enter text.](#)

Email: [Click here to enter text.](#) Telephone Number: [Click here to enter text.](#)

Regional Water Planning Group: [Click here to enter text.](#) [Map](#)

Groundwater Conservation District: [Click here to enter text.](#) [Map](#)

Form Completed By: [Click here to enter text.](#) Title: [Click here to enter text.](#)

Signature: \_\_\_\_\_ Date: [Click here to enter a date.](#)

Contact information for the person or department responsible for implementing the water conservation plan:

Name: [Click here to enter text.](#) Phone: [Click here to enter text.](#) Email: [Click here to enter text.](#)

Report Completed on Date: [Click here to enter a date.](#)

Reporting Period (**check only one**):

- Fiscal Period Begin: [Click here to enter a date.](#) Period End: [Click here to enter a date.](#)
- Calendar Period Begin: [Click here to enter a date.](#) Period End: [Click here to enter a date.](#)

Please check all of the following that apply to your entity:

- A surface water right holder of 1,000 acre-feet/year or more for non-irrigation uses
- A surface water right holder of 10,000 acre-feet/year or more for irrigation uses

**\*Important\***

*If your entity meets the following description, please skip page 3 and go directly to page 4.*

Your entity is a Wholesale Public Water Supplier that ONLY provides wholesale water services for public consumption. For example, you only provide wholesale water to other municipalities or water districts.

# Water Use Accounting

**Retail Water Sold:** *All retail water sold for public use and human consumption.*

**Helpful Hints:** There are two options available for you to provide the requested information. Both options ask the same information; however, the level of detail and break down of information differs between the two options. Please select just one option that works best for your entity and fill in the fields as completely as possible.

Fields that are gray are entered by the user.  
Select fields that are white and press F9 to updated fields.

For the five-year reporting period, enter the gallons of **RETAIL water sold** in each major water use category. Use **only one** of the following options.

## Option 1

| Water Use Category*                        | Gallons Sold |
|--|--------------|
| Single Family Residential                  |              |
| Multi-Family Residential                   |              |
| <b>TOTAL Residential Use<sup>1</sup></b>   | 0            |
| Industrial                                 |              |
| Commercial                                 |              |
| Institutional                              |              |
| <b>TOTAL Retail Water Sold<sup>2</sup></b> | 0            |

1. [SF Res +MF Res = Residential Use]
2. [Res +Ind +Com +Ins = Retail Water Sold]

## Option 2

| Water Use Category *   | Gallons Sold |
|--|--------------|
| <b>Residential</b><br>Select all of the sectors that your account for as "Residential".<br><input type="checkbox"/> Single Family <input type="checkbox"/> Multi-Family  |              |
| <b>Commercial</b><br>Please select all of the sectors that your account for as "Commercial".<br><input type="checkbox"/> Commercial <input type="checkbox"/> Multi-Family <input type="checkbox"/> Industrial <input type="checkbox"/> Institutional |              |
| <b>Industrial</b><br>Please select all of the sectors that your account for as "Industrial".<br><input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Institutional                                       |              |
| <b>Other</b><br>Please select all of the sectors that your account for as "Other".<br><input type="checkbox"/> Commercial <input type="checkbox"/> Multi-Family <input type="checkbox"/> Industrial <input type="checkbox"/> Institutional           |              |
| <b>TOTAL Retail Water Sold<sup>1</sup></b>   | 0.00         |

1. [Res +Com +Ind + Other = Retail Water Sold]

**Wholesale Water Exported:** *Wholesale water sold or transferred out of the distribution system.*

For the five-year reporting period, enter the gallons of **WHOLESALE water exported** to each major water use category.

| <b>Water Use Category*</b>                        | <b>Gallons of Exported Wholesale Water</b> |
|---|--|
| Municipal Customers                               |  |
| Agricultural Customers                            |  |
| Industrial Customers                              |  |
| Commercial Customers                              |  |
| Institutional Customers                           |  |
| <b>TOTAL Wholesale Water Exported<sup>1</sup></b> | <b>0.00</b>                                |

1. [Mun +Agr +Ind +Com +Ins = Wholesale Water Exported]

