



The City of Tyler Water Conservation, Drought Contingency, and Emergency Demand Management Plan

AVO 56596
May 2024





Firm Registration No. 312

The City of Tyler Water Conservation, Drought Contingency, and Emergency Demand Management Plan

for the

City of Tyler, Texas



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May 14, 2024

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List of Acronyms

BMP	Best Management Practices
CCN.....	Certificate of Convenience and Necessity
EPA	Environmental Protection Agency
HB.....	House Bill
ILI.....	Infrastructure Leakage Index
GPCD	Gallons per Capita per Day
MGD	Million Gallons per Day
RWPG	Regional Water Planning Group
SB.....	Senate Bill
TAC	Texas Administrative Code
TDH.....	Texas Department of Health
TCEQ.....	Texas Commission on Environmental Quality
TWDB	Texas Water Development Board
TWU	Tyler Water Utility Department
UNRMWA	Upper Neches River Municipal Water Authority
WTP.....	Water Treatment Plant
WWC	Wholesale Water Customers
WWTP	Wastewater Treatment Plant

1. Introduction

Tyler Water Utilities (TWU) recognizes the importance of water conservation and drought readiness. Water Conservation, Drought Contingency and Emergency Demand Management Plans aim to safeguard water supply, promote responsible water usage, and provide sustainable access to potable water for all residents, businesses, and wholesale customers. Extreme heat throughout recent summers has highlighted the importance of the efficient use of existing supplies.

The purpose of the Water Conservation, Drought Contingency and Emergency Water Management Plan (subsequently referred to as the Plan) is as follows:

- To conserve the available water supply in times of drought and emergency
- To maintain supplies for domestic water use, sanitation, and fire protection
- To maintain and improve efficient water usage
- To protect and preserve public health, safety, and welfare
- To minimize the adverse impacts of water supply shortages
- To minimize the adverse impacts of emergency water supply conditions.

2. Water Conservation Plan

City of Tyler Code Section 19-300 outlines the legislative history and requirements for water conservation planning in Texas. The 69th Texas Legislature passed House Bill 2 (HB 2) and House Joint Resolution 6 in 1986, mandating the adoption of Water Conservation Plans and Emergency Demand Management Plans by political subdivisions. HB 2 was later approved by Texas voters in 1995, becoming an amendment to the Texas Constitution. In 2002, the State of Texas adopted the State Water Plan, which emphasizes the importance of water conservation for future needs.

In 2003, the 78th Texas Legislature established the Water Conservation Implementation Task Force through Senate Bill 1094 (SB 1094). This task force reviewed and recommended water conservation programs, including the development of a BMPs guide for use by RWPGs and political subdivisions responsible for water delivery service. These actions enabled the TCEQ and the TWDB to develop BMPs guidelines, as directed by Task 1 Section 3 of SB 1094, for water providers to consider while updating their Water Conservation and Emergency Demand Management Plans.

House Bill 2660 directed the TWDB and the TCEQ to identify quantified target goals for water conservation for water suppliers and other entities. In 2007, House Bill 4 amended the Texas Water Code, requiring retail public utilities with 3,300 or more connections to submit a Water Conservation Plan to the TWDB and the TCEQ.

The passage of these legislative acts reflects the recognition of the importance of water conservation by Texas officials, the EPA, and other state and federal agencies. Water Conservation Plans must be updated every five years, with annual reports regarding the effectiveness of the BMPs adopted. These plans must include specific targets and goals developed by utilities using BMPs or other strategies to reduce water waste, loss, and

consumption. Utilities are also required to set specific quantifiable targets and goals for water conservation, with trigger points in the Drought Contingency Plan for the implementation and cancellation of drought stages. The required goals are to be quantifiable and based on municipal and residential use in GPCD.

In 2013, Senate Bill 857 established a requirement for reporting a Water Loss Report. Conservation of water is deemed necessary to meet future needs with this valuable resource. TWU provides annual reports on BMP effectiveness to the Regional Water Planning Group, TCEQ, and the TWDB.

2.1 DESCRIPTION OF SERVICE AREAS AND UTILITY PROFILE

2.1.1 Retail and Wholesale Water Supplier Information

TWU provides retail water and sewer service to approximately 107,000 retail customers and wholesale treated water to three wholesale customers. The three wholesale water customers serve approximately 18,161 people. The retail service area covers about 57 square miles and the wholesale service area covers about 52 square miles. The City of Tyler also has approximately 710 miles of mainline in their service area. The wholesale customer and their contracted amounts are shown in Table 1. TWU's service areas are shown in the service area map in Figure 1.

Table 1: Wholesale Customer Contracted Amounts

Wholesale Customer	Contracted Amount (MGD)
Walnut Grove Water Supply Corporation	2.0
City of Whitehouse	1.0
Community Water Supply Corporation	0.320

TCEQ and TWDB water utility profiles and forms for retail and wholesale suppliers are located in Appendix A.

TWU has two water treatment plants (WTPs). Golden Road WTP is supplied by Lake Tyler and Lake Tyler East with a capacity to treat 28 MGD. Lake Palestine WTP is supplied by Lake Palestine with a capacity to treat 30 MGD. These lakes comprise the City's water supply sources. TWU currently uses 28 MGD of its water rights from Lake Tyler / Lake Tyler East. TWU has a contract with Upper Neches River Municipal Water Authority (UNRMWA) to purchase up to 60 MGD of raw water from Lake Palestine to fulfill treatment capacity but only uses 30 MGD at this time. The maximum pumping capacity at Golden Road WTP is 38 MGD and the max pumping capacity at Lake Palestine WTP is 50 MGD. However, the high service pump stations are not intended to operate at peak capacity for extended periods of time.

TWU also has two wastewater treatment plants (WWTP) for the service area, Westside WWTP and Southside WWTP. Westside WWTP has an average flow of 13 MGD and 2-hour peak flow capacity of 32.5 MGD. Southside WWTP has an average flow of 9 MGD and 2-hour peak flow capacity of 22.5 MGD.

2.1.2 Industrial Water Supplier Information

TWU serves as an industrial water supplier to industrial water customers comprising approximately 10 percent of its customer base. Industrial use involves incorporating water into processes to enhance product development or generate power through non-hydroelectric means, excluding agricultural use. City staff encourages industrial customers to use water efficiently and adopt conservation measures where applicable. The opportunity for potential industrial water savings is expected to be minimal for TWU's industrial customers.

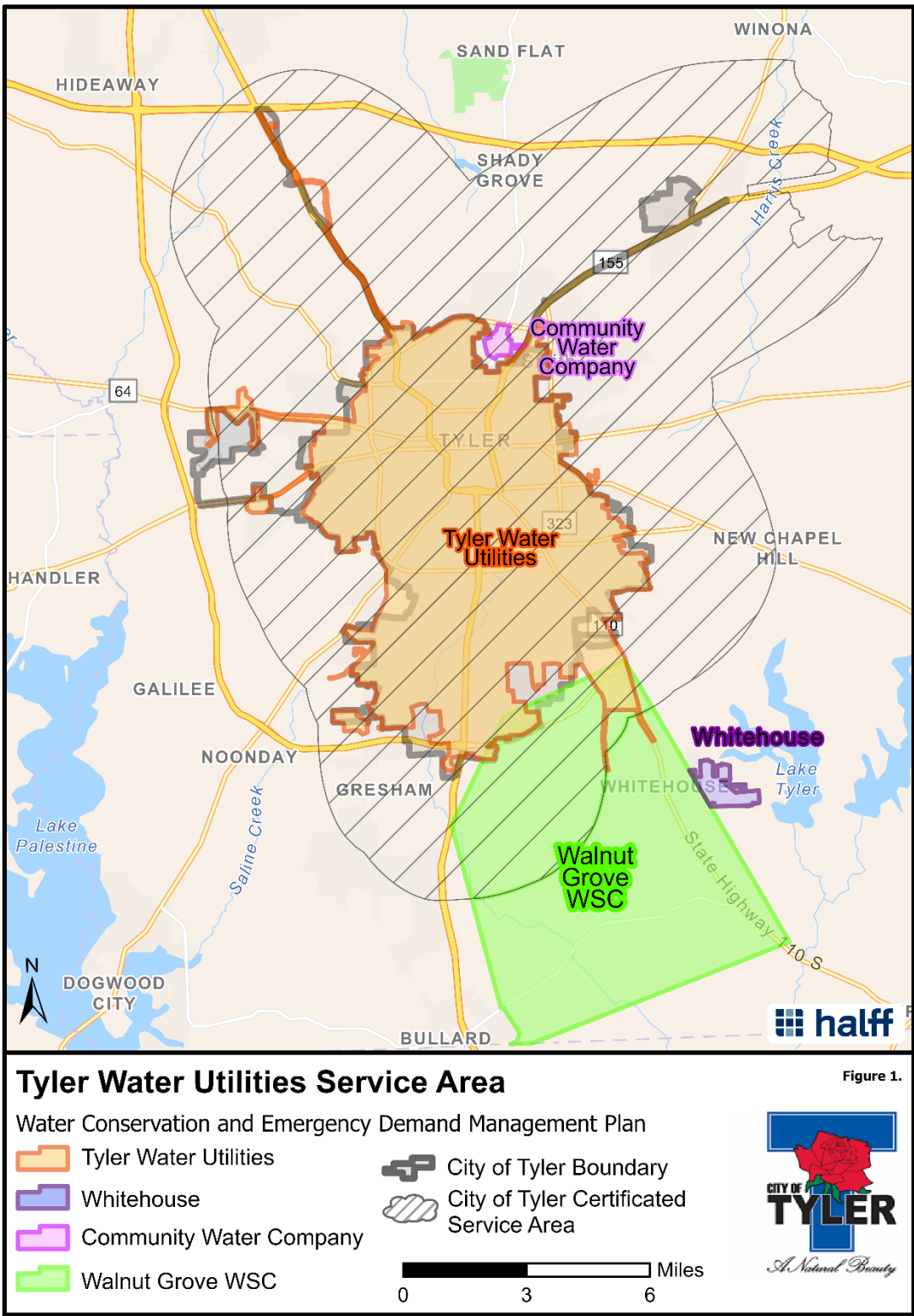
City of Tyler's Ten Highest Volume Users

1. Delek
2. Walnut Grove
3. Southern Utilities
4. L & C Brothers, LLC
5. Cumberland Place Apartments
6. UT Tyler
7. Caldwell Zoo
8. Trane
9. Mother Frances
10. Alpine Creek Apartments

2.1.3 Agricultural Water Supplier Information

TWU has one agricultural customer, Cascades Country Club. Tyler Water Utilities categorizes this usage as agriculture because the Country Club withdraws raw water from Lake Bellwood for irrigation purposes. The country club utilizes an irrigation system to irrigate golf courses and other vegetation on the property. The Country Club practices water conservation strategies, such as watering in the evenings instead of middle of the day.

Figure 1: Service Area Map



2.2 WATER CONSERVATION GOALS AND BEST MANAGEMENT PRACTICES

Utilization of all State resources is dictated if affordable development is to occur on a statewide basis. Water, a basic human need, plays a major factor in development. TWU should conserve and use water efficiently to meet its future needs. This plan emphasizes residential and customer education to meet current and future water needs.

The plan has been prepared using current TCEQ and TWDB guidelines that have been developed to meet State and Federal regulations. Previously, TWU included the Water Conservation Plan and its components into the City's code of ordinances in Section 19-300 Article X. This ordinance is amended to reflect the updated Water Conservation Plan. A copy of the updated ordinance is included in Appendix B.

The City of Tyler code Section 19-300 outlines that system improvements will be developed from study and evaluation of existing conditions to establish a specific program for meeting desired goals. BMPs have been implemented to aid in the reduction of per capita water usage to meet state established targets that reduce water waste, loss, and consumption. TWU has established quantifiable goals based on municipal and residential use in GPCD.

2.2.1 Water Conservation Goals

Retail and Wholesale Goals

TWU, through customer education, city maintenance and operation, and implementation of planning elements, had established 5-year and 10-year goals for the reduction of water waste, water loss and usage for municipal retail and wholesale water provider in its 2019 plan.

Figures 2 through 4 show the trend of the actual water usage in GPCD values for retail use for total municipal, residential, and water loss. Figure 5 shows the trend of the wholesale water usage in GPCD. These graphs were used to determine the projected 5- and 10-year goals.

