WATER CONSERVATION PLAN
FOR GREATER TEXOMA UTILITY AUTHORITY

MARCH 18, 2019

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1. INTRODUCTION AND OBJECTIVES

Greater Texoma Utility Authority ("GTUA") is a wholesale supplier of treated potable water received from North Texas Municipal Water District ("NTMWD") and delivered to the Cities of Anna, Howe, Melissa, and Van Alstyne. GTUA developed this updated Water Conservation Plan as a replacement for the previous Plan adopted August 2014.

Water supply has always been a key issue in the development of Texas. In recent years, the increasing population and economic development of North Central Texas have led to growing demands for water supplies. At the same time, local and less expensive sources of water supply are largely already developed. Additional supplies to meet future demands will be expensive and difficult to secure. Severe drought conditions in recent years have highlighted the importance of efficient use of our existing supplies to make them last as long as possible. This will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, the TCEQ has developed guidelines and requirements governing the development of water conservation and drought contingency plans for municipal uses by public water suppliers.[1] The TCEQ guidelines and requirements for wholesale suppliers are included in Appendix B. GTUA has developed this Water Conservation Plan utilizing the Model Water Conservation Plan for North Texas Municipal Water District Member Cities and Customers, prepared by Freese and Nichols, Inc.[2] This Plan is consistent with TCEQ guidelines and requirements. The best management practices established by the Water Conservation Implementation Task Force[3] were also considered in the development of the water conservation measures.

As a wholesale supplier of water to customers, GTUA does not have any direct control over the end user of water, nor does it have the authority to create ordinances or enforce the measures laid out in this plan for end users. In order to work within the confines of its role as a wholesaler, GTUA has developed Model Water Conservation Plans that can be adopted by Customers, who then have the ability to enforce those measures through ordinances or regulations on end users. (See Appendix I)

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.
- Encourage efficient outdoor water use.
- To maximize 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.

*Superscripted numbers match references listed in Appendix A.

2. DEFINITIONS AND ABBREVIATIONS

1. ATHLETIC FIELD means a public sports competition field, the essential feature of which is turf grass, used primarily for organized sports practice, competition or exhibition events for schools; professional sports and league play sanctioned by the utility providing retail water supply.

2. COOL SEASON GRASSES are varieties of turf grass that grow best in cool climates primarily in northern and central regions of the U.S. Cool season grasses include perennial and annual rye grass, Kentucky blue grass and fescues.

3. CUSTOMERS include those entities receiving wholesale water from GTUA. The Cities of Anna, Howe, Melissa and Van Alstyne are customers of GTUA, with only Anna, Melissa and Van Alstyne currently receiving treated water.

4. DRIP IRRIGATION is a type of micro-irrigation system that operates at low pressure and delivers water in slow, small drips to individual plants or groups of plants through a network of plastic conduits and emitters; also called trickle irrigation.

5. EVAPOTRANSPIRATION (ET) represents the amount of water lost from plant material to evaporation and transpiration. The amount of ET can be estimated based on the temperature, wind, and relative humidity.

6. ET/SMART CONTROLLERS are irrigation controllers that adjust their schedule and run times based on weather (ET) data. These controllers are designed to replace the amount of water lost to evapotranspiration.

7. IRRIGATION SYSTEM means a permanently installed, custom-made, site-specific system of delivering water generally for landscape irrigation via a system of pipes or other conduits installed below ground.

8. LANDSCAPE means any plant material on a property, including any tree, shrub, vine, herb, flower, succulent, ground cover, grass or turf species, that is growing or has been planted out of doors.

9. MUNICIPAL USE means the use of potable water provided by a public water supplier as well as the use of treated wastewater effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

10. REGULATED IRRIGATION PROPERTY means any (customer class, i.e. commercial) property that uses (over a certain amount) of water or more for irrigation purposes in a single calendar year or is greater than (certain size).

11. RESIDENTIAL GALLONS PER CAPITA PER DAY means (Residential GPCD) the total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

12. TOTAL GALLONS PER CAPITA PER DAY (Total GPCD) means the total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in TAC 288.1 shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

13. WATER CONSERVATION PLAN means the GTUA Water Conservation Plan adopted by the Board of Directors of GTUA March 18, 2019.

Abbreviations

Abbreviation	Full Nomenclature
GTUA	Greater Texoma Utility Authority
BMP	Best Management Practices
NTMWD or District	North Texas Municipal Water District
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
WCAC	Water Conservation Advisory Council
WCP	Water Conservation Plan

3. REGULATORY BASIS FOR WATER CONSERVATION PLAN

3.1 TCEQ Rules Governing Wholesale Water Supplier Conservation Plans

The TCEQ rules governing development of water conservation plans for municipal uses by wholesale suppliers are contained in Title 30, Chapter 288, Subchapter A, Section 288.5 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." [1] The water conservation plan elements required by the TCEQ water conservation rules that are covered in this water conservation plan are listed below.

Minimum Conservation Plan Requirements

GTUA is a wholesale water supplier to Customers in North Central Texas. The minimum requirements in the Texas Administrative Code for Water Conservation Plans for Wholesale Water Suppliers are covered in this water conservation plan as follows:

- 288.5(1)(A) – Description of Service Area – Section 4
- 288.5(1)(B) – Specific, Quantified Goals
- 288.5(1)(C) – Measure and Account for Water Diverted – Section 6.1.1
- 288.5(1)(D) – Monitoring and Record Management System – Section 6.1.2
- 288.5(1)(E) – Program for Metering and Leak Detection and Repair – Section 6.1.3
- 288.5(1)(F) – Requirement for Water Conservation Plans by Wholesale Customers – Section 6.2
- 288.5(1)(G) – Reservoir System Operation Plan – Section 6.3
- 288.5(1)(H) – Means of Implementation and Enforcement – Section 6.4
- 288.5(1)(I) – Documentation of Coordination with Regional Water Planning Group – Section 6.5
- 288.5(3) – Review and Update of Plan – Section 8

Additional Conservation Strategies

The Texas Administrative Code lists additional water conservation strategies that can be adopted by a wholesale supplier but are not required. Additional strategies adopted by GTUA include:

- 288.5(2)(D) – Other Measures
    - Section 7.2 (public education)
    - Section 7.5 (model water conservation plans)
    - Requesting GTUA Customers include Sections 7.5.1 and 7.5.2 (landscape water management measures – required by NTMWD)

3.2 Guidance and Methodology for Reporting on Water Conservation and Water Use

In addition to TCEQ rules regarding water conservation, this plan also incorporates elements of the Guidance and Methodology for Reporting on Water Conservation and Water Use developed by TWDB and TCEQ[4], in consultation with the WCAC (the "Guidance"). The Guidance was developed in response to a charge by the 82nd Texas Legislature to develop water use and calculation methodology and guidance for preparation of water use reports and water conservation plans in accordance with TCEQ rules. Features of the Guidance are incorporated into the GTUA Model Water Conservation Plan developed for GTUA Customers. A copy of the GTUA Model Water Conservation Plan is included in Appendix I.

3.3 Texas Water Development Board Water Conservation Planning Tool

The Texas Water Development Board developed a water conservation planning tool to be utilized by utilities to evaluate various best management practices. The tool will come pre-loaded with data submitted by utilities as part of the water use surveys and will have a library of best management practices with water savings and associated costs. GTUA encourages Customers to utilize the tool, to the extent practical, for water conservation planning.

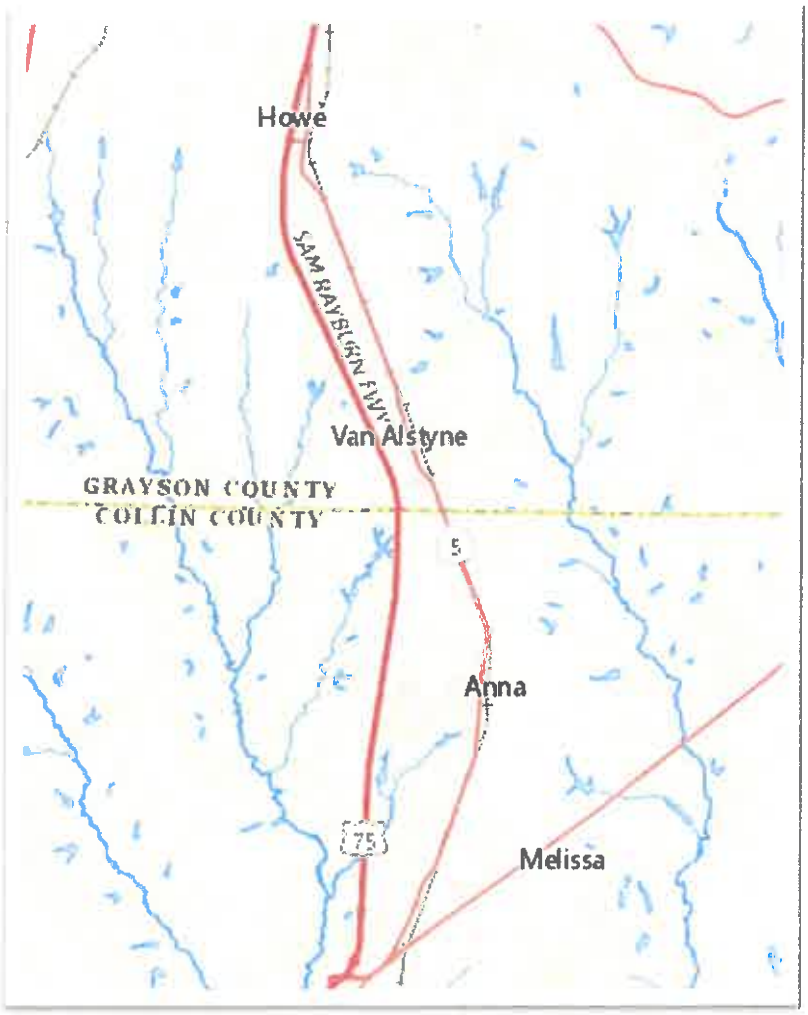
4. WATER UTILITY PROFILE

Appendix C to this Water Conservation Plan is a water utility profile based on the format recommended by the TCEQ. In adopting this Water Conservation Plan, GTUA provided a draft water utility profile to NTMWD for review and comment. A final water utility profile has also been provided to NTMWD as well as to TCEQ.

Description of GTUA Water Service Area

GTUA receives treated potable water from NTMWD, which is delivered to its Customers. GTUA's current service area is approximately 33 square miles, serving an estimated population of 33,027. Current GTUA customers include the Cities of Anna, Howe, Melissa and Van Alstyne, with only the Cities of Anna, Melissa and Van Alstyne receiving water at this time.

GTUA CGMA Current Water Service Area



5. SPECIFICATION OF WATER CONSERVATION GOALS

As a wholesale water supplier, GTUA does not control water use of its Customers and does not have a direct relationship with the retail customers who are the ultimate consumers of the water. The Total GPCD for GTUA's system can be affected by changes in per capita use by its Customers and can also be affected by how much water GTUA is asked to supply to high per capita use customers or low per capita use customers. These factors are not controlled by GTUA.

GTUA will continue to assist its Customers in the development of water conservation programs. GTUA developed a Model Water Conservation Plan for GTUA Customers and a Model Water Resource and Emergency Management Plan (both based on NTMWD Model Plans) that its Customers can use to develop their own water conservation and water resource and emergency management plans. As part of the Model Water Conservation Plan, GTUA requires Customers to provide annual water conservation reports. Annual water conservation reports also provide for the reporting of annual sector-based water use information, where practicable.

Table 5.1 shows GTUA targets for reduction in total GPCD and water loss GPCD in the GTUA system.

GTUA receives treated water from NTMWD, and therefore requests Customers to set the following NTMWD targets and goals for Member Cities and Customers as targets and goals in their individual water conservation plans:

- The target for the 5-year (2024) Total GPCD for all GTUA Customers is 164 gallons per capita per day (NTMWD target)
- The target for the 10-year (2029) Total GPCD for all GTUA Customers is 157 gallons per capita per day (NTMWD target)
- The target for the 5-year (2024) Total GPCD with credit for indirect reuse for all GTUA Customers is 128 gallons per capita per day (NTMWD target)
- The target for the 10-year (2029) Total GPCD with credit for indirect reuse for all GTUA Customers is 121 gallons per capita per day (NTMWD target)

- GTUA encourages Customers to set a goal in their individual plans to maintain the water loss in systems below 12 percent annually in 2019 and subsequent years (NTMWD goal).

GTUA sets the following goals:

- Meter replacement and repair program maintained by GTUA, as discussed in Section 6.1.2.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 6.2.
- Requesting customers develop a system specific strategy to conserve water during peak demands, thereby reducing the peak use.

Table 5.1 5-AND 10-YR GOALS FOR WATER SAVINGS

WATER CONSERVATION PLAN
5- AND 10-YR GOALS FOR WATER SAVINGS

Facility Name: Greater Texoma UA

Water Conservation Plan Year: 2019

	Historic 5yr Average	Baseline	5-yr Goal for year 2024	10-yr Goal for year 2029
Total GPCD[1]	57	57	55	55
Residential GPCD[2]	0	0	0	0
Water Loss (GPCD)[3]	.11	.11	1	1
Water Loss (Percentage)[4]	0 %	0 %	2 %	2 %

1. Total GPCD = (Total Gallons in System ÷ Permanent Population) ÷ 365
2. Residential GPCD = (Gallons Used for Residential Use ÷ Residential Population) ÷ 365
3. Water Loss GPCD = (Total Water Loss ÷ Permanent Population) ÷ 365
4. Water Loss Percentage = (Total Water Loss ÷ Total Gallons in System) x 100; or (Water Loss GPCD ÷ Total GPCD) x 100

6. BASIC WATER CONSERVATION STRATEGIES

6.1 Metering, Water Use Records, Control of Water Loss, and Leak Detection and Repair

One of the key elements of water conservation is tracking water deliveries and controlling losses through illegal diversions and leaks. It is important to carefully meter water deliveries, detect and repair leaks in the distribution system and provide regular monitoring of real losses. Accurate metering of deliveries, detection and repair of leaks in the transmission line are important elements in GTUA's program to control losses.

6.1.1 Accurate Metering of Treated Water Deliveries from GTUA

Water deliveries from GTUA are metered using meters with accuracy of ±5%. These meters are calibrated on an annual basis by GTUA to maintain the required accuracy.

6.1.2 Monitoring and Record Management Program for Determining Deliveries, Sales and Losses

GTUA has established a program of monitoring and record management to assure that its Customers are charged appropriately for their water deliveries. The program includes the following elements:

- Deliveries to all Customers are metered by meters with accuracy of ±5%, which are read monthly by GTUA personnel. These readings are used to bill Customers.
- The meters used to measure deliveries to Customers are calibrated annually and tested, as necessary.
- All meter readings are sent to Customers so they can compare the readings against the operation of their systems.

6.1.3 Leak Detection and Repair

GTUA's metering program is described in Sections 6.1.1 and 6.1.2. GTUA has an active program to control, detect, and repair leaks.

- All GTUA water transmission pipelines are reinforced concrete cylinder pipe or ductile iron pipe with an internal protective liner and an external protective

coating. Because of the multiple layers of material, these pipelines have very long service lives and are not as subject to development of leaks.

- Most joints in GTUA water transmission pipelines are designed with bell and spigot joint construction including a rubber gasket. Some joints are welded.
- All GTUA water transmission pipelines are constructed in legally defined and identified rights of way, property registered with authorities in each county.
- GTUA personnel routinely inspect GTUA facilities and water transmission pipelines for leaks or mechanical problems. Repairs are undertaken as soon as practicable in order to minimize waste.
- GTUA operates a program for right-of-way identification for construction projects adjacent to GTUA facilities and water transmission pipelines in order to minimize leaks caused by pipeline damage during construction.

6.1.4 Record Management System

GTUA current Customers are all municipal customers. As required by TAC Title 30, Chapter 288, Section 288.2(a)(1)(B), a record management system for municipal uses should allow for the separation of water sales and uses into residential (single and multifamily), commercial, institutional, industrial, agricultural, and wholesale categories.[1] This information is requested of GTUA Customers to be included in an annual water conservation report, as described in Section 7.6 below.

6.2 Public Education Program

GTUA's public education program is intended to educate water suppliers and end users in conservation efforts, and includes the following elements:

- Encourage Customers to utilize the "Water IQ: Know Your Water" and other public education materials produced by NTMWD.
- Encourage Customers to utilize the NTMWD "Water4Otter" campaign for students.
- Request Customers insert water conservation information with water bills. Inserts will include material developed by Customers' staff and material obtained from the TWDB, TCEQ, and other sources.