## System Data

Fields that are gray are entered by the user.  
Select fields that are white and hit F9 to updated fields.

|   | <b>Total Gallons During the Five-Year Reporting Period</b>   |
|---|--|
| <b>Water Produced:</b> Volume produced from own sources   |  |
| <b>Wholesale Water Imported :</b> Purchased wholesale water imported from other sources into the distribution system  |  |
| <b>Wholesale Water Exported:</b> Wholesale water sold or transferred out of the distribution system (Insert Total Volume calculated on Page 4)  |  |
| <b>TOTAL System Input :</b> Total water supplied to the infrastructure  | 0.00<br><br>[Produced + Imported – Exported = System Input]  |
| <b>Retail Water Sold :</b> All retail water sold for public use and human consumption (Insert Total Residential Use from Option 1 or Option 2 calculated on Page 3)   |  |
| <b>Other Consumption Authorized for Use but not Sold:</b><br><ul style="list-style-type: none"> <li>- back flushing water            - line flushing</li> <li>- storage tank cleaning        - golf courses</li> <li>- fire department use         - parks</li> <li>- municipal government offices</li> </ul> |  |
| <b>TOTAL Authorized Water Use:</b> All water that has been authorized for use or consumption.   | 0.00<br><br>[Retail Water Sold + Other Consumption = Total Authorized]                                   |
| <b>Apparent Losses – Water that has been consumed but not properly measured</b><br>(Includes customer meter accuracy, systematic data discrepancy, un- authorized consumption such as theft)  |  |
| <b>Real Losses – Physical losses from the distribution system prior to reaching the customer destination</b><br>(Includes physical losses from system or mains, reported breaks and leaks, storage overflow)  |  |
| <b>Unidentified Water Losses</b>  | 0.00<br><br>[System Input- Total Authorized - Apparent Losses - Real Losses = Unidentified Water Losses] |
| <b>TOTAL Water Loss</b>   | 0.00<br><br>[Apparent + Real + Unidentified = Total Water Loss]  |

## Targets and Goals

In the table below, please provide the **specific and quantified five and ten-year targets for water savings** listed in your water conservation plan.

Fields that are gray are entered by the user.  
Select fields that are white and hit F9 to update fields.

| Date                                    | Target for:<br>Total GPCD | Target for:<br>Water Loss<br>(expressed in GPCD) | Target for:<br>Water Loss Percentage<br>(expressed in Percentage) |
|---|---------------------------|--|---|
| Five-year<br>target date:<br>dd/mm/yyyy |                           |  | %   |
| Ten-year<br>target date:<br>dd/mm/yyyy  |                           |  | %   |

Are targets in the water conservation plan being met? Yes  No

If these targets are not being met, provide an explanation as to why, including any progress on these targets: [Click here to enter text.](#)

## Gallons per Capita per Day (GPCD) and Water Loss

Compare your current gpcd and water loss to the above targets and goals set in your previous water conservation plan.

| Total System Input in Gallons                   | Permanent Population | Current GPCD                                      |
|---|----------------------|---|
| [Produced + Imported – Exported = System Input] |                      | [ (System Input ÷ Permanent Population) /5/ 365 ] |

Permanent Population is the total permanent population of the service area. This includes single family, multi-family, and group quarter populations.

| Total Residential Use | Permanent Population | Residential GPCD  |
|-----------------------|----------------------|---|
|                       |                      | [ (Residential Use ÷ Residential Population) / 5/ 365 ] |

Residential Population is the total residential population of the service area including single & multi-family population.

| Total Water Loss                                    | Total System Input in Gallons                              | Permanent Population | Water Loss calculated in |                      |
|---|--|----------------------|--------------------------|----------------------|
|   |  |                      | GPCD <sup>1</sup>        | Percent <sup>2</sup> |
| [Apparent + Real + Unidentified = Total Water Loss] | [Water Produced + Wholesale Imported - Wholesale Exported] |                      |                          |                      |

1.  $[\text{Total Water Loss} \div \text{Permanent Population}] / 5 / 365 = \text{Water Loss GPCD}$
2.  $[\text{Total Water Loss} \div \text{Total System Input}] \times 100 = \text{Water Loss Percentage}$

## Water Conservation Programs and Activities

As you complete this section, please review your water conservation plan to see if you are making progress towards meeting your stated goals.