Figure 2: Total Municipal Usage

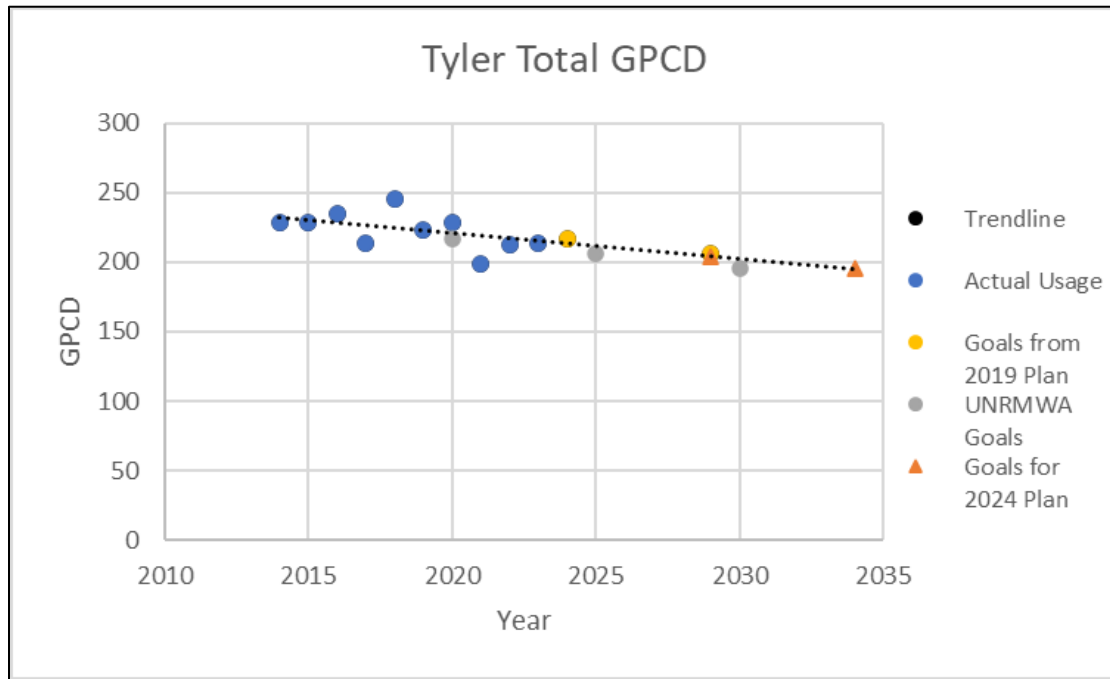


Figure 3: Residential Usage

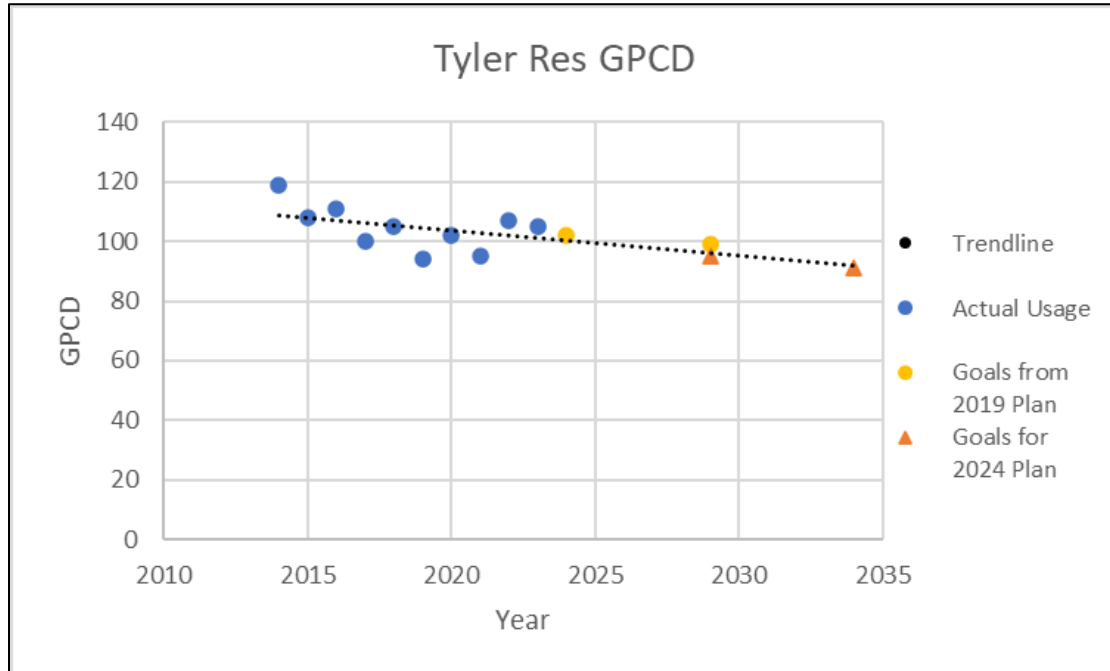


Figure 4: Water Loss

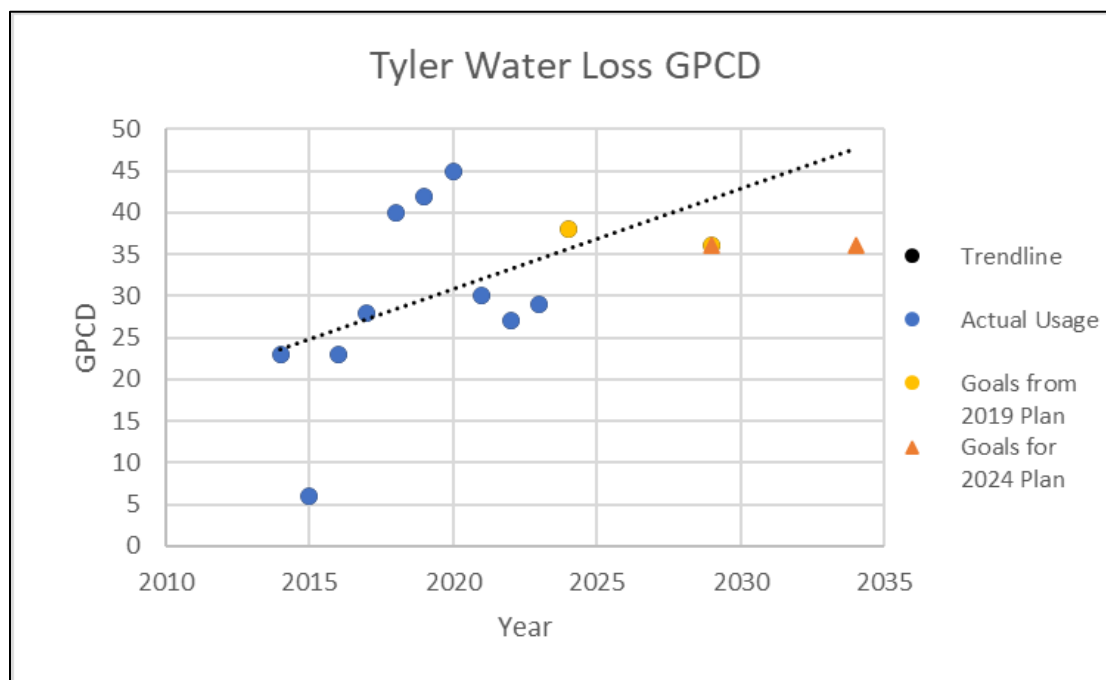
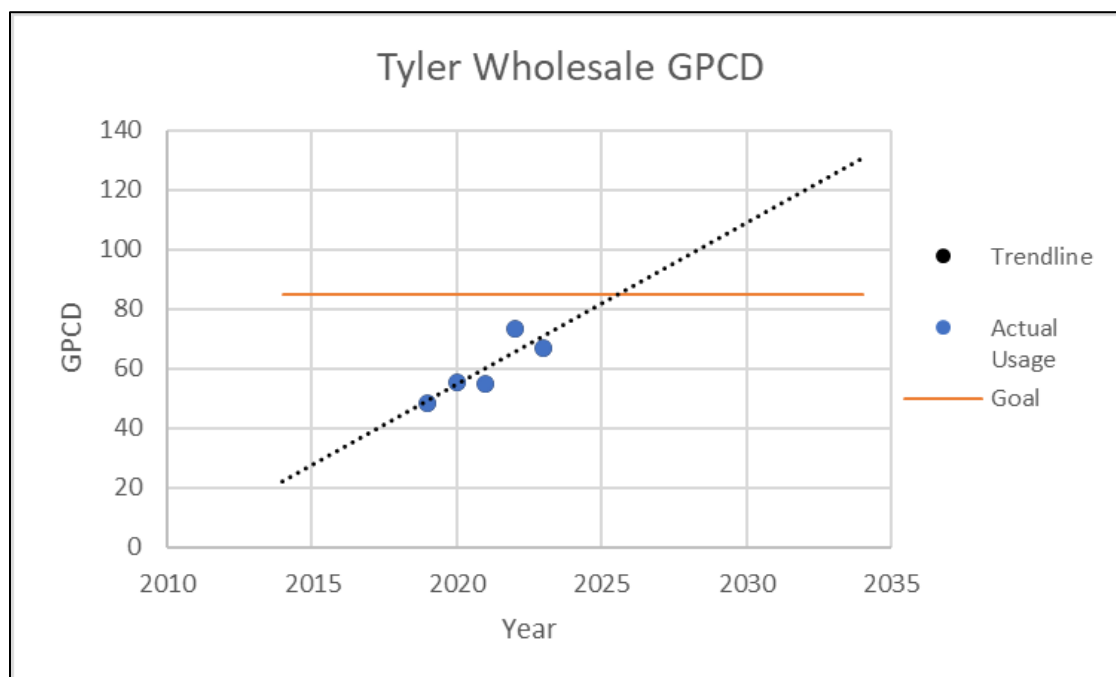


Figure 5: Wholesale Usage



Using the information presented in Figures 2 through 4, the 5-year and 10-year goals have been updated to reflect the trendline that TWU is experiencing with its current water usage. Tables 2 and 3 contain a comparison of municipal and wholesale water use in 2024, 2029, and 2034.

Table 2: Retail Municipal 5-Year and 10-Year GPCD Goals

Category	Units	Actual 2023 Usage	2029 Updated 5-YR Goal	2034 10-YR Goal
Average Municipal Water Use	GPCD	214	204	195
Average Residential Water Use	GPCD	105	95	91
Average Water Loss	GPCD	29	36	36

The total municipal and residential usage has been historically decreasing (Figures 2 through 4). A baseline was comprised from the historical data from past years and was used to update and set the current projected goals for 2029 and 2034. The average water loss is currently showing a trend that is increasing; however, the goals reflect the City's desire for the average water loss to decrease and flatten the increasing trend. TWU's new asset management program will also combat water loss with additional monitoring, increased leak detection, and improved maintenance documentation.

Table 3: Wholesale 5-Year and 10-Year GPCD Goals

Category	Units	Actual 2023 Usage	2029 Updated 5-YR Goal	2034 10-YR Goal
Average Wholesale Water Use	GPCD	67	70	68
Average Water Loss	GPCD	29	36	36

The wholesale water usage is currently increasing each year based on historical data (Figure 5). The goal for wholesale water usage is to not exceed 85 GPCD. A baseline was comprised from the historical data from past years and was used to set the current projected goals for 2029 and 2034.

Industrial Goals

Setting goals for industrial water usage is not feasible because TWU lacks detailed information on how each industrial customer uses water in their processes. Without this information, it is not possible to establish meaningful goals. Additionally, the industrial customer base represents only a small percentage of TWU's overall customer base. The largest customer bases for TWU are its commercial and residential customers.

Agricultural Goals

TWU's agricultural customer, Cascades Country Club, maintains an irrigation system for their golf course and there are no future water savings currently anticipated. Therefore, it is not applicable for TWU to set goals for agricultural. TWU encourages reducing water waste, improving the efficiency of irrigation practices, and mitigating the environmental impact of agricultural activities when applicable.

2.2.2 Best Management Practices

TWU's proactive approach to water conservation, encompassing customer education, efficient city maintenance and operation practices, and strategic planning, has led to the establishment of ambitious goals for reducing water waste, loss, and usage. These goals, updated with recent utility data, aim to steadily decrease municipal and residential water consumption as well as minimize water loss over the next five and ten years. Achieving these targets not only contributes significantly to water conservation efforts but also enhances TWU's ability to accommodate future growth without the immediate need for costly expansions. If necessary, TWU has the ability to expand the Lake Palestine Water Treatment Plant to accommodate future growth in the service area.

Every five years, TWU evaluates and updates the BMPs for municipal and wholesale water customers. The following are the BMPs that have been adopted and implemented by TWU in this updated plan:

BMPs for Municipal Water Providers:

- Conservation Coordinator
- Education & Public Awareness
- System Water Audit and Water Loss
- Metering of All Connections and Retrofit of Existing Connections
- Plumbing Codes
- Prohibition on Wasting Water
- Reuse for Plant Washdown
- Reuse for Chlorination / Dichlorination

2.3 CONSERVATION MEASURES

2.3.1 Public Education and Information

TWU provides its customers with recommendations for reducing water consumption. The current education program consists of the following activities:

- Updating the water conservation section of TWU's webpage.
- Providing brochures on outdoor household use, car washing, and lawn watering at the TWU office and on TWU's website.
- Informing new customers of TWU's Conservation Program and providing them with the Homeowner's Guide upon request.
- Utilizing resource materials from TCEQ, TWDB and other agencies to distribute water conservation information.
- Producing and distributing 4,400 take-home folders with information on water, storm drain, pesticide, and water conservation information to elementary schools in Tyler Independent School District students, aiming to reach 10% of students annually.

- Providing educational tours of water and wastewater treatment facilities for area high schools, colleges, groups, and clubs by request.

The education program is a long-term investment in TWU's customers. The conservation education program instructs customers on water-saving methods to reduce water usage and save money. These practices include adjusting watering schedules to the most efficient times and using appropriate conservation strategies.

The public can also attend City Council meetings which meets on a regular basis on the 2nd and 4th Wednesday of each month at 9:00 am. These meetings are open to the Public, and the public is given an opportunity to speak and voice their views and opinions.

TWU provides education and resources to wholesale customers as well to help them reduce water consumption and implement water conservation techniques.

2.3.2 Record Management System

TWU has a record management system which allows for the classification of water sales and uses into a variety of categories, including the sectors required by the TAC (clauses (i)- (vi) of (30 TAC 288.2 (a) (1)(B)):

1. Residential
 - a. Single family
 - b. Multi family
2. Commercial
3. Institutional
4. Industrial
5. Agricultural/ Irrigation
6. Wholesale

2.3.3 Leak Detection Program

TWU estimates that water loss can be reduced by approximately one percent (1%) per year through its leak detection program. The city-wide meter replacement program has enabled TWU staff to proactively identify meters that appear to be misreporting water usage or providing unexpected numbers alerting staff of potential water leaks. TWU staff investigate these situations to determine additional steps that may be required to resolve the concern.

TWU's leak detection program involves various activities to identify and address leaks promptly. This includes citizens reporting leaks, meter readers conducting leak detection, regular checks and maintenance of production, pumping, and storage facilities, and swift response from water utility staff to address reported issues.

The leak detection program includes:

- A utility system water model assesses large water loss amounts, system pressures and pressure zones. TWU updates the model with new connections on a regular basis.
- Staff continue to be conservation minded in the operating pressures of the water system. The pressures will differ depending on the season, topography, fire demand, and elevated storage tank levels. Maintaining water pressure without exceeding pipeline designs reduces the likelihood of a water line break due to high pressure.

- TWU staff perform regular inspections on water mains, fittings, connections, and fire hydrants. TWU addresses water leaks identified from these visual inspections.
- TWU trains all staff on its leak detection program during onboarding.
- Staff performs regular inspections of the water mains and connections.
- TWU staff estimate the volume of water losses associated with leaks based on the time from report to repair.
- Customer reports regarding water leaks are documented and investigated. Repairs are made, as appropriate. Staff estimate the volume of water lost and document the information in the work order system as a service request. TWU can track the request and document the repairs if needed. TWU receives about 200 reports from residents each year.

All meter readers and maintenance employees are trained to perform visual inspections for leak detection as part of their onboarding training when they begin their employment with TWU. A previously implemented citywide meter change-out program has been completed. Unfortunately, the new meters did not provide the expected results and the City did not recognize the anticipated water savings. Therefore, the City has embarked on another meter repair and replacement program using a different type of meter. Additionally, the City responds to meter malfunctions or complaints as reported. The meter program also includes:

- Meters are tested annually and must be within 5% accuracy.
- All municipal connections are metered for increased accuracy of water use.
- A street cleaner water use tracking method has been established to track and document water used for street cleaning purposes.
- Unauthorized taps or water thefts are assessed a charge for the illegal tap, and TWU disconnects the illegal tap.

2.3.4 System Water Audit & Water Loss

TWU conducts a system water audit in two parts, the first of which is known as a “Top Down” audit. TWU uses existing records to determine estimated annual water loss. In 2023, TWU of Tyler has a water loss of approximately 13.63%. TWU diligently keeps other information such as customer billing summaries, leak repair summaries, meter change out summaries and other relevant water use summaries. However, aging infrastructure results in occasional water losses. TWU has initiated an extensive water line repair program through their asset management, primarily focused on replacing 2-inch and larger diameter water lines on an annual basis. TWU’s Capital Investment Plan includes these asset management projects which aim to replace water infrastructure at all diameters as necessary based on their risk level. This program, in addition to TWU’s annual water loss audit aides staff in identifying areas in need of improvements to reduce water loss. The water utility billing software generates reports needed to perform “top-down” water audits. TWU submits its annual water audit to the appropriate agencies.

TWU’s goal is to have an Infrastructure Leakage Index (ILI) of 3. If the ILI of 3 is not met during the “top down” audit, then TWU continues forward with the second step of the water audit referred to as the “bottom up” audit, which includes:

- Detailed investigation of TWU’s policies and procedures
- Detailed review of procedures for all water use by the fire department for line flushing, street cleaning and all other uses

These detailed analyses have provided insight into water uses that need to be documented to better reflect actual water usage and water loss.

2.3.5 Metering of All Connections and Retrofit of Existing Connections

TWU meters all connections within their water distribution system. TWU has established a proactive meter replacement program to address malfunctioning meters or those that do not register or report water usage to TWU's AMI program. This metering system enables TWU to accurately track water consumption and identify those connections that are utilizing the most water. TWU's total number, tested, repaired, and replaced by meter size (as of December 2023) is shown in Table 4.

Table 4: Meter Information

Type of Meter	Number	Tested	Repaired	Replaced
Production Meters	39	14	0	0
Meters larger than 1 ½ inches	5,492	5	2	34
Meters 1 ½ inches or smaller	39,522	20	12	662

2.3.6 Existing Water Rate Structure

TWU is in the process of transitioning from a declining block structure to a flat rate structure. TWU still recommends and encourages water conservation strategies to all users. The rates are established by TWU based on meter size, city limits, and industrial or non-industrial categorization. TWU would like to move to a more conservation-oriented water rate structure such as an inclining block rate design in the future. TWU evaluates each customer class and establishes rates based on the demands placed on the water system by each class. The rates listed in the tables 5 and 6 below were implemented on October 1, 2023, and may be adjusted as TWU refines its rate structures to enhance water conservation efforts and efficiently manage service costs.

Table 5: Minimum Monthly Meter Charges (Non-Industrial Classes)

Meter Size	Service Charge (Inside City Limits)	Service Charge (Outside City Limits)
5/8	15.80	23.70
1	15.80	23.70
1 ½	15.80	23.70
2	18.50	27.75
3	21.40	32.10
4	32.50	48.75
6	48.00	72.00
8	64.60	96.90
10	91.30	136.95
12	117.90	176.85

Table 6: Minimum Monthly Meter Charges (Industrial Class)

Meter Size	Service Charge (Inside City Limits)	Service Charge (Outside City Limits)
5/8	15.80	23.70
1	15.80	23.70
1 ½	15.80	23.70
2	18.50	27.75
3	21.40	32.10
4	32.50	48.75
6	48.00	72.00
8	64.60	96.90
10	91.30	136.95
12	117.90	176.85

See City of Tyler code Section 19-60 rates for current water rate tables and additional information.

2.3.7 Plumbing Codes

TWU currently uses the 2021 edition of the International Plumbing Code as their plumbing code. This Code includes requirements for the use of water saving plumbing fixtures in new construction and remodeling of existing buildings.

2.3.8 Practices and Measures to account for Water Diverted

TWU meters the water diverted from Lake Tyler and the water arriving at the Golden Road WTP. These meters have an accuracy of plus or minus two percent and undergo annual calibration. Meters are repaired or replaced as needed.

TWU meters the water diverted from Lake Palestine and the amount of water delivered to the Lake Palestine WTP. TWU is responsible for the meter measurements, as well as the maintenance of the pipeline and any water losses associated with the pipeline from the Lake Palestine intake facility to the City's water treatment plant.

2.3.9 Industrial Alternate Sources and Reuse of Process Water

Reuse of Industrial Process Water

TWU has a small number of industrial water customers. TWU is not aware of any industrial customers that are currently reusing water in their production processes. TWU encourages its industrial customers to implement water efficient processes and water conservation techniques.

However, wastewater reuse is infeasible for TWU. The location of the wastewater treatment plant to industrial users is not conducive for developing a cost-effective reuse treatment facility. TWU is not located in an arid section of Texas, and therefore reuse for irrigation purposes has not been developed.

Industrial Site-Specific Conservation

In the past, some of TWU's industrial water users may have installed new technologies to reduce their water consumption and increase the efficiency of the water that is utilized in the operation of the plant. TWU encourages implementing water conservation techniques to all industrial customers.

2.3.10 Agricultural Conservation Methods

To promote agricultural water conservation, TWU encourages the use of surge irrigation, low-pressure systems, sprinklers, drip irrigation, and non-leaking pipes. These methods promote efficient water use and reduce water waste in agricultural irrigation practices. TWU also urges its agricultural customers to monitor their watering frequency and to explore land improvement techniques to retain or reduce runoff. Additionally, they are encouraged to consider implementing strategies for recovering and reusing tailwater¹

2.3.11 Prohibition on Wasting Water

TWU, through Ordinance 0-99-62 requires water users to be conservation minded when using water, whether it is residential or commercial. The adopted City ordinance is posted on the city's website. Educational materials are available at the Tyler Water Utilities Office and can be mailed directly to the customer upon request.

A system has been developed to track offenders and includes violations, compliance notification, and other pertinent information. Compliance notifications are maintained to help identify potential theft situations and to account for water losses. TWU is committed to educating its citizens on the importance of water conservation.