- Promote the *Texas Smartscape* web site (www.txsmartscape.com) and provide water conservation brochures and other water conservation materials available to the public at City Hall and other public places.
- Make information on water conservation available on the GTUA website and include links to the "Water IQ: Know Your Water" website, *Texas Smartscape* website and to information on water conservation on the TWDB and TCEQ web sites and other resources.
- NTMWD is an EPA Water Sense Partner and participates in the EPA Water Sense sponsored "Fix a Leak Week." GTUA encourages all Customers to become EPA Water Sense Partners.
- Encourage Customers to utilize the NTMWD Water My Yard website and encourage customers to sign-up to receive weekly watering advice.
- GTUA participates in providing the Texas Water Development Board Major Rivers Program school curriculum to 4th grade classes in schools in Collin, Cooke, Denton, Fannin and Grayson Counties. The program teaches students where water comes from, how to protect water resources, and how to use water wisely.

6.3 Reservoir System Operation Plan

GTUA currently purchases treated potable water from NTMWD and does not have surface water supplies requiring implementation of a reservoir system operations plan.

6.4 Coordination with Regional Water Planning Group and NTMWD

Appendix F includes a letter which will be sent to the Chair of the Region C Water Planning Group and NTMWD, accompanied by the approved Water Conservation Plan. The Plan includes the Water Utility Profile and Resolution adopting the Plan as appendices.

6.5 Requirement for Water Conservation Plans by Wholesale Customers

Every contract for the wholesale of water by a GTUA Customer 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, Chapter 288, of the

Texas Administrative Code. This requirement extends to each successive wholesale customer in the resale of the water.

6.6 Increasing Block Water Rate Structure

GTUA requires that each Customer must adopt, if it has not already done so, an increasing block rate water structure (as required by NTMWD) that is intended to encourage water conservation and to discourage excessive use and waste of water upon completion of its 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. 2nd tier (from the average to 2 times the approximate average) at 1.25 to 2.0 times the base charge.
4. 3rd tier (above 2 times the approximate average) at 1.25 to 2.0 times the 2nd tier.
5. Additional tiers with further increases if desired.
6. The residential rate can also include a lower tier for basic household use up to 4,000 gallons per month or a determined basic use.

Commercial/Industrial Rates

Commercial/Industrial rates should include at least 2 tiers, with rates for the 2nd tier set at 1.25 to 2.0 times that of the first tier. Higher water rates for commercial irrigation use are encouraged, but not required.

6.7 GTUA Model Water Conservation Plan for GTUA Customers

GTUA has developed a Model Water Conservation Plan for GTUA Customers, utilizing the NTMWD Model Water Conservation Plan for NTMWD Member Cities and Customers[2], to assist Customers in development of their own water conservation plans. The Model Conservation Plan addresses the TCEQ requirements for water conservation plans for municipal use by public water suppliers and includes advanced water conservation strategies beyond the TCEQ requirements that mirror the NTMWD Plan. A copy of this Plan is included in Appendix I.

7. ENHANCED WATER CONSERVATION STRATEGIES

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

The state 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, 2.5 gpm for showerheads. As of January 1, 2014, the state requires maximum average flow rates of 1.28 gallons per flush (gpf) for toilets and 0.5 gpf for urinals. Similar standards are now required under federal law. These state and federal standards assure that all new construction and renovations will use water-conserving fixtures. Rebate programs to encourage replacement of older fixtures with water conservation programs are discussed in Section 7.5.

7.2 Reuse and Recycling of Wastewater

GTUA does not own wastewater treatment plants. GTUA Customers that own and operate their own wastewater treatment plants are encouraged to move toward reusing treated effluent for irrigation purposes at their plant site over the next three years. These Customers are also encouraged to seek other alternatives for reuse of recycled wastewater effluent.

7.3 Interactive Weather Stations / "Water My Yard" Program

NTMWD has developed the Water My Yard program to install weather stations throughout its service area in order to provide consumers with a weekly e-mail and information through the "Water My Yard" website to assist consumers in determining an adequate amount of supplemental water to maintain healthy grass in a specific location. This service represents the largest network of weather stations providing ET-based irrigation recommendations in the State of Texas, and provides the public advanced information regarding outdoor irrigation needs, thereby reducing water use. Through a series of selections on the type of irrigation system a consumer has, a weekly email is provided that will determine how long (in minutes) an irrigation system needs to run based on the past seven days of weather. This recommendation provides the actual amount of supplemental water that is required for a healthy lawn based on research of the Texas A&M Agrilife Extension Service and proven technologies. This innovative program has been available to those within the NTMWD service area since May 2013. GTUA encourages customers to subscribe to weekly watering updates through Water My Yard or other similar program in an effort to reduce outdoor water consumption.

7.4 Compulsory Landscape and Water Management Measures

The following landscape water management measures are required by GTUA as a customer of NTMWD, and are therefore included in the GTUA Model Water Conservation Plan to be utilized by Customers. These measures represent minimum measures to be implemented and enforced in order to irrigate the landscape appropriately and are to remain in effect on a permanent basis unless water resource management stages are declared.

1. **Landscape Water Management Measures**

   - Limit landscape watering with sprinklers or irrigation systems at each service address to no more than two days per week (April 1 – October 31), with education that less than twice per week is usually adequate. (NTMWD has identified assigning designated watering days as a BMP and suggests implementing a watering schedule as part of this measure). Additional watering of landscape may be provided by hand-held hose with shutoff nozzle, use of dedicated irrigation drip zones, and/or soaker hose provided no runoff occurs.
   - Limit landscape watering with sprinklers or irrigation systems at each service address to no more than one day per week beginning November 1 and ending March 31 of each year, with education that less than once per week is usually adequate.
   - NTMWD estimates savings from the year-round watering restrictions, mentioned above, since the District terminated drought stages in 2015 is approximately 2.5 to 3.5 percent on an average annualized basis. Savings are higher in the summer and lower in the winter.
   - Prohibit lawn irrigation watering from 10 AM to 6 PM (April 1 – October 31).
   - Prohibit the use or irrigation systems that water impervious surfaces. (Wind-driven water drift will be taken into consideration.)
   - Prohibit outdoor watering during precipitation or freeze events.
   - Prohibit use of poorly maintained sprinkler systems that waste water.
   - Prohibit excess water runoff or other obvious waste.

- Require rain and freeze sensors and/or ET or Smart controllers on all new irrigation systems. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
- Prohibit overseeding, sodding, sprigging, broadcasting or plugging with cool season grasses or watering cool season grasses, except for golf courses and athletic fields.
- Require that irrigation systems be inspected at the same time as initial backflow preventer inspection.
- Requirement that all new irrigation systems be in compliance with state design and installation regulations (Texas Administrative Code Title 30, Chapter 344).
- Require the owner of a regulated irrigation property to obtain an evaluation of any permanently installed irrigation system on a periodic basis. The irrigation evaluation shall be conducted by a licensed irrigator in the State of Texas and be submitted to the local water provider (i.e., city, water supply corporation).

2. **Additional Water Management Measures**

- Prohibit the use of potable water to fill or refill residential, amenity, and any other natural or manmade ponds. A pond is considered to be a still body of water with a surface area of 500 square feet or more.
- Non–commercial car washing can be done only when using a water hose with a shut-off nozzle.
- Hotels and motels shall offer a linen reuse water conservation option to customers.
- Restaurants, bars, and other commercial food or beverage establishments may not provide drinking water to customers unless a specific request is made by the customer for drinking water.

7.5 Additional Water Conservation Measures for Consideration

GTUA also urges its Customers to consider including the following additional water conservation measures from the GTUA Model Water Conservation Plan in their plans. These measures are not required. However, they are requested to be considered by NTMWD in their Model Water Conservation Plan for NTMWD Member Cities and Customers. As a Customer of NTMWD, GTUA included them in the GTUA Model Water Conservation Plan for consideration by GTUA

Customers. Customers are responsible for developing regulations, ordinances, policies, or procedures for enforcement of water conservation guidelines.

1. **Landscape Water Management Regulations**
    - Requirement that all existing irrigation systems be retrofitted with rain and freeze sensors and/or ET or Smart controllers capable of multiple programming. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
    - Requirement that all new athletic fields be irrigated by a separate irrigation system from surrounding areas.
    - Implementation of other measures to encourage off-peak water use.
2. **Landscape Ordinance**
    - Landscape ordinances are developed by a Customer to guide developers in landscaping requirements for the Customer. A sample landscape ordinance is provided in the Model Plan, and is intended as a guideline for adopting a landscape ordinance to promote water-efficient landscape design.
    - Native, drought tolerant or adaptive plants should be encouraged.
    - Drip irrigation systems should be promoted.
    - ET/Smart controllers that only allow sprinkler systems to irrigate when necessary should be promoted.
3. **Water Audits**
    - Water audits are useful in finding ways in which water can be used more efficiently at a specific location. GTUA recommends that Customers offer water audits to customers.
4. **Rebates**

    In addition to the conservation measures described above, GTUA also recommends the following water conservation incentive programs for consideration by Customers:

    - Commercial clothes washer rebates for the purchase and installation of high efficiency card- or coin -operated commercial clothes washers;
    - Low-flow toilet replacement and rebate programs;

- Rebates for rain/freeze sensors and/or ET or Smart controllers;
- Low-flow showerhead and sink aerators replacement programs or rebates;
- Residential water efficient clothes washer rebates;
- Pressure reducing valve installation programs or rebates;
- Rain barrel rebates;
- Pool covers;
- On-demand hot water heater rebates; and/or
- Other water conservation incentive programs.

7.6 Annual Water Conservation Report

Appendix D is a form that GTUA requires Customers provide by March 31 of each year for the following year. This form is 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 total water loss for the current year and compares them to historical values.

7.7 Water Conservation Implementation Report

Appendix J includes the TCEQ-required water conservation implementation report for GTUA. The report is due to the TCEQ by May 1 of every year for entities holding water rights

8. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

Appendix G contains a resolution adopting the GTUA Water Conservation Plan. The resolution designates responsible officials to implement and enforce the Water Conservation Plan.

9. REVIEW AND UPDATE OF WATER CONSERVATION PLAN

TCEQ requires that the water conservation plans be updated every five years. The Plan will be updated as required and as appropriate based on new or updated information.

APPENDIX A

List of References

APPENDIX A

LIST OF REFERENCES

1. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.5

2. Freese and Nichols, Inc., Fort Worth: Model Water Conservation Plan for NTMWD Members Cities and Customers, prepared for the North Texas Municipal Water District, January 2019

3. Water Conservation Implementation Task Force: "Texas Water Development Board Report 362, Water Conservation Best Management Practices Guide," prepared for the Texas Water Development Board, Austin, November 2004.

4. Texas Water Development Board, Texas Commission on Environmental Quality, Water Conservation Advisory Council: Guidance and Methodology for Reporting on Water Conservation and Water Use, December 2012

APPENDIX B

Texas Commission on Environmental Quality Rules on Water Conservation Plans

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Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	WATER CONSERVATION PLANS
RULE §288.1	Definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Agricultural or Agriculture--Any of the following activities:

(A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;

(B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media by a nursery grower;

(C) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;

(D) raising or keeping equine animals;

(E) wildlife management; and

(F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure.

(2) Agricultural use--Any use or activity involving agriculture, including irrigation.

(3) Best management practices--Voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.

(4) Conservation--Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.

(5) Commercial use--The use of water by a place of business, such as a hotel, restaurant, or office building. This does not include multi-family residences or agricultural, industrial, or institutional users.

(6) Drought contingency plan--A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s).

(7) Industrial use--The use of water in processes designed to convert materials of a lower order of value into forms having greater usability and commercial value, and the development of power by means other than hydroelectric, but does not include agricultural use.

(8) Institutional use--The use of water by an establishment dedicated to public service, such as a school, university, church, hospital, nursing home, prison, or government facility. All facilities dedicated to public service are considered institutional regardless of ownership.

(9) Irrigation--The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water from a public water supplier.

(10) Irrigation water use efficiency--The percentage of that amount of irrigation water which is beneficially used by agriculture crops or other vegetation relative to the amount of water diverted from the source(s) of supply. Beneficial uses of water for irrigation purposes include, but are not limited to, evapotranspiration needs for vegetative maintenance and growth, salinity management, and leaching requirements associated with irrigation.

(11) Mining use--The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field re-pressuring.

(12) Municipal use--The use of potable water provided by a public water supplier as well as the use of sewage effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

(13) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, who grows more than 50% of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, grow means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease, and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs, or seedlings.

(14) Pollution--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

(15) Public water supplier--An individual or entity that supplies water to the public for human consumption.

(16) Regional water planning group--A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code, §16.053.

(17) Residential gallons per capita per day--The total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

(18) Residential use--The use of water that is billed to single and multi-family residences, which applies to indoor and outdoor uses.

(19) Retail public water supplier--An individual or entity that for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to

itself or its employees or tenants when that water is not resold to or used by others.

(20) Reuse--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.

(21) Total use--The volume of raw or potable water provided by a public water supplier to billed customer sectors or nonrevenue uses and the volume lost during conveyance, treatment, or transmission of that water.

(22) Total gallons per capita per day (GPCD)--The total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in this chapter shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

(23) Water conservation coordinator--The person designated by a retail public water supplier that is responsible for implementing a water conservation plan.

(24) Water conservation plan--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. A water conservation plan may be a separate document identified as such or may be contained within another water management document(s).

(25) Wholesale public water supplier--An individual or entity that for compensation supplies water to another for resale to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants as an incident of that employee service or tenancy when that water is not resold to or used by others, or an individual or entity that conveys water to another individual or entity, but does not own the right to the water which is conveyed, whether or not for a delivery fee.

(26) Wholesale use--Water sold from one entity or public water supplier to other retail water purveyors for resale to individual customers.

Source Note: The provisions of this §288.1 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 August 15, 2002, 27 TexReg 7146; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193; amended to be effective December 6, 2012, 37 TexReg 9515; amended to be effective August 16, 2018, 43 TexReg 5218

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Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	WATER CONSERVATION PLANS
RULE §288.5	Water Conservation Plans for Wholesale Water Suppliers

A water conservation plan for a wholesale water supplier must provide information in response to each of the following paragraphs. If the plan does not provide information for each requirement, the wholesale water supplier shall include in the plan an explanation of why the requirement is not applicable.

(1) Minimum requirements. All water conservation plans for wholesale water suppliers must include the following elements:

(A) a description of the wholesaler's service area, including population and customer data, water use data, water supply system data, and wastewater data;

(B) specific, quantified five-year and ten-year targets for water savings including, where appropriate, target goals for municipal use in gallons per capita per day for the wholesaler's service area, maximum acceptable water loss, and the basis for the development of these goals. The goals established by wholesale water suppliers under this subparagraph are not enforceable;

(C) a description as to which practice(s) and/or device(s) will be utilized to measure and account for the amount of water diverted from the source(s) of supply;

(D) a monitoring and record management program for determining water deliveries, sales, and losses;

(E) a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system;

(F) a requirement in every water supply contract entered into or renewed after official adoption of the water conservation plan, 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 of this chapter. If the customer intends to resell the water, then 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 applicable provisions of this chapter;

(G) 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. The reservoir systems operations plans shall include optimization of water supplies as one of the significant goals of the plan;

(H) a means for implementation and enforcement, which shall be evidenced by a copy of the

ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan; and

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

(2) Additional conservation strategies. Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of paragraph (1) of this section, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

(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) a program to assist agricultural customers in the development of conservation pollution prevention and abatement plans;

(C) a program for reuse and/or recycling of wastewater and/or graywater; and

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

(3) Review and update requirements. The wholesale water supplier 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. A wholesale water supplier 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 §288.5 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

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APPENDIX C

TCEQ Water Utility Profile

Texas Water Development Board

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

CONTACT INFORMATION

Name of Utility: Greater Texoma UA

Public Water Supply Identification Number (PWS ID): TX0910148

Certificate of Convenience and Necessity (CCN) Number:

Surface Water Right ID Number: 4301-C

Wastewater ID Number:

Contact: First Name: Alan Last Name: Moore

Title: Operations Supervisor

Address: 5100 Airport Drive City: Denison State: TX

Zip Code: 75020 Zip+4: Email: alanm@gtua.org

Telephone Number: 9037864433 Date:

Is this person the designated Conservation Coordinator? ○ Yes ◉ No

Coordinator: First Name: Carolyn Last Name: Bennett

Title: Project Coordinator

Address: 5100 Airport Drive City: Denison Zip Code: 75020

Email: carolynb@gtua.org Telephone Number: 903-786-4433

Regional Water Planning Group: C

Groundwater Conservation District:

Our records indicate that you:

☑ Received financial assistance of $500,000 or more from TWDB

☑ Have a surface water right with TCEQ

A. Population and Service Area Data

1. Current service area size in square miles: 33

Attached file(s):

File Name	File Description
GTUA CGMA Service Area.pdf	TOPO showing GTUA CGMA Service Area

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

2. Historical service area population for the previous five years, starting with the most current year.

Year	Historical Population Served By Wholesale Water Service
2018	33,027
2017	23,962
2016	17,870
2015	17,870
2014	15,627

3. Projected service area population for the following decades.

Year	Projected Population Served By Wholesale Water Service
2020	46,286
2030	103,252
2040	157,543
2050	180,000
2060	225,000

4. Described source(s)/method(s) for estimating current and projected populations.

Don Paschal, Consultant for CGMA estimates and projections

Attached file(s):

File Name	File Description
Don Paschal CGMA total pop-wtr use projection_DP_1-7-18_dist.xlsx	

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

B. System Input

System input data for the previous five years.
Total System Input = Self-supplied + Imported

Year	Water Produced in Gallons	Purchased/Imported Water in Gallons	Total System Input	Total GPD
2018	0	844,292,000	844,292,000	2,313,129
2017	0	590,109,000	590,109,000	1,616,737
2016	0	435,213,000	435,213,000	1,192,364
2015	0	237,638,000	237,638,000	651,063
2014	0	134,505,000	134,505,000	368,507
Historic Average	0	448,351,400	448,351,400	1,228,360

C. Water Supply System

1. Designed daily capacity of system in gallons: 1,825,000,000
2. Storage Capacity
   - 2a. Elevated storage in gallons: 0
   - 2b. Ground storage in gallons: 750,000

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

D. Projected Demands

1. The estimated water supply requirements for the next ten years using population trends, historical water use, economic growth, etc.