Fields that are gray are entered by the user. Select fields that are white and hit F9 to updated fields.

### 1. Water Conservation Plan

What year did your entity adopt, or revise, their most recent water conservation plan: [Click here to enter text.](#)

Does the plan incorporate [Best Management Practices](#)? Yes  No

### 2. Water Conservation Programs

For the reporting period, please select the types of activities and programs that have been actively administered, and estimate the expense and savings that incurred in implementing the conservation activities and programs for the past five years. Leave the field blank if unknown:

| Program or Activity  | Estimated Expenses | Estimated Gallons Saved |
|--|--------------------|-------------------------|
| <b>Conservation Analysis &amp; Planning</b>  |                    |                         |
| <input type="checkbox"/> Conservation Coordinator                                  |                    |                         |
| <input type="checkbox"/> Water Survey for Single-Family and Multi-Family Customers |                    |                         |
| <b>Financial</b>   |                    |                         |
| <input type="checkbox"/> Wholesale Agency Assistance Programs                      |                    |                         |
| <input type="checkbox"/> Water Conservation Pricing/ Rate Structures               |                    |                         |
| <b>System Operations</b>   |                    |                         |
| <input type="checkbox"/> Water Loss Audits   |                    |                         |
| <input type="checkbox"/> Leak Detection  |                    |                         |
| <input type="checkbox"/> Universal Metering and Metering Repair                    |                    |                         |
| <b>Landscaping</b>   |                    |                         |
| <input type="checkbox"/> Landscape Irrigation Conservation and                     |                    |                         |

|  |         |   |
|--|---------|---|
| Incentives   |         |   |
| <input type="checkbox"/> Athletic Fields Conservation                                |         |   |
| <input type="checkbox"/> Golf Course Conservation                                    |         |   |
| <input type="checkbox"/> Park Conservation   |         |   |
| Education & Public Awareness   |         |   |
| <input type="checkbox"/> School Education  |         |   |
| <input type="checkbox"/> Public Information  |         |   |
| Rebate, Retrofit, and Incentive Programs   |         |   |
| <input type="checkbox"/> Conservation Programs for ICI Accounts                      |         |   |
| <input type="checkbox"/> Residential Clothes Washer Incentive Program                |         |   |
| <input type="checkbox"/> Water Wise Landscape Design and Conversion Programs         |         |   |
| <input type="checkbox"/> Showerhead, Aerator, and Toilet Flapper Retrofit            |         |   |
| <input type="checkbox"/> Residential Toilet Replacement Programs                     |         |   |
| <input type="checkbox"/> Rainwater Harvesting Incentive Program                      |         |   |
| <input type="checkbox"/> ICI Incentive Programs                                      |         |   |
| Conservation Technology  |         |   |
| <input type="checkbox"/> Recycling and Reuse Programs (Water or Wastewater Effluent) |         |   |
| <input type="checkbox"/> Rainwater Harvesting and Condensate Reuse Programs          |         |   |
| Regulatory and Enforcement   |         |   |
| <input type="checkbox"/> Prohibition on Wasting Water                                |         |   |
| <b>TOTAL</b>   | \$ 0.00 | 0 |

### 3. Reuse (Water or Wastewater Effluent)

For the reporting period, please provide the following data regarding the types of direct and indirect reuse activities that were administered for the past five years:

| Reuse Activity                               | Estimated Volume (in gallons) |
|--|-------------------------------|
| On-site irrigation                           |                               |
| Plant wash down                              |                               |
| Chlorination/de-chlorination                 |                               |
| Industrial                                   |                               |
| Landscape irrigation (parks, golf courses)   |                               |
| Agricultural                                 |                               |
| Other, please describe:                      |                               |
| <b>Estimated Volume of Recycled or Reuse</b> | 0                             |

#### 4. Water Savings

For the five-year reporting period, estimate the total savings that resulted from your overall water conservation activities and programs?

| Estimated Gallons Saved<br>(Total from Conservation Programs Table) | Estimated Gallons Recycled or Reused<br>(Total from Reuse Table) | Total Volume of Water Saved <sup>1</sup> | Dollar Value of Water Saved <sup>2</sup> |
|---|--|--|--|
|   |  | 0  |  |

1. [Estimated Gallons Saved + Estimated Gallons Recycled or Reused = Total Volume Saved]

2. Estimate this value by taking into account water savings, the cost of treatment or purchase of your water, and any deferred capital costs due to conservation.

