

ORDINANCE NO. O-2019-71

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF TYLER, TEXAS, AMENDING CHAPTER 19, "UTILITIES", ARTICLE X, "WATER CONSERVATION/EMERGENCY DEMAND MANAGEMENT PLAN", OF THE CODE OF ORDINANCES OF THE CITY OF TYLER, TEXAS PROVIDING A SEVERABILITY CLAUSE; 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 an urgent need in the best public interest of the City of Tyler to adopt the amended 5 Year Water Conservation and Emergency Demand Management Plan; and

WHEREAS, the City Council further determines that such a public need is of an emergency nature and the legal requirement of the two required separate readings of the subject ordinance be dispensed with and waived; and

WHEREAS, the City Council now desires to evidence its approval of the 5 Year Water Conservation and 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 Tyler City Code Chapter 19, "Utilities", Article X., "Water Conservation/Emergency Demand Management Plan", Section 19-301 is hereby amended, and shall read as follows:

Section 19-301. Implementation.

In regards to implementation and enforcement of the Conservation/Emergency Demand Management Plan, the City Manager is designated as the official responsible for implementation and enforcement, and the following guidelines are adopted:

a. Stage 1 - Mild Drought conditions are reached when:

1. Average daily water consumption reaches 85% of production capacity. Production capacity is defined as on line capacity in case of failure or shut down of one or both water treatment facilities.

2. Average daily water consumption will be reduced by 5% or 1.25 MGD.

3. Average daily water consumption of 85% has existed for a period of three days.

4. Weather conditions are to be considered in drought classification determination. Predicted long, hot, or dry periods are to be considered in impact analysis.

5. Wholesale Water Customers (WWCs) are required to reduce their Average Daily Demand by 5%, or a calculated gallons per day based on WWC's Average Daily Demand.

b. Stage 2 - Moderate Drought conditions are reached when:

1. Average daily water consumption reaches 90% of rated production capacity for three-day period. Production capacity is defined as on line capacity in case of failure or shut down of a water source.

2. Average daily water consumption will be reduced by 10% or 2.50 MGD.

3. Weather conditions indicate mild drought will exist five (5) days or more.

4. One ground storage tank is taken out of service during mild drought.

5. Storage capacity (water level) is not being maintained during period of 100% rated production period.

6. Existence of any preceding conditions listed above for a duration of 36 hours.

7. Wholesale Water Customers are required to reduce their Average Daily Demand by 10%, or a calculated gallons per day based on WWC's Average Daily Demand.

c. Stage 3 - Severe Drought conditions are reached when:

1. Average daily water consumption reaches 100% of production capacity for a 24-hour period. Production capacity is defined as on line capacity in case of failure or shut down of one or both water treatment facilities.

2. Average daily water consumption will be reduced by 25% or 6.25 MGD.

3. Average daily water consumption will not enable storage levels to be maintained.

4. System demand exceeds available high service pump capacity.

5. Any two conditions listed in Moderate Drought Classification occur for a 24 hour period.

6. Water system is contaminated either accidentally or intentionally. Severe condition is reached immediately upon detection.

7. Water system fails – from acts of God (tornadoes, hurricanes) or man. Severe condition is reached immediately upon detection.

8. Wholesale Water Customers are required to reduce their average daily demand by 15%, or a calculated gallons per day based on WWC's Average Daily Demand).

d. Stage 4 - Critical Water Shortage conditions are reached when:

1. Total Daily Water Demand equals or exceeds 70 million gallons for 3 consecutive days.

2. Major water line breaks, or pump or system failures occur which cause unprecedented loss of capability to provide water service.

3. Natural or man-made contamination of water supply(s) occurs.

4. Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses.

e. Stage 5 - Emergency Water Shortage conditions are reached when:

1. Major water line breaks, one of the water treatment facilities is rendered inoperable, or pump or system failures occur which cause unprecedented loss of capability to provide water service.

2. Total Daily Water Demand equals or exceeds 70 million gallons a day for five (5) consecutive days.

3. Natural or man-made contamination of water supply (s) occurs.

4. Customers shall be required to comply with the requirements and restrictions on certain non-essential water uses.

f. In the event Stages 3, 4 or 5 conditions persist (Item c., Item d. and Item e. above) for an extended period of time, the City may ration water usage and/or terminate service to selected users of the system in accordance with the following sequence:

1. Hospitals

2. Nursing Homes

3. Schools

4. Industrial

5. Commercial

6. Residential

7. Recreational

g. The City of Tyler is forward thinking and is well prepared in the availability of water and water sources. Currently, the City of Tyler has three (3) major water sources available for high water demand and emergency drought events. The City operates two (2) surface water treatment plants. The primary source is Lake Tyler and Lake Tyler East which is treated and distributed by the Golden Road Water Treatment Plant. 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. The City's secondary source is Lake Palestine and the city has 67,200 acre feet per year available from this source. Raw water is piped from Lake Palestine to the Lake Palestine Water Treatment Plant for treatment and distribution. The Lake Palestine water treatment plant is rated at thirty (30) MGD. The third source is 12 (active) deep ground water wells, however, only 10 of the wells are used regularly. Two of the wells are only operated in emergency conditions. The wells pull from the Carrizo/Wilcox Aquifer. The wells are used regularly and for backup. The wells have the combined capacity of approximately eight (8) MGD. Also, the city has Lake Bellwood, in the past used to supply raw water to industries, with 2,200

acre feet per year available. This is minor in comparison to the other 3 major sources of water the City has available to it. In case of a failure of one of the water treatment plants the other plant will take over water production for distribution. The wells will be circulated, and the elevated storage monitored, to help with peak and emergency demands during a drought, or other possible water shortage event.

(Ord. 0-2011-15, 2/23/11) (Ord. 0-2014-99, 10/22/14)(Ord. 0-2019-71, 8/28/19)

PART 2: That Tyler City Code Chapter 19, "Utilities", Article X., "Water Conservation/Emergency Demand Management Plan", Section 19-303 is hereby amended, and shall read as follows:

Section 19-303. Introduction.

a. The 69th Texas Legislature passed House Bill (HB) 2 and House Joint Resolution (HJR) 6 in 1986. This Act requires that a Water Conservation Plan and Emergency Demand Management Plan be adopted by political subdivisions. House Bill 2 was approved by Texas Voters November 6, 1995, becoming an amendment to the Texas Constitution. In 2002 the State of Texas adopted the State Water Plan which recognizes the need for water conservation in order to meet future needs of Texas. In 2003, the 78th Texas Legislature established the Water Conservation Implementation Task Force via passage of Senate Bill (SB) 1094. In SB 1094 the task force was directed to review, evaluate and recommend several water based conservation programs including the development of a best management practices guide for use by Regional Water Planning Groups and political subdivisions responsible for water delivery service. These actions enabled the Texas Commission on Environmental Quality (TCEQ) and the Texas Water Development Board (TWDB) to develop Best Management Practices (BMP's) guidelines, Task 1 Section 3 of SB 1094, for water providers of the state to consider while updating Water Conservation and Emergency Demand Management Plans. The TWDB and the TCEQ were to make efforts to implement HB 2660 which directed the two agencies to identify quantified target goals for water conservation for water suppliers and other entities. In 2007 House Bill 4 amended the Texas Water Code by requiring the Texas Commission on Environmental Quality (TCEQ) to require retail public utilities that provide potable water to 3300 or more connections to submit a Water Conservation Plan to the Texas Water Development Board. The Plan must include specific targets and goals developed by the utility using Best Management Practices or other strategies to reduce water waste, loss, and consumption. These reduction goals are to be based on municipal use in gallons per capita per day.

b. Utilization of all State resources is dictated, if affordable development is to occur on a statewide basis. Water, a basic human need, will be a major factor in development. Conservation of water is necessary if we are to meet future needs for our most valuable resource.

c. Passage of House Bill 2 and House Joint Resolution 6, Senate Bill (SB) 1094, House Bill 2660, and in 2007 House Bill 4 by the Texas Legislature and Voters of Texas, reflect that the need for conservation of water resources has been recognized and is a high priority for State Officials as well as the Environmental Protection Agency and other Federal agencies. All Water Conservation Plans must be updated every five years and are required to send in annual information on the effectiveness of the Best Management Practices adopted. The Regional Water Planning Group, TCEQ, and the Texas Water Development Board should be sent the Conservation Plan Updates as well as the annual reports for Best Management Practice effectiveness.

d. Planning Area - Proposed Project

The planning area consists of the City of Tyler and its extraterritorial jurisdiction which contains approximately 572 square miles. Tyler has a current population of 104,798 (per the 2016 American Community Survey Estimate).

e. Contingency Plan

System improvements will be developed from study and evaluation of existing conditions to establish a specific program for meeting desired goals. BMP's will be implemented to aid in the reduction of per capita water usage to attempt to meet state established targets.

f. Utility Evaluation Data

The following checklist provides a convenient method to insure that the most important items needed for the development of a conservation and an emergency demand plan program are considered.