Year	Population	Water Demand (gallons)
2020	46,286	2,172,166,332
2021	51,008	2,388,359,405
2022	56,294	2,616,186,556
2023	62,451	2,836,450,290
2024	67,612	3,055,838,155
2025	72,903	3,269,410,859
2026	78,676	3,488,845,615
2027	84,706	3,750,031,797
2028	91,228	4,010,967,206
2029	97,032	4,275,816,707

2. Description of source data and how projected water demands were determined.

Don Paschal, Consultant for CGMA projections and estimates

Attached file(s):

File Name	File Description
Don Paschal CGMA total pop-wtr use projection_DP_1-7-18_dist.xlsx	

E. High Volume Customers

1. The annual water use for the five highest volume **RETAIL customers.**

Customer	Water Use Category	Annual Water Use	Treated or Raw

2. The annual water use for the five highest volume **WHOLESALE customers.**

Customer	Water Use Category	Annual Water Use	Treated or Raw
City of Melissa	Municipal	495,939,000	Treated
City of Anna	Municipal	294,693,000	Treated
City of Van Alstyne	Municipal	48,703,000	Treated

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

F. Utility Data Comment Section

Additional comments about utility data.

Section II: System Data

A. Wholesale Water Supplier Connections

1. List of active wholesale connections by major water use category.

Water Use Category Type	Total Wholesale Connections (Active + Inactive)	Percent of Total Connections
Municipal	4	100.00 %
Industrial	0	0.00 %
Commercial	0	0.00 %
Institutional	0	0.00 %
Agricultural	0	0.00 %
Total	4	100.00 %

2. Net number of new wholesale connections by water use category for the previous five years.

	Net Number of New Wholesale Connections					
Year	Municipal	Industrial	Commercial	Institutional	Agricultural	Total
2018	0	0	0	0	0	0
2017	1	0	0	0	0	1
2016	0	0	0	0	0	0
2015	0	0	0	0	0	0
2014	0	0	0	0	0	0

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

B. Accounting Data

For the previous five years, the number of gallons of WHOLESALE water exported (sold or transferred) to each major water use category.

Year	Municipal	Industrial	Commercial	Institutional	Agricultural	Total
2018	840,427,000	0	0	0	0	840,427,000
2017	598,250,000	0	0	0	0	598,250,000
2016	435,213,000	0	0	0	0	435,213,000
2015	237,638,000	0	0	0	0	237,638,000
2014	125,726,000	0	0	0	0	125,726,000

C. Annual and Seasonal Water Use

1. The previous five years' gallons of treated water provided to WHOLESALE customers.

Month	Total Gallons of Treated Water				
	2018	2017	2016	2015	2014
January	45,699,000	37,696,000	18,005,000	0	0
February	38,135,000	32,188,000	16,053,000	0	0
March	64,026,000	33,968,000	20,559,000	6,336,000	0
April	71,939,000	37,329,000	24,536,000	6,324,000	0
May	79,441,000	53,421,000	24,696,000	5,351,000	1,104,000
June	87,996,000	58,478,000	34,664,000	12,772,000	22,793,000
July	98,005,000	53,640,000	56,263,000	29,808,000	33,487,000
August	99,735,000	63,762,000	49,670,000	57,820,000	32,380,000
September	78,970,000	72,254,000	47,464,000	42,336,000	27,085,000
October	64,779,000	71,232,000	46,787,000	40,973,000	3,918,000
November	58,093,000	49,143,000	48,406,000	23,120,000	3,509,000
December	52,517,000	35,139,000	48,110,000	12,798,000	1,450,000
Total	839,335,000	598,250,000	435,213,000	237,638,000	125,726,000

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

2. The previous five years' gallons of raw water provided to WHOLESALE customers.

Month	Total Gallons of Raw Water				
	2018	2017	2016	2015	2014
January	0	0	0	0	0
February	0	0	0	0	0
March	0	0	0	0	0
April	0	0	0	0	0
May	0	0	0	0	0
June	0	0	0	0	0
July	0	0	0	0	0
August	0	0	0	0	0
September	0	0	0	0	0
October	0	0	0	0	0
November	0	0	0	0	0
December	0	0	0	0	0
Total	0	0	0	0	0

3. Summary of seasonal and annual water use.

	Summer WHOLESALE (Treated + Raw)	Total WHOLESALE (Treated + Raw)
2018	285,736,000	839,335,000
2017	175,880,000	598,250,000
2016	140,597,000	435,213,000
2015	100,400,000	237,638,000
2014	88,660,000	125,726,000
Average in Gallons	158,254,600.00	447,232,400.00

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

D. Water Loss

Water Loss data for the previous five years.

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
2018	3,865,000	0	0.46 %
2017	-8,141,000	0	-1.38 %
2016	0	0	0.00 %
2015	0	0	0.00 %
2014	8,779,000	0	6.53 %
Average	900,600	0	1.12 %

E. Peak Day Use

Average Daily Water Use and Peak Day Water Use for the previous five years.

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (peak/avg)
2018	2,299,547	3105826	1.3506
2017	1,639,041	1911739	1.1664
2016	1,192,364	1528228	1.2817
2015	651,063	1091304	1.6762
2014	344,454	963695	2.7977

F. Summary of Historic Water Use

Water Use Category	Historic Average	Percent of Connections	Percent of Water Use
Municipal	447,450,800	100.00 %	100.00 %
Industrial	0	0.00 %	0.00 %
Commercial	0	0.00 %	0.00 %
Institutional	0	0.00 %	0.00 %
Agricultural	0	0.00 %	0.00 %

G. System Data Comment Section

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

Section III: Wastewater System Data

A. Wastewater System Data

1. Design capacity of wastewater treatment plant(s) in gallons per day: _____

2. List of active wastewater connections by major water use category.

Water Use Category	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal			0	0.00 %
Industrial			0	0.00 %
Commercial			0	0.00 %
Institutional			0	0.00 %
Agricultural			0	0.00 %
Total			0	100.00 %

3. Percentage of water serviced by the wastewater system: _____ %

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

4. Number of gallons of wastewater that was treated by the utility for the previous five years.

Month	Total Gallons of Treated Water				
	2018	2017	2016	2015	2014
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Total					

5. Could treated wastewater be substituted for potable water?

◯ Yes ◯ No

B. Reuse Data

1. Data by type of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site Irrigation	0
Plant wash down	0
Chlorination/de-chlorination	0
Industrial	0
Landscape irrigation (park,golf courses)	0
Agricultural	0
Discharge to surface water	
Evaporation Pond	
Other	0
Total	0

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

APPENDIX D

GTUA Customer Annual Water Conservation Report

APPENDIX D

GTUA CUSTOMER WATER CONSERVATION REPORT

Due: March 31 of every year

Water Utility Reporting:		
Filled Out By:		
Phone Number:		
Email:		
Date Completed:		
Year Covered:		
# of Connections		
Estimated Population		
Source:		*Cite the source used for estimation of population.*
# of Irrigation Systems		*Indicate Irrigation Systems or Backflow Preventers using the Dropdown Menu*

Recorded Deliveries and Sales by Month (in Million Gallons):

Month	Supplies other than GTUA	Sales by Category					
		Residential	Commercial	Public/ Institutional	Industrial	Metered Irrigation	Other
January							
February							
March							
April							
May							
June							
July							
August							
September							
October							
November							
December							

Other Parameters:

Peak Day (MG)		*Total peak day use (Peak day delivery from NTMWD + other supplies)*
Billed Unmetered:		*Estimated water that has been sold but not metered; for example, dust-control trucks and types of businesses using authorized water drawn from fire hydrants or other unmetered uses.*
Unbilled Metered:		*Water that is metered but not billed, such as city/government offices, city park irrigation, water treatment facility use, and some fire department use.*
Unbilled Unmetered:		*Estimated water not billed or metered, such as most line flushing.*
Goal for Total Loss Percent:		
5-year Per Capita Goal		
10-year Per Capita Goal		

Recorded Wholesale Sales by Month (in Million Gallons):

Month	Sales to...	Sales to...	Sales to...	Sales to...	Sales to...	Sales to...	Sales to...	Sales to...
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								

Information on Wholesale Customers:

Customer	Estimated Total Population

Unusual Circumstances (use additional sheets if necessary):

More water (1.4%) was sold than purchased, but this is due to purchasing meter reading low.

Progress in Implementation of Conservation Plan (use additional sheets if necessary):

Conservation measures planned for next year (use additional sheets if necessary):

Assistance requested from GTUA (use additional sheets if necessary):

Other (use additional sheets if necessary):

APPENDIX E

Letter to Region C Water Planning Group

GREATER TEXOMA UTILITY AUTHORITY

5100 AIRPORT DRIVE
DENISON, TEXAS 75020-8448
903/786-4433
FAX: 903/786-8211
www.gtua.org

March 18, 2019

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

Re: Greater Texoma Utility Authority Water Conservation and Water Resource and Emergency Management Plan

Dear Kevin:

Enclosed please find a copy of the recently updated Water Conservation Plan and Water Resource and Emergency Management Plan. I am submitting a copy of these plans to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The Board of Directors of the Greater Texoma Utility Authority adopted the Water Conservation Plan and Water Resource and Emergency Management Plan on March 18, 2019.

Sincerely,

Drew Satterwhite, P.E.
General Manager

DS:cb

APPENDIX F

Resolution Adopting Water Conservation Plan

RESOLUTION NO. 1363

A RESOLUTION BY THE BOARD OF DIRECTORS OF GREATER TEXOMA UTILITY AUTHORITY ADOPTING A WATER CONSERVATION PLAN AND A WATER RESOURCE AND EMERGENCY MANAGEMENT PLAN TO PROMOTE THE RESPONSIBLE USE OF WATER

WHEREAS, the Greater Texoma Utility Authority ("GTUA") has previously adopted a Water Conservation and Drought Contingency and Water Emergency Response Plan; and

WHEREAS, GTUA recognizes that the amount of water available to its water customers is limited; and

WHEREAS, GTUA recognizes that due to natural limitations, drought conditions, system failures, and other acts of God that may occur, GTUA cannot guarantee an uninterrupted water supply for all purposes at all times; and

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality ("TCEQ") require that GTUA adopt a Water Conservation Plan and a Water Resource and Emergency Management Plan; and

WHEREAS, the GTUA has determined an urgent need in the best interest of the public to adopt a Water Conservation and Water Response and Emergency Management Plan; and

WHEREAS, pursuant to Chapter 49 of the Water Code, GTUA is authorized to adopt such policies necessary to preserve and conserve its water resources;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF GREATER TEXOMA UTILITY AUTHORITY THAT:

SECTION 1: The Board of Directors hereby approves and adopts the Water Conservation Plan and Water Resource and Emergency Management Plan for GTUA dated March 18, 2019, attached hereto as Appendix A, as if recited verbatim herein. The GTUA commits to implement the requirements and procedures set forth in the adopted Plans.

SECTION 2: All resolutions that are in conflict with the provisions of this resolution be, and the same are hereby, repealed and all other resolutions of the GTUA not in conflict with the provisions of this resolution shall remain in full force and effect.

SECTION 3: It is hereby declared to be the intention of the Board of Directors of GTUA that the sections, paragraphs, sentences, clauses, and phrases of this resolution are severable and, if any phrase, clause, sentence, paragraph, or section of this resolution shall be declared unconstitutional by the valid judgment or decree of any court of competent jurisdiction, such unconstitutionality shall not affect any of the remaining phrases, clauses, sentences, paragraphs, and sections of the resolution, since the same would have been enacted by the Board of Directors without the incorporation of this resolution of such unconstitutional phrase, clause, sentence, paragraph, or section.

SECTION 4: This resolution shall take effect immediately from and after its passage.

SECTION 5: The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Resolution was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Resolution and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

SECTION 6: The General Manager or their designee is hereby directed to file a copy of the Water Conservation Plan, the Water Resource and Emergency Management Plan, and this Resolution with the TCEQ in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

PASSED AND APPROVED this the 18 day of March 2019.

President
Board of Directors
Greater Texoma Utility Authority

ATTEST:

Secretary-Treasurer
Board of Directors
Greater Texoma Utility Authority

APPENCIX G

TCEQ Water Conservation Implementation Report

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Water Availability Division - MC-160, P.O. Box 13087 Austin, Texas 78711-3087
Telephone (512) 239-4691, FAX (512) 239-2214

WATER CONSERVATION IMPLEMENTATION REPORT FORM AND SUMMARY OF UPDATES/REVISIONS TO WATER CONSERVATION PLAN

(Texas Water Code §11.1271(b) and Title 30 Texas Administrative Code §288.30(1) to (4))

Please note, this form replaces the following forms: TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers)

This Form is applicable to the following entities:

1. **Water Right Holders of 1,000 acre-feet or more for municipal, industrial, and other non-irrigation uses.**
2. **Water Right Holders of 10,000 acre-feet or more for irrigation uses.**

The above noted entities are required by rule to submit updates to their water conservation plan(s) and water conservation implementation report(s) every five years. The most current five-year submittal deadline is **May 1st, 2019.** See 30 Texas Administrative Code (TAC) §288.30(1) to (4). Entities must also submit any revisions to their water conservation plan within 90 days of adoption when the plans are revised in between the five-year submittal deadlines. This form may be used for the five-year submittal or when revisions are made to the water conservation plans in the interim periods between five-year submittals. Please complete the form as directed below.

1. Water Right Holder Name: Greater Texoma Utility Authority
2. Water Right Permit or Certificate Nos. 4301

3. Please Indicate by placing an 'X' next to all that Apply to your Entity:

Water Right Holder of 1,000 acre-feet or more for non-irrigation uses

_____Municipal Water Use by Public Water Supplier

X_____Wholesale Public Water Supplier

_____Industrial Use

_____Mining Use

_____Agriculture Non-Irrigation

Water Right Holder of 10,000 acre-feet or more for irrigation uses

_____Individually-Operated Irrigation System

_____Agricultural Water Suppliers Providing Water to More Than One User

Water Conservation Implementation Reports/Annual Reports

4. Water Conservation Annual Reports for the previous five years were submitted to the Texas Water Development Board (TWDB) for each of the uses indicated above as required by 30 TAC §288.30(10)(C)? Yes x____ No_____

TCEQ no longer requires submittal of the information contained in the detailed implementation report previously required in Forms TCEQ-20645 (Non-Public Water Suppliers) and TCEQ-20646 (Public Water Suppliers). However, the Entity must be up-to-date on its Annual Report Submittals to the TWDB.

Water Conservation Plans

5. For the five-year submittal (or for revisions between the five-year submittals), attach your updated or revised Water Conservation Plan for each of the uses indicated in Section 3, above. Every updated or revised water conservation plan submitted must contain each of the minimum requirements found in the TCEQ rules and must be duly adopted by the entity submitting the water conservation plan. Please include evidence that each water conservation plan submitted has been adopted.

   - Rules on minimum requirements for Water Conservation Plans can be found in 30 TAC 288. http://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=4&ti=30&pt=1&ch=288
   - Forms which include the minimum requirements and other useful information are also available to assist you. Visit the TCEQ webpage for Water Conservation Plans and Reports. https://www.tceq.texas.gov/permitting/water_rights/wr_technical-resources/conserve.html

*Call **512-239-4691** or email to **wcp@tceq.texas.gov** for assistance with the requirements for your water conservation plan(s) and report(s).*

6. For each Water Conservation Plan submitted, state whether the five and ten-year targets for water savings and water loss were met in your *previous* water conservation plan.
   Yes X No
   If the targets were not met, please provide an explanation.

7. For each five-year submittal, does each water conservation plan submitted contain *updated* five and ten-year targets for water savings and water loss?
   Yes x No

   If yes, please identify where in the water conservation plan the updated targets are located (page, section).
   Page 5-2

8. In the box below (or in an attachment titled "Summary of Updates or Revisions to Water Conservation Plans), please identify any other revisions/updates made to each water conservation plan that is being updated or revised. Please specify the water conservation plan being updated and the location within the plan of the newly adopted updates or revisions.