#### 5. Conservation Pricing / Conservation Rate Structures

During the five-year reporting period, have your rates or rate structure changed? Yes  No

Please indicate the type of rate pricing structures that you use:

|  |   |   |
|--|---|---|
| <input type="checkbox"/> Uniform rates             | <input type="checkbox"/> Water Budget Based rates | <input type="checkbox"/> Surcharge - seasonal     |
| <input type="checkbox"/> Flat rates                | <input type="checkbox"/> Excess Use Rates         | <input type="checkbox"/> Surcharge - drought      |
| <input type="checkbox"/> Inclining/ Inverted Block | <input type="checkbox"/> Drought Demand rates     | <input type="checkbox"/> Surcharge - usage demand |
| <input type="checkbox"/> Declining Block rates     | <input type="checkbox"/> Tailored rates           |   |
| <input type="checkbox"/> Seasonal rates            |   |   |

#### 6. Public Awareness and Education Program

For the five-year reporting period, please check the appropriate boxes regarding any public awareness and educational activities that your entity has provided:

|   | Implemented              | Number/Unit              |
|---|--------------------------|--------------------------|
| <i>Example: Brochures Distributed</i>       | <input type="checkbox"/> | <i>10,000/year</i>       |
| <i>Example: Educational School Programs</i> | <input type="checkbox"/> | <i>50 students/month</i> |
| Brochures Distributed                       | <input type="checkbox"/> |                          |
| Messages Provided on Utility Bills          | <input type="checkbox"/> |                          |
| Press Releases                              | <input type="checkbox"/> |                          |
| TV Public Service Announcements             | <input type="checkbox"/> |                          |
| Radio Public Service Announcements          | <input type="checkbox"/> |                          |
| Educational School Programs                 | <input type="checkbox"/> |                          |
| Displays, Exhibits, and Presentations       | <input type="checkbox"/> |                          |
| Community Events                            | <input type="checkbox"/> |                          |

|                        |                          |  |
|------------------------|--------------------------|--|
| Social Media campaigns | <input type="checkbox"/> |  |
| Facility Tours         | <input type="checkbox"/> |  |
| Other :                | <input type="checkbox"/> |  |

## 7. Leak Detection

During the five-year reporting period, how many leaks were repaired in the system or at service connections: [Click here to enter text.](#)

Please check the appropriate boxes regarding the main cause of water loss in your system during the reporting period:

- Leaks and breaks
- Un-metered utility or city uses
- Master meter problems
- Customer meter problems
- Record and data problems
- Other: [Click here to enter text.](#)
- Other: [Click here to enter text.](#)

## 8. Universal Metering and Meter Repair

For the five-year reporting period, please provide the following information regarding meter repair:

|                         | Total Number | Total Tested | Total Repaired |
|-------------------------|--------------|--------------|----------------|
| Production Meters       |              |              |                |
| Meters larger than 1 ½" |              |              |                |
| Meters 1 ½ or smaller   |              |              |                |

Does your system have automated meter reading? Yes  No

## 9. Conservation Communication Effectiveness

In your opinion, how would you rank the effectiveness of your conservation activities in reaching the following types of customers for the past five years?

|                         | Do not have activities or programs that target this type customer. | Less Than Effective      | Somewhat Effective       | Highly Effective         |
|-------------------------|--|--------------------------|--------------------------|--------------------------|
| Residential Customers   | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Industrial Customers    | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Institutional Customers | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Commercial Customers    | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Agricultural Customers  | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## 10. Drought Contingency and Emergency Water Demand Management

During the five-year reporting period, did you implement your Drought Contingency Plan?