2.3.12 Reservoir System Operations

Tyler is a raw water customer of UNRMWA. UNRMWA owns and operates Lake Palestine which is not part of a multi-reservoir system. UNRMWA coordinates its Reservoir Operation Plan with its water customers and RWPGs.

The City of Tyler owns and operates Lake Tyler and Lake Tyler East. The two reservoirs are connected by a channel where the level is maintained by the spillway elevations at 375.4 feet. The two lakes are treated as a single reservoir.

2.3.13 Means of Implementation and Enforcement

The City Manager, through his or her staff, is responsible for implementing and enforcing the Conservation Plan and BMPs in accordance with City Council adoption of this updated plan. Annually, by May 1st, TWU submits the mandated Water Conservation Implementation Report to the TCEQ. This report details the implementation dates of various water conservation strategies and tracks progress towards the five and ten-year per capita water use goals outlined in the plan. If these goals are not being met, TWU must provide documentation explaining the reasons. Additionally, the report includes information on the amount of water saved through these efforts.

2.3.14 Requirement for Water Conservation Plans by Wholesale Customers

Any political subdivision and/or wholesale customer contracting for water from TWU must have (1) a TCEQ-approved Water Conservation and Emergency Demand Management Plan in effect that meets or exceeds the requirements set forth in this plan and/ or (2) must officially adopt applicable provisions of the City of Tyler's Water Conservation Drought Contingency and Emergency Demand Management Plan. The wholesale customer conservation plans or measures shall meet the requirements set forth by federal or state agencies or other regulatory

¹ Tailwater denotes the water immediately downstream a hydraulic structure, such as a dam, spillway, bridge or culvert.

jurisdictions, including but not limited to 30 TAC Section 288.2 (a)(2) and (3). Currently TWU has wholesale water contracts with the City of Whitehouse, Community Water, and Walnut Grove Water Supply Corporation.

A Wholesale Water Buyer shall cooperate with and assist TWU in its efforts to develop and implement plans, programs, and rules to develop water resources and to promote practices, techniques, and technologies that will reduce the consumption of water, reduce the loss or waste of water, improve the efficiency in use of water, and/or increase the recycling and reuse of water.

TWU provides its Water Conservation and Drought Contingency Emergency Demand Management Plan to each of its wholesale water customers. A wholesale customer shall provide a copy of its conservation plan to TWU within ten (10) days of its plan implementation date. The wholesale customer plans shall be consistent with and as stringent as this plan. If Tyler determines that the wholesale customer's plan does not meet this standard, TWU shall provide written notification to the customer of the deficiency. The customer shall then amend and resubmit its plan to TWU for review and acceptance.

2.3.15 Annual Reporting & Coordination

TWU, through adoption of this Plan, commits to report to and coordinate with the Executive Directors of the TCEQ and the TWDB, as well as the Chairs of the Region I and D Water Planning Group, annually. The report to the agency(s) contains information describing:

1. Progress in meeting Conservation Plan BMPs
2. Public response to plan implementation and operation
3. Quantitative effectiveness with reference to:
 - System reduction
 - Reduction in customer or per capita per day use
 - Water loss as a whole
 - Water pumped, water sold and water consumed
 - Per capita per day results for municipal and residential goals
 - List of public information released during the year

2.4 POTENTIAL FUTURE CONSERVATION MEASURES

The following programs have the potential to enhance water resilience in Tyler. In pursuit of sustainable water management, TWU may consider enacting additional conservation measures to meet its water conservation goals.

2.4.1 Landscape Water Management

Landscaping with Native or Drought Tolerant Plants

Encouraging residents and businesses to landscape using native or drought-tolerant plants can be advantageous for water conservation. These plants adapted to local conditions requiring less water overall. Choosing drought-resistant plants or native vegetation could reduce chemical maintenance (such as fertilizer and pesticides). This preference of landscaping for homeowners, business parks and developed urban areas can reduce irrigation needs, preserve water resources, and promote a healthy ecosystem that mitigates soil erosion.

EPA's WaterSense Partnerships

TWU may consider engaging with EPA's WaterSense partnership program. The goals of the program include:

- Promoting indoor and outdoor water efficiency and WaterSense-labeled products and programs.
- Participating in national outreach campaigns, such as Fix a Leak Week, Sprinkler Spruce-Up, and quarterly partner-only webinars.
- Providing input to the WaterSense Program by submitting a brief annual update on water-efficiency activities.

2.4.2 Reuse and Recycling of Water

Greywater

Residential graywater use (i.e., recycling water within the home using a dual plumbing system) is a potential water supply. The TAC Chapter 210 governs the use of graywater for domestic purposes, industrial, commercial, or institutional purposes and irrigation. Currently, no rules are in place in the City's plumbing code to allow the use of greywater.

Rainwater Harvesting and Condensate Reuse

Rainwater harvesting and condensate reuse provide a potential source of supply that could be used for non-potable purposes such as landscape irrigation. Large properties with this potential supply could offset a portion of their irrigation demand depending on the storage capacity.

Rainwater and condensate reuse should be evaluated on a case-by-case basis to determine if it is cost effective for large properties.

3. Drought Contingency Plan

The objective of the drought contingency plan is to conserve available water supply and consider conditions that trigger the initiation and termination of the water rationing program to address emergency water situations. This plan has been prepared to protect the integrity of water supply facilities, with regard to domestic water use, sanitation, and fire protection. Overall, the plan establishes policies and procedures for a timely and effective response in drought stages.

The City Manager, or his/her appointed designee, shall be responsible for the implementation and enforcement of this Plan.

This plan meets TCEQ's rules of development and minimum requirements for the drought contingency plans for municipal water suppliers and wholesale water suppliers contained in TAC Title 30, Part 1, Chapter 288, Subchapter B, Rules 288.20 and 288.22, respectively. Refer to Appendix B for the TAC, Title 30, Chapter 288, Subchapter B.

3.1 WATER SYSTEM PROFILE

TWU is forward thinking and is well prepared regarding the availability of water supplies and water treatment capabilities. TWU relies on surface water supply sources available for high water demand and emergency drought events. The primary sources include Lake Tyler/Lake Tyler East and Lake Palestine. TWU operates two (2) surface water treatment plants.

TWU has a water right to use surface water from Lake Tyler/Lake Tyler East, which is owned and operated by the City. TWU has an intake facility in Lake Tyler to divert raw water from the lake. The pipeline delivers the water to Golden Road Water Treatment Plant for treatment and distribution. Lake Tyler/Lake Tyler East have a combined permitted water right for 40,325 acre-feet per year. The Golden Road Plant is rated at twenty-eight (28) MGD.

TWU has a contract with UNRMWA to purchase 67,200 acre-feet per year of water from Lake Palestine. Raw water from Lake Palestine is treated and distributed at the City's Lake Palestine Water Treatment Plant. The Lake Palestine water treatment plant is rated at thirty (30) MGD.

In the event that one of the water treatment plants experiences a failure or is unexpectedly unable to produce treated water, the other plant will compensate and distribute treated water throughout the system.

3.2 PUBLIC INFORMATION AND EDUCATION

The public will be made aware of conservation or emergency demand conditions by information and data transfer through TWU's annual program. During periods of drought curtailment, Step I conditions establish an information center, an information person, and shall utilize the most effective methods for information dissemination on a daily basis.

Close observation of the first-year information program developed the most effective ways to communicate with customers. Posting notices and newspaper articles will be used during the implementation of the plan and when information needs to be given to the public.

3.3 INITIATION AND TERMINATION OF DROUGHT RESPONSE STAGES

The City Manager, or his/her designee, shall monitor water supply and/or demand conditions on a daily basis and shall determine when conditions warrant initiation or termination of each stage of this plan, as described in section 3.5. The provisions of this plan apply to all City of Tyler water customers and wholesale customers. This plan does not apply to those who use treated wastewater effluent, private groundwater wells, or have their own surface water rights.

Public notification of the initiation or termination of drought response stages shall be by means of televised notices, press releases and information on TWU's website.

The Plan may be applied to the entire city or geographic portions of the city as necessary. If the Plan is applied only to a limited sector, the boundaries will be defined in terms of roadways, creeks and other easily distinguishable features, such as city limits.

3.3.1 Initiation Procedures

Initiation procedures are employed at any period as described in this Plan. Each condition will be met with a corresponding action by the City Manager, or his/her designee, who will affect curtailment, give notice, publicize, and follow implementation of curtailment.

The City Manager, or his/her designee, may choose to not implement a drought stage even when one or more thresholds have been met. This decision may be based on the time of year, weather conditions, anticipated rainfall, or expectation of additional water supply and/or expanded water treatment or system distribution improvements.

3.3.2 Termination of Curtailment

The City Manager, or his/her designee, may terminate a drought response when the specific condition for termination has been met or at his/her discretion. In the case of drought restriction, the response may be terminated upon water supply levels returning to the designated trigger level. System priority will be considered in return to upgraded condition, returning nursing homes, schools, etc., in priority order.

Termination will be initiated by the City Manager, or his/her designee, by giving notice, etc., as was given to enact drought curtailment as specified in this Plan for any change within the Plan. Wholesale customers will be notified by telephone with a follow up letter or email providing an explanation for the termination of the drought stage.

The City Manager, or his/her designee, may choose to not terminate a drought stage even when the conditions for termination of the stage have been met. This decision may be based on the time of year, weather conditions, or anticipated potential changed conditions that warrant the continuation of the drought stage.

3.3.3 Modification, Deletion and Amendment

The City Manager can add, delete, and amend rules, regulations, and implementation as needed/desired, and shall advise the City Council of such amendments at its next regular or called meeting.

3.4 DROUGHT RESPONSE STAGES

The City Manager, or appointed designee, coordinates directly with TWU's Director of Utilities to determine the impact of a specific emergency or production capacity. With proper coordination, increased production capacity may occur as changes are made to the system.

In the event TWU determines that one or more criteria have been met for a drought stage, TWU may initiate the appropriate drought stage. TWU's wholesale customers are required to initiate the same or greater drought stage.

3.4.1 Stage 1 - Mild Water Shortage Conditions

Requirements for Initiation: Step 1 drought measures as related to mild drought conditions. Customers shall be requested to adhere to voluntary measures. Stage 1 conditions occur when one or more of the following are met:

1. UNRMWA initiates Stage 1 for Lake Palestine.
2. Lake Tyler storage is less than 75% of conservation storage.
3. Water demand exceeds 85% of production capacity for three (3) consecutive days.
4. Water demand for all or part of the delivery system approaches delivery capacity due to inadequate capacity.
5. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
6. Water supply system is unable to deliver water due to failure or damage to major water system components.
7. A portion of the water supply system has a shortage in supply or experiences equipment damage. Measures may be implemented for the portion of the system impacted.
8. Weather conditions are considered to meet drought classification determination.

Terminating Conditions for Stage 1: Step 1 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of 14 consecutive days. TWU will notify its wholesale customers and the media of the termination of Stage 1 in the manner described above.

Goal for Use Reduction Stage 1:

1. Achieve a voluntary 5 percent reduction in total daily water use.
2. Average daily water consumption will be reduced by 5% or 1.25 MGD.
3. WWCs are required to reduce their daily demand by 5% based on the average daily usage for the seven (7) days preceding the initiation date of Stage 1.

All Water Users: In order to manage a limited water supply and/or reduce water demand, TWU will implement the following supply management measures:

1. Reduce or discontinue flushing of water mains.
2. Discontinue fire hydrant testing.
3. Implement measures to return any system component to full production capability (i.e. water wells, booster pumps, etc.).
4. Repair all existing main breaks.

Voluntary Water Use Restrictions: Water customers are requested to implement the following voluntarily responses:

- Limit the irrigation of landscaped areas to Sundays and Thursdays for customers with a street address ending in an even number (0, 2, 4, 6 or 8), and Saturdays and Wednesdays for water customers with a street address ending in an odd number (1, 3, 5, 7 or 9)
- Irrigate landscapes between the hours of 10:00 p.m. and 6:00 a.m. on designated watering days.

All operations of TWU shall adhere to water use restrictions prescribed for Stage 1 of the Plan. Water customers are requested to practice water conservation and to minimize or discontinue water use for non-essential purposes.

3.4.2 Stage 2 - Moderate Water Shortage Conditions

Requirements for Initiation: Stage 2 curtailment is to be initiated by the City Manager, or his/her designee, when moderate drought conditions exist. TWU recognizes that a moderate water shortage condition exists when one or more of the following are met:

1. UNRMWA initiates Stage 2 for Lake Palestine.
2. Lake Tyler storage is less than 60% of conservation storage.
3. Water demand exceeds 90% of production capacity for three consecutive days.
4. Water demand for all or part of the delivery system approaches delivery capacity due to inadequate capacity.
5. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
6. Water supply system is unable to deliver water due to failure or damage to major water system components.

7. A portion of the water distribution system has a shortage in supply or experiences equipment damage. Measures may be implemented for the portion of the system impacted.
8. Weather conditions indicate drought conditions will persist.
9. One or more water storage tank(s) is taken out of service during Mild Drought Conditions.
10. Existence of any one listed condition for a duration of 36 hours.

Terminating Condition: Stage 2 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of 7 consecutive days. Upon termination of Stage 2, Stage 1 becomes operative. TWU will notify its wholesale customers and the media of the termination of Stage 2 in the manner described above.

Goal for Use Reduction Stage 2:

1. Achieve a 10 percent reduction in total daily water use, or 2.5 MGD.
2. WWCs are required to reduce their daily demand by 10% based on the average daily usage for the seven (7) days preceding the initiation date of Stage 2.

All Water Users: Listed actions are compulsory on users and is intended to prohibit water waste. Under threat of penalty for violation, the following water use restrictions shall apply to all persons:

1. Irrigation of landscaped areas with hose-end sprinklers or automatic irrigation systems shall be limited to Sundays and Thursdays for customers with a street address ending in an even number (0, 2, 4, 6 or 8), and Saturdays and Wednesdays for water customers with a street address ending in an odd number (1, 3, 5, 7 or 9). The irrigation of landscaped areas is limited to before 10:00 a.m. and after 6:00 p.m. on designated watering days. However, irrigation of landscaped areas is permitted at any time if it is by means of a hand-held hose, a faucet filled bucket or watering can of five (5) gallons or less, or drip irrigation system.
2. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane or other vehicle is prohibited except on designated watering days between the hours of 8:00 p.m. and 12:00 midnight. Such washing, when allowed, shall be done with a hand-held bucket or a hand-held hose equipped with a positive shutoff nozzle for quick rinses. Vehicle washing may be done at any time on the immediate premises of a commercial car wash or commercial service station. Further, such washing may be exempted from these regulations if the health, safety, and welfare of the public is contingent upon frequent vehicle cleansing, such as garbage trucks and vehicles used to transport food and perishables.
3. Use of water to fill, refill, or add to any indoor or outdoor swimming pools, wading pools, or jacuzzi-type pools is prohibited except on designated watering days between the hours of 10:00 p.m. and 6:00 a.m.
4. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life or where such fountains or ponds are equipped with a recirculation system.
5. Use of water from fire hydrants shall be limited to fire fighting and related activities, or other activities necessary to maintain public health, safety, and welfare, except that use

of water from designated fire hydrants for construction purposes may be allowed under special permit from TWU.

6. Use of water for the irrigation of golf course greens, tees, and fairways is prohibited except on designated watering days before 10:00 a.m. and after 6:00 p.m. However, if the golf course utilizes a water source other than that provided by TWU, the facility shall not be subject to these regulations.
7. All restaurants are prohibited from serving water to its patrons except when requested.
8. The following uses of water are defined as non-essential and are prohibited: wash down of any sidewalks, walkways, driveways, parking lots, tennis courts, or other hard-surfaced areas; use of water to wash down buildings or structures for purposes other than immediate fire protection; use of water for dust control; flushing gutters or permitting water to run or accumulate in any gutter or street; and failure to repair a controllable leak(s) within a reasonable period after having been given notice directing the repair of such leak(s).

3.4.3 Stage 3 - Severe Water Shortage Conditions

TWU will recognize that a severe water shortage condition exists when one or more of the following are met:

1. UNRMWA initiates Stage 4 for Lake Palestine.
2. Lake storage in Lake Tyler is less than 45% of conservation storage.
3. Water demand exceeds 98% of production capacity for one (1) day.
4. Water demand exceeds the storage tank capacity.
5. System demand exceeds available high service pump capacity.
6. Any two (2) conditions listed in Moderate Drought Conditions occur simultaneously for a 24-hour period.
7. Water demand for all or part of the delivery system approaches delivery capacity due to inadequate capacity.
8. Supply source is interrupted or unavailable due to contamination, invasive species, equipment failure or other cause.
9. Water supply system is unable to deliver water due to failure or damage to major water system components.
10. A portion of the water distribution system has a shortage in supply or experiences equipment damage. Measures may be implemented for the portion of the system impacted.

Terminating Condition: Stage 3 of the Plan may be rescinded when all of the conditions listed as triggering events have ceased to exist for a period of 5 consecutive days. Upon termination of Stage 3, Stage 2 becomes operative. TWU will notify its wholesale customers and the media of the termination of Stage 2 in the manner described above.

Goal for Use Reduction Stage 3:

1. Achieve a 15 percent reduction in total daily water use.
2. WWCs are required to reduce their daily demand by 15% based on the average daily usage for the seven (7) days preceding the initiation date of Stage 3.