GTUA Water Conservation Plan updated March 2019
Goals updated to reflect current circumstances, page 5-2

9. Form Completed by (Point of Contact): Carolyn Bennett
(If different than name listed above, owner and contact may be different individual(s)/entities)

Contact Person Title/Position: Project Coordinator

Contact Address: 5100 Airport Drive, Denison TX 75020

Contact Phone Number: 903-786-4433 Contact Email Address: carolynb@gtua.org

Signature: Carolyn Bennett Date: 3/18/2019

APPENDIX H

Public Notice

Affidavit of Publication

STATE OF TEXAS)
COUNTY OF GRAYSON) SS:

GREATER TEXOMA MUNICIPAL UTILI
5100 AIRPORT DRIVE
DENISON TX 75020

Account # **49553**

Ad Number **0001215139**

Jeanine Sewell, being 1st duly sworn, deposes and says: That (s)he is the Legal Clerk for the Herald Democrat, a daily newspaper regularly issued, published and circulated in the City of Sherman, County of Grayson, State of Texas, and that the advertisement,

PUBLIC NOTICE The Greater Texoma Utility Authority will conduct a public meeting at 12:30 p.m. on Monday, March 18, 2019 for the purpose of receiving input fro

a true copy attached for, was published in said Herald Democrat in 1 edition(s) of said newspaper issued from 03/06/2019 to 03/06/2019, on the following days:

03 / 06 / 19

/S/ Jeanine Sewell
LEGAL ADVERTISEMENT REPRESENTATIVE

Subscribed and sworn to before me on this 6th day of March, 2019

Notary Michelle Henderson

MICHELLE HENDERSON
Notary Public, State of Texas
Comm. Expires 05-01-2021
Notary ID 129407907

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Call: 903-893-8181 or 903-465-7171

Announcements

Lost and Found

SHERMAN ANIMAL SHELTER FOUND ANIMALS

ANIMALS FOUND ON 2-27-19

CATTLE DOG MIX
ADULT/FEMALE
WHITE/TAN
FOUND IN THE 300 BLOCK OF PAWNEE DR. - GORDONVILLE

ANIMALS FOUND ON 2-28-19

DSH-CAT
KITTEN/FEMALE
TABBY
FOUND IN THE
1600 BLOCK OF LASALLE

DSH-CAT
ADULT/FEMALE
BLACK/WHITE
FOUND IN THE
1600 BLOCK OF LASALLE

LABRADOR MIX
ADULT/MALE
TAN/WHITE
FOUND IN THE
400 BLOCK OF JP CAVE RD.

PIT BULL
ADULT/MALE
BROWN/WHITE
FOUND IN THE 100 BLOCK OF BEAVERS - SOUTHMAYD

ANIMALS FOUND ON 3-1-19

DSH-CAT
ADULT/MALE
RED TABBY
FOUND IN THE 100 BLOCK OF NORTH ST. - DENISON

DLH-CAT
ADULT/FEMALE
TORTOISE SHELL
FOUND IN THE 100 BLOCK OF NORTH ST. - DENISON

ANIMALS FOUND ON 3-2-19

PIT BULL
ADULT/FEMALE
TAN/WHITE
FOUND ON YOWELL RD. -
TOM BEAN

UNCLAIMED ANIMALS ARE OFFERED FOR ADOPTION

Mon-Sat 10am-4pm
Closed daily from 12pm-1pm
Wed & Sun-closed
1800 E. Ida Rd- 903-892-7255

Personal Notices

Male 65 seeks room, reasonable rent, in home or mobile.
Enjoy karaoke,
Text/call 903-246-5333.

Who Has It

Who has one or two owner

Legal Notices

On March 4, 2019 the City of Pottsboro passed Ordinance No. 1426.

An Ordinance of the City Council of the City of Pottsboro, Texas, amending Pottsboro's Code of Ordinances, as amended, Chapter 14 (Planning and Zoning), Exhibit "A", Section 9 (R-1 - Single Family Residential District), Section 10 (R-2 - Two Family Residential (Duplex) District), Section 12 (MH - Manufactured Home Park District) and Section 21 (Accessory Buildings); providing a penalty clause, savings/repealing clause, severability clause and an effective date; and providing for the publication of the caption hereof.

PUBLIC NOTICE

The Greater Texoma Utility Authority will conduct a public meeting at 12:30 p.m. on Monday, March 18, 2019 for the purpose of receiving input from the public in preparation of the Greater Texoma Utility Authority Water Conservation Plan and Greater Texoma Utility Authority Water Resource and Emergency Management Plan. The public meeting will take place in the GTUA Boardroom, located at 5100 Airport Drive, Denison, Texas 75020. Copies of the Draft Plans are available on the GTUA website, GTUA.org, or at the Authority offices.

The Dixie Cemetery Association, Inc., in Whitesboro, TX, is taking bids Ground Maintenance. Bid specifications can be obtained by contacting Kathy Kost, Maintenance Director, at 903-271-2011 or skost137@gmail.com. Bids must be submitted no later than April 10, 2019. Dixie Cemetery Association reserves the right to accept or reject any bids.

Employment

Help Wanted

WEBB'S
Electric Heating & Air Conditioning

ARE YOU THE BEST ELECTRICIAN?
Then we are looking for you!
We are looking for the BEST of the BEST; ELECTRICAL JOURNEYMEN & APPRENTICES
Anything less will not do!
We are Texoma's BEST 12 years and counting.

Help Wanted

Baylor Scott & White Surgical Hospital at Sherman is looking for the following to join our team. Full time RN to work our Med Surgical Unit from 6:00pm until 6:00am. Full time Floor Technican to work from 2:00pm until 10:30pm. PRN RN's to work our Med Surgical Unit nights. We offer an excellent benefits package. Please apply online at baylorsherman.com

EOE

CARE FOR THE ELDERLY IN THEIR HOME. EARN $150.00 PER DAY. WORK 4 DAYS, THEN BE OFF 4 DAYS ($2250/MO. WORKING ONLY 15 DAYS PER MONTH). MUST NOT HAVE ANY CRIMINAL HISTORY. DRUG SCREENING IS REQUIRED. CALL 903-813-8477 FOR INTERVIEW.

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Routes will take anywhere from 2.5 to 4 hours. Pay is approx. $300-$850 every two weeks, depending on route size.
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If interested, please call **903-893-8181** or email **tkern@heralddemocrat.com**

Class A End Dump and Belly Dump Drivers needed. Some out-of-town time required. Insurance, 401K & paid vacation. Apply at www.rkhall.net or call Dennis (903)647-0569 EOE Employer.

Class A or B CDL Concrete Mixer Truck Driver opening available with reputable local company. Verifiable driving experience and a clean driving record necessary. Will train for mixer operation. Competitive salary and benefits package. Please apply in person at North Travis Street and FM 691,

Help Wanted

SENIOR C... CENTER

Mullican Care Center
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Savoy, TX 75479
903-965-0200

NOW HIRING:

PRN 6-2 or 2-10,
LVN OR RN
MED AIDE
Full Time
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CNA's 2-10
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Shift Diff for CNA's

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Dependable Dancers,
Thursday's, Friday's and Saturday's.
Make great money!
Apply in person
Thur-Sat. after 7pm.
Must be 21 years or older.
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Lake Texoma, Kingston, O

Need Local, CDL Driver
W/Hazmat or able to obtai within 30 days

Benefits:
- Medical / Dental / Vision Life Insurance
- Short / Long Term Disability
- 2 weeks' vacation after one year
- Paid Holidays
- Direct Deposit

EDC Ag Products-
Whitewright, TX
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Maintenance men.
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APPENDIX I

GTUA Model Water Conservation Plan for Customers

2019 MODEL WATER CONSERVATION PLAN FOR GREATER TEXOMA UTILITY AUTHORITY WHOLESALE WATER CUSTOMERS

MARCH 18, 2019

FOREWARD

This 2019 Model Water Conservation Plan (WCP) was prepared utilizing the North Texas Municipal Water District (NTMWD) 2019 Draft Model Water Conservation Plan prepared by Freese and Nichols for the NTMWD[1]. It is intended to be used as a guide by Greater Texoma Utility Authority (GTUA) Customers as they develop their own water conservation plans. The model plan was prepared pursuant to Texas Commission on Environmental Quality (TCEQ) rules[2].

This 2019 Model Water Conservation Plan is based on the Texas Administrative Code and considers water conservation best management practices from Texas Water Development Board (TWDB) Report 362, *Water Conservation Best Management Practices Guide*. In 2007, the state legislature created the Water Conservation Advisory Council (WCAC) as a council with expertise in water conservation representing various interest with one of their charges to regularly review existing Best Management Practices (BMPs) and add additional new BMPs as appropriate. The draft WCAC BMPs available as of November 30, 2018 have also been considered in the preparation of this plan.

None of the currently proposed BMPs will cause this plan to be obsolete. The most current annual report form should be obtained from the TWDB website and completed online on TWDB website when preparing the annual report (Appendix J) to submit to the TWDB.

WATER CONSERVATION PLAN FOR _____

DATE

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APPENDIX J **TWDB Annual Water Conservation Report**

1. INTRODUCTION AND OBJECTIVES

Water supply has always been a key issue in the development of Texas. In recent years, the increasing population and economic development of North Central Texas have led to growing demands for water supplies. At the same time, local and less expensive sources of water supply are largely already developed. Additional supplies to meet future demands will be expensive and difficult to secure. Severe drought conditions in recent years have highlighted the importance of efficient use of our existing supplies to make them last as long as possible. This will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, the TCEQ has developed guidelines and requirements governing the development of water conservation and drought contingency plans for municipal uses by public water suppliers.[2] The Greater Texoma Utility Authority (GTUA) has developed this Model Water Conservation Plan to be consistent with TCEQ guidelines and requirements. The best management practices established by the Water Conservation Implementation Task Force[3] were also considered in the development of the water conservation measures.

This Model Water Conservation Plan includes measures that are intended to result in ongoing, long-term water savings. This plan replaces the previous plan dated _____ (insert date of plan previously approved by Customer).

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.
- Encourage efficient outdoor water use.
- To maximize 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 adoption by the GTUA Customers. In order to adopt this plan, each Customer will need to do the following:

- Complete the water utility profile (provided in Appendix C).
- Set five-year and ten-year goals for per capita water use.
- Adopt ordinance(s) or regulation(s) approving the model plan.
- Complete the annual water conservation report (in Appendix J).

The water utility profile, goals, and ordinance(s) or regulations should be provided to GTUA in draft form for review and comments. Final adopted versions should also be provided to GTUA, as well as TCEQ and should be attached to the adopted water conservation plan. This Model Water Conservation Plan includes all the elements of such plans required by TCEQ. Some elements of this model plan go beyond TCEQ requirements. Any water supplier wishing to adjust elements of the Model Water Conservation Plan should coordinate with GTUA.

*Superscripted numbers match references listed in Appendix A.

2. DEFINITIONS AND ABBREVIATIONS

1. ATHLETIC FIELD means a public sports competition field, the essential feature of which is turf grass, used primarily for organized sports practice, competition or exhibition events for schools; professional sports and league play sanctioned by the utility providing retail water supply.

2. COOL SEASON GRASSES are varieties of turf grass that grow best in cool climates primarily in northern and central regions of the U.S. Cool season grasses include perennial and annual rye grass, Kentucky blue grass and fescues.

3. CUSTOMERS include those entities GTUA provides wholesale water.

4. DRIP IRRIGATION is a type of micro-irrigation system that operates at low pressure and delivers water in slow, small drips to individual plants or groups of plants through a network of plastic conduits and emitters; also called trickle irrigation.

5. EVAPOTRANSPIRATION (ET) represents the amount of water lost from plant material to evaporation and transpiration. The amount of ET can be estimated based on the temperature, wind, and relative humidity.

6. ET/SMART CONTROLLERS are irrigation controllers that adjust their schedule and run times based on weather (ET) data. These controllers are designed to replace the amount of water lost to evapotranspiration.

7. IRRIGATION SYSTEM means a permanently installed, custom-made, site-specific system of delivering water generally for landscape irrigation via a system of pipes or other conduits installed below ground.

8. LANDSCAPE means any plant material on a property, including any tree, shrub, vine, herb, flower, succulent, ground cover, grass or turf species, that is growing or has been planted out of doors.

9. MUNICIPAL USE means the use of potable water provided by a public water supplier as well as the use of treated wastewater effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

10. NORTH TEXAS MUNICIPAL WATER DISTRICT means the wholesale water supplier of water to GTUA.

11. REGULATED IRRIGATION PROPERTY means any (customer class, i.e. commercial) property that uses (over a certain amount) of water or more for irrigation purposes in a single calendar year or is greater than (certain size).

12. RESIDENTIAL GALLONS PER CAPITA PER DAY means (Residential GPCD) the total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

13. RETAIL CUSTOMERS include those customers to whom the GTUA Customer provides retail water from a water meter.

14. TOTAL GALLONS PER CAPITA PER DAY (Total GPCD) means the total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in TAC 288.1 shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

15. WATER CONSERVATION PLAN means the Customer water conservation plan approved and adopted by the utility.

Abbreviations

Abbreviation	Full Nomenclature
BMP	Best Management Practices
GTUA	Greater Texoma Utility Authority
NTMWD or District	North Texas Municipal Water District
TCEQ	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
WCAC	Water Conservation Advisory Council
WCP	Water Conservation Plan

3. REGULATORY BASIS FOR WATER CONSERVATION PLAN

3.1 TCEQ Rules Governing Conservation Plans

The TCEQ rules governing development of water conservation plans for municipal uses by public water suppliers are contained in Title 30, Chapter 288, Subchapter A, Section 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." [2] The water conservation plan elements required by the TCEQ water conservation rules that are covered in this water conservation plan are listed below.

Minimum Conservation Plan Requirements

The minimum requirements in the Texas Administrative Code for Water Conservation Plans for Municipal Uses by Public Water Suppliers are covered in this water conservation plan as follows:

- 288.2(a)(1)(A) – Utility Profile – Section 4 and Appendix C
- 288.2(a)(1)(B) – Record Management System – Section 6.1.5
- 288.2(a)(1)(C) – Specific, Quantified Goals – Section 5
- 288.2(a)(1)(D) – Accurate Metering – Section 6.1.1
- 288.2(a)(1)(E) – Universal Metering – Section 6.1.2
- 288.2(a)(1)(F) – Determination and Control of Water Loss – Sections 6.1.3 and 6.1.4
- 288.2(a)(1)(G) – Public Education and Information Program – Section 6.2
- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 6.6
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 6.3
- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 8
- 288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 6.4 and Appendix F
- 288.2(c) – Review and Update of Plan – Section 9

Conservation Additional Requirements **(Population over 5,000)**

- The Texas Administrative Code includes additional requirements for water conservation plans for drinking water supplies serving a population over 5,000
- 288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 6.1.4
- 288.2(a)(2)(B) – Requirement for Water Conservation Plans by Wholesale Customers – Section 6.5

Additional Conservation Strategies

The TWDB requires that an annual water conservation report be completed and submitted on an annual basis. The template for this report is included in Appendix J.

In addition to the TCEQ required elements of a water conservation plan, GTUA, as a customer of NTMWD, also requires the following water conservation strategies to be included in the Customer water conservation plans:

- 288.2(a)(3)(A) – Conservation Oriented Water Rates – Section 6.6
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 7.4 and Appendix E

TCEQ rules also include options of, conservation measures that may be adopted by public water suppliers but are not required. GTUA recommends that the following strategies be included in Customer water conservation plans:

- 288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 7.1
- 288.2(a)(3)(C) – Replacement or Retrofit of Water-Conserving Plumbing Fixtures – Section 7.5
- 288.2(a)(3)(D) – Reuse and Recycling of Wastewater – Section 7.2
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 7.3, 7.4
- 288.2(a)(3)(G) – Monitoring Method – Section 7.6
- 288.2(a)(3)(H) – Additional Conservation Practices – Section 7.5

3.2 Guidance and Methodology for Reporting on Water Conservation and Water Use

In addition to TCEQ rules regarding water conservation, this plan also incorporates elements of the Guidance and Methodology for Reporting on Water Conservation and Water Use developed by TWDB and TCEQ[4], in consultation with the WCAC (the "Guidance"). The Guidance was developed in response to a charge by the 82nd Texas Legislature to develop water use and calculation methodology and guidance for preparation of water use reports and water conservation plans in accordance with TCEQ rules.

4. WATER UTILITY PROFILE

Appendix C to this Model Water Conservation Plan is a template water utility profile based on the format recommended by the TCEQ. In adopting this Model Water Conservation Plan, each Customer should provide a draft water utility profile to GTUA for review and comment. A final water utility profile should be provided to GTUA as well as to TCEQ.