Yes  No

If yes, indicate the number of days that your water use restrictions were in effect: [Click here to enter text.](#)

If yes, please check all the appropriate reasons for your drought contingency efforts going into effect.

|  |  |
|--|--|
| <input type="checkbox"/> Water Supply Shortage | <input type="checkbox"/> Equipment Failure       |
| <input type="checkbox"/> High Seasonal Demand  | <input type="checkbox"/> Impaired Infrastructure |
| <input type="checkbox"/> Capacity Issues       | <input type="checkbox"/> Other:                  |

**If you have any questions on how to fill out this form or about the Water Conservation program, please contact us at 512/239-4691.**

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

# *Appendix E*

*TWDB Annual Water Conservation Report*

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# Water Conservation Plan Annual Report

## Retail Water Supplier

### CONTACT INFORMATION

Name of Entity: \_\_\_\_\_

Public Water Supply Identification Number (PWS ID): \_\_\_\_\_

Certificate of Convenience and Necessity (CCN) Number: \_\_\_\_\_

Surface Water Rights ID Number: \_\_\_\_\_

Wastewater ID Number: \_\_\_\_\_

Check all that apply:

Retail Water Supplier

Wholesale Water Supplier

Wastewater Treatment Utility

Address: \_\_\_\_\_ City: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Email: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Regional Water Planning Group: \_\_\_\_\_ [Map](#)

Groundwater Conservation District: \_\_\_\_\_ [Map](#)

Form Completed By: \_\_\_\_\_ Title: \_\_\_\_\_

Date:

Reporting Period (**check only one**):

Fiscal      Period Begin (mm/yyyy)      Period End (mm/yyyy)

Calendar      Period Begin (mm/yyyy)      Period End (mm/yyyy)

Check all of the following that apply to your entity:

Receive financial assistance of \$500,000 or more from TWDB

Have 3,300 or more retail connections

Have a water right with TCEQ

## SYSTEM DATA

**Retail Customer Categories\***

|   |                           |
|---|---------------------------|
|  | Residential Single Family |
|  | Residential Multi-family  |
|  | Industrial                |
|  | Commercial                |
|  | Institutional             |
|  | Agricultural              |

\*Recommended Customer Categories for classifying your customer water use. For definitions, refer to [Guidance and Methodology on Water Conservation and Water Use](#).

1. For this reporting period, select the category(s) used to classify customer water use:

- |  |  |
|--|--|
| <input type="checkbox"/> Residential Single Family | <input type="checkbox"/> Commercial    |
| <input type="checkbox"/> Residential Multi-family  | <input type="checkbox"/> Institutional |
| <input type="checkbox"/> Industrial                | <input type="checkbox"/> Agricultural  |

2. For this reporting period, enter the gallons of **metered retail water** used by each customer category. If the Customer Category does not apply, enter zero or leave blank.

| Retail Customer Category                      | Number of Connections | Gallons Metered |
|---|-----------------------|-----------------|
| Residential Single Family                     |                       |                 |
| Residential Multi-family                      |                       |                 |
| Industrial                                    |                       |                 |
| Commercial                                    |                       |                 |
| Institutional                                 |                       |                 |
| Agricultural                                  |                       |                 |
| <b>Total Retail Water Metered<sup>1</sup></b> | 0                     | 0               |