All Water Users: Listed actions are compulsory on users and is intended to prohibit water waste. Under threat of penalty for violation, the following water use restrictions shall apply to all persons:

1. Vehicle washing, window washing, and outside watering (lawn, shrub, faucet dripping, garden, etc.) are prohibited.
2. Public water uses which are not essential for health, safety and sanitary purposes are prohibited. These include: street washing, fire hydrant flushing, filling of pools, watering of athletic fields and golf courses, and dust control sprinkling.
3. Commercial users not listed and industrial users will be controlled to the extent dictated by the City Manager, or his/her designee.
4. The average daily water consumption will be reduced by 25% or 6.25 MGD.
5. Irrigation of landscaped areas shall be limited to designated watering days between the before 10:00 a.m. and after 6:00 p.m. and shall be by means of hand-held hoses, hand-held buckets, or drip irrigation only. The use of hose end sprinklers or permanently installed automatic sprinkler systems are prohibited at all times.
6. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle not occurring on the premises of a commercial car wash or a commercial service station and not in the immediate interest of public health, safety, and welfare is prohibited. Further, such vehicle washing at commercial car washes and commercial service stations shall occur only between the hours of 10:00 a.m. and 4:00 p.m.
7. The filling, refilling, or adding of water to swimming pools, wading pools, and jacuzzi-type pools is prohibited.
8. Operation of any ornamental fountain or pond for aesthetic or scenic purposes is prohibited except where necessary to support aquatic life, or where such fountains or ponds are equipped with a recirculation system.
9. No applications for new, additional, expanded, or increased-in-size water service connections, meters, service lines, pipeline extensions, mains, or water service facilities of any kind shall be allowed or approved.

Businesses requiring water as a basic function of the business, such as nurseries, commercial car wash, Laundromats, high pressure water cleaning, etc., will obtain written permission from the City Manager, or his/her designee, for intended water use.

The System Priority for water service shall be made on the following basis:

1. Hospitals
2. Nursing Homes
3. Schools
4. Industrial
5. Commercial
6. Residential
7. Recreational

The Manager, or his/her designee, will contact wholesale water customers to discuss water supply and/or demand conditions and will request that wholesale water customers initiate additional mandatory measures to reduce non-essential water use (e.g., implement the appropriate stage (usually Stage 3) of the customer's drought contingency plan).

3.5 PROCEDURES FOR ENFORCING MANDATORY WATER USE MEASURES

Mandatory water use restrictions may be imposed in Stages 1, 2, and 3. Mandatory water use restrictions will be enforced. Any person who violates this Plan could be guilty of a misdemeanor

and, upon conviction shall be punished by a fine of not less than two hundred and fifty dollars (\$250.00) and not more than two thousand dollars (\$2,000.00). Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the Manager shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur.

3.5.1 Drought Contingency Surcharge

A surcharge of One Dollar (\$1.00) per thousand gallons shall be implemented during any stage under the following conditions: Should any of the reservoir lake levels (Lake Palestine or Lake Tyler) fall below five feet below spillway. This surcharge shall remain in effect until all lake levels have recovered to above three and one-half feet below spillway. The surcharge will be added to the customer's water bill, as appropriate.

3.6 VARIANCE PROCEDURE

Variances may be issued during drought shortage periods when deemed necessary by City Staff and ultimately, by the City Manager.

Businesses requiring water as a basic function of the business, such as nurseries, commercial car washes, Laundromats, high pressure water cleaning, etc., will need to obtain written variance from the City Manager for intended water use.

Businesses must contact the Director of Utilities or staff at City of Tyler Water Utilities at 903-531-1238. Once cleared by Water Utilities the request will be forwarded to the office of the City Manager for his final consideration and approval.

4. Emergency Demand Management Plan

The objective of this plan is to reduce potable water usage in response to emergency conditions, thereby preserving the availability of potable water. Given that emergency situations can arise rapidly, swift actions are necessary. This plan has been prepared to consider conditions that trigger the initiation and termination of the rationing program.

Regarding implementation and enforcement of the Emergency Demand Management Plan, the City Manager, or appointed designee, shall be responsible for implementation and enforcement of this Plan.

4.1 EMERGENCY WATER SHORTAGE CONDITION

Customers shall be required to comply with the requirements and restrictions for emergency water shortage conditions when the City Manager, or his/her designee, determines that a water supply emergency exists based on one or more of the following conditions being met:

1. Major water line breaks or failures in the treatment or distribution system occur which cause unprecedented loss of capability to provide water service.
2. Water demand equals or exceeds 50 million gallons a day for two (2) consecutive days.
3. Natural or man-made contamination of water supply (s) has occurred.

All Water Users: In order to manage a limited water supply and/or reduce water demand, TWU will continue implementing all of the measures described in Stages 1, 2 and 3 above. In addition, TWU will use any or all alternative supply sources available and will implement the usage of reclaimed water for non-potable purposes where available. All Water Use Restrictions of Stages 2 and 3 shall remain in effect during emergency water shortage conditions:

1. Irrigation of landscaped areas is absolutely prohibited.
2. Use of water to wash any motor vehicle, motorbike, boat, trailer, airplane, or other vehicle is absolutely prohibited.
3. All water usage except that required to protect public health, safety, and welfare is prohibited.

Whenever emergency water shortage conditions exist the Manager shall:

- Assess the severity of the problem and identify the actions needed and time required to solve the problem.
- Inform the utility director or other responsible official of each wholesale water customer by telephone or in person and suggest actions, as appropriate, to alleviate problems (e.g., notification of the public to reduce water use until service is restored).
- If appropriate, notify city, county, and/or state emergency response officials for assistance.
- Undertake necessary actions, including repairs and/or clean-up as needed.
- Prepare a post-event assessment report on the incident and critique of emergency response procedures and actions.

4.2 WHOLESALE WATER CUSTOMER

Included in each wholesale water contract entered or renewed, Article 6 shall include the following to meet the requirements that water shortage will be distributed in accordance with TWC 11.039 (30 TAC 288.22(a)(8)):

“6.3(b) Demand Management. If Tyler shall manage demand through rationing the use of water to its retail customers, then a proportional rationing of water supplied to (name of wholesale company) by Tyler shall be instituted, at Tyler's option. Rationing does not relieve buyer from its obligation to pay the monthly Demand Charge.”

During an emergency demand management situation, TWU will inform the WWC of the required rationing amount based on the emergency condition. This may include the development of any conservation rationing plans by either Tyler or Wholesale Water Buyer that may be necessary or appropriate to address operational constraints, whether or not the same are required by any state or federal regulatory agency.

“6.3(c) Temporary Rationing. Where emergency conditions may dictate temporary conservation or rationing requirements not exceeding 180 days for either Tyler or the 2nd party of this contract, either party may implement any measures considered appropriate by it to alleviate the emergency conditions. If the buyer implements measures to alleviate an emergency condition, the buyer shall notify City of Tyler in writing within five (5) days. Action taken under this subsection of the wholesale water contract, does not relieve the buyer from its obligation to pay monthly Demand Charges.”

4.3 PROCEDURES FOR ENFORCING MANDATORY WATER USE MEASURES

Mandatory water use restrictions may also be imposed when in emergency water shortage condition. Mandatory water use restrictions will be enforced. Any person who violates this Plan could be guilty of a misdemeanor and, upon conviction shall be punished by a fine of not less than two hundred and fifty dollars (\$250.00) and not more than two thousand dollars (\$2,000.00). Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the Manager shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur.

4.3.1 Emergency Water Shortage Condition Surcharge

A surcharge of One Dollar (\$1.00) per thousand gallons shall be implemented during emergency water shortage conditions: Should any of the reservoir lake levels (Lake Palestine or Lake Tyler) fall below five feet below spillway. This surcharge shall remain in effect until all lake levels have recovered to above three and one-half feet below spillway. The surcharge will be added to the customer's water bill, as appropriate.

4.4 VARIANCE PROCEDURE

Variances may be issued during water shortage periods when deemed necessary by City Staff and ultimately, by the City Manager.

Businesses requiring water as a basic function of the business, such as nurseries, commercial car washes, Laundromats, high pressure water cleaning, etc., will need to obtain written variance from the City Manager for intended water use.

Businesses must contact the Director of Utilities or staff at City of Tyler Water Utilities at 903-531-1238. Once cleared by Water Utilities the request will be forwarded to the office of the City Manager for his final consideration and approval.

5. Adoption of Water Conservation, Drought Contingency, and Emergency Demand Management Plan

5.1 COUNCIL ADOPTION OF PLAN

The proposed updates to the City's Water Conservation, Drought Contingency, and Emergency Demand Management Plan were presented at the Tyler City Council meeting held on April 24th, 2024. The public was afforded the opportunity to provide input on this plan during the meeting. On April 24th, 2024, the City Council took action on this Water Conservation, Drought Contingency, and Emergency Demand Management Plan by City Council ordinance No. O-2024-47 as presented in Appendix B.

The TCEQ mandates that water conservation plans be reviewed and updated, if needed, every five years to align with the regional water planning process. This plan will be reviewed as mandated by the TCEQ and will undergo ongoing evaluation to identify opportunities for enhancing water efficiency and conservation based on new or revised data.

5.2 MEANS OF IMPLEMENTATION

Adoption of this Plan, Drought Contingency Ordinance, and any modification of the Plumbing Code Ordinance, will enable TWU to implement and carry out enforcement of enacted ordinances to make the Plan an effective document. If any provision or any section of this Plan shall be held to be void or unconstitutional, such holding shall in no way affect the validity of the remaining provisions or sections once adopted into an ordinance, which shall remain in full force and effect.



APPENDIX

City of Tyler Water Conservation and Drought Contingency Emergency Demand Management Plan

AVO 56596

APPENDIX A – TCEQ and TWDB Required Forms

Texas Commission on Environmental Quality

Water Availability Division
MC-160, P.O. Box 13087 Austin, Texas 78711-3087
Telephone (512) 239-4600, 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 beginning May 1, 2009. 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: City of Tyler
2. Water Right Permit or Certificate Nos. 24-A, 3237-A, 4853

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
☒ 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 ☒ 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 Chapter 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/conserv.html

Call 512-239-4600 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, list dates and descriptions of the conservation measures implemented, and the actual amount of water saved.

Conservation Measures Implemented:

- 2019: Conservation Coordinator, Metering New Connections and Retrofitting Existing Connections (150,000,000 estimated gallons saved), System Water Audit and Loss Control (1,000,000 estimated gallons saved), School Education (50,000 estimated gallons saved), Public Information (20 estimated gallons saved), Reuse for Plant Washdown (428,410,000 estimated gallons saved), Reuse for Chlorination/Dechlorination (10,512,000 estimated gallons saved).

- 2020: Conservation Coordinator (10,000 estimated gallons saved), Metering New Connections and Retrofitting Existing Connections (150,000,000 estimated gallons saved), System Water Audit and Loss Control (1,000,000 estimated gallons saved), School Education (25,000 estimated gallons saved), Public Information (25,000) estimated gallons saved, Reuse for Plant Washdown (446,147,028 estimated gallons saved), Reuse for Chlorination/Dechlorination (10,512,000 estimated gallons saved).

7. 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 ☒ No ☐

If the targets were not met, please provide an explanation as to why any of the targets were not met, including any progress on that particular target.

The five year goals that were set in the 2019 Water Conservation Plan were met with all four categories coming in just below the target. The 2019 five year goals included total GPCD of 217, residential GPCD of 102, water loss GPCD of 38, and a water loss percentage of 17. In 2023 the GPCD values were the following: total GPCD is 214, residential GPCD is 105, water loss GPCD is 29, and the water loss percentage is 13.63. These values are all under the five year goal values set in the previous plan. The ten year goals will be checked after the next five years in 2029. Tyler will continue to keep using strategies and process outlined in their conservation plan to continue to meet their goals.

8. 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).

Goals are located in section 2.2 of the conservation plan, page 5.

9. 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.

The entire conservation plan was updated. The City of Tyler meets the requirements for retail, wholesale, and agricultural (irrigation) supplier types. Many sections have been changed and additional revisions have been made from the previous plan.

10. *Form Completed by (Point of Contact):* _____
(If different than name listed above, owner and contact may be different individual(s)/entities)
- Contact Person Title/Position: Kate Dietz
- Contact Address: P.O. Box 2039, Tyler, TX 75701
- Contact Phone Number: (903) 939-8716 Contact Email Address: kdietz@tylertexas.com

Signature: Kathie M. Dietz

Date: 4/26/2024

WCIR #6 continued:

Conservation Measures Implemented:

- 2019: Conservation Coordinator, Metering New Connections and Retrofitting Existing Connections (150,000,000 estimated gallons saved), System Water Audit and Loss Control (1,000,000 estimated gallons saved), School Education (50,000 estimated gallons saved), Public Information (20 estimated gallons saved), Reuse for Plant Washdown (428,410,000 estimated gallons saved), Reuse for Chlorination/Dechlorination (10,512,000 estimated gallons saved).

- 2020: Conservation Coordinator (10,000 estimated gallons saved), Metering New Connections and Retrofitting Existing Connections (150,000,000 estimated gallons saved), System Water Audit and Loss Control (1,000,000 estimated gallons saved), School Education (25,000 estimated gallons saved), Public Information (25,000) estimated gallons saved), Reuse for Plant Washdown (446,147,028 estimated gallons saved), Reuse for Chlorination/Dechlorination (10,512,000 estimated gallons saved).

-2021: Conservation Coordinator (10,000 estimated gallons saved), Metering New Connections and Retrofitting Existing Connections (150,000,000 estimated gallons saved), System Water Audit and Loss Control (1,000,000 estimated gallons saved), School Education (25,000 estimated gallons saved), Public Information (25,000) estimated gallons saved), Reuse for Plant Washdown (446,147,028 estimated gallons saved), Reuse for Chlorination/Dechlorination (10,512,000 estimated gallons saved).

-2022: Conservation Coordinator (10,000 estimated gallons saved), Metering New Connections and Retrofitting Existing Connections (150,000,000 estimated gallons saved), System Water Audit and Loss Control (1,000,000 estimated gallons saved), School Education (25,000 estimated gallons saved), Public Information (25,000 estimated gallons saved), Public Outreach and Education (25,000 estimated gallons saved), Reuse for Plant Washdown (446,147,028 estimated gallons saved), Reuse for Chlorination/Dechlorination (10,512,000 estimated gallons saved).

-2023: Conservation Coordinator (10,000 estimated gallons saved), Metering New Connections and Retrofitting Existing Connections (150,000,000 estimated gallons saved), System Water Audit and Loss Control (1,000,000 estimated gallons saved), School Education (25,000 estimated gallons saved), Public Information (25,000 estimated gallons saved), Public Outreach and Education (25,000 estimated gallons saved), Reuse for Plant Washdown (446,147,028 estimated gallons saved), Reuse for Chlorination/Dechlorination (10,512,000 estimated gallons saved).



Texas Commission on Environmental Quality

Water Availability Division

MC-160, P.O. Box 13087 Austin, Texas 78711-3087

Telephone (512) 239-4600, FAX (512) 239-2214

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 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) 239-4600.

Water users can find best management practices (BMPs) at the Texas Water Development Board's website <http://www.twdb.texas.gov/conservation/BMPs/index.asp>. The practices are broken out into sectors such as Agriculture, Commercial and Institutional, Industrial, Municipal and Wholesale. BMPs are voluntary measures that water users use to develop the required components of Title 30, Texas Administrative Code, Chapter 288. BMPs can also be implemented in addition to the rule requirements to achieve water conservation goals.

Contact Information

Name of Water Supplier:	<u>City of Tyler</u>	
Address:	<u>P.O. Box 2039, Tyler, TX 75701</u>	
Telephone Number:	<u>(903) 939-8716</u>	Fax: ()
Water Right No.(s):	<u>24-A, 3237-A, 4853</u>	
Regional Water Planning Group:	<u>I & D</u>	
Water Conservation Coordinator (or person responsible for implementing conservation program):	<u>Kate Dietz</u>	Phone: <u>(903) 939-8716</u>
Form Completed by:	<u>Kate Dietz</u>	
Title:	<u>Director of Utilities</u>	
Signature:	<u>Kathie M. Dietz</u>	Date: <u>4/26/2024</u>

A water conservation plan for municipal use by retail public water suppliers must include the following requirements (as detailed in 30 TAC Section 288.2). If the plan does not provide information for each requirement, you must include in the plan 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). Located in conservation plan
2. Service area size (in square miles): 57
(Please attach a copy of service-area map) - Located in conservation plan
3. Current population of service area: 107,000
4. Current population served for:
 - a. Water 107,000
 - b. Wastewater 101,650

5. Population served for previous five years:

<i>Year</i>	<i>Population</i>
<u>2019</u>	<u>105,725</u>
<u>2020</u>	<u>105,000</u>
<u>2021</u>	<u>105,000</u>
<u>2022</u>	<u>107,000</u>
<u>2023</u>	<u>107,000</u>

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

<i>Year</i>	<i>Population</i>
<u>2030</u>	<u>120,110</u>
<u>2040</u>	<u>134,230</u>
<u>2050</u>	<u>148,351</u>
<u>2060</u>	<u>162,471</u>
<u>2070</u>	<u>176,592</u>

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

The retail population demands were projected for the 25-year planning window by applying a population per acre factor (based on anticipated land use (i.e. a higher density was applied to anticipated master planned / multi-family developments and a lower density was applied to anticipated rural/ranch home developments, etc.)) to identified growth areas within City limits and the surrounding extraterritorial jurisdiction. Growth areas were identified by examining land available and/or suitable for development and/or redevelopment based on 2021 GIS parcel maps from the Smith County Appraisal District. Per capita water use multipliers, based on Tyler's historical water use records, were applied to the resulting additional population. This is the same methodology applied in the Tyler Water Master Plan.