5. SPECIFICATION OF WATER CONSERVATION GOALS

TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. As part of plan adoption, each Customer must develop 5-year and 10-year goals for water savings, including goals for per capita municipal use and for water loss programs. These goals should be submitted to GTUA in draft form for review. The goals for this water conservation plan include the following:

- Maintain the total and residential per capita water use below the specified amount in gallons per capita per day in a dry year, as shown in the completed Table 5-1.
- Maintain the water loss percentage in the system below 12 percent annually in 2019 and subsequent years, as discussed in Section 6.1.3. (The 12 percent goal for water loss is recommended but is not required. Systems with long distances between customers, such as rural systems, may adopt a higher percent nonrevenue water goal.)
- Implement and maintain a program of universal metering and meter replacement and repair, as discussed in Section 6.1.2.
- Increase efficient water usage through a water conservation ordinance, order or resolution as discussed in Section 7.4 and Appendix E. (This ordinance is required by NTMWD, and therefore required by GTUA.)
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 7.5. (These landscape water management regulations are recommended but are not required.)
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 6.2.
- Develop a system specific strategy to conserve water during peak demands, thereby reducing the peak use.

Water Conservation Plan Goals Table
TWDB Form No. 1964
Revised 12/14/2012 1:53 PM

Table 5.1
WATER CONSERVATION PLAN
5- AND 10-YR GOALS FOR WATER SAVINGS

Facility Name: _____

Water Conservation Plan Year: _____

	Historic 5yr Average	Baseline	5-yr Goal for year _____	10-yr Goal for year _____
Total GPCD[1]				
Residential GPCD[2]				
Water Loss (GPCD)[3]				
Water Loss (Percentage)[4]	%	%	%	%

1. Total GPCD = (Total Gallons in System ÷ Permanent Population) ÷ 365
2. Residential GPCD = (Gallons Used for Residential Use ÷ Residential Population) ÷ 365
3. Water Loss GPCD = (Total Water Loss ÷ Permanent Population) ÷ 365
4. Water Loss Percentage = (Total Water Loss ÷ Total Gallons in System) x 100; or (Water Loss GPCD ÷ Total GPCD) x 100

6. BASIC WATER CONSERVATION STRATEGIES

6.1 Metering, Water Use Records, Control of Water Loss, and Leak Detection and Repair

One of the key elements of water conservation is tracking water use and controlling losses through illegal diversions and leaks. It is important to carefully meter water use, detect and repair leaks in the distribution system and provide regular monitoring of real losses.

6.1.1 Accurate Metering of Treated Water Deliveries from GTUA

Water deliveries from GTUA Customers are metered by GTUA Customers. Each Customer should set a percentage for accuracy of meters. These meters should be calibrated on a basis set by the Customer to maintain the required accuracy.

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

The provision of water to all customers, including public and governmental users, should be metered.

All Customer meters should be replaced on a minimum of a 15-year cycle. Those who do not currently have a meter testing and replacement program should implement such a program.

6.1.3 Determination and Control of Water Loss

Total water loss is the difference between the water delivered from GTUA and any other source, and the metered water sales to customers plus water authorized for use but not sold. (Authorized for use but not sold would include use for fire-fighting, releases for flushing of lines, uses associated with new construction, etc.) Total water loss includes two categories:

- Apparent Losses – Includes 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, and accounts that are being used but have not yet been added to the billing system.
- Real Losses – Includes physical losses from the system or mains, reported breaks and leaks, storage overflow and unreported losses.

Measures to control water loss should be part of the routine operations of Customers. Maintenance crews and personnel should look for and report evidence of leaks in the water distribution system. A leak detection and repair program is described in Section 6.1.4 below. Meter readers should watch for and report signs of illegal connections so that they can be quickly addressed.

Total water loss should be calculated in accordance with the provisions of Appendix J. With the measures described in this plan, Customers should strive to maintain a water loss percentage below 12 percent in each year. If total water loss exceeds this goal, the Customer should implement a more intensive audit to determine the source(s) of loss and to reduce the water loss. The annual conservation report described below is the primary tool that should be used to monitor water loss.

6.1.4 Leak Detection and Repair

As described above, water utility crews and personnel should 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 should be targeted for replacement as funds are available.

6.1.5 Record Management System

As required by TAC Title 30, Chapter 288, Section 288.2(a)(1)(B), a record management system should allow for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information should be included in an annual water conservation report, as described in Section 7.6 below. Those entities whose record management systems do not currently comply with this requirement should move to implement such a system within the next five years.

6.2 Continuing Public Education and Information Campaign

The continuing public education and information campaign on water conservation includes the following elements:

- Utilize the "Water IQ: Know Your Water" and other public education materials produced by NTMWD.
- Utilize the "Water4Otter" campaign for students.
- Insert water conservation information with water bills. Inserts will include material developed by Customers' staff and material obtained from the TWDB, TCEQ, and other sources.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Notify local organizations, schools, and civic groups that Customer staff are available to make presentations on the importance of water conservation and ways to save water.
- Promote the *Texas Smartscape* web site (www.txsmartscape.com) and provide water conservation brochures and other water conservation materials available to the public at City Hall and other public places.
- Make information on water conservation available on the Customer's website (if applicable) and include links to the "Water IQ: Know Your Water" website, *Texas*

Smartscape website and to information on water conservation on the TWDB and TCEQ web sites and other resources.

- Utilize the Water My Yard website and encourage customers to sign-up to receive weekly watering advice.
- NTMWD is an EPA Water Sense Partner and participates in the EPA Water Sense sponsored "Fix a Leak Week." GTUA encourages Customers to become EPA Water Sense Partners.

6.3 Reservoir System Operation

GTUA Customers receive treated potable water from GTUA, and do not have surface water supplies for which a reservoir system operations plan is required to be implemented.

6.4 Coordination with Regional Water Planning Group and GTUA/NTMWD

Appendix F includes letters to be sent to the Chair of the Region C Water Planning Group and GTUA accompanied by the Customer's adopted Water Conservation Plan.

6.5 Requirement for Water Conservation Plans by Wholesale Customers

Every contract for the wholesale sale of water by a GTUA Customer that is entered into, renewed, or extended after the adoption of this Water Conservation Plan will include a requirement that the GTUA Customer and any wholesale customers of that GTUA Customer develop and implement a Water Conservation Plan meeting the requirements of Title 30, Chapter 288, of the Texas Administrative Code. This requirement extends to each successive wholesale customer in the resale of the water.

6.6 Increasing Block Water Rate Structure

Each Customer must adopt, if it has not already done so, an increasing block rate water structure that is intended to encourage water conservation and to discourage excessive use and waste of water upon completion its 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. 2nd tier (from the average to 2 times the approximate average) at 1.25 to 2.0 times the base charge.
4. 3rd tier (above 2 times the approximate average) at 1.25 to 2.0 times the 2nd tier.
5. Additional tiers with further increases if desired.
6. The residential rate can also include a lower tier for basic household use up to 4,000 gallons per month or a determined basic use.

Commercial/Industrial Rates

Commercial/Industrial rates should include at least 2 tiers, with rates for the 2nd tier set at 1.25 to 2.0 times that of the first tier. Higher water rates for commercial irrigation use are encouraged, but not required.

7. ENHANCED WATER CONSERVATION STRATEGIES

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

The state 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, 2.5 gpm for showerheads. As of January 1, 2014, the state requires maximum average flow rates of 1.28 gallons per flush (gpf) for toilets and 0.5 gpf for urinals. Similar standards are now required under federal law. These state and federal standards assure that all new construction and renovations will use water-conserving fixtures. Rebate programs to encourage replacement of older fixtures with water conservation programs are discussed in Section 7.5.

7.2 Reuse and Recycling of Wastewater

Current GTUA Customers do not recycle wastewater.

Customers who own and operate their own wastewater treatment plants should move toward reusing treated effluent for irrigation purposes at their plant site over the next three years. These entities should also seek other alternatives for reuse of recycled wastewater effluent.

7.3 Interactive Weather Stations / "Water My Yard" Program

NTMWD has developed the Water My Yard program to install weather stations throughout its service area in order to provide consumers with a weekly e-mail and information through the "Water My Yard" website to assist consumers in determining an adequate amount of supplemental water to maintain healthy grass in a specific location. This service represents the largest network of weather stations providing ET-based irrigation recommendations in the State of Texas, and provides the public advanced information regarding outdoor irrigation needs, thereby reducing water use. Through a series of selections on the type of irrigation system a consumer has, a weekly email is provided that will determine how long (in minutes) an irrigation system needs to run based on the past seven days of weather. This recommendation provides the actual amount of supplemental water that is required for a healthy lawn based on research of the Texas A&M Agrilife Extension Service and proven technologies. This innovative program has been available to those within the NTMWD service area since May 2013. The city/utility will encourage customers to subscribe to weekly watering updates through Water My Yard or other similar program in an effort to reduce outdoor water consumption.

7.4 Compulsory Landscape and Water Management Measures

The following landscape water management measures are required by NTMWD, and therefore by GTUA, a Customer of NTMWD, for this plan. These measures represent minimum measures to be implemented and enforced in order to irrigate the landscape appropriately and are to remain in effect on a permanent basis unless water resource management stages are declared.

1. **Landscape Water Management Measures**

   - Limit landscape watering with sprinklers or irrigation systems at each service address to no more than two days per week (April 1 – October 31), with education that less than twice per week is usually adequate. (NTMWD has identified assigning designated watering days as a BMP and suggests implementing a watering schedule as part of this measure). Additional watering of landscape may be provided by hand-held hose with shutoff nozzle, use of dedicated irrigation drip zones. An exception is allowed for landscape associated with new construction that may be watered as necessary for 30 days from the installation of new landscape features.
   - Limit landscape watering with sprinklers or irrigation systems at each service address to no more than one day per week beginning November 1 and ending March 31 of each year, with education that less than once per week is usually adequate.
   - Estimated savings from the year-round watering restrictions, mentioned above, since NTMWD terminated drought stages in 2015 is approximately 2.5 to 3.5 percent on an average annualized basis.
   - Prohibit lawn irrigation watering from 10 AM to 6 PM (April 1 – October 31).
   - Prohibit the use or irrigation systems that water impervious surfaces. (Wind-driven water drift will be taken into consideration.)
   - Prohibit outdoor watering during precipitation or freeze events.
   - Prohibit use of poorly maintained sprinkler systems that waste water.
   - Prohibit excess water runoff or other obvious waste.

- Require rain and freeze sensors and/or ET or Smart controllers on all new irrigation systems. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
- Prohibit overseeding, sodding, sprigging, broadcasting or plugging with cool season grasses or watering cool season grasses, except for golf courses and athletic fields.
- Require that irrigation systems be inspected at the same time as initial backflow preventer inspection.
- Requirement that all new irrigation systems be in compliance with state design and installation regulations (Texas Administrative Code Title 30, Chapter 344).
- Require the owner of a regulated irrigation property to obtain an evaluation of any permanently installed irrigation system on a periodic basis. The irrigation evaluation shall be conducted by an licensed irrigator in the State of Texas and be submitted to the local water provider (i.e., city, water supply corporation).

2. **Additional Water Management Measures**
   - Prohibit the use of potable water to fill or refill residential, amenity, and any other natural or manmade ponds. A pond is considered to be a still body of water with a surface area of 500 square feet or more.
   - Non–commercial car washing can be done only when using a water hose with a shut-off nozzle.
   - Hotels and motels shall offer a linen reuse water conservation option to customers.
   - Restaurants, bars, and other commercial food or beverage establishments may not provide drinking water to customers unless a specific request is made by the customer for drinking water.

Customers are responsible for developing regulations, ordinances, policies, or procedures for enforcement of water conservation guidelines.

Appendix E is a summary of considerations for landscape water management regulations adopted as part of the development of this water conservation plan. These regulations are intended to minimize waste in landscape irrigation. Appendix E includes the required landscape water measures laid out in this section.

7.5 Additional Water Conservation Measures (Not Required)

GTUA also urges its Customers to consider including the following additional water conservation measures in their plans. GTUA Customers are responsible for developing regulations, ordinances, policies, or procedures for enforcement of water conservation guidelines.

1. **Landscape Water Management Regulations**
    - Requirement that all existing irrigation systems be retrofitted with rain and freeze sensors and/or ET or Smart controllers capable of multiple programming. Rain and freeze sensors and/or ET or Smart controllers must be maintained to function properly.
    - Requirement that all new athletic fields be irrigated by a separate irrigation system from surrounding areas.
    - Implementation of other measures to encourage off-peak water use.
2. **Landscape Ordinance**
    - Landscape ordinances are developed by a city to guide developers in landscaping requirements for the city. A sample landscape ordinance is provided in Appendix I and is intended as a guideline for adopting a landscape ordinance to promote water-efficient landscape design.
    - Native, drought tolerant or adaptive plants should be encouraged.
    - Drip irrigation systems should be promoted.
    - ET/Smart controllers that only allow sprinkler systems to irrigate when necessary should be promoted.
3. **Water Audits**
    - Water audits are useful in finding ways in which water can be used more efficiently at a specific location. GTUA recommends that GTUA Customers offer water audits to their customers.

4. **Rebates**

In addition to the conservation measures described above, GTUA also recommends the following water conservation incentive programs for consideration by Customers:

- Commercial clothes washer rebates for the purchase and installation of high efficiency card- or coin -operated commercial clothes washers;
- Low-flow toilet replacement and rebate programs;
- Rebates for rain/freeze sensors and/or ET or Smart controllers;
- Low-flow showerhead and sink aerators replacement programs or rebates;
- Residential water efficient clothes washer rebates;
- Pressure reducing valve installation programs or rebates;
- Rain barrel rebates;
- Pool covers;
- On-demand hot water heater rebates; and/or
- Other water conservation incentive programs.

7.6 Monitoring of Effectiveness and Efficiency - GTUA Annual Water Conservation Report

Appendix D is a form that should be used in the development of an annual water conservation report by Customers. This form should be completed by March 31 of the following year and 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 total water loss for the current year and compares them to historical values. As part of the development of Appendix D, Customers will complete the tracking tool by March 31 of the following year and submit them to GTUA. The annual water conservation report should be sent to GTUA and TWDB.

7.7 Annual Water Conservation Report

Appendix J includes the TWDB-required annual water conservation report. The report is due to the TWDB by May 1 of every year.

8. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

Appendix G contains a draft ordinance, order, or resolution which may be tailored to meet Customer needs and may be adopted by the City Council or governing board regarding the Customer's Water Conservation Plan. The ordinance, order, or resolution designates responsible officials to implement and enforce the water conservation plan. Appendix E, the considerations for landscape water management regulations, also includes information about enforcement. Appendix H includes a copy of an ordinance, order, or resolution that may be adopted related to illegal connections and water theft.

9. REVIEW AND UPDATE OF WATER CONSERVATION PLAN

TCEQ requires that the water conservation plans be updated every five years. The plan will be updated as required and as appropriate based on new or updated information.

GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX A

List of References

APPENDIX A

LIST OF REFERENCES

1. Freese and Nichols, Inc., Fort Worth: Model Water Conservation Plan for NTMWD Member Cities and Customers, prepared for the North Texas Municipal Water District, January 2019

2. Title 30 of the Texas Administrative Code, Part 1, Chapter 288, Subchapter A, Rules 288.1 and 288.2

3. Water Conservation Implementation Task Force: "Texas Water Development Board Report 362, Water Conservation Best Management Practices Guide," prepared for the Texas Water Development Board, Austin, November 2004.

4. Texas Water Development Board, Texas Commission on Environmental Quality, Water Conservation Advisory Council: Guidance and Methodology for Reporting on Water Conservation and Water Use, December 2012

GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX B

Texas Commission on Environmental Quality Rules on Water Conservation Plans

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Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	WATER CONSERVATION PLANS
RULE §288.1	Definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Agricultural or Agriculture--Any of the following activities:

(A) cultivating the soil to produce crops for human food, animal feed, or planting seed or for the production of fibers;

(B) the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or non-soil media by a nursery grower;

(C) raising, feeding, or keeping animals for breeding purposes or for the production of food or fiber, leather, pelts, or other tangible products having a commercial value;

(D) raising or keeping equine animals;

(E) wildlife management; and

(F) planting cover crops, including cover crops cultivated for transplantation, or leaving land idle for the purpose of participating in any governmental program or normal crop or livestock rotation procedure.

(2) Agricultural use--Any use or activity involving agriculture, including irrigation.

(3) Best management practices--Voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.

(4) Conservation--Those practices, techniques, and technologies that reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in the use of water, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses.

(5) Commercial use--The use of water by a place of business, such as a hotel, restaurant, or office building. This does not include multi-family residences or agricultural, industrial, or institutional users.

(6) Drought contingency plan--A strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies. A drought contingency plan may be a separate document identified as such or may be contained within another water management document(s).

(7) Industrial use--The use of water in processes designed to convert materials of a lower order of value into forms having greater usability and commercial value, and the development of power by means other than hydroelectric, but does not include agricultural use.

(8) Institutional use--The use of water by an establishment dedicated to public service, such as a school, university, church, hospital, nursing home, prison, or government facility. All facilities dedicated to public service are considered institutional regardless of ownership.