1. Residential + Industrial + Commercial + Institutional + Agricultural = Total Retail Water Metered

## Water Use Accounting

| Total Gallons During the Reporting Period  |   |
|--|---|
| <b>Water Produced:</b> Water from permitted sources such as rivers, lakes, streams, and wells. <i>Same as line 14 of the water loss audit.</i>   |   |
| <b>Wholesale Water Imported:</b> Purchased wholesale water transferred into the system. <i>Same as line 15 of the water loss audit.</i>  |   |
| <b>Wholesale Water Exported:</b> Wholesale water sold or transferred out of the system. <i>Same as line 16 of the water loss audit.</i>  |   |
| <b>System Input:</b> Total water supplied to system and available for retail use.  | 0   |
|  | Produced + Imported – Exported = System Input   |
| <b>Total Retail Water Metered</b>  | 0   |
| <b>Other Authorized Consumption:</b> Water that is authorized for other uses such as the following: This water may be metered or unmetered. <i>Same as the total of lines 19, 20, and 21 of the water loss audit.</i><br><ul style="list-style-type: none"> <li>- back flushing                      - line flushing</li> <li>- storage tank cleaning           - municipal golf courses/parks</li> <li>C. fire department use</li> <li>D. municipal government offices</li> </ul> |   |
| <b>Total Authorized Use:</b> All water that has been authorized for use.   | 0   |
|  | Total Retail Water + Other Authorized Consumption = Total Authorized Use                        |
| <b>Apparent Losses:</b> Water that has been consumed but not properly measured or billed. <i>Same as line 28 of the water loss audit.</i><br><i>(Includes losses due to customer meter accuracy, systematic data discrepancy, unauthorized consumption such as theft)</i>  |   |
| <b>Real Losses:</b> Physical losses from the distribution system prior to reaching the customer destination. <i>Same as line 29 of the water loss audit.</i><br><i>(Includes physical losses from system or mains, reported breaks and leaks, or storage overflow)</i>   |   |
| <b>Unidentified Water Losses:</b> Unreported losses not known or quantified.   | 0   |
|  | System Input - Total Authorized Use - Apparent Losses - Real Losses = Unidentified Water Losses |
| <b>Total Water Loss</b>  | 0   |
|  | Apparent + Real + Unidentified = Total Water Loss   |

### **Targets and Goals**

Provide the **specific and quantified five and ten-year targets** as listed in your current Water Conservation Plan. Target dates and numbers should match your current Water Conservation Plan.

| Achieve Date                    | Target for Total GPCD | Target for Water Loss (expressed in GPCD) | Target for Water Loss Percentage (expressed in percentage) |
|---------------------------------|-----------------------|---|--|
| Five-year target date:<br>_____ |                       |   |  |
| Ten-year target date:<br>_____  |                       |   |  |

### **Gallons Per Capita per Day (GPCD) and Water Loss**

Provide current GPCD and water loss totals. To see if you are making progress towards your stated goals, compare these totals to the above targets and goals. Provide the population and residential water use of your service area.

| Total System Input in Gallons                                 | Permanent Population <sup>1</sup> | Total GPCD                                  |
|---|-----------------------------------|---|
| 0<br>Water Produced + Wholesale Imported - Wholesale Exported |                                   | (System Input ÷ Permanent Population) ÷ 365 |

1. Permanent Population is the total permanent population of the service area, including single family, multi-family, and group quarter populations.

| Residential Use in Gallons (Single Family + Multi-family ) | Residential Population <sup>1</sup> | Residential GPCD                                 |
|--|-------------------------------------|--|
|  |                                     | (Residential Use ÷ Residential Population) ÷ 365 |

1. Residential Population is the total residential population of the service area, including only single family and multi-family populations.

| Total Water Loss                                       | Permanent Population | Water Loss        |                      |
|--|----------------------|-------------------|----------------------|
|  |                      | GPCD <sup>1</sup> | Percent <sup>2</sup> |
| 0<br>Apparent + Real + Unidentified = Total Water Loss |                      |                   | 0%                   |

1. (Total Water Loss ÷ Permanent Population) ÷ 365 = Water Loss GPCD  
 2. (Total Water Loss ÷ Total System Input) x 100 = Water Loss Percentage

## Water Conservation Programs and Activities

*As you complete this section, review your utility’s water conservation plan to see if you are making progress towards meeting your stated goals.*

1. What year did your entity adopt or revise the most recent Water Conservation Plan? \_\_\_\_\_
2. Does the Plan incorporate [Best Management Practices](#)?  Yes  No
3. Using the table below select the types of Best Management Practices or water conservation strategies actively administered during this reporting period and estimate the savings incurred in implementing water conservation activities and programs. Leave fields blank if unknown.