B. Customer 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. More guidance can be found at: <http://www.twdb.texas.gov/conservation/doc/SB181Guidance.pdf>

1. Quantified 5-year and 10-year goals for water savings:

	<i>Historic 5-year Average</i>	<i>Baseline</i>	<i>5-year goal for year 2029</i>	<i>10-year goal for year 2034</i>
Total GPCD	215	215	204	195
Residential GPCD	101	101	95	91
Water Loss GPCD	35	35	36	36
Water Loss Percentage	16	16.3	18	18

Notes:

Total GPCD = (Total Gallons in System ÷ Permanent Population) ÷ 365

Residential GPCD = (Gallons Used for Residential Use ÷ Residential Population) ÷ 365

Water Loss GPCD = (Total Water Loss ÷ Permanent Population) ÷ 365

Water Loss Percentage = (Total Water Loss ÷ Total Gallons in System) x 100; or (Water Loss GPCD ÷ Total GPCD) x 100

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

<i>Treated Water Users</i>	<i>Metered</i>	<i>Non-Metered</i>	<i>Totals</i>
Residential	33,069	0	33,069
Single-Family	32,444	0	32,444
Multi-Family	625	0	625
Commercial	3,911	0	3,911
Industrial/Mining	42	0	42
Institutional	390	0	390
Agriculture	348	0	348
Other/Wholesale	3	0	3

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

Year	2021	2022	2023
<i>Treated Water Users</i>			
Residential	-712	1137	472
Single-Family	-684	1126	370
Multi-Family	-28	11	102
Commercial	-114	61	13
Industrial/Mining	-1	-1	2
Institutional	-23	7	0
Agriculture	0	9	6
Other/Wholesale	0	0	0

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

<i>Customer</i>	<i>Use (1,000 gal/year)</i>	<i>Treated or Raw Water</i>
Delek	343,015	Treated
Walnut Grove	234,334	Treated
Southern Utilities	180,626	Treated
L & C Brothers, LLC	93,250	Treated
Cumberland Place Apts	61,709	Treated

II. WATER USE DATA FOR SERVICE AREA

A. Water Accounting Data

1. List the amount of water use for the previous five years (in 1,000 gallons).

Indicate whether this is ☐ diverted or ☒ treated water.

<i>Year</i>	2019	2020	2021	2022	2023
<i>Month</i>					
January	488,446	514,404	428,419	501,499	512,062
February	310,852	347,395	262,299	202,893	334,089
March	320,630	340,285	455,498	293,740	403,110
April	364,159	418,052	502,109	331,622	388,229
May	414,969	300,588	459,327	651,300	428,084
June	567,800	677,370	450,050	922,813	532,176
July	548,508	832,543	627,906	1,147,965	717,060
August	980,275	804,430	673,785	1,029,639	1,069,807
September	927,108	835,260	835,260	860,858	796,736
October	970,405	651,868	664,188	847,951	964,784
November	465,291	484,511	514,129	590,814	584,966
December	372,650	578,811	589,366	616,787	457,297
Totals	6,731,093	5,456,279	6,012,286	7,997,881	7,188,400

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

Values were determined based on meter data.

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

<i>Year</i>	2019	2020	2021	2022	2023
<i>Account Types</i>					
Residential	3,608,418	3,905,209	3,642,153	4,175,998	4,086,736
Single-Family	2,937,171	3,176,693	2,931,973	3,426,463	3,295,321
Multi-Family	671,247	728,516	710,180	749,535	791,415
Commercial	1,581,363	1,670,734	1,605,261	1,871,519	1,850,428
Industrial/Mining	490,813	528,636	524,874	436,478	529,343
Institutional	529,190	475,478	515,782	512,257	506,578
Agriculture	209,167	203,477	181,200	259,637	215,315
Other/Wholesale	296,228	362,164	359,136	485,798	442,645

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

<i>Year</i>	<i>Amount (gallons)</i>	<i>Percent %</i>
2019	1,636,399,957	18.98
2020	1,713,005,264	19.62
2021	1,135,304,583	14.89
2022	1,056,366,177	12.67
2023	1,137,736,754	13.63

B. Projected Water Demands

1. 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

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

<i>Water Type</i>	<i>Source</i>	<i>Amount Authorized</i>
Surface Water	Lake Tyler, Lake Tyler East, and Lake Palestine	65,011
Groundwater		
Other		

B. Treatment and Distribution System (if providing treated water)

1. Design daily capacity of system (MGD): 58
2. Storage capacity (MGD):
 - a. Elevated 6.7
 - b. Ground 11.8
3. If surface water, do you recycle filter backwash to the head of the plant? At Lake Palestine WTP
☒ Yes ☐ No If yes, approximate amount (MGD): 2,001,922,000 total for 2023;
181,999,000 Average monthly total.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable)

Design capacity of wastewater treatment plant(s) (MGD):

Westside WWTP: Annual average flow of 13 MGD and 2-hour peak flow capacity of 32.5 MGD

Southside WWTP: Annual average flow of 9 MGD and 2-hour peak flow capacity of 22.5 MGD

1. 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):

Plant Washdown - 446,147,028

Chlorination/Dechlorination - 10,512,000

2. 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.

The City of Tyler's wastewater system consists of two plants, the Westside Wastewater Treatment Plant and the Wastewater Treatment Plant that the City owns and operates.

Southside WWTP - TPDES Permit No. WQ0010653002

The Southside WWTP is located at 620 West Cumberland Rd. in Tyler, Texas and is currently permitted for a design flow of 9 MGD. The current treatment facility consists of an influent pump station connected to a headworks facility housing mechanical screens and grit removal units. The screened and degritted wastewater then flows to the primary clarifiers before entering the aeration basins. The flow is then sent to the secondary clarifiers where sludge is removed and either wasted or recycled. Then, the final effluent is disinfected in chlorine contact basins prior to being discharged into West Mud Creek. Solids that were removed at the clarifiers are thickened, stored and dewatered prior to disposal. The plant discharges treated effluent into West Mud Creek and thence to the Angelina River.

Westside WWTP - TPDES Permit No WQ0010653001

The Westside WWTP is located at 14939 County Rd 46 in Smith County, Texas and is currently permitted for a design flow of 13 MGD. The current treatment facility consists of a headworks facility housing a mechanical screen and grit removal. The flow then enters the raw sewage pump station and is pumped to the primary clarifiers. Following primary clarification, the flow enters the first stage trickling filters. The flow is then split and sent to either nitrification basins or second stage trickling filters. The effluent from the plant is discharged into Black Fork Creek, which flows into Prairie Creek and thence to the Neches River.

B. Wastewater Data for Service Area (if applicable)

1. Percent of water service area served by wastewater system: 95%
2. Monthly volume treated for previous five years (in 1,000 gallons):

<i>Year</i>	2019	2020	2021	2022	2023
<i>Month</i>					
January	608,795	424,917	500,588	418,750	471,850
February	524,680	517,867	459,441	428,542	482,057
March	542,563	515,970	508,744	478,925	499,051
April	561,797	525,540	486,982	462,419	487,373
May	675,219	460,429	599,171	484,335	471,802
June	551,361	413,844	492,364	458,036	431,118
July	485,841	449,743	440,798	447,157	436,583
August	466,973	418,543	463,994	439,766	429,439
September	430,256	465,484	409,109	406,167	418,338
October	434,430	416,915	436,830	416,066	428,720
November	400,964	383,577	403,198	407,329	404,645
December	408,234	421,282	434,985	453,218	390,887
Totals	6,091,113	5,414,111	5,636,204	5,300,710	5,351,863

Water Conservation Plan

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. Record Management System

The water conservation plan must include a record management system which allows for the classification of water sales and uses in to the most detailed level of water use data currently available to it, including if possible, the following sectors: residential (single and multi-family), commercial.

B. 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. These goals must be updated during the five-year review and submittal.

C. Measuring and Accounting for Diversions

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.

D. 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.

E. Measures to Determine and Control Water Loss

The water conservation plan must include 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.).

F. 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.

G. 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.

H. 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 in order to optimize available water supplies.

I. 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.

J. 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 public water supplier in order to ensure consistency with the appropriate approved regional water plans.

K. 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 the next 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

Any combination of the following strategies shall be selected by the water supplier, in addition to the minimum requirements of 30 TAC §288.2(1), 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.

VIII. WATER CONSERVATION PLANS SUBMITTED WITH A WATER RIGHT APPLICATION FOR NEW OR ADDITIONAL STATE WATER

Water Conservation Plans submitted with a water right application for New or Additional State Water must include data and information which:

1. support the applicant's proposed use of water with consideration of the water conservation goals of the water conservation plan;
2. evaluates conservation as an alternative to the proposed appropriation; and
3. evaluates any other feasible alternative to new water development including, but not limited to, waste prevention, recycling and reuse, water transfer and marketing, regionalization, and optimum water management practices and procedures.

Additionally, it shall be the burden of proof of the applicant to demonstrate that no feasible alternative to the proposed appropriation exists and that the requested amount of appropriation is necessary and reasonable for the proposed use.

II. Part B: Retail Projected Demands over next 10 years

Year	Population	Water Demands (gallons)
2024	111,638	8,149,544,070
2025	113,050	8,252,623,720
2026	114,462	8,355,703,370
2027	115,874	8,458,783,020
2028	117,286	8,561,862,670
2029	118,698	8,664,942,320
2030	120,110	8,768,021,970
2031	121,522	8,871,101,620
2032	122,934	8,974,181,270
2033	124,346	9,077,260,920

The retail population demands were projected for the 25-year planning window by applying a population per acre factor (based on anticipated land use (i.e. a higher density was applied to anticipated master planned / multi-family developments and a lower density was applied to anticipated rural/ranch home developments, etc.)) to identified growth areas within City limits and the surrounding extraterritorial jurisdiction. Growth areas were identified by examining land available and/or suitable for development and/or redevelopment based on 2021 GIS parcel maps from the Smith County Appraisal District. Per capita water use multipliers, based on Tyler's historical water use records, were applied to the resulting additional population. An average GPCD of 200 was used in the calculation to get the water demands for each projected year. This is the same methodology applied in the Tyler Water Master Plan.



Texas Commission on Environmental Quality

Water Availability Division

MC-160, P.O. Box 13087 Austin, Texas 78711-3087

Telephone (512) 239-4600, FAX (512) 239-2214

Utility Profile and Water Conservation Plan Requirements for Wholesale Public Water Suppliers

This form is provided to assist wholesale 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) 239-4600.

Water users can find best management practices (BMPs) at the Texas Water Development Board's website <http://www.twdb.texas.gov/conservation/BMPs/index.asp>. The practices are broken out into sectors such as Agriculture, Commercial and Institutional, Industrial, Municipal and Wholesale. BMPs are voluntary measures that water users use to develop the required components of Title 30, Texas Administrative Code, Chapter 288. BMPs can also be implemented in addition to the rule requirements to achieve water conservation goals.

Contact Information

Name: City of Tyler

Address: P.O. Box 2039, Tyler, TX 75701

Telephone Number: (903)939-8716 Fax: ()

Water Right No.(s): 24-A, 3237-A, 4853

Regional Water Planning Group: I & D

Person responsible for implementing conservation program: Kate Dietz Phone: (903) 939-8716

Form Completed By: Kate Dietz

Title: Director of Utilities

Signature: Kathleen M. Dietz Date: 4/26/2024

A water conservation plan for wholesale public water suppliers must include the following requirements (as detailed in 30 TAC Section 288.5). If the plan does not provide information for each requirement, you must include in the plan an explanation of why the requirement is not applicable.

Utility Profile

I. WHOLESALE SERVICE AREA POPULATION AND CUSTOMER DATA

A. Population and Service Area Data:

1. Service area size (in square miles):

(Please attach a copy of service-area map)

52 – Service Area Map located in conservation plan

2. Current population of service area:

18,161

3. Current population served for:

a. Water 107,000

b. Wastewater 101,650

4. Population served for previous five years:

<i>Year</i>	<i>Population</i>
2019	16,712
2020	17,870
2021	17,870
2022	18,161
2023	18,161

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

<i>Year</i>	<i>Population</i>
2030	22,202
2040	25,405
2050	28,853
2060	32,360
2070	35,960

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

The wholesale customer demands were projected for the 25-year planning window by first, identifying the historical and projected populations for Tyler's wholesale customers from the Texas Water Development Board's Region I Water Plan. For each wholesale customer, a per capita water use (based on the current volume of water that the City of Tyler is contractually obligated to supply to the wholesale customer and the existing wholesale population) was then applied to the projected population. This method is consistent with City of Tyler's Master Plan.

B. Customer Data

List (or attach) the names of all wholesale customers, amount of annual contract, and amount of annual use for each customer for the previous year:

<i>Wholesale Customer</i>	<i>Contracted Amount (Acre-feet)</i>	<i>Previous Year Amount of Water Delivered (acre- feet)</i>
Walnut Grove Water Supply Corporation	2,242	795
City of Whitehouse	1,121	92
Community Water Company	359	92

II. WATER USE DATA FOR SERVICE AREA

A. Water Delivery

Indicate if the water provided under wholesale contracts is treated or raw water and the annual amounts for the previous five years (in acre feet):

<i>Year</i>	<i>Treated Water</i>	<i>Raw Water</i>
2019	909.09	0
2020	1,111.44	0
2021	1,102.15	0
2022	1,490.86	0
2023	1,358.43	0
Totals	5,971.96	0

B. Water Accounting Data

1. Total amount of water diverted at the point of diversion(s) for the previous five years (in acre-feet) for all water uses:

<i>Year</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>
<i>Month</i>					
January	74.9	59.4	59.8	66.6	70.6
February	32.6	37.1	54.5	38.6	37.1
March	32.5	39.6	52.9	35.7	32.0
April	33.1	46.1	67.3	45.6	41.2
May	37.6	40.3	65.3	48.5	51.8
June	50.8	105.6	59.1	110.4	57.6
July	73.4	100.1	94.9	161.0	73.2
August	104.5	85.9	72.5	147.9	119.2
September	92.2	68.1	45.4	108.8	145.1
October	63.0	48.8	102.2	88.7	41.9
November	45.4	40.2	54.7	55.5	48.9
December	45.2	49.9	58.2	54.4	58.4
Totals	685.5	721.1	786.9	961.7	776.9

2. Wholesale population served and total amount of water diverted for **municipal use** for the previous five years (in acre-feet):

<i>Year</i>	<i>Total Population Served</i>	<i>Total Annual Water Diverted for Municipal Use</i>
2019	16,712	909.09
2020	17,870	1,111.44
2021	17,870	1,102.15
2022	18,161	1,490.86
2023	18,161	1,358.43

C. Projected Water Demands

If applicable, project and attach water supply demands 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. Projected Water Demands

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

<i>Water Type</i>	<i>Source</i>	<i>Amount Authorized</i>
Surface Water	Lake Tyler, Lake Tyler East, and Lake Palestine	65,011
Groundwater		
Other		

B. Treatment and Distribution System (if providing treated water)

1. Design daily capacity of system (MGD):

58

2. Storage capacity (MGD):

- a. Elevated 6.7

- b. Ground 11.8

3. Please attach a description of the water system. Include the number of treatment plants, wells, and storage tanks

TWU relies on surface water supply sources for high water demand and emergency drought events. The primary sources include Lake Tyler/Lake Tyler East and Lake Palestine. TWU operates two (2) surface water treatment plants.

TWU has a water right to use surface water from Lake Tyler/Lake Tyler East, which is owned and operated by the City. TWU has an intake facility in Lake Tyler to divert raw water from the lake. The pipeline delivers the water to Golden Road Water Treatment Plant for treatment and distribution. Lake Tyler/Lake Tyler East have a combined permitted water right for 40,325 acre-feet per year. The Golden Road Plant is rated at twenty-eight (28) MGD.

TWU has a contract with UNRMWA to purchase 67,200 acre-feet per year of water from Lake Palestine. Raw water from Lake Palestine is treated and distributed at the City's Lake Palestine Water Treatment Plant. The Lake Palestine water treatment plant is rated at thirty (30) MGD.

IV. WASTEWATER SYSTEM DATA

A. Wastewater System Data (if applicable)

1. Design capacity of wastewater treatment plant(s) (MGD):

Westside WWTP: Annual average flow of 13 MGD and 2-hour peak flow capacity of 32.5 MGD

Southside WWTP: Annual average flow of 9 MGD and 2-hour peak flow capacity of 22.5 MGD

2. Briefly describe the wastewater system(s) of the area serviced by the wholesale public water supplier. 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.

The City of Tyler's wastewater system consists of two plants, the Westside Wastewater Treatment Plant and the Wastewater Treatment Plant that the City owns and operates.

Southside WWTP - TPDES Permit No. WQ0010653002

The Southside WWTP is located at 620 West Cumberland Rd. in Tyler, Texas and is currently permitted for a design flow of 9 MGD. The current treatment facility consists of an influent pump station connected to a headworks facility housing mechanical screens and grit removal units. The screened and degritted wastewater then flows to the primary clarifiers before entering the aeration basins. The flow is then sent to the secondary clarifiers where sludge is removed and either wasted or recycled. Then, the final effluent is disinfected in chlorine contact basins prior to being discharged into West Mud Creek. Solids that were removed at the clarifiers are thickened, stored and dewatered prior to disposal. The plant discharges treated effluent into West Mud Creek and thence to the Angelina River.