(9) Irrigation--The agricultural use of water for the irrigation of crops, trees, and pastureland, including, but not limited to, golf courses and parks which do not receive water from a public water supplier.

(10) Irrigation water use efficiency--The percentage of that amount of irrigation water which is beneficially used by agriculture crops or other vegetation relative to the amount of water diverted from the source(s) of supply. Beneficial uses of water for irrigation purposes include, but are not limited to, evapotranspiration needs for vegetative maintenance and growth, salinity management, and leaching requirements associated with irrigation.

(11) Mining use--The use of water for mining processes including hydraulic use, drilling, washing sand and gravel, and oil field re-pressuring.

(12) Municipal use--The use of potable water provided by a public water supplier as well as the use of sewage effluent for residential, commercial, industrial, agricultural, institutional, and wholesale uses.

(13) Nursery grower--A person engaged in the practice of floriculture, viticulture, silviculture, and horticulture, including the cultivation of plants in containers or nonsoil media, who grows more than 50% of the products that the person either sells or leases, regardless of the variety sold, leased, or grown. For the purpose of this definition, grow means the actual cultivation or propagation of the product beyond the mere holding or maintaining of the item prior to sale or lease, and typically includes activities associated with the production or multiplying of stock such as the development of new plants from cuttings, grafts, plugs, or seedlings.

(14) Pollution--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to the public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.

(15) Public water supplier--An individual or entity that supplies water to the public for human consumption.

(16) Regional water planning group--A group established by the Texas Water Development Board to prepare a regional water plan under Texas Water Code, §16.053.

(17) Residential gallons per capita per day--The total gallons sold for residential use by a public water supplier divided by the residential population served and then divided by the number of days in the year.

(18) Residential use--The use of water that is billed to single and multi-family residences, which applies to indoor and outdoor uses.

(19) Retail public water supplier--An individual or entity that for compensation supplies water to the public for human consumption. The term does not include an individual or entity that supplies water to

itself or its employees or tenants when that water is not resold to or used by others.

(20) Reuse--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.

(21) Total use--The volume of raw or potable water provided by a public water supplier to billed customer sectors or nonrevenue uses and the volume lost during conveyance, treatment, or transmission of that water.

(22) Total gallons per capita per day (GPCD)--The total amount of water diverted and/or pumped for potable use divided by the total permanent population divided by the days of the year. Diversion volumes of reuse as defined in this chapter shall be credited against total diversion volumes for the purposes of calculating GPCD for targets and goals.

(23) Water conservation coordinator--The person designated by a retail public water supplier that is responsible for implementing a water conservation plan.

(24) Water conservation plan--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. A water conservation plan may be a separate document identified as such or may be contained within another water management document(s).

(25) Wholesale public water supplier--An individual or entity that for compensation supplies water to another for resale to the public for human consumption. The term does not include an individual or entity that supplies water to itself or its employees or tenants as an incident of that employee service or tenancy when that water is not resold to or used by others, or an individual or entity that conveys water to another individual or entity, but does not own the right to the water which is conveyed, whether or not for a delivery fee.

(26) Wholesale use--Water sold from one entity or public water supplier to other retail water purveyors for resale to individual customers.

Source Note: The provisions of this §288.1 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 August 15, 2002, 27 TexReg 7146; amended to be effective October 7, 2004, 29 TexReg 9384; amended to be effective January 10, 2008, 33 TexReg 193; amended to be effective December 6, 2012, 37 TexReg 9515; amended to be effective August 16, 2018, 43 TexReg 5218

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Texas Administrative Code

TITLE 30	ENVIRONMENTAL QUALITY
PART 1	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
CHAPTER 288	WATER CONSERVATION PLANS, DROUGHT CONTINGENCY PLANS, GUIDELINES AND REQUIREMENTS
SUBCHAPTER A	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

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GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX C

TCEQ Water Utility Profile

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:

   a. Water _____

   b. Wastewater _____

5. Population served for previous five years:

Year	*Population*

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

Year	*Population*
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

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

Treated Water Users	*Metered*	*Non-Metered*	**Totals**
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.

Year			
Treated Water Users			
Residential			
Single-Family			
Multi-Family			
Commercial			
Industrial/Mining			
Institutional			
Agriculture			
Other/Wholesale			

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

Customer	*Use (1,000 gal/year)*	*Treated or Raw Water*
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.

Year					
Month					
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Totals					

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.

Year					
Account Types					
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).

Year	*Amount (gallons)*	*Percent %*

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.

Water Type	*Source*	*Amount Authorized*
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):

Year					
Month					
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					
Totals					

V. ADDITIONAL REQUIRED INFORMATION

In addition to the utility profile, please attach the following as required by Title 30, Texas Administrative Code, §288.2. Note: If the water conservation plan does not provide information for each requirement, an explanation must be included as to why the requirement is not applicable.

A. *Specific, Quantified 5 & 10-Year Targets*

The water conservation plan must include specific, quantified five-year and ten-year targets for water savings to include goals for water loss programs and goals for municipal use in gallons per capita per day. Note that the goals established by a public water supplier under this subparagraph are not enforceable

B. *Metering Devices*

The water conservation plan must include a statement about the water suppliers 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.

C. *Universal Metering*

The water conservation plan must include and a program for universal metering of both customer and public uses of water, for meter testing and repair, and for periodic meter replacement.

D. *Unaccounted- For Water Use*

The water conservation plan must include measures to determine and control unaccounted-for uses of water (for example, periodic visual inspections along distribution lines; annual or monthly audit of the water system to determine illegal connections; abandoned services; etc.).

E. *Continuing Public Education & Information*

The water conservation plan must include a description of the program of continuing public education and information regarding water conservation by the water supplier.

F. *Non-Promotional Water Rate Structure*

The water supplier must have 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. This rate structure must be listed in the water conservation plan.

G. *Reservoir Systems Operations Plan*

The water conservation plan must include 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. The reservoir systems operations plan shall include optimization of water supplies as one of the significant goals of the plan.

H. *Enforcement Procedure and Plan Adoption*

The water conservation plan must include a means for implementation and enforcement, which shall be evidenced by a copy of the ordinance, rule, resolution, or tariff, indicating official adoption of the water conservation plan by the water supplier; and a description of the authority by which the water supplier will implement and enforce the conservation plan.

I. *Coordination with the Regional Water Planning Group(s)*

The water conservation plan must include documentation of coordination with the regional water planning groups for the service area of the wholesale water supplier in order to ensure consistency with the appropriate approved regional water plans.

J. *Plan Review and Update*

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 not later than May 1, 2009, and every five years after that date to coincide with the regional water planning group. The revised plan must also include an implementation report.

VI. ADDITIONAL REQUIREMENTS FOR LARGE SUPPLIERS

Required of suppliers serving population of 5,000 or more or a projected population of 5,000 or more within ten years

A. *Leak Detection and Repair*

The plan must include a description of the program of leak detection, repair, and water loss accounting for the water transmission, delivery, and distribution system in order to control unaccounted for uses of water.

B. *Contract Requirements*

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.

VII. ADDITIONAL CONSERVATION STRATEGIES

A. *Conservation Strategies*

Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements of this chapter, if they are necessary in order to achieve the stated water conservation goals of the plan. The commission may require by commission order that any of the following strategies be implemented by the water supplier if the commission determines that the strategies are necessary in order for the conservation plan to be achieved:

1. 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;

2. 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;

3. A program for the replacement or retrofit of water-conserving plumbing fixtures in existing structures;

4. A program for reuse and/or recycling of wastewater and/or graywater;

5. A program for pressure control and/or reduction in the distribution system and/or for customer connections;

6. A program and/or ordinance(s) for landscape water management;

7. A method for monitoring the effectiveness and efficiency of the water conservation plan; and

8. 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.

Best Management Practices

The Texas Water Developmental Board's (TWDB) Report 362 is the Water Conservation Best Management Practices (BMP) guide. The BMP Guide is a voluntary list of management practices that water users may implement in addition to the required components of Title 30, Texas Administrative Code, Chapter 288. The Best Management Practices Guide broken out by sector, including Agriculture, Commercial, and Institutional, Industrial, Municipal and Wholesale along with any new or revised BMP's can be found at the following link on the Texas Water Developments Board's website: http://www.twdb.state.tx.us/conservation/bmps/index.asp

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 512-239-3282.

GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX D

GTUA Customer Annual Water Conservation Report

APPENDIX D

GTUA CUSTOMER WATER CONSERVATION REPORT

Due: March 31 of every year

Water Utility Reporting:		
Filled Out By:		
Phone Number:		
Email:		
Date Completed:		
Year Covered:		
# of Connections		
Estimated Population		
Source:		*Cite the source used for estimation of population.*
# of Irrigation Systems		*Indicate Irrigation Systems or Backflow Preventers using the Dropdown Menu*

Recorded Deliveries and Sales by Month (in Million Gallons):

Month	Supplies other than GTUA	Sales by Category					
		Residential	Commercial	Public/ Institutional	Industrial	Metered Irrigation	Other
January							
February							
March							
April							
May							
June							
July							
August							
September							
October							
November							
December							

Other Parameters:

Peak Day (MG)		*Total peak day use (Peak day delivery from NTMWD + other supplies)*
Billed Unmetered:		*Estimated water that has been sold but not metered; for example, dust-control trucks and types of businesses using authorized water drawn from fire hydrants or other unmetered uses.*
Unbilled Metered:		*Water that is metered but not billed, such as city/government offices, city park irrigation, water treatment facility use, and some fire department use.*
Unbilled Unmetered:		*Estimated water not billed or metered, such as most line flushing.*
Goal for Total Loss Percent:		
5-year Per Capita Goal		
10-year Per Capita Goal		

Recorded Wholesale Sales by Month (in Million Gallons):

Month	Sales to...	Sales to...	Sales to...	Sales to...	Sales to...	Sales to...	Sales to...	Sales to...
January								
February								
March								
April								
May								
June								
July								
August								
September								
October								
November								
December								

Information on Wholesale Customers:

Customer	Estimated Total Population

Unusual Circumstances (use additional sheets if necessary):

More water (1.4%) was sold than purchased, but this is due to purchasing meter reading low.

Progress in Implementation of Conservation Plan (use additional sheets if necessary):

Conservation measures planned for next year (use additional sheets if necessary):

Assistance requested from GTUA (use additional sheets if necessary):

Other (use additional sheets if necessary):

GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX E

Considerations for Landscape Water Management Regulations

APPENDIX E

CONSIDERATIONS FOR LANDSCAPE WATER MANAGEMENT REGULATIONS

A. Purpose

The purpose of these proposed landscape water management regulations is to provide a consistent mechanism for preventing the waste of water resources. To enact these provisions, entities must verify legal authority to adopt such provisions, and must promulgate valid rules, orders, or ordinances.

B. Required Measures

The following landscape water conservation measures are required to be included in the landscape management regulations adopted and enforced in this plan.

1. Lawn and Landscape Irrigation Restrictions
   a. A person commits an offense if the person irrigates, waters, or knowingly or recklessly causes or allows the irrigation or watering of any lawn or landscape located on any property owned, leased, or managed by the person between the hours of 10:00 a.m. and 6:00 p.m. from April 1 through October 31 of any year.
   b. A person commits an offense if the person knowingly or recklessly irrigates, waters, or causes or allows the irrigation or watering of lawn or landscape located on any property owned, leased, or managed by that person in such a manner that causes:
      1) over-watering lawn or landscape, such that a constant stream of water overflows from the lawn or landscape onto a street or other drainage area; or
      2) irrigating lawn or landscape during any form of precipitation or freezing conditions. This restriction applies to all forms of irrigation, including automatic sprinkler systems; or
      3) the irrigation of impervious surfaces or other non-irrigated areas, wind driven water drift taken into consideration.
   c. A person commits an offense if the person knowingly or recklessly allows the irrigation or watering of any lawn or landscape located on any property owned, leased, or managed by the person more than two days per week.
2. Rain and Freeze Sensors and/or ET or Smart Controllers

Any new irrigation system installed on or after November 4, 2004, must be equipped with rain and freeze sensing devices and/or ET or Smart controllers in compliance with state design and installation regulations.

a. A person commits an offense on property owned, leased or managed if the person:
   1) knowingly or recklessly installs or allows the installation of new irrigation systems in violation of Subsection B.2.a; or
   2) knowingly or recklessly operates or allows the operation of an irrigation system that does not comply with Subsection B.2.a.

3. Filling or Refilling of Ponds

   A person commits an offense if the person knowingly or recklessly fills or refills any natural or manmade pond located on any property owned, leased, or managed by the person by introducing any treated water to fill or refill the pond. This does not restrict the filling or maintenance of pond levels by the effect of natural water runoff or the introduction of well water into the pond. A pond is considered to be a still body of water with a surface area of 500 square feet or more.

4. Washing of Vehicles

   A person commits an offense if the person knowingly or recklessly washes a vehicle without using a water hose with a shut-off nozzle on any property owned, leased, or managed by the person.

5. Enforcement

   Each entity will develop its own set of penalties for violations of the ordinance, order, or resolution. The ordinance, order, or resolution will designate the responsible official(s) to implement and enforce the landscape water conservation measures.

C. Recommended Measures

1. Lawn and Landscape Irrigation Restrictions
   a. A person commits an offense if the person knowingly or recklessly operates a lawn or irrigation system or device on property that the person owns, leases, or manages that:
      1) has broken or missing sprinkler head(s); or
      2) has not been properly maintained to prevent the waste of water.

b. A person commits an offense if the person knowingly or recklessly overseeds a lawn with rye or winter grass on property that the person owns, leases, or manages. Golf courses and public athletic fields are exempt from this restriction.

c. All new athletic fields must have separate irrigation systems that are capable of irrigating the playing fields separately from other open spaces.

2. Rain and Freeze Sensors

a. Existing irrigation systems must be retrofitted with similar rain and freeze sensors and be capable of multiprogramming within 5 years.

D. Variances

1. In special cases, variances may be granted to persons demonstrating extreme hardship or need. Variances may be granted under the following circumstances:

a. the applicant must sign a compliance agreement agreeing to irrigate or water the lawn and/or landscape only in the amount and manner permitted by the variance; and

b. the variance must not cause an immediate significant reduction to the water supply; and

c. the extreme hardship or need requiring the variance must relate to the health, safety, or welfare of the person making the request; and

d. the health, safety, and welfare of the public and the person making the request must not be adversely affected by the requested variance.

2. A variance will be revoked upon a finding that:

a. the applicant can no longer demonstrate extreme hardship or need; or

b. the terms of the compliance agreement are violated; or

c. the health, safety, or welfare of the public or other persons requires revocation.

GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX F

Letters to Region C Water Planning Group and GTUA

DATE

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

Re: Water Conservation Plan and Water Resource and Emergency Management Plan

Dear Kevin:

Enclosed please find a copy of the recently updated Water Conservation Plan and Water Resource and Emergency Management Plan for the City of _____. I am submitting copies of these plans to the Region C Water Planning Group in accordance with the Texas Water Development Board and Texas Commission on Environmental Quality rules. The _____ City Council adopted the Water Conservation Plan and Water Resource and Emergency Management Plan on _____, 2019..

Sincerely,

DATE

Drew Satterwhite, P.E.
Greater Texoma Utility Authority
5100 Airport Drive
Denison, Texas 75020

Re: City of _____ Water Conservation Plan and Water Resource and Emergency Management Plan

Dear Drew:

Enclosed please find a copy of the recently updated Water Conservation Plan and Water Resource and Emergency Management Plan. The _____City Council approved adoption the Water Conservation Plan and Water Resource and Emergency Management Plan on _____, 2019.

Sincerely,

GTUA MODEL PLAN FOR CUSTOMERS
APPENCIX G

Order, Ordinance, or Resolution Adopting Water Conservation Plan

APPENDIX G

ADOPTION OF WATER CONSERVATION PLAN

Municipal Ordinance
Adopting Water Conservation Plan

Ordinance No. _____

AN ORDINANCE ADOPTING A WATER CONSERVATION PLAN FOR THE CITY OF _____ TO PROMOTE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION PLAN.

WHEREAS, the City of ____, Texas (the "City"), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, the City recognizes that due to natural limitations, drought conditions, system failures and other acts of God which may occur, the City cannot guarantee an uninterrupted water supply for all purposes at all times; and

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") require that the City adopt a Water Conservation Plan; and

WHEREAS, the City has determined an urgent need in the best interest of the public to adopt a Water Conservation Plan; and

WHEREAS, pursuant to Chapter 54 of the Local Government Code, the City is authorized to adopt such Ordinances necessary to preserve and conserve its water resources; and

WHEREAS, the City Council of the City of ____ desires to adopt the North Texas Municipal Water District (the "NTMWD") Model Water Conservation Plan as official City policy for the conservation of water.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF _____ THAT:

Section 1. The City Council hereby approves and adopts the NTMWD Model Water Conservation Plan (the "Plan"), attached hereto as Addendum A, as if recited verbatim herein. The City commits to implement the requirements and procedures set forth in the adopted Plan.