1. Utility Evaluation Data

- (a) Population of service area = 104,798 Persons
- (b) Area of service area = 527(Sq. mi.)
- (c) Number of Retail Water Connections in service area = 35,514 (Conn)
- (d) Net rate of new connection additions per year (new connections less disconnections) = 386 (Conn)
- (e) Water use information:
 - (1) Water production for 2018 Approx. 9,674,618,367 (gal./yr.)
 - (2) Average water production for last five years Approx. = 9,033,002,962 (gal./yr.)
 - (3) Average monthly treated water provided to retail customers for last five years = 575,403,433(gal./mo.)
 - (4) Estimated Monthly Sales = \$1,717,913.79

Monthly metered amounts and revenue for 2018

Month	Metered (gallons)	Revenue
January	459,670,000	\$ 1,423,907.10
February	343,327,000	\$ 1,149,416.05
March	417,289,000	\$ 1,369,722.19
April	391,323,000	\$ 1,262,378.22
May	448,035,000	\$ 1,391,122.96
June	814,500,000	\$ 2,239,204.44
July	846,220,000	\$ 2,194,484.33
August	1,073,362,000	\$ 2,786,260.01
September	823,964,000	\$ 2,204,197.07
October	605,283,000	\$ 1,733,787.04
November	439,386,000	\$ 1,382,383.51
December	358,923,000	\$ 1,128,505.28
TOTAL	7,021,282,000	\$ 20,265,368.20
AVERAGE	585,106,833	\$ 1,688,780.68

(5) Average monthly water use (Res./Comm./Ind.) = 585,106,833 Gallons/Month

(6) Peak Daily Use (Res./Comm./Ind.) = 40,934,000 GPD

(7) Gallons Per Capita Per Day Water Use for Single Family and Multi-Family Units

Year 2014	119	GPCD
Year 2015	108	GPCD
Year 2016	111	GPCD
Year 2017	100	GPCD
Year 2018	105	GPCD

(8) Peak to average use ratio (average daily summer use divided by annual average daily use) = 1.54

(9) Unaccounted for water (% of water production) = 16.42%

(f) Safe annual yield of water supply Lake Tyler/Lake Tyler East – 40,325 ac.-ft./year; Lake Palestine 67,200 ac.-ft./year; Wells 8.0 mgd

(g) Peak daily design capacity of water system 65 mgd

(h) Major high-volume customers: Christus Trinity Mother Frances Hospital, Delek Refining Ltd., Walnut Grove W.S.C., University of Texas at Tyler, and-Southern Utilities.

(i) Population and water use projections:

<i>Year</i>	<i>Projected Population*</i>	<i>Projected Water Demand (gallons)</i>
2020	104,698	10,192,369,500
2021	105,583	10,278,495,022
2022	106,475	10,365,348,305
2023	107,375	10,452,935,498
2024	108,282	10,541,262,803

*Populations were projected using Region I projections, with an average growth rate of 0.85% annually. Water demand calculations include the wholesale water group populations at a similar growth rate, with an average demand of 230 gpcd.

(j) Percent of water supply connection in system metered: 100% Res. 100% Comm.

(k) Water rate structure/Existing rate structure: SEE “City of Tyler Water Rates”, City Code Section 19-60

(l) Average annual revenues from water rates: (calendar years 2014-2018) \$19,934,856.88

(m) Average annual revenue from non-rate derived sources: None

(n) Average annual water revenues for other purposes: None

(o) Applicable local regulations: None

(p) Applicable State, Federal, or other regulations as a Public Water Supply. The City of Tyler must abide by the rules and regulations of the following agencies:

1. Texas Commission on Environmental Quality
2. Texas Water Development Board
3. Texas Department of State Health Services
4. Environmental Protection Agency

g. Needs and Goals

1. Utilization of all State resources is dictated if affordable development is to occur on a state wide basis. Water, a basic human need, will be a major factor in development. Conservation of water is necessary if we are to meet future needs for our most valuable resource.

2. Homeowner and user education is emphasized in the City of Tyler Conservation Plan to meet the 69th Texas Legislature (1995), 78th Texas Legislature (2003) requirements as dictated by House Bill (HB) 2, House Joint Resolution (HJR) 6 (1995), Senate Bill (SB) 1094 (2003) and House Bill (HB) 2260. The plan has been prepared using guidelines, from the TWDB and TCEQ, which have been developed to meet requirements of State and Federal regulations.

3. Tyler, through customer education, city maintenance and operation, and implementation of planning elements, had originally established dual goals for the reduction of water waste, water loss and usage. These goals have been updated using 2014 through 2018 utility data information:

(a) Based on the historic five-year average of municipal water use of 230 gallon per capita day (gpcd), a five-year goal to a reduce the municipal water use by 1 % annually, or to 217 gpcd, and a ten-year goal to reduce the municipal water use by ten percent (10%) to 206 gpcd has been set.

(b)Based on 2018 residential water use of 105 gpcd, the residential water use goals

are a three percent (3%) reduction to 102 gpcd over five years and a ten-year goal to reduce residential water usage by 6 percent (6%) or 99 gpcd. During this 5-year update the City of Tyler has established these new goals based on corrected historical data to ensure the metrics are quantifiable and achievable.