Westside WWTP - TPDES Permit No WQ0010653001

The Westside WWTP is located at 14939 County Rd 46 in Smith County, Texas and is currently permitted for a design flow of 13 MGD. The current treatment facility consists of a headworks facility housing a mechanical screen and grit removal. The flow then enters the raw sewage pump station and is pumped to the primary clarifiers. Following primary clarification, the flow enters the first stage trickling filters. The flow is then split and sent to either nitrification basins or second stage trickling filters. The effluent from the plant is discharged into Black Fork Creek, which flows into Prairie Creek and thence to the Neches River.

B. Wastewater Data for Service Area (if applicable)

1. Percent of water service area served by wastewater system: 95%
2. Monthly volume treated for previous five years (in 1,000 gallons):

<i>Year</i>	2019	2020	2021	2022	2023
<i>Month</i>					
January	608,795	424,917	500,588	418,750	471,850
February	524,680	517,867	459,441	428,542	482,057
March	542,563	515,970	508,744	478,925	499,051
April	561,797	525,540	486,982	462,419	487,373
May	675,219	460,429	599,171	484,335	471,802
June	551,361	413,844	492,364	458,036	431,118
July	485,841	449,743	440,798	447,157	436,583
August	466,973	418,543	463,994	439,766	429,439
September	430,256	465,484	409,109	406,167	418,338
October	434,430	416,915	436,830	416,066	428,720
November	400,964	383,577	403,198	407,329	404,645
December	408,234	421,282	434,985	453,218	390,887
Totals	6,091,113	5,414,111	5,636,204	5,300,710	5,351,863

Water Conservation Plan

In addition to the description of the wholesaler's service area (profile from above), a water conservation plan for a wholesale public water supplier must include, at a minimum, additional information as required by Title 30, Texas Administrative Code, Chapter 288.5. 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 5-year and 10-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. Note that the goals established by a wholesale water supplier under this subparagraph are not enforceable. These goals must be updated during the 5-year review and submittal.

B. Measuring and Accounting for Diversions

The water conservation plan must include 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.

C. Record Management Program

The water conservation plan must include a monitoring and record management program for determining water deliveries, sales, and losses.

D. Metering/Leak-Detection and Repair Program

The water conservation plan must include a program of metering and leak detection and repair for the wholesaler's water storage, delivery, and distribution system.

E. Contract Requirements for Successive Customer Conservation

The water conservation plan must include 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 Title 30 TAC Chapter 288. 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 the provisions of this chapter.

F. 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.

G. Enforcement Procedure and Official 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.

H. 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.

Example statement to be included within the water conservation plan:

The service area of the Tyler Water Utilities (name of water supplier) is located within the Regions D and I Water Planning areas (name of regional water planning area or areas) and Tyler Water Utilities (name of water supplier) has provided a copy of this water conservation plan to the Regions D and I Water Planning Groups (name of regional water planning group or groups).

I. Plan Review and Update

A wholesale water supplier shall review and update its water conservation plan, as appropriate based on an assessment of previous 5-year and 10-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 no 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.

V. ADDITIONAL CONSERVATION STRATEGIES

Any combination of the following strategies shall be selected by the water wholesaler, in addition to the minimum requirements of 30 TAC §288.5(1), 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. A program to assist agricultural customers in the development of conservation, pollution prevention and abatement plans;
3. A program for reuse and/or recycling of wastewater and/or graywater;
4. 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.

VI. WATER CONSERVATION PLANS SUBMITTED WITH A WATER RIGHT APPLICATION FOR NEW OR ADDITIONAL STATE WATER

Water Conservation Plans submitted with a water right application for New or Additional State Water must include data and information which:

1. support the applicant's proposed use of water with consideration of the water conservation goals of the water conservation plan;
2. evaluates conservation as an alternative to the proposed appropriation; and
3. evaluates any other feasible alternative to new water development including, but not limited to, waste prevention, recycling and reuse, water transfer and marketing, regionalization, and optimum water management practices and procedures.

Additionally, it shall be the burden of proof of the applicant to demonstrate that no feasible alternative to the proposed appropriation exists and that the requested amount of appropriation is necessary and reasonable for the proposed use.

II. Part C: Wholesale Projected Demands over next 10 years

Year	Population	Water Demands (gallons)
2024	20,287	1,288,450,000
2025	20,607	1,310,350,000
2026	20,925	1,328,600,000
2027	21,244	1,346,850,000
2028	21,563	1,365,100,000
2029	21,883	1,387,000,000
2030	22,202	1,408,900,000
2031	22,523	1,427,150,000
2032	22,843	1,445,400,000
2033	23,163	1,463,650,000

The wholesale customer demands were projected for the 25-year planning window by first, identifying the historical and projected populations for Tyler's wholesale customers from the Texas Water Development Board's Region I Water Plan. For each wholesale customer, a per capita water use (based on the current volume of water that the City of Tyler is contractually obligated to supply to the wholesale customer and the existing wholesale population) was then applied to the projected population. This method resulted in somewhat more conservative wholesale demand estimates than those estimated in the TWDB Region I Water Plan. For future potential wholesale customers, the expected demands from TWDB Region I Water Plan were used. This method is consistent with City of Tyler's Master Plan.

UTILITY PROFILE FOR RETAIL WATER SUPPLIER

Fill out this form as completely as possible.
If a field does not apply to your entity, leave it blank.

CONTACT INFORMATION

Name of Utility: City of Tyler

Public Water Supply Identification Number (PWS ID): TX2120004

Certificate of Convenience and Necessity (CCN) Number: 10772

Surface Water Right ID Number: 24-A, 3237-A, 4853

Wastewater ID Number: 20319

Completed By: Katherine Dietz Title: Director of Utilities

Address: P.O. Box 2039 City: Tyler Zip Code: 75703

Email: kdietz@tylertexas.com Telephone Number: 9039398716

Date: 4/26/2024

Regional Water Planning Group: I & D [Map](#)

Groundwater Conservation District: [Map](#)

Check all that apply:

- ☐ Received financial assistance of \$500,000 or more from TWDB
- ☒ Have 3,300 or more retail connections
- ☒ Have a surface water right with TCEQ

Section I: Utility Data

A. Population and Service Area Data

1. Current service area size in square miles: 57
(Attach or email a copy of the service area map.)
2. Provide historical service area population for the previous five years, starting with the most current year.

Year	Historical Population Served By Retail Water Service	Historical Population Served By Wholesale Water Service	Historical Population Served By Wastewater Service
2019	105,725	16,712	105,725
2020	105,000	17,870	105,000
2021	105,000	17,870	105,000
2022	107,000	18,161	107,000
2023	107,000	18,161	107,000

3. Provide the projected service area population for the following decades.

Year	Projected Population Served By Retail Water Service	Projected Population Served By Wholesale Water Service	Projected Population Served By Wastewater Service
2030	120,110	22,202	120,110
2040	134,230	25,405	134,230
2050	148,351	28,853	148,351
2060	162,471	32,360	162,471
2070	176,592	35,960	176,592

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

The retail population demands were projected for the 25-year planning window by applying a population per acre factor (based on anticipated land use (i.e. a higher density was applied to anticipated master planned / multi-family developments and a lower density was applied to anticipated rural/ranch home developments, etc.)) to identified growth areas within City limits and the surrounding extraterritorial jurisdiction. Growth areas were identified by examining land available and/or suitable for development and/or redevelopment based on 2021 GIS parcel maps from the Smith County Appraisal District. Per capita water use multipliers, based on Tyler's historical water use records, were applied to the resulting additional population. This is the same methodology applied in the Tyler Water Master Plan.

B. System Input

Provide system input data for the previous five years.

Total System Input = Self-supplied + Imported – Exported

Year	Self-supplied Water in Gallons	Purchased/Imported Water in Gallons	Exported Water in Gallons	Total System Input	Total GPCD
2019	8916623469	0	296,227,551	8,620,395,918	223
2020	9092526122	0	362,164,286	8,730,361,836	228
2021	7985026531	0	359,135,714	7,625,890,817	199
2022	8,821,141,837	0	485,797,959	8,335,343,878	213
2023	8,790,982,653	0	442,644,898	8,348,337,755	214
Historic 5-year Average	8,721,260,122	0	389,194,082	8,332,066,041	215

C. Water Supply System (Attach description of water system)

- Designed daily capacity of system 58,000,000 gallons per day.
- Storage Capacity:
Elevated 6,700,000 gallons
Ground 11,800,000 gallons
- List all current water supply sources in gallons.

Water Supply Source	Source Type*	Total Gallons
Lake Tyler & Lake Tyler East	Surface	28,000,000
Lake Palestine	Surface	30,000,000
	Choose One	
	Choose One	
	Choose One	
	Choose One	

*Select one of the following source types: *Surface water, Groundwater, or Contract*

- If surface water is a source type, do you recycle backwash to the head of the plant?
☒ Yes 5,979,532 estimated gallons per day
☐ No

D. Projected Demands

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

Year	Population	Water Demands (gallons)
2024	111,638	8,149,544,070
2025	113,050	8,252,623,720
2026	114,462	8,355,703,370
2027	115,874	8,458,783,020
2028	117,286	8,561,862,670
2029	118,698	8,664,942,320
2030	120,110	8,768,021,970
2031	121,522	8,871,101,620
2032	122,934	8,974,181,270
2033	124,346	9,077,260,920

2. Describe sources of data and how projected water demands were determined. Attach additional sheets if necessary.

The retail population demands were projected for the 25-year planning window by applying a population per acre factor (based on anticipated land use (i.e. a higher density was applied to anticipated master planned / multi-family developments and a lower density was applied to anticipated rural/ranch home developments, etc.)) to identified growth areas within City limits and the surrounding extraterritorial jurisdiction. Growth areas were identified by examining land available and/or suitable for development and/or redevelopment based on 2021 GIS parcel maps from the Smith County Appraisal District. Per capita water use multipliers, based on Tyler's historical water use records, were applied to the resulting additional population. An average GPCD of 200 was used in the calculation to get the water demands for each projected year. This is the same methodology applied in the Tyler Water Master Plan.

E. High Volume Customers

1. List the annual water use, in gallons, for the five highest volume **RETAIL customers**. Select one of the following water use categories to describe the customer; choose Residential, Industrial, Commercial, Institutional, or Agricultural.

Retail Customer	Water Use Category*	Annual Water Use	Treated or Raw
Delek	Industrial	343,015,000	Treated
Southern Utilities	Commercial	180,626,000	Treated
L & C Brothers, LLC	Agricultural	93,250,000	Treated
Cumberland Place Apts	Residential	61,709,000	Treated
UT Tyler	Institutional	59,862,000	Treated

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use.](#)

2. If applicable, list the annual water use for the five highest volume **WHOLESALE customers**. Select one of the following water use categories to describe the customer; choose Municipal, Industrial, Commercial, Institutional, or Agricultural.

Wholesale Customer	Water Use Category*	Annual Water Use	Treated or Raw
Walnut Grove WSC	Municipal	209,159,000	Treated
City of Whitehouse	Municipal	12,409,000	Treated
Community Water Company	Municipal	31,598,000	Treated
	Choose One		Treated
	Choose One		Choose One

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use.](#)

F. Utility Data Comment Section

Provide additional comments about utility data below.

Section II: System Data

A. Retail Connections

1. List the active retail connections by major water use category.

Water Use Category*	Active Retail Connections			
	Metered	Unmetered	Total Connections	Percent of Total Connections
Residential – Single Family	32,444	0	32,444	86%
Residential – Multi-family (units)	625	0	625	2%
Industrial	42	0	42	0%
Commercial	3,911	0	3,911	10%
Institutional	390	0	390	1%
Agricultural	348	0	348	1%
TOTAL	37,760	0	37,760	

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use.](#)

2. List the net number of new retail connections by water use category for the previous five years.

Water Use Category*	Net Number of New Retail Connections				
	2019	2020	2021	2022	2023
Residential – Single Family	341	834	-684	1,126	370
Residential – Multi-family (units)	4	38	-28	11	102
Industrial	-2	3	-1	-1	2
Commercial	-4	146	-114	61	13
Institutional	2	17	-23	7	0
Agricultural	31	-20	0	9	6
TOTAL	372	1,018	-850	1,213	493

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use.](#)

B. Accounting Data

For the previous five years, enter the number of gallons of RETAIL water provided in each major water use category.

Water Use Category*	Total Gallons of Retail Water				
	2019	2020	2021	2022	2023
Residential - Single Family	2,937,171,000	3,176,693,000	2,931,973,000	3,426,463,000	3,295,321,000
Residential – Multi-family	671,247,000	728,516,000	710,180,000	749,535,000	791,415,000
Industrial	490,813,000	528,636,000	524,874,000	436,478,000	529,343,000
Commercial	1,581,363,000	1,670,734,000	1,605,261,000	1,871,519,000	1,850,428,000
Institutional	529,190,000	475,478,000	515,782,000	512,257,000	506,578,000
Agricultural	209,167,000	203,477,000	181,200,000	259,637,000	215,315,000
TOTAL	6,418,951,000	6,783,534,000	6,469,270,000	7,255,889,000	7,188,400,000

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

C. Residential Water Use

For the previous five years, enter the residential GPCD for single family and multi-family units.

Water Use Category*	Residential GPCD				
	2019	2020	2021	2022	2023
Residential - Single Family	83	83	79	89	84
Residential – Multi-family	42	45	44	46	49

D. Annual and Seasonal Water Use

- For the previous five years, enter the gallons of treated water provided to RETAIL customers.

Month	Total Gallons of Treated Retail Water				
	2019	2020	2021	2022	2023
January	488,446,000	514,404,000	428,419,000	451,749,000	512,062,000
February	310,852,000	347,395,000	262,299,000	360,564,000	334,089,000
March	320,630,000	340,285,000	455,498,000	403,644,000	403,110,000
April	364,159,000	418,052,000	502,109,000	377,880,000	388,229,000
May	414,969,000	300,588,000	459,327,000	472,434,000	428,084,000
June	567,800,000	677,370,000	450,050,000	672,636,000	532,176,000
July	547,076,000	832,543,000	627,906,000	792,431,000	717,060,000
August	980,275,000	804,430,000	673,785,000	1,007,612,000	1,069,807,000
September	1,088,852,000	835,260,000	835,260,000	868,880,000	796,736,000
October	970,405,000	651,868,000	664,188,000	818,184,000	964,784,000
November	463,325,000	482,528,000	521,063,000	556,786,000	584,966,000
December	379,565,000	578,811,000	589,366,000	492,945,000	457,297,000
TOTAL	6,896,354,000	6,783,534,000	6,469,270,000	7,275,745,000	7,188,400,000

2. For the previous five years, enter the gallons of raw water provided to RETAIL customers.

Month	Total Gallons of Raw Retail Water				
	2019	2020	2021	2022	2023
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.

Water Use	Seasonal and Annual Water Use					Average in Gallons
	2019	2020	2021	2022	2023	
Summer Retail (Treated + Raw)	2,095,151,000	2,314,343,000	1,751,741,000	2,472,679,000	2,319,043,000	2,190,591,400 5yr Average
TOTAL Retail (Treated + Raw)	6,896,354,000	6,783,534,000	6,469,270,000	7,275,745,000	7,188,400,000	6,922,660,600 5yr Average

E. Water Loss

Provide Water Loss data for the previous five years.

Water Loss GPCD = [Total Water Loss in Gallons ÷ Permanent Population Served] ÷ 365

Water Loss Percentage = [Total Water Loss ÷ Total System Input] x 100

Year	Total Water Loss in Gallons	Water Loss in GPCD	Water Loss as a Percentage
2019	1,636,399,957	42	19%
2020	1,713,005,264	45	20%
2021	1,135,304,583	30	15%
2022	1,056,366,177	27	13%
2023	1,137,736,754	29	14%
5-year average	1,335,762,547	35	16%

F. Peak Water Use

Provide the 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)
2019	23,940,522	41,103,000	1.72
2020	23,405,636	42,400,000	1.81
2021	21,251,331	42,560,000	2.00
2022	23,684,161	45,806,000	1.93
2023	23,608,644	45,028,000	1.91

G. Summary of Historic Water Use

Water Use Category	Historic 5-year Average	Percent of Connections	Percent of Water Use
Residential SF	3,153,524,200	86%	0%
Residential MF	730,178,600	2%	0%
Industrial	502,028,800	0%	0%
Commercial	1,715,861,000	10%	0%
Institutional	507,857,000	1%	0%
Agricultural	213,759,200	1%	0%

H. System Data Comment Section

Provide additional comments about system data below.

Section III: Wastewater System Data

If you do not provide wastewater system services then you have completed the Utility Profile. Save and Print this form to submit with your Plan. Continue with the [Water Conservation Plan Checklist](#) to complete your Water Conservation Plan.

A. Wastewater System Data (Attach a description of your wastewater system.)

- Design capacity of wastewater treatment plant(s): _____
gallons per day. Westside WWTP: Annual average flow of 13 MGD and 2-hour peak flow capacity of 32.5 MGD
Southside WWTP: Annual average flow of 9 MGD and 2-hour peak flow capacity of 22.5 MGD
- List the active wastewater connections by major water use category.

Water Use Category*	Active Wastewater Connections			
	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal	100	0	100	3%
Industrial	36	0	36	1%
Commercial	2,492	0	2,492	87%
Institutional	236	0	236	8%
Agricultural	0	0	0	0%
TOTAL	2,864	0	2,864	

- What percent of water is serviced by the wastewater system? 95%
- For the previous five years, enter the number of gallons of wastewater that was treated by the utility.