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a fine of up to two thousand dollars ($2,000.00) and/or discontinuance of water service by the City. Proof of a culpable mental state is not required for a conviction of an offense under this section. Each day a customer fails to comply with the Plan is a

separate violation. The City's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Section 3. The City Council does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Ordinance was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Ordinance and the subject matter thereof has been discussed, considered and formally acted upon. The City Council further ratifies, approves and confirms such written notice and the posting thereof.

Section 4. Should any paragraph, sentence, clause, phrase or word of this Ordinance be declared unconstitutional or invalid for any reason, the remainder of this Ordinance shall not be affected.

Section 5. The City Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

Section 6. The City Secretary is hereby authorized and directed to cause publication of the descriptive caption of this ordinance as an alternative method of publication provided by law.

Section 7. {If Applicable} Ordinance No. _____, adopted on _____, is hereby repealed.

Passed by the City Council on this ___ day of _____, ____.

_____

Mayor

Attest:

_____

City Secretary

Municipal Utility District Order
Adopting Water Conservation Plan

Order No. _____

AN ORDER ADOPTING A WATER CONSERVATION PLAN FOR THE _____ MUNICIPAL UTILITY DISTRICT TO PROMOTE THE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION PLAN.

WHEREAS, the _____ Municipal Utility District (the "District"), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, the District recognizes that due to natural limitations, drought conditions, system failures and other acts of God which may occur, the District cannot guarantee an uninterrupted water supply for all purposes at all times; and

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") require that the District adopt a Water Conservation Plan; and

WHEREAS, the District has determined an urgent need in the best interest of the public to adopt a Water Conservation Plan; and

WHEREAS, pursuant to Chapter 49 of the Water Code, the District is authorized to adopt such policies necessary to accomplish the purposes for which it was created, including but not limited to the preservation and conservation of water resources; and

WHEREAS, the Board of Directors of the District desires to adopt the North Texas Municipal Water District (the "NTMWD") Model Water Conservation Plan as official District policy for the conservation of water.

NOW THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF THE _____ MUNICIPAL UTILITY DISTRICT THAT:

Section 1. The Board of Directors hereby approves and adopts the NTMWD Model Water Conservation Plan (the "Plan"), attached hereto as Addendum A, as if recited verbatim herein. The District commits to implement the requirements and procedures set forth in the adopted Plan.

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a monetary fine as allowed by law, and/or discontinuance

of water service by the District. Proof of a culpable mental state is not required for a conviction of an offense under this section. Each day a customer fails to comply with the Plan is a separate violation. The District's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Section 3. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Order was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Order and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 4. The General Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Order be declared unconstitutional or invalid for any reason, the remainder of this Order shall not be affected.

Section 6. {If Applicable} Order No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

_____

President, Board of Directors

Attest:

_____

Secretary

Adopting Water Conservation Plan

Order No. _____

AN ORDER ADOPTING A WATER CONSERVATION PLAN FOR THE _____ SPECIAL UTILITY DISTRICT TO PROMOTE THE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION PLAN.

WHEREAS, the _____ Special Utility District (the "District"), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, the District recognizes that due to natural limitations, drought conditions, system failures and other acts of God which may occur, the District cannot guarantee an uninterrupted water supply for all purposes at all times; and

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") require that the District adopt a Water Conservation Plan; and

WHEREAS, the District has determined an urgent need in the best interest of the public to adopt a Water Conservation Plan; and

WHEREAS, pursuant to Chapter 65 of the Water Code, the District is authorized to adopt such policies necessary to accomplish the purposes for which it was created, including but not limited to the preservation and conservation of water resources; and

WHEREAS, the Board of Directors of the District desires to adopt the North Texas Municipal Water District (the "NTMWD") Model Water Conservation Plan as official District policy for the conservation of water.

NOW THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF THE _____ SPECIAL UTILITY DISTRICT THAT:

Section 1. The Board of Directors hereby approves and adopts the NTMWD Model Water Conservation Plan (the "Plan"), attached hereto as Addendum A, as if recited verbatim herein. The District commits to implement the requirements and procedures set forth in the adopted Plan.

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a monetary fine as allowed by law, and/or discontinuance of water service by the District. Proof of a culpable mental state is not required for a conviction of an offense under this section. Each day a customer fails to comply with the Plan is a separate violation. The District's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Section 3. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Order was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Order and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 4. The General Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Order be declared unconstitutional or invalid for any reason, the remainder of this Order shall not be affected.

Section 6. {If Applicable} Order No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

_____

President, Board of Directors

Attest:

_____

Secretary

Water Supply Corporation Resolution
Adopting Water Conservation Plan

Resolution No. _____

A RESOLUTION ADOPTING A WATER CONSERVATION PLAN FOR THE _____ WATER SUPPLY CORPORATION TO PROMOTE THE RESPONSIBLE USE OF WATER AND TO PROVIDE FOR PENALTIES AND/OR THE DISCONNECTION OF WATER SERVICE FOR NONCOMPLIANCE WITH THE PROVISIONS OF THE WATER CONSERVATION PLAN.

WHEREAS, the _____ Water Supply Corporation (the "WSC"), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, the WSC recognizes that due to natural limitations, drought conditions, system failures and other acts of God which may occur, the WSC cannot guarantee an uninterrupted water supply for all purposes at all times; and

WHEREAS, the Water Code and the regulations of the Texas Commission on Environmental Quality (the "Commission") require that the WSC adopt a Water Conservation Plan; and

WHEREAS, the WSC has determined an urgent need in the best interest of the public to adopt a Water Conservation Plan; and

WHEREAS, pursuant to Chapter 67 of the Water Code, the WSC is authorized to adopt such policies necessary to preserve and conserve its water resources; and

WHEREAS, the Board of Directors of the WSC desires to adopt the North Texas Municipal Water District (the "NTMWD") Model Water Conservation Plan as official WSC policy for the conservation of water.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE _____ WATER SUPPLY CORPORATION THAT:

Section 1. The Board of Directors hereby approves and adopts the NTMWD Model Water Conservation Plan (the "Plan"), attached hereto as Addendum A, as if recited verbatim herein. The WSC commits to implement the requirements and procedures set forth in the adopted Plan.

Section 2. Any customer, defined pursuant to 30 Tex. Admin. Code Chapter 291, failing to comply with the provisions of the Plan shall be subject to a monetary fine as allowed by law, and/or discontinuance of water service by the WSC. Proof of a culpable mental state is not required for a conviction of an offense under this section. Each day a customer fails to comply with the Plan is a separate violation. The WSC's authority to seek injunctive or other civil relief available under the law is not limited by this section.

Section 3. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting adopting this Resolution was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Resolution and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 4. The General Manager or his designee is hereby directed to file a copy of the Plan and this Ordinance with the Commission in accordance with Title 30, Chapter 288 of the Texas Administrative Code. Further, the Board of Directors hereby authorizes the General Manager or his designee to file an amendment to the WSC's tariff to incorporate the Plan therein.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Resolution be declared unconstitutional or invalid for any reason, the remainder of this Resolution shall not be affected.

Section 6. {If Applicable} Resolution No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the _____ on this ___ day of _____, ____.

_____

President, Board of Directors

Attest:

_____

Secretary

GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX H

Order, Ordinance, or Resolution Pertaining to Illegal Water Connections and Theft of Water

APPENDIX H

ILLEGAL WATER CONNECTIONS AND THEFT OF WATER

MUNICIPAL ORDINANCE

PERTAINING TO ILLEGAL WATER CONNECTIONS AND THEFT OF WATER

Ordinance No. _____

AN ORDINANCE PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR THE CITY OF _____.

WHEREAS, the City of ____, Texas (the "City") recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 54 of the Local Government Code, the City is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the City seeks to adopt an ordinance pertaining to illegal water connections and theft of water.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF _____ THAT:

Section 1. The City Council hereby approves and adopts this Ordinance as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

(a) A person may not knowingly tamper, connect to, or alter any component of the City's water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the City.

(b) If, without the written consent of the City Manager or the City Manager's designee, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).

(c) A person may not knowingly make or cause a false report to be made to the City of a reading of a water meter installed for metered billing.

(d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Ordinance is a Class C misdemeanor punishable by a fine of up to two thousand dollars ($2,000.00) and/or discontinuance of water service by the City.

Section 4. The City Council does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Ordinance was posted at a designated place convenient to the public for the time required by law preceding the meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Ordinance, and the subject matter thereof, has been discussed, considered and formally acted upon. The City Council further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Ordinance be declared unconstitutional or invalid for any reason, the remainder of this Ordinance shall not be affected.

Section 6. The City Secretary is hereby authorized and directed to cause publication of the descriptive caption of this ordinance as an alternative method of publication provided by law.

Section 7. {If Applicable} Ordinance No. _____, adopted on _____, is hereby repealed.

Passed by the City Council on this ___ day of _____, ____.

_____

Mayor

Attest:

_____

City Secretary

Municipal Utility District Order
Pertaining to Illegal Water Connections and Theft of Water

Order No. _____

AN ORDER PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR THE _____ MUNICIPAL UTILITY DISTRICT.

WHEREAS, the _____ Municipal Utility District (the "District"), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 49 of the Water Code, the District is authorized to adopt such policies necessary to accomplish the purposes for which it was created, including but not limited to the preservation and conservation of available water supplies; and

WHEREAS, the District seeks to adopt an order pertaining to illegal water connections and theft of water.

NOW THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF THE _____ MUNICIPAL UTILITY DISTRICT THAT:

Section 1. The Board of Directors hereby approves and adopts this Order as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

(a) A person may not knowingly tamper, connect to, or alter any component of the District's water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the District.

(b) If, without the written consent of the District, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).

(c) A person may not knowingly make or cause a false report to be made to the District of a reading of a water meter installed for metered billing.

(d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Order is punishable in accordance with the District's rules and policies regarding rates and may result in disconnection of service.

Section 4. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Order was posted at a designated place convenient to the public for the time required by law preceding this meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Order, and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Order be declared unconstitutional or invalid for any reason, the remainder of this Order shall not be affected.

Section 6. {If Applicable} Order No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

_____

President, Board of Directors

Attest:

_____

Secretary

Special Utility District Order
Pertaining to Illegal Water Connections and Theft of Water

Order No. _____

AN ORDER PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR THE _____ SPECIAL UTILITY DISTRICT.

WHEREAS, the _____ Special Utility District (the "District"), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 65 of the Water Code, the District is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the District seeks to adopt an order pertaining to illegal water connections and theft of water.

NOW THEREFORE, BE IT ORDERED BY THE BOARD OF DIRECTORS OF THE _____ SPECIAL UTILITY DISTRICT THAT:

Section 1. The Board of Directors hereby approves and adopts this Order as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

(a) A person may not knowingly tamper, connect to, or alter any component of the District's water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the District.

(b) If, without the written consent of the District, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).

(c) A person may not knowingly make or cause a false report to be made to the District of a reading of a water meter installed for metered billing.

(d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Order is punishable in accordance with the District's rules and policies regarding rates and may result in disconnection of service.

Section 4. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Order was posted at a designated place convenient to the public for the time required by law preceding this meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Order, and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Order be declared unconstitutional or invalid for any reason, the remainder of this Order shall not be affected.

Section 6. {If Applicable} Order No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

_____

President, Board of Directors

Attest:

_____

Secretary

Water Supply Corporation Resolution
Pertaining to Illegal Water Connections and Theft of Water

Resolution No. _____

A RESOLUTION PERTAINING TO ILLEGAL WATER CONNECTIONS AND/OR THE THEFT OF WATER RELATED TO THE WATER SUPPLY FOR THE _____ WATER SUPPLY CORPORATION.

WHEREAS, the _____ Water Supply Corporation (the "WSC"), recognizes that the amount of water available to its water customers is limited; and

WHEREAS, pursuant to Chapter 67 of the Water Code, the WSC is authorized to adopt such policies necessary to preserve and conserve available water supplies; and

WHEREAS, the WSC seeks to adopt an order pertaining to illegal water connections and theft of water.

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE _____ WATER SUPPLY CORPORATION THAT:

Section 1. The Board of Directors hereby approves and adopts this Resolution as described herein.

Section 2. A person commits an offense of theft of water by any of the following actions:

(a) A person may not knowingly tamper, connect to, or alter any component of the WSC's water system including valves, meters, meter boxes, lids, hydrants, lines, pump stations, ground storage tanks, and elevated storage tanks. This shall include direct or indirect efforts to initiate or restore water service without the approval of the WSC.

(b) If, without the written consent of the WSC, the person knowingly causes, suffers or allows the initiation or restoration of water service to the property after termination of service(s). For purposes of this section, it shall be assumed that the owner, occupant, or person in control of the property caused, suffered, or allowed the unlawful initiation or restoration of service(s).

(c) A person may not knowingly make or cause a false report to be made to the WSC of a reading of a water meter installed for metered billing.

(d) A person commits a separate offense each day that the person performs an act prohibited by this section or fails to perform an act required by this section.

Section 3. An offense under this Resolution is punishable in accordance with the WSC's rules and policies regarding rates, including its approved tariff, and may result in disconnection of service.

Section 4. The Board of Directors does hereby find and declare that sufficient written notice of the date, hour, place and subject of the meeting considering this Resolution was posted at a designated place convenient to the public for the time required by law preceding this meeting, that such place of posting was readily accessible at all times to the general public, and that all of the foregoing was done as required by law at all times during which this Resolution, and the subject matter thereof has been discussed, considered and formally acted upon. The Board of Directors further ratifies, approves and confirms such written notice and the posting thereof.

Section 5. Should any paragraph, sentence, clause, phrase or word of this Resolution be declared unconstitutional or invalid for any reason, the remainder of this Resolution shall not be affected.

Section 6. {If Applicable} Resolution No. _____, adopted on _____, is hereby repealed.

Approved and adopted by the Board of Directors on this ___ day of _____, ____.

_____

President, Board of Directors

Attest:

_____

Secretary

GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX I

Sample Landscape Ordinance

APPENDIX I

SAMPLE LANDSCAPE ORDINANCE

This is an example of a basic landscape ordinance which can be adopted or modified for adoption by municipalities or other jurisdictions. Landscape ordinances with a wide variety of formats and levels of complexity have been adopted by the governments of NTMWD Member Cities and Customers to date.

1. PURPOSE

Landscaping is accepted as adding value to property and is in the interest of the general welfare of the City. The provision of landscaped areas also serves to increase the amount of a property that is devoted to pervious surface area which, in turn, helps to reduce the amount of impervious surface area, storm water runoff, and consequent nonpoint pollution in local waterways. Therefore, landscaping is hereafter required of new development, including single and two family uses. Single and two family use requirements are less in scope than those for other uses such as multi family, commercial, institutional, and industrial development. Landscape requirements for these uses are set forth herein.

2. SCOPE AND ENFORCEMENT

The standards and criteria contained within this Section are deemed to be minimum standards and shall apply to all new or altered construction occurring within the City exceeding thirty percent (30%) of the original floor and/or site area. Additionally, any use requiring a Conditional Use Provision (CUP) zoning designation must comply with these landscape standards unless special landscaping standards are otherwise provided for in the ordinance establishing the CUP district. The provisions of this Section shall be administered and enforced by the City Manager or his/her designee. If at any time after the issuance of a certificate of occupancy, the approved landscaping is found to be not in conformance with the standards and criteria of this Section, the City Manager (or his/her designee) shall issue notice to the owner, citing the violation and describing what action is required to comply with this Section. The owner, tenant or agent shall have thirty (30) calendar days from date of said notice to establish/restore the landscaping, as required. If the landscaping is not established/restored within the allotted time, then such person shall be in violation of this Ordinance.

3. PERMITS

No permits shall be issued for building, paving, grading or construction until a detailed landscape plan is submitted and approved by the City Manager or his/her designee, along with the site plan and

engineering/construction plans. A landscape plan shall be required as part of the site plan submission, as required in Section __. The landscape plan may be shown on the site plan (provided the site plan remains clear and legible) or may be drawn on a separate sheet. Prior to the issuance of a certificate of occupancy for any building or structure, all screening and landscaping shall be in place in accordance with the landscape plan. In any case in which a certificate of occupancy is sought at a season of the year in which the City Manager, or his/her designee, determines that it would be impractical to plant trees, shrubs or groundcover, or to successfully establish turf areas, a temporary certificate of occupancy may be issued provided a letter of agreement from the property owner is submitted that states when the installation shall occur. All landscaping required by the landscaping plan shall be installed within six (6) months of the date of the issuance of the certificate of occupancy.