Methods and techniques for determining gallons saved are unique to each utility as they conduct internal effective cost analyses and long-term financial planning. Texas Best Management Practices can be found at TWDB’s Water Conservation Best Management Practices [webpage](#). The [Alliance for Water Efficiency Water Conservation Tracking Tool](#) may offer guidance on determining and calculating savings for individual BMPs.

| Best Management Practice                                       | Check if Implemented     | Estimated Gallons Saved |
|--|--------------------------|-------------------------|
| <b>Conservation Analysis and Planning</b>                      |                          |                         |
| Conservation Coordinator                                       | <input type="checkbox"/> |                         |
| Cost Effective Analysis  | <input type="checkbox"/> |                         |
| Water Survey for Single Family and Multi-family Customers      | <input type="checkbox"/> |                         |
| <b>Financial</b>   |                          |                         |
| Wholesale Agency Assistance Programs                           | <input type="checkbox"/> |                         |
| Water Conservation Pricing                                     | <input type="checkbox"/> |                         |
| <b>System Operations</b>                                       |                          |                         |
| Metering New Connections and Retrofitting Existing Connections | <input type="checkbox"/> |                         |
| System Water Audit and Loss Control                            | <input type="checkbox"/> |                         |
| <b>Landscaping</b>   |                          |                         |
| Landscape Irrigation Conservation and Incentives               | <input type="checkbox"/> |                         |
| Athletic Fields Conservation                                   | <input type="checkbox"/> |                         |
| Golf Course Conservation                                       | <input type="checkbox"/> |                         |
| Park Conservation  | <input type="checkbox"/> |                         |
| <b>Education and Public Awareness</b>                          |                          |                         |
| School Education   | <input type="checkbox"/> |                         |
| Public Information   | <input type="checkbox"/> |                         |
| <b>Rebate, Retrofit, and Incentive Programs</b>                |                          |                         |
| Conservation Programs for ICI Accounts                         | <input type="checkbox"/> |                         |
| Residential Clothes Washer Incentive Program                   | <input type="checkbox"/> |                         |
| Water Wise Landscape Design and Conversion Programs            | <input type="checkbox"/> |                         |

|  |                          |          |
|--|--------------------------|----------|
| Showerhead, Aerator, and Toilet Flapper Retrofit | <input type="checkbox"/> |          |
| Residential Toilet Replacement Programs          | <input type="checkbox"/> |          |
| ICI Incentive Programs                           | <input type="checkbox"/> |          |
| <b>Conservation Technology</b>                   |                          |          |
| Water Reuse                                      | <input type="checkbox"/> |          |
| New Construction Graywater                       | <input type="checkbox"/> |          |
| Rainwater Harvesting and Condensate Reuse        | <input type="checkbox"/> |          |
| <b>Regulatory and Enforcement</b>                |                          |          |
| Prohibition on Wasting Water                     | <input type="checkbox"/> |          |
| Other, please describe:                          |                          |          |
| <b>Total Gallons of Water Saved</b>              |                          | <b>0</b> |

4. For this reporting period, provide the estimated gallons of direct or indirect reuse activities.

| Reuse Activity                             | Estimated Volume (in gallons) |
|--|-------------------------------|
| On-site irrigation                         |                               |
| Plant wash down                            |                               |
| Chlorination/de-chlorination               |                               |
| Industrial                                 |                               |
| Landscape irrigation (parks, golf courses) |                               |
| Agricultural                               |                               |
| Other, please describe:                    |                               |
| <b>Total Volume of Reuse</b>               | <b>0</b>                      |

5. For this reporting period, estimate the savings from water conservation activities and programs.

| Gallons Saved/Conserved | Gallons Recycled/Reused | Total Volume of Water Saved <sup>1</sup> | Dollar Value of Water Saved <sup>2</sup> |
|-------------------------|-------------------------|--|--|
|                         | 0                       | 0  |  |

1. Estimated Gallons Saved/Conserved + Estimated Gallons Recycled/Reused = Total Volume Saved

2. Estimate this value by taking into account water savings, the cost of treatment or purchase of water, and deferred capital costs due to conservation.