Month	Total Gallons of Treated Wastewater				
	2019	2020	2021	2022	2023
January	608,795,000	424,917,000	500,588,000	418,750,000	471,850,000
February	524,680,000	517,867,000	459,441,000	428,542,000	482,057,000
March	542,563,000	515,970,000	508,744,000	478,925,000	499,051,000
April	561,797,000	525,540,000	486,982,000	462,419,000	487,373,000
May	675,219,000	460,429,000	599,171,000	484,335,000	471,802,000
June	551,361,000	413,844,000	492,364,000	458,036,000	431,118,000
July	485,841,000	449,743,000	440,798,000	447,157,000	436,583,000
August	466,973,000	418,543,000	463,994,000	439,766,000	429,439,000
September	430,256,000	465,484,000	409,109,000	406,167,000	418,338,000
October	434,430,000	416,915,000	436,830,000	416,066,000	428,720,000
November	400,964,000	383,577,000	403,198,000	407,329,000	404,645,000
December	408,234,000	421,282,000	434,985,000	453,218,000	390,887,000
TOTAL	6,091,113,000	5,414,111,000	5,636,204,000	5,300,710,000	5,351,863,000

4. Can treated wastewater be substituted for potable water?

☐

Yes

☒

No

B. Reuse Data

1. Provide data on the types of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site irrigation	
Plant wash down	446,147,028
Chlorination/de-chlorination	10,512,000
Industrial	
Landscape irrigation (parks, golf courses)	
Agricultural	
Discharge to surface water	
Evaporation pond	
Other	
TOTAL	456,659,028

C. Wastewater System Data Comment

Provide additional comments about wastewater system data below.

The City of Tyler's wastewater system consists of two plants, the Westside Wastewater Treatment Plant and the Wastewater Treatment Plant that the City owns and operates.

Southside WWTP – TPDES Permit No. WQ0010653002

The Southside WWTP is located at 620 West Cumberland Rd. in Tyler, Texas and is currently permitted for a design flow of 9 MGD. The current treatment facility consists of an influent pump station connected to a headworks facility housing mechanical screens and grit removal units. The screened and dewatered wastewater then flows to the primary clarifiers before entering the aeration basins. The flow is then sent to the secondary clarifiers where sludge is removed and either wasted or recycled. Then, the final effluent is disinfected in chlorine contact basins prior to being discharged into West Mud Creek. Solids that were removed at the clarifiers are thickened, stored and dewatered prior to disposal. The plant discharges treated effluent into West Mud Creek and thence to the Angelina River.

Westside WWTP - TPDES Permit No WQ0010653001

The Westside WWTP is located at 14939 County Rd 46 in Smith County, Texas and is currently permitted for a design flow of 13 MGD. The current treatment facility consists of a headworks facility housing a mechanical screen and grit removal. The flow then enters the

You have completed the Utility Profile. Save and Print this form to submit with your Plan. Continue with the [Water Conservation Plan Checklist](#) to complete your Water Conservation Plan.

Section III: Wastewater System Data

C) Continued: The City of Tyler's wastewater system consists of two plants, the Westside Wastewater Treatment Plant and the Wastewater Treatment Plant that the City owns and operates.

Southside WWTP – TPDES Permit No. WQ0010653002

The Southside WWTP is located at 620 West Cumberland Rd. in Tyler, Texas and is currently permitted for a design flow of 9 MGD. The current treatment facility consists of an influent pump station connected to a headworks facility housing mechanical screens and grit removal units. The screened and degritted wastewater then flows to the primary clarifiers before entering the aeration basins. The flow is then sent to the secondary clarifiers where sludge is removed and either wasted or recycled. Then, the final effluent is disinfected in chlorine contact basins prior to being discharged into West Mud Creek. Solids that were removed at the clarifiers are thickened, stored and dewatered prior to disposal. The plant discharges treated effluent into West Mud Creek and thence to the Angelina River.

Westside WWTP - TPDES Permit No WQ0010653001

The Westside WWTP is located at 14939 County Rd 46 in Smith County, Texas and is currently permitted for a design flow of 13 MGD. The current treatment facility consists of a headworks facility housing a mechanical screen and grit removal. The flow then enters the raw sewage pump station and is pumped to the primary clarifiers. Following primary clarification, the flow enters the first stage trickling filters. The flow is then split and sent to either nitrification basins or second stage trickling filters. The effluent from the plant is discharged into Black Fork Creek, which flows into Prairie Creek and thence to the Neches River.

UTILITY PROFILE FOR WHOLESALE WATER SUPPLIER

Fill out this form as completely as possible.
If a field does not apply to your entity, leave it blank.

CONTACT INFORMATION

Name of Utility: City of Tyler

Public Water Supply Identification Number (PWS ID): TX2120004

Certificate of Convenience and Necessity (CCN) Number: 10772

Surface Water Right ID Number: 24-A, 3237-A, 4853

Wastewater ID Number: 20319

Completed By: Katherine Dietz Title: Director of Utilities

Address: P.O. Box 2039 City: Tyler Zip Code: 75703

Email: kdietz@tylertexas.com Telephone Number: 9039398716

Date: 4/26/2024

Regional Water Planning Group: I & D [Map](#)

Groundwater Conservation District: [Map](#)

Check all that apply:

- ☐ Received financial assistance of \$500,000 or more from TWDB
- ☒ Have a surface water right with TCEQ

Section I: Utility Data

A. Population and Service Area Data

1. Current service area size in square miles: _____ 52
(Attach or email a copy of the service area map.)
2. Provide projected and historical service area population below.

Year	Historical Population Served By Wholesale Water Service		Year	Projected Population Served By Wholesale Water Service
2019	16,712		2030	22,202
2020	17,870		2040	25,405
2021	17,870		2050	28,853
2022	18,161		2060	32,360
2023	18,161		2070	35,960

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

The wholesale customer demands were projected for the 25-year planning window by first, identifying the historical and projected populations for Tyler's wholesale customers from the Texas Water Development Board's Region I Water Plan. For each wholesale customer, a per capita water use (based on the current volume of water that the City of Tyler is contractually obligated to supply to the wholesale customer and the existing wholesale population) was then applied to the projected population. This method is consistent with City of Tyler's Master Plan.

B. System Input

Provide system input data for the previous five years.

Total System Input = Self-supplied + Imported

Year	Self-supplied Water in Gallons	Purchased/Imported Water in Gallons	Total System Input	Total gal/day
2019	296,227,551	0	296,227,551	811,582
2020	362,164,286	0	362,164,286	992,231
2021	359,135,714	0	359,135,714	983,933
2022	485,797,959	0	485,797,959	1,330,953
2023	442,644,898	0	442,644,898	1,212,726
Historic 5-year Average	389,194,082	0	389,194,082	1,066,285

C. Water Supply System (Attach description of water system)

- Designed daily capacity of system 58,000,000 gallons per day.
- Storage Capacity:

Elevated	<u>6,700,000</u> gallons
Ground	<u>11,800,000</u> gallons
- List all current water supply sources in gallons.

Water Supply Source	Source Type*	Total Gallons
Lake Tyler & Lake Tyler East	Surface	28,000,000
Lake Palestine	Surface	30,000,000
	Choose One	
	Choose One	
	Choose One	
	Choose One	

*Select one of the following source types: *Surface water, Groundwater, or Contract*

- If surface water is a source type, do you recycle backwash to the head of the plant?

<input checked="" type="radio"/> Yes	<u>5,979,532</u> estimated gallons per day
<input type="radio"/> No	

D. Projected Demands

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

Year	Population	Water Demands (gallons)
2024	20,287	1,288,450,000
2025	20,607	1,310,350,000
2026	20,925	1,328,600,000
2027	21,244	1,346,850,000
2028	21,563	1,365,100,000
2029	21,883	1,387,000,000
2030	22,202	1,408,900,000
2031	22,523	1,427,150,000
2032	22,843	1,445,400,000
2033	23,163	1,463,650,000

2. Describe sources of data and how projected water demands were determined. Attach additional sheets if necessary.

The wholesale customer demands were projected for the 25-year planning window by first, identifying the historical and projected populations for Tyler's wholesale customers from the Texas Water Development Board's Region I Water Plan. For each wholesale customer, a per capita water use (based on the current volume of water that the City of Tyler is contractually obligated to supply to the wholesale customer and the existing wholesale population) was then applied to the projected population. This method resulted in somewhat more conservative wholesale demand estimates than those estimated in the TWDB Region I Water Plan. For future potential wholesale customers, the expected demands from TWDB Region I Water Plan were used. This method is consistent with City of Tyler's Master Plan.

E. High Volume Customers

1. If applicable, list the annual water use for the five highest volume customers. Select one of the following water use categories to describe the customer; choose Municipal, Industrial, Commercial, Institutional, or Agricultural.

Customer	Water Use Category*	Annual Water Use	Treated or Raw
Walnut Grove WSC	Municipal	209,159,000	Treated
City of Whitehouse	Municipal	12,409,000	Treated
Community Water Compan	Municipal	31,598,000	Treated
	Choose One		Choose One
	Choose One		Choose One

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

F. Utility Data Comment Section

Provide additional comments about utility data below.

Section II: System Data

A. Wholesale Connections

- List the active wholesale connections by major water use category.

Water Use Category*	Active Wholesale Connections		
	Metered	Unmetered	Total Connections
Municipal	3	0	3
Industrial	0	0	0
Commercial	0	0	0
Institutional	0	0	0
Agricultural	0	0	0
TOTAL	3	0	3

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

- List the net number of new wholesale connections by water use category for the previous five years.

Water Use Category*	Net Number of New Wholesale Connections				
	2019	2020	2021	2022	2023
Municipal	0	0	0	0	0
Industrial	0	0	0	0	0
Commercial	0	0	0	0	0
Institutional	0	0	0	0	0
Agricultural	0	0	0	0	0
TOTAL	0	0	0	0	0

*For definitions on recommended customer categories for classifying customer water use, refer to the [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

B. Wholesale Water Accounting Data - Water Use Categories

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

Customer Category*	Total Gallons of Wholesale Water				
	2019	2020	2021	2022	2023
Municipal	296,227,551	362,164,286	359,135,714	485,797,959	442,644,898
Industrial	0	0	0	0	0
Commercial	0	0	0	0	0
Institutional	0	0	0	0	0
Agricultural	0	0	0	0	0
TOTAL	296,227,551	362,164,286	359,135,714	485,797,959	442,644,898

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

C. Wholesale Water Accounting Data - Annual and Seasonal Use

For the previous five years, enter the number of gallons exported (*sold or transferred*) to WHOLESale customers.

Month	Total Gallons of Treated Water				
	2019	2020	2021	2022	2023
January	24,408,000	19,353,000	19,498,000	21,718,000	22,990,000
February	10,637,000	12,079,000	17,765,000	12,566,000	12,084,000
March	10,577,000	12,909,000	17,242,000	11,643,000	10,414,000
April	10,771,000	15,027,000	21,923,000	14,850,000	13,432,000
May	12,256,000	13,128,000	21,263,000	15,820,000	16,873,000
June	16,563,000	34,399,000	19,262,000	35,986,000	18,772,000
July	23,919,000	32,631,000	30,928,000	52,468,000	23,858,000
August	34,043,000	28,006,000	23,631,000	48,189,000	38,827,000
September	30,140,000	22,205,000	14,793,000	35,438,000	47,298,000
October	20,514,000	15,901,000	33,315,000	28,904,000	13,656,000
November	14,799,000	13,088,000	17,833,000	18,087,000	15,921,000
December	14,745,000	16,267,000	18,955,000	17,717,000	19,041,000
TOTAL	223,372,000	234,993,000	256,408,000	325,246,000	253,166,000

Month	Total Gallons of Raw Water				
	2019	2020	2021	2022	2023
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

WHOLESALE	2019	2020	2021	2022	2023	Average in Gallons
Summer Wholesale (Treated + Raw)	74,525,000	95,036,000	73,821,000	136,643,000	81,457,000	92,296,400 5yr Average
TOTAL Wholesale (Treated + Raw)	223,372,000	234,993,000	256,408,000	325,246,000	253,166,000	258,637,000 5yr Average

D. Water Loss

Provide Water Loss Data for the previous five years.

Water Loss GPCD = [Total Water Loss in Gallons ÷ Permanent Population Served] ÷ 365

Water Loss Percentage = [Total Water Loss ÷ Total System Input] x 100

Year	Total Water Loss in Gallons	Water Loss per day	Water Loss as a Percentage
2019	1,636,399,957	268	552%
2020	1,713,005,264	263	473%
2021	1,135,304,583	174	316%
2022	1,056,366,177	159	217%
2023	1,137,736,754	172	257%
5-year average	1,335,762,547	207	363%

E. Peak Day Use

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

Year	Average Daily Use (gal)	Peak Day Use (gal)	Ratio (Peak/Avg)
2019	23,940,522	41,103,000	1.72
2020	23,405,636	42,400,000	1.81
2021	21,251,331	42,560,000	2.00
2022	23,684,161	45,806,000	1.93
2023	23,608,644	45,028,000	1.91

F. Summary of Historic Water Use

Water Use Category	Historic 5-year Average	Percent of Water Use
Municipal	389,194,082	150%
Industrial	0	0%
Commercial	0	0%
Institutional	0	0%
Agricultural	0	0%

G. Wholesale System Data Comment Section

Provide additional comments about wholesale system data below.

Section III: Wastewater System Data

If you do not provide wastewater system services then you have completed the Utility Profile. Save and Print this form to submit with your Plan. Continue with the [Water Conservation Plan Checklist](#) to complete your Water Conservation Plan.

A. Wastewater System Data (Attach a description of your wastewater system)

- Design capacity of wastewater treatment plant(s): _____
gallons per day. Westside WWTP: Annual average flow of 13 MGD and 2-hour peak flow capacity of 32.5 MGD
Southside WWTP: Annual average flow of 9 MGD and 2-hour peak flow capacity of 22.5 MGD
- List the active wastewater connections by major water use category.

Water Use Category*	Active Wastewater Connections			
	Metered	Unmetered	Total Connections	Percent of Total Connections
Municipal	100	0	100	3%
Industrial	36	0	36	1%
Commercial	2,492	0	2,492	87%
Institutional	236	0	236	8%
Agricultural	0	0	0	0%
TOTAL	2,864	0	2,864	

*For definitions on recommended customer categories for classifying customer water use, refer to the online [Guidance and Methodology for Reporting on Water Conservation and Water Use](#).

- What percent of water is serviced by the wastewater system? 95%
- For the previous five years, enter the number of gallons of wastewater that was treated by the utility.

Month	Total Gallons of Treated Water				
	2019	2020	2021	2022	2023
January	608,795,000	424,917,000	500,588,000	418,750,000	471,850,000
February	524,680,000	517,867,000	459,441,000	428,542,000	482,057,000
March	542,563,000	515,970,000	508,744,000	478,925,000	499,051,000
April	561,797,000	525,540,000	486,982,000	462,419,000	487,373,000
May	675,219,000	460,429,000	599,171,000	484,335,000	471,802,000
June	551,361,000	413,844,000	492,364,000	458,036,000	431,118,000
July	485,841,000	449,743,000	440,798,000	447,157,000	436,583,000
August	466,973,000	418,543,000	463,994,000	439,766,000	429,439,000
September	430,256,000	465,484,000	409,109,000	406,167,000	418,338,000
October	434,430,000	416,915,000	436,830,000	416,066,000	428,720,000
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December	408,234,000	421,282,000	434,985,000	453,218,000	390,887,000
TOTAL	6,091,113,000	5,414,111,000	5,636,204,000	5,300,710,000	5,351,863,000

4. Could treated wastewater be substituted for potable water?

☐ Yes

☒ No

B. Reuse Data

1. Provide data on the types of recycling and reuse activities implemented during the current reporting period.

Type of Reuse	Total Annual Volume (in gallons)
On-site irrigation	
Plant wash down	446,147,028
Chlorination/de-chlorination	10,512,000
Industrial	
Landscape irrigation (parks, golf courses)	
Agricultural	
Discharge to surface water	
Evaporation pond	
Other	
TOTAL	456,659,028

C. Wastewater System Data Comment

Provide additional comments about wastewater system data below.

The City of Tyler's wastewater system consists of two plants, the Westside Wastewater Treatment Plant and the Wastewater Treatment Plant that the City owns and operates.

Southside WWTP – TPDES Permit No. WQ0010653002

The Southside WWTP is located at 620 West Cumberland Rd. in Tyler, Texas and is currently permitted for a design flow of 9 MGD. The current treatment facility consists of an influent pump station connected to a headworks facility housing mechanical screens and grit removal units. The screened and degritted wastewater then flows to the primary clarifiers before entering the aeration basins. The flow is then sent to the secondary clarifiers where sludge is removed and either wasted or recycled. Then, the final effluent is disinfected in chlorine contact basins prior to being discharged into West Mud Creek. Solids that were removed at the clarifiers are thickened, stored and dewatered prior to disposal. The plant discharges treated effluent into West Mud Creek and thence to the Angelina River.

Westside WWTP - TPDES Permit No WQ0010653001

The Westside WWTP is located at 14939 County Rd 46 in Smith County, Texas and is currently permitted for a design flow of 13 MGD. The current treatment facility consists of a headworks facility housing a mechanical screen and grit removal. The flow then enters the

Section III: Wastewater System Data

C) Continued: The City of Tyler's wastewater system consists of two plants, the Westside Wastewater Treatment Plant and the Wastewater Treatment Plant that the City owns and operates.