4. LANDSCAPE PLAN

Prior to the issuance of a building, paving, grading or construction permit for any use other than single family detached or two family dwellings, a landscape plan shall be submitted to the City Manager, or his/her designee. The City Manager, or his/her designee, shall review such plans and shall approve same if the plans are in accordance with the criteria of these regulations. If the plans are not in conformance, they shall be disapproved and shall be accompanied by a written statement setting forth the changes necessary for compliance. The landscape plan shall be prepared and by a person knowledgeable in plant material usage and landscape design (e.g., landscape architect, landscape contractor, landscape designer, etc.). For all uses other than single and two family uses, the landscape plan shall be sealed by a registered landscape architect and shall contain the following minimum information:

A. Minimum scale of one inch (1") equals fifty feet (50'); show scale in both written and graphic form.

B. Trunk location and caliper size, dripline location, and species of all trees to be preserved. Tree stamps or standard symbols shall not be used unless they indicate true size and location of trees and driplines.

C. Location of all plant and landscaping material to be used, including plants, paving, benches, screens, fountains, statues, earthen berms, ponds (to include depth of water), topography of site, or other landscape features.

D. Species and common names of all plant materials to be used.

E. Size of all plant material to be used (container size, planted height, etc.)

F. Spacing of plant material where appropriate.

G. Layout and description of irrigation, sprinkler, or water systems including location of water sources.

H. Name and address of the person(s) responsible for the preparation of the landscape plan.

I. North arrow/symbol, and a small map indicating location of the property.

K. Date of the landscape plan.

5. GENERAL STANDARDS

The following criteria and standards shall apply to landscape materials and installation:

A. All required landscaped open areas shall be completely covered with living plant material or landscape mulch materials such as shredded hardwood mulch or decomposed granite

B. Plant materials shall conform to the standards of the approved plant list for the City and the current edition of the "American Standard for Nursery Stock" (as amended), published by the American Association of Nurserymen. Grass seed, sod and other material shall be clean and free of weeds and noxious pests and insects.

C. Large trees shall have an average spread of crown of greater than fifteen feet (15') at maturity. Trees having a lesser average mature crown of fifteen feet (15') may be substituted by grouping the same so as to create the equivalent of fifteen feet (15') of crown spread. Large trees shall be a minimum of three inches (3") in caliper measured six inches (6") above the ground and ten feet (10') in height at time of planting. Small trees shall be a minimum of two inches (2") in caliper measured six inches (6") above the ground and eight feet (8') In height at time of planting.

D. Shrubs not of a dwarf variety shall be a minimum of two feet (2') in height when measured immediately after planting. Hedges, where installed for screening purposes, shall be planted and maintained so as to form a continuous, unbroken, solid visual screen which will be six feet (6') high within three (3) years after time of planting (except for parking lot/headlight screens, which shall form a continuous, solid visual screen three feet high within two years after planting).

E. Vines not intended as ground cover shall be a minimum of two feet (2') in height immediately after planting and may be used in conjunction with fences, screens, or walls to meet landscape screening requirements as set forth.

F. Grass areas shall be sodded, plugged, sprigged, hydro mulched and/or seeded, except that solid sod shall be used in swales, earthen berms or other areas subject to erosion.

G. Ground covers used in lieu of grass in whole and in part shall be planted in such a manner as to present a finished appearance and complete coverage within one (1) year of planting.

H. All automatic, underground irrigation system shall have freeze and rain sensors to prevent watering at inappropriate times. Landscaped areas having less than four (4) feet in width shall be irrigated by underground tubing or other capillary system but not by aboveground spray. All required landscape planting shall be required to be maintained in a healthy, living and growing condition. Irrigation equipment (except for controllers and weather stations) shall not be visible from public streets or walkways.

I. Earthen berms shall have side slopes not to exceed 33.3 percent (three feet (3') of horizontal distance for each one foot (1') of vertical height). All berms shall contain necessary drainage provisions as may be required by the City's Engineer.

6. MINIMUM LANDSCAPING REQUIREMENTS FOR ALL USES OTHER THAN SINGLE- AND TWO-FAMILY RESIDENTIAL DEVELOPMENTS

A. For all uses other than single and two-family uses, at least twenty percent (20%) of the street yard shall be permanently landscaped area. The street yard shall be defined as the area between the building front and the front property line. For gasoline service stations, the requirement is a minimum of fifteen percent (15%) landscaped area for the entire site, including a six hundred (600) square foot landscaped area at the street intersection corner (if any), which can be counted toward the fifteen percent (15%) requirement.

B. A minimum fifteen foot (15') landscape buffer adjacent to the right-of-way of any major thoroughfare is required. Corner lots fronting two (2) major thoroughfares shall provide the appropriate required landscape buffer on both street frontages. All other street frontages shall observe a minimum ten foot (10') landscape buffer. One (1) large shade tree shall be required per forty (40) linear feet (or portion thereof) of street frontage. Trees may be grouped or clustered to facilitate site design and to provide an aesthetically pleasing, natural looking planting arrangement. The landscaped buffer area may be included in the required street yard landscape area percentage.

C. Landscape areas within parking lots should generally be at least one parking space in size, with no landscape area less than fifty (50) square feet in area. Landscape areas shall be no less than five feet (5') wide and shall equal a total of at least sixteen (16) square feet per parking space. There shall be a landscaped area with at least one (1) large tree within sixty feet (60') of every parking space. There shall be a minimum of one (1) large tree planted in the parking area for every ten (10) parking spaces for parking lots having more than twenty (20) spaces. Within parking lots, landscape areas should be located to define parking areas and to assist In clarifying appropriate circulation patterns. A landscape island shall be located at the terminus of all parking rows, and shall contain at least one tree. All landscape areas shall be protected by a monolithic concrete curb or wheel stops, and shall remain free of trash, litter, and car bumper overhangs. The area of parking lot landscaping islands shall be In addition to the required street yard landscape area percentage.

D. All existing trees which are to be preserved shall be provided with undisturbed, permeable surface area under and extending outward to the existing dripline of the tree. All new trees shall be provided with a permeable surface under the dripline a minimum of five feet (5') by five feet (5').

E. A minimum of fifty percent (50%) of the total trees required for the property shall be large shade trees as specified on the City's approved plant list. Large trees shall not be used under existing or proposed overhead utility lines.

F. Necessary driveways from the public right-of-way shall be permitted through all required landscaping in accordance with City regulations.

7. MINIMUM LANDSCAPING REQUIREMENTS FOR SINGLE-FAMILY AND TWO- FAMILY DEVELOPMENTS

A. For all single family and two family developments, each residential lot shall be planted with at least one (1) large tree having a minimum caliper of three inches (3") in the front yard; and one (1) large tree having a minimum caliper of three inches (3") in the back yard; and one (1) small tree having a minimum caliper of two inches (2") in the front yard; and two (2) small trees having a minimum caliper of two inches (2") in the back yard. Trees shall be from the city's approved plant list.

B. Only small trees from the city's approved plant list shall be allowed to be planted between the street curb and the right-of-way, unless otherwise specifically approved as part of a Planned Development (PD).

8. SIGHT DISTANCE AND VISIBILITY

Rigid compliance with these landscaping requirements shall not be such as to cause visibility obstructions and/or blind corners at intersections. Whenever an intersection of two (2) or more public right-of-way occurs, a triangular visibility area, as described below, shall be created. Landscape planting within the triangular visibility area shall be designed to provide unobstructed cross visibility at a level between thirty inches (30") and seven feet (7') measured above top of curb. Trees may be permitted in this area provided they are trimmed in such that lateral limbs or foliage extend into the cross visibility area. The triangular areas are:

A. The areas of property on both sides of the intersection of an alley access way and public right-of-way shall have a triangular visibility area with two (2) sides of each triangle being a minimum of ten feet (10') in length from the point of intersection and the third side being a line connecting the ends of the other two (2) sides.

B. The areas of property located at a corner formed by the intersection of two (2) or more public right-of-ways (or a private driveway onto a public road) shall have a triangular visibility area with two (2) sides of each triangle being a minimum of twenty five feet (25') in length along the right-of-way lines (or along the driveway curb line and the road right-of-way line) from the point of the intersection and the third side being a line connecting the ends of the other two (2) sides. In the event other visibility obstructions are apparent in the proposed landscape plan, as determined by the City Manager or his/her designee, the requirements set forth herein may be reduced to the extent to remove the conflict.

9. SAMPLE RECOMMENDED PLANT LIST

These native/adapted plants exhibit a combination of outstanding characteristics in low water use, low maintenance, disease and insect resistance, and appearance.

Large Trees
Bur Oak
Cedar Elm
Chinquapin Oak
Lacebark Elm
Live Oak
Shumard Oak
Texas Ash

Medium Trees
Lacey Oak
Little Gem Magnolia
Shantung Maple
Texas Pistache

Narrow-Leaf Trees
Arizona Cypress
Bald Cypress
Deodar Cedar
Eastern Red Cedar
Spartan Juniper

Small Trees
Crepe Myrtle
Desert Willow
Possumhaw Holly
Redbud
Savannah Holly
Texas Mountain Laurel
Texas Persimmon
Tree Yaupon Holly
Vitex/Chaste Tree

Tall Shrubs
Nellie R. Stevens Holly
Oleander
Wax Myrtle
Yew

Medium/Small Shrubs
Agave
Boxleaf Euonymus
Compact Eleagnus
Compact Texas Sage
Dwarf Burford Holly
Dwarf Yaupon Holly
Dwarf Oleander
Indian Hawthorne
Knock-Out Red/Pink Rose
Lorapetalum
Red Yucca
Sandankwa Viburnum
Softleaf Yucca
Spineless Prickly Pear
Upright Rosemary

Perennials
Autumn Pink/Maroon Sage
Black-Eyed Susan
Blue Plumbago
Gayfeather
Indian Blanket
Purple Coneflower
Russian Sage
Skeletonleaf Goldeneye
Texas Lantana

Ornamental Grasses
Big Muhly
Dwarf Fountain Grass
Mexican Feathergrass

Groundcover/Vines
Carolina Jessamine
Crossvine
Liriope/Giant Liriope
Trailing Rosemary

Turf
Bermuda Grass
Buffalo Grass
Zoysia

GTUA MODEL PLAN FOR CUSTOMERS
APPENDIX J

TWDB Annual Water Conservation Report

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 (calendar year):

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:

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

2. For this reporting period, enter the number of connections for and the gallons of **metered retail water** used by each category. If the Customer Category does not apply, enter zero or leave blank. These numbers should be the same as those reported on the Water Use Survey.

Retail Customer Category	Number of Connections	Gallons Metered
Residential Single Family		
Residential Multi-family		
Institutional		
Commercial		
Industrial		
Agricultural		
Total Retail Water Metered[1]	0	0

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

Water Use Accounting

	Total Gallons During the Reporting Period
Corrected Input Volume: The volume of treated water input to the distribution system from own production facilities. *Same as Line 13b of the Water Loss Audit.*	
Corrected Treated Purchased Water Volume: The amount of treated purchased wholesale water transferred into the utility's distribution system from other water suppliers system. *Same as Line 14b of the Water Loss Audit.*	
Corrected Treated Wholesale Water Sales Volume: The amount of treated wholesale water transferred out of the utility's distribution system, although it may be in the system for a brief time for conveyance reasons. *Same as Line 15b of the Water Loss Audit.*	
Total System Input Volume: This is the sum of the corrected input volume plus corrected treated purchased water volume minus corrected treated wholesale water sales volume. *Same as Line 16 of the Water Loss Audit.*	0 Produced + Imported – Exported = System Input
Billed Metered: All retail water sold and metered. *Same as Line 17 of the Water Loss Audit (Calculated from values entered on Page 2).*	0
Other Authorized Consumption: Water that is authorized for other uses such as back flushing, line flushing, storage tank cleaning, fire department use, municipal government offices or municipal golf courses/parks. This water may be metered or unmetered. *Same as the total of Lines 18, 19, and 20 of the water loss audit.*	
Total Authorized Consumption: All water that has been authorized for use. *Same as Line 21 of Water Loss Audit*	0 Total Billed and Metered Retail Water + Other Authorized Consumption = Total Authorized Use
Total Apparent Losses: Water that has been consumed but not properly measured or billed (losses due to customer meter inaccuracy, systematic data handling discrepancy and/or unauthorized consumption such as theft). *Same as Line 27 of the Water Loss Audit.*	
Total Real Losses: Physical losses from the distribution system prior to reaching the customer destination (losses due to reported breaks and leaks, physical losses from system or mains and/or storage overflow). *Same as line 30 of the water loss audit.*	

Total Water Loss	0 Apparent + Real = 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 Residential GPCD	Target for Water Loss (expressed in GPCD)	Target for Water Loss Percentage (expressed in percentage)
Five-year target date: _____				
Ten-year target date: _____				

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[1]	Total GPCD
0 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[2]	Residential GPCD
0		(Residential Use ÷ Residential Population) ÷ 365

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

Total Water Loss in Gallons	Permanent Population	Water Loss	
		GPCD[3]	Percent[4]
0 Apparent + Real = Total Water Loss			

3. (Total Water Loss ÷ Permanent Population) ÷ 365 = Water Loss GPCD
4. (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 and reuse strategies actively administered during this reporting period and estimate the savings incurred in implementing water conservation and reuse activities and programs. Leave fields blank if unknown. **Please separate reuse volumes from gallons saved.**

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	Estimated Gallons Reused
Conservation Analysis and Planning			
Conservation Coordinator	☐		
Cost Effective Analysis	☐		
Water Survey for Single Family and Multi-family Customers	☐		
Financial			
Wholesale Agency Assistance Programs	☐		
Water Conservation Pricing	☐		
System Operations			
Metering New Connections and Retrofitting Existing Connections	☐		
System Water Audit and Loss Control	☐		
Landscaping			
Landscape Irrigation Conservation and Incentives	☐		
Athletic Fields Conservation	☐		
Golf Course Conservation	☐		
Park Conservation	☐		
Residential Landscape Irrigation Evaluation	☐		
Education and Public Awareness			
School Education	☐		
Public Information	☐		
Small Utility Outreach and Education	☐		
Partnerships with Nonprofit Organizations	☐		
Rebate, Retrofit, and Incentive Programs			
Conservation Programs for ICI Accounts	☐		

Residential Clothes Washer Incentive Program	☐		
Water Wise Landscape Design and Conversion Programs	☐		
Showerhead, Aerator, and Toilet Flapper Retrofit	☐		
Residential Toilet Replacement Programs	☐		
ICI Incentive Programs	☐		
Conservation Technology & Reuse			
New Construction Graywater	☐		
Rainwater Harvesting and Condensate Reuse	☐		
Reuse for On-site Irrigation	☐		
Reuse for Plant Washdown	☐		
Reuse for Chlorination/Dechlorination	☐		
Reuse for Industry	☐		
Reuse for Agriculture	☐		
Regulatory and Enforcement			
Prohibition on Wasting Water	☐		
Other, please describe:			
	Total Volumes	0	0

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

Gallons Saved/Conserved	Gallons Recycled/Reused	Total Volume of Water Saved[5]	Dollar Value of Water Saved[6]
0	0	0	

5. Estimated Gallons Saved/Conserved + Estimated Gallons Recycled/Reused = Total Volume Saved
6. Estimate this value by taking into account water savings, the cost of treatment or purchase of water, and deferred capital costs due to conservation.

Comments or Explanations Regarding Data Entered in Sections Above

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.

☐ Uniform Rates	☐ Water Budget Based Rates	☐ Surcharge - seasonal
☐ Flat Rates	☐ Excess Use Rates	☐ Surcharge - drought
☐ Inclining/Inverted Block Rates	☐ Drought Demand Rates	☐ Other, please describe:
☐ Declining Block Rates	☐ Tailored Rates	
☐ Seasonal Rates	☐ Surcharge - usage demand	

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

	Implemented	Number/Unit
Example: Brochures Distributed	√	*10,000/year*
Example: Educational School Programs	√	*50 students/month*
Brochures Distributed	☐	_____
Messages Provided on Utility Bills	☐	_____
Press Releases	☐	_____
TV Public Service Announcements	☐	_____
Radio Public Service Announcements	☐	_____
Educational School Programs	☐	_____
Displays, Exhibits, and Presentations	☐	_____
Community Events	☐	_____
Social Media campaigns	☐	_____
Facility Tours	☐	_____
Other :	☐	_____

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	○	○	○	◉
Industrial Customers	○	○	○	◉
Institutional Customers	○	○	○	◉
Commercial Customers	○	○	○	◉
Agricultural Customers	○	○	○	◉

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.
   - ☐ Water Supply Shortage
   - ☐ High Seasonal Demand
   - ☐ Capacity Issues
   - ☐ Equipment Failure
   - ☐ Impaired Infrastructure
   - ☐ Other:

3. Select the areas for which you would like to receive more technical assistance:
   - ☐ Best Management Practices
   - ☐ Drought Contingency Plans
   - ☐ Landscape Irrigation
   - ☐ Leak Detection and Equipment
   - ☐ Rainwater Harvesting
   - ☐ Rate Structures
   - ☐ Educational Resources
   - ☐ Water Conservation Annual Reports
   - ☐ Water Conservation Plans
   - ☐ Water IQ: Know Your Water
   - ☐ Water Loss Audits
   - ☐ Recycling and Reuse

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