6. During this reporting period, did your rates or rate structure change?  Yes  No

Select the type of rate pricing structures used. Check all that apply.

|   |   |   |
|---|---|---|
| <input type="checkbox"/> Uniform Rates                  | <input type="checkbox"/> Water Budget Based Rates | <input type="checkbox"/> Surcharge - seasonal |
| <input type="checkbox"/> Flat Rates                     | <input type="checkbox"/> Excess Use Rates         | <input type="checkbox"/> Surcharge - drought  |
| <input type="checkbox"/> Inclining/Inverted Block Rates | <input type="checkbox"/> Drought Demand Rates     | Other, please describe:                       |
| <input type="checkbox"/> Declining Block Rates          | <input type="checkbox"/> Tailored Rates           |   |
| <input type="checkbox"/> Seasonal Rates                 | <input type="checkbox"/> Surcharge - usage demand |   |

7. For this reporting period, select the public awareness or educational activities used.

|   | Implemented              | Number/Unit              |
|---|--------------------------|--------------------------|
| <i>Example: Brochures Distributed</i>       | √                        | <i>10,000/year</i>       |
| <i>Example: Educational School Programs</i> | √                        | <i>50 students/month</i> |
| Brochures Distributed                       | <input type="checkbox"/> | _____                    |
| Messages Provided on Utility Bills          | <input type="checkbox"/> | _____                    |
| Press Releases                              | <input type="checkbox"/> | _____                    |
| TV Public Service Announcements             | <input type="checkbox"/> | _____                    |
| Radio Public Service Announcements          | <input type="checkbox"/> | _____                    |
| Educational School Programs                 | <input type="checkbox"/> | _____                    |
| Displays, Exhibits, and Presentations       | <input type="checkbox"/> | _____                    |
| Community Events                            | <input type="checkbox"/> | _____                    |
| Social Media campaigns                      | <input type="checkbox"/> | _____                    |
| Facility Tours                              | <input type="checkbox"/> | _____                    |
| Other :                                     | <input type="checkbox"/> | _____                    |

## Leak Detection and Water Loss

1. During this reporting period, how many leaks were repaired in the system or at service connections? \_\_\_\_\_

Select the main cause(s) of water loss in your system.

- Leaks and breaks
- Un-metered utility or city uses
- Master meter problems
- Customer meter problems
- Record and data problems
- Other: \_\_\_\_\_
- Other: \_\_\_\_\_

2. For this reporting period, provide the following information regarding meter repair:

| Type of Meter           | Total Number | Total Tested | Total Repaired | Total Replaced |
|-------------------------|--------------|--------------|----------------|----------------|
| Production Meters       |              |              |                |                |
| Meters larger than 1 ½" |              |              |                |                |
| Meters 1 ½ or smaller   |              |              |                |                |

3. Does your system have automated meter reading?  Yes  No

## Program Effectiveness and Drought

1. In your opinion, how would you rank the effectiveness of your conservation activities?

| Customer Classification | Less Than Effective   | Somewhat Effective    | Highly Effective      | Does Not Apply        |
|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Residential Customers   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Industrial Customers    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Institutional Customers | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Commercial Customers    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Agricultural Customers  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

2. During the reporting period, did you implement your Drought Contingency Plan?

Yes                       No

If yes, how many days were water use restrictions in effect? \_\_\_\_\_

If yes, check the reason(s) for implementing your Drought Contingency Plan.

- |  |  |
|--|--|
| <input type="checkbox"/> Water Supply Shortage | <input type="checkbox"/> Equipment Failure       |
| <input type="checkbox"/> High Seasonal Demand  | <input type="checkbox"/> Impaired Infrastructure |
| <input type="checkbox"/> Capacity Issues       | <input type="checkbox"/> Other:                  |

3. Select the areas for which you would like to receive more technical assistance:

- |   |  |
|---|--|
| <input type="checkbox"/> Best Management Practices    | <input type="checkbox"/> Educational Resources             |
| <input type="checkbox"/> Drought Contingency Plans    | <input type="checkbox"/> Water Conservation Annual Reports |
| <input type="checkbox"/> Landscape Irrigation         | <input type="checkbox"/> Water Conservation Plans          |
| <input type="checkbox"/> Leak Detection and Equipment | <input type="checkbox"/> Water IQ: Know Your Water         |
| <input type="checkbox"/> Rainwater Harvesting         | <input type="checkbox"/> Water Loss Audits                 |
| <input type="checkbox"/> Rate Structures              | <input type="checkbox"/> Recycling and Reuse               |

# *Appendix F*

*City Council Resolution Adopting  
Plan*

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*[Insert copy of City Council Resolution adopting the Water Conservation Plan.]*

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