Southside WWTP – TPDES Permit No. WQ0010653002

The Southside WWTP is located at 620 West Cumberland Rd. in Tyler, Texas and is currently permitted for a design flow of 9 MGD. The current treatment facility consists of an influent pump station connected to a headworks facility housing mechanical screens and grit removal units. The screened and degritted wastewater then flows to the primary clarifiers before entering the aeration basins. The flow is then sent to the secondary clarifiers where sludge is removed and either wasted or recycled. Then, the final effluent is disinfected in chlorine contact basins prior to being discharged into West Mud Creek. Solids that were removed at the clarifiers are thickened, stored and dewatered prior to disposal. The plant discharges treated effluent into West Mud Creek and thence to the Angelina River.

Westside WWTP - TPDES Permit No WQ0010653001

The Westside WWTP is located at 14939 County Rd 46 in Smith County, Texas and is currently permitted for a design flow of 13 MGD. The current treatment facility consists of a headworks facility housing a mechanical screen and grit removal. The flow then enters the raw sewage pump station and is pumped to the primary clarifiers. Following primary clarification, the flow enters the first stage trickling filters. The flow is then split and sent to either nitrification basins or second stage trickling filters. The effluent from the plant is discharged into Black Fork Creek, which flows into Prairie Creek and thence to the Neches River.

APPENDIX B – Adopted Ordinance

ORDINANCE NO. O-2024-47

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF TYLER, TEXAS, AMENDING CHAPTER 19, "UTILITIES," ARTICLE VIII, "RETAIL SUPPLIER DROUGHT CONTINGENCY PLAN," ARTICLE IX, "WHOLESALE SUPPLIER DROUGHT CONTINGENCY PLAN," AND ARTICLE X, "WATER CONSERVATION /EMERGENCY DEMAND MANAGEMENT PLAN," OF THE CODE OF ORDINANCES OF THE CITY OF TYLER, TEXAS BY ADOPTING THE WATER CONSERVATION, DROUGHT CONTINGENCY, AND EMERGENCY DEMAND MANAGEMENT PLAN; AMENDING AND REMOVING SECTIONS; PROVIDING A SEVERABILITY CLAUSE; PROVIDING FOR A PENALTY; AND ESTABLISHING AN EFFECTIVE DATE.

WHEREAS, it is the intent of the City Council to protect the public health, safety, and welfare; and

WHEREAS, municipalities may, under their police powers, enact reasonable regulations to promote the health, safety and welfare of citizens; and

WHEREAS, the City of Tyler is a home-rule municipality acting under its Charter adopted by the electorate pursuant to Article 11, Section 5 of the Texas Constitution and Chapter 9 of the Texas Local Government Code; and

WHEREAS, Texas Local Government Code Section 51.072(a) states that a home-rule municipality has full power of self-government; and

WHEREAS, Texas Local Government Code Section 51.072(b) provides that the grant of powers to a municipality under the Texas Local Government Code does not prevent, by implication or otherwise, the municipality from exercising the authority incident to self-government; and

WHEREAS, Section 1 of the Tyler City Charter states that the City of Tyler may make any and all rules and regulations by ordinances and resolutions; and

WHEREAS, Section 1 of the Tyler City Charter states that the City of Tyler may make and enforce local police, sanitary, and other regulations, and may pass such ordinances as may be expedient for maintaining and promoting the peace, good government and welfare of the City, and for the performance of the functions thereof; and

WHEREAS, Section 2 of the Tyler City Charter states that the enumeration of particular powers by the Charter shall not be held or deemed to be exclusive, but in addition to the powers enumerated in the Charter, the City shall have, and may exercise all other powers which, under the constitution and laws of Texas, it would be competent for the Charter specifically to enumerate; and

WHEREAS, Section 6 of the Tyler City Charter states that pursuant to the provisions of and subject only to the limitations imposed by the State law and the Charter, all of powers of the City shall be vested in an elective Council, which shall, among other duties, enact legislation; and

WHEREAS, Texas Local Government Code Section 51.001(1) provides that the governing body of a municipality may adopt, publish, amend, or repeal an ordinance, rule or police regulation that is for the good government, peace, or order of the municipality; and

WHEREAS, Texas Local Government Code Section 51.001(2) provides that the governing body of a municipality may adopt, publish, amend, or repeal an ordinance, rule or police regulation that is necessary or proper for carrying out a power granted by law to the municipality or to an office or department of the municipality; and

WHEREAS, the City Council has determined there is a need in the best public interest of the City of Tyler to adopt the updated 5-Year Water Conservation and Drought Contingency Emergency Demand Management Plan; and

WHEREAS, the City Council now desires to evidence its approval of the 5-Year Water Conservation and Drought Contingency Emergency Demand Management Plan and adopt such a plan as an official policy of the City;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF TYLER, TEXAS;

PART 1. That the findings set forth above are incorporated into the body of this ordinance as if fully set forth herein.

PART 2. That Tyler City Code Chapter 19, "Utilities," Article VIII., "Retail Supplier Drought Contingency Plan," Sections 19-250 through 19-269 is hereby amended, removed, and shall read as follows:

Article VIII. RETAIL SUPPLIER DROUGHT CONTINGENCY PLAN

Sec. 19-250. Water Conservation and Drought Contingency Emergency Demand Management Plan

Tyler Water Utilities (TWU) recognizes the importance of water conservation and drought readiness. Water Conservation, Drought Contingency and Emergency Demand Management Plans aim to safeguard water supply, promote responsible water usage, and provide sustainable access to potable water for all residents, businesses, and wholesale customers. Extreme heat throughout recent summers has highlighted the importance of the efficient use of existing supplies. As such, Section 3 of the report entitled "Water Conservation and Drought Contingency Emergency Demand Management Plan," dated April 2024, is hereby adopted by reference and is incorporated herein. A copy of the Plan is on file and is available for public review in the Water Utilities Department. (Ord. 0-99-62, 8/18/99; (Ord. No 0-2024- 47, 4/24/24)

Sec. 19-251. Enforcement

- a. No person shall knowingly or intentionally allow the use of water from the City for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of the Water Conservation and Drought Contingency Emergency Demand Management Plan.
- b. Any person who violates this Plan could be guilty of a misdemeanor and, upon conviction shall be punished by a fine of not less than two hundred and fifty dollars (\$250.00) and not more than two thousand dollars (\$2,000.00). Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the Manager shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur. (Ord. No 0-2024- 47; 4/24/24)

Sec. 19-252. Severability

It is hereby declared to be the intention of the Tyler City Council that the sections, paragraphs, sentences, clauses, and phrases of this Ordinance are severable and, if any phrase, clause, sentence, paragraph, or section of this Plan 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 this Plan, since the same would not have been enacted by the Tyler City Council without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section. (Ord. 0-99-62, 8/18/99) (Ord. No.0-2024-47;4/24/24)

Secs. 19-253 through 19-269. Reserved.

PART 3: That Tyler City Code Chapter 19, "Utilities," Article IX., "Wholesale Supplier Drought Contingency Plan," Section 19-270 through 19-299 is hereby amended, removed, and shall read as follows:

Article IX. WHOLESALE SUPPLIER DROUGHT CONTINGENCY PLAN

Sec. 19-270. Water Conservation and Drought Contingency Emergency Demand Management Plan

Tyler Water Utilities (TWU) recognizes the importance of water conservation and drought readiness. Water Conservation, Drought Contingency and Emergency Demand Management Plans aim to safeguard water supply, promote responsible water usage, and provide sustainable access to potable water for all residents, businesses, and wholesale customers. Extreme heat throughout recent summers has highlighted the importance of the efficient use of existing supplies. As such, Section 3 of the report entitled "Water Conservation and Drought Contingency Emergency Demand Management Plan," dated April 2024, is hereby adopted by reference and is incorporated herein. A copy of the Plan is on file and is available for public review in the Water Utilities Department. (Ord. 0-99-62, 8/18/99) (Ord. No. 0-2024-47;4/24/24)

Sec. 19-271. Enforcement

- a. No person shall knowingly or intentionally allow the use of water from the City for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of the Water Conservation and Drought Contingency Emergency Demand Management Plan.
- b. Any person who violates this Plan could be guilty of a misdemeanor and, upon conviction shall be punished by a fine of not less than two hundred and fifty dollars (\$250.00) and not more than two thousand dollars (\$2,000.00). Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the Manager shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur. (Ord. No. 0-2024-47;4/24/24)

Sec. 19-272. Severability

It is hereby declared to be the intention of the Tyler City Council that the sections, paragraphs, sentences, clauses, and phrases of this Plan are severable and, if any phrase, clause, sentence, paragraph, or section of this Plan 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 this Plan, since the same would not have been enacted by the Tyler City Council without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section. (Ord. 0-99-63, 8/18/99) (Ord. No. 0-2024-47;4/24/24)

Sec. 19-273 through 19-299. Reserved.

PART 4: That Tyler City Code Chapter 19, "Utilities," Article X., "Water Conservation and Drought Contingency / Emergency Demand Management Plan," Section 19-300 through 19-309 is hereby amended, removed, and shall read as follows:

Article X. WATER CONSERVATION/EMERGENCY DEMAND MANAGEMENT PLAN

Sec. 19-300. Water Conservation and Drought Contingency Emergency Demand Management Plan

Tyler Water Utilities (TWU) recognizes the importance of water conservation and drought readiness. Water Conservation, Drought Contingency and Emergency Demand Management Plans aim to safeguard water supply, promote responsible water usage, and provide sustainable access to potable water for all residents, businesses, and wholesale customers. Extreme heat throughout recent summers has highlighted the importance of the efficient use of existing supplies. As such, Section 2 and 4 of the report entitled "Water Conservation and Drought Contingency Emergency

Demand Management Plan”, dated April 2024 is hereby adopted by reference and is incorporated herein. A copy of the Plan is on file and available for public review in the Water Utilities Department. (Ord. 0-99-62, 8/18/99) (Ord. No. 0-2024-47;4/24/24)

Sec. 19-301. Enforcement

- a. No person shall knowingly or intentionally allow the use of water from the City for residential, commercial, industrial, agricultural, governmental, or any other purpose in a manner contrary to any provision of the Water Conservation and Drought Contingency Emergency Demand Management Plan.
- b. Any person who violates this Plan could be guilty of a misdemeanor and, upon conviction shall be punished by a fine of not less than two hundred and fifty dollars (\$250.00) and not more than two thousand dollars (\$2,000.00). Each day that one or more of the provisions in this Plan is violated shall constitute a separate offense. If a person is convicted of three or more distinct violations of this Plan, the Manager shall, upon due notice to the customer, be authorized to discontinue water service to the premises where such violations occur. (Ord. No. 0-2024-47;4/24/24)

Sec. 19-302. Severability

It is hereby declared to be the intention of the Tyler City Council that the sections, paragraphs, sentences, clauses, and phrases of this Ordinance are severable and, if any phrase, clause, sentence, paragraph, or section of this Plan 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 this Plan, since the same would not have been enacted by the Tyler City Council without the incorporation into this Plan of any such unconstitutional phrase, clause, sentence, paragraph, or section. (Ord. No.0-2024-47;4/24/24)

Secs. 19-303 through 19-309. Reserved.

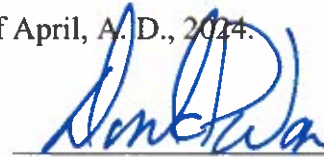
PART 5: Should any section, subsection, sentence, provision, clause or phrase be held to be invalid for any reason, such holding shall not render invalid any other section, subsection, sentence, provision, clause or phrase of this ordinance and same are deemed severable for this purpose.

PART 6: That any person, firm, or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine as provided in Section 1-4 of the Tyler Code. Each day such violation shall continue, or be permitted to continue, shall be deemed a separate offense. Since this ordinance has a penalty for violation, it shall not become effective until after its publication in the newspaper as provided by Section 85 of the Charter of the City of Tyler, Texas, which date is expected to be April 26, 2024.

PART 7: It is hereby officially found and determined that the meeting at which this Ordinance was passed was open to the public, and that the public notice of the time, place, and

purpose of said meeting was given as required by the Open Meetings Act, Texas Government Code, Chapter 551. Notice was also provided as required by Chapter 52 of the Texas Local Government Code.

PASSED AND APPROVED THIS the 24th day of April, A. D., 2024.



DONALD P. WARREN, MAYOR
OF THE CITY OF TYLER, TEXAS

ATTEST:


CASSANDRA BRAGER, CITY CLERK



APPROVED:


DEBORAH G. PULLUM,
CITY ATTORNEY

APPENDIX C – Water Conservation Plan Requirements Section References

WATER CONSERVATION PLAN REQUIREMENTS REFERENCE

TCEQ established regulations for developing water conservation plans for municipal public water suppliers, industrial suppliers, agricultural suppliers, and wholesale water suppliers in Title 30, Part 1, Chapter 288, Subchapter A, Rules 288.2, 288.3, 288.4, and 288.5 of the TAC. According to 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." This conservation plan addresses the elements outlined in the TCEQ water conservation rules. TWU acts as a retail and wholesale water provider.

Minimum Conservation Plan Requirements for Municipal Water Suppliers

The minimum requirements in the TAC for Water Conservation Plans for Public Retail Water Suppliers are covered in this report as follows:

- 288.2(a)(1)(A) – Utility Profiles – Section 2.1.1 and Appendix A
- 288.2(a)(1)(B) – Record Management System – Section 2.3.2
- 288.2(a)(1)(C) – Specific, Quantified Goals – Section 2.2.1
- 288.2(a)(1)(D) – Accurate Metering – Section 2.3.5
- 288.2(a)(1)(E) – Universal Metering – Section 2.3.5
- 288.2(a)(1)(F) – Determination and Control of Water Loss – Section 2.3.4
- 288.2(a)(1)(G) – Public Education and Information Program – Section 2.3.1
- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 2.3.6
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 2.3.12
- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 2.3.13
- 288.2(a)(1)(K) – Coordination with RWPGs – Section 2.3.15
- 288.2(c) – Review and Update of Plan – Section 5.1

Conservation Additional Requirements for Municipal Populations over 5,000

The TAC 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 – Section 2.3.3, 2.3.4 & 2.3.5
- 288.2(a)(2)(B) – Requirement for Water Conservation Plans by Wholesale Customers – Section 2.3.14

Additional Conservation Strategies for Municipal

The TAC lists additional conservation strategies, which may be adopted by suppliers but are not required. Additional strategies adopted by TWU at this time include the following:

- 288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 2.3.7

Minimum Conservation Plan Requirements for Industrial Suppliers

The minimum requirements in the TAC for Water Conservation Plans for Industrial Water Suppliers are covered in this report as follows:

- 288.3(a)(1) – Description of Production Process – Section 2.1.2
- 288.3(a)(2) – Specific, Quantified Goals – Section 2.2.1
- 288.3(a)(3) – Accurate Metering – Section 2.3.5
- 288.3(a)(4) – Leak Detection, Repair, and Water Loss Accounting – Section 2.3.3, 2.3.4 & 2.3.5
- 288.3(a)(5) – Water Use Efficiency – Section 2.3.9
- 288.3(a)(6) – Conservation Methods – Section 2.3.9
- 288.3(b) – Review and Update of Plan – Section 5.1

Minimum Conservation Plan Requirements for Agricultural – Irrigation User

The minimum requirements in the TAC for Water Conservation Plans for Industrial Water Suppliers are covered in this report as follows:

- 288.4(a)(2)(A) – Description of Irrigation Production Process – Section 2.1.3
- 288.4(a)(2)(B) – Description of Irrigation Method – Section 2.1.3
- 288.4(a)(2)(C) – Accurate Metering – Section 2.3.5
- 288.4(a)(2)(D) – Specific, Quantified Goals – Section 2.2.1
- 288.4(a)(2)(E) – Water Conserving Irrigation Methods – Section 2.3.10
- 288.4(a)(2)(F) – Leak Detection, Repair, and Water Loss Accounting – Section 2.3.3, 2.3.4 & 2.3.5
- 288.4(a)(2)(G) – Schedule of Timing – Section 2.1.3
- 288.4(a)(2)(H) – Land Improvements – Section 2.3.10
- 288.4(a)(2)(I) – Tailwater Recovery and Reuse – Section 2.3.10
- 288.4(a)(2)(J) – Conservation Methods – Section 2.3.10
- 288.4(c) – Review and Update of Plan – Section 5.1

Minimum Conservation Plan Requirements for Wholesale Water Suppliers

The minimum requirements in the TAC for Water Conservation Plans for Wholesale Water Suppliers are covered in this report as follows:

- 288.5(1)(A) – Description of Service Area – Section 2.1.1 and Appendix A
- 288.5(1)(B) – Specific, Quantified Goals – Section 2.2.1
- 288.5(1)(C) – Measure and Account for Water Diverted – Section 2.3.8
- 288.5(1)(D) – Monitoring and Record Management Program – Section 2.3.2
- 288.5(1)(E) – Program of Metering and Leak Detection and Repair – Section 2.3.3 & 2.3.5
- 288.5(1)(F) – Requirement for Water Conservation Plans by Wholesale Customers – Section 2.3.14
- 288.5(1)(G) – Reservoir System Operation Plan – Section 2.3.12
- 288.5(1)(H) – Means of Implementation and Enforcement – Section 2.3.13
- 288.5(1)(I) – Coordination with RWPG – Section 2.3.15

- 288.5(3) – Review and Update of Plan – Section 5.1

APPLICABLE STATE, FEDERAL OR OTHER REGULATIONS AS A PUBLIC WATER SUPPLY

TWU must abide by the rules and regulations of the following agencies:

- TCEQ
- TWDB
- TDH
- EPA