(c) Based on the 2018 municipal water loss of 40 gpcd, the five-year goal for municipal water loss is set at 38 gpcd, or a five percent reduction, and the ten-year goal is to reduce water loss by 10 percent, for a goal of 36 gpcd. Goals will be met by continued implementation of the included best management practices and from other outlined planning elements.

5. Achieving the established goals will conserve our most valuable resource, water. It will also enable existing facilities to provide service for additional customers without further expenditures for expansion. However, if the need does arise, the city of Tyler does have the capability of expanding the water treatment plants, such as the Lake Palestine Water Treatment Plant, to allow for future growth for the service area.

h. Public Involvement

1. The City of Tyler City Council meets on a regular basis on the 2nd and 4th Wednesday of each month at 9:00 am. The meeting agenda is posted in accordance with State law, listing items for discussion and to be acted upon by the Council. The agenda is also posted on the City of Tyler website and a cable television channel dedicated to public information. Meetings are open to the Public, and the public is given an opportunity to speak and voice their views and opinions when listed on the agenda for comment.

2. Council meetings are often attended by representatives of local newspapers and videotaped by local television news. The meetings are videotaped in their entirety by the City and aired on the City's cable television channel. (Ord. 0-2011-15, 2/23/11) (Ord. O-2019-71; 8/28/19)

PART 3: That Tyler City Code Chapter 19, "Utilities", Article X., "Water Conservation/Emergency Demand Management Plan", Section 19-304 is hereby amended, and shall read as follows:

Section 19-304. Water Conservation Plan and Best Management Practices.

a. The following planning elements have been developed in accordance with the requirements listed in TCEQ regulations and include guidelines by the Texas Water Development Board and the Water Conservation Implementation Task Force.

- b. The Best Management Practices that have been adopted and implemented by the City of Tyler are:
- Educational Best Management Practice (BMP)
 - Plumbing Codes BMP
 - Water Conservation Retrofit Program
 - Conservation Oriented Water Rate Structure
 - System Water Audit and Water Loss BMP
 - Industrial Alternate Sources and Reuse BMP
 - Metering of All Connections and Retrofit of Existing Connections BMP
 - Prohibition on Wasting Water BMP
 - Industrial Site Specific Conservation BMP
 - Cooling Towers BMP
 - Contracts with Other Political Subdivisions
 - Record Management System
 - Annual Reporting (Ord. No. 0-2014-99; 10/22/14)

c. Educational Best Management Practice

The City of Tyler will inform its customers of various recommended methods for reduction in water consumption. Generally, a majority of water consumption in the City is consumed by residential customers. Therefore, the target area for educational information is residential customers.

1. Program or activities will consist of the activities listed:

- (a) A Fact Sheet explaining the Conservation Plan will be developed and

made available to the customers and schools.

(b) An article will be placed in the local newspaper, correlated with Fact Sheet preparation and include information on how to acquire the "Homeowners Guide", highlights of water saving methods, and elaboration on available brochures. The brochures will be available at Tyler Water Utilities Office and certain brochures will be mailed directly to the customer. One of the brochures will target one particular household water using appliance and include specific measures for conserving water.

(c) Make available to each new customer the "Homeowner's Guide to Water Use and Conservation", "Water...Half a Hundred Ways to Save It", "How to Save Water Outside the Home", or "How to Save Water Inside the Home". These new customer guides will be available at Tyler Water Utilities Office. The city will also update any guides and available materials on an annual basis.

2. The revised program will consist of the following listed activities:

(a) Updates to the water conservation portion of the Tyler Water Utilities webpage explaining ways that water conservation can be achieved at home.

(b) Brochures relating to outside household use, and car washing, lawn watering, correlated to weather predictions are available to customers in the TWU office and made available either by mail out, pick up or via the City's web page.

(c) "Homeowner's Guide to Water Use and Conservation", "Water...Half a Hundred Ways to Save It", "How to Save Water Outside the Home", or "How to Save Water Inside the Home" brochures will continue to be distributed to new customers.

3. New customers will be advised of the City's Conservation Program and provided with a copy of Homeowners Guide and other listed guides and brochures, if requested. The City will utilize resource materials available from the Texas Commission on Environmental Quality and other agencies or organizations which develop and distribute pertinent information or data on water conservation to water customers throughout the state.

4. Educational materials will be given to area schools for use with taught curriculum to emphasize the importance of conservation. The target goal is to reach 10% of students on an annual basis, on a tiered program.

5. Educational tours of the water and wastewater treatment facilities are given to area schools, groups, and clubs to provide education on the operation of the facilities and the need for conservation methods at home, work, and school.

6. Educational BMPs are usually are not quantifiable, therefore an estimate of savings will not be included for this BMP. The end result of an educational program is a long-term investment in the customers and their families that when taught conservation it will be more likely that they will follow the teachings and therefore conserve water and money through installation of water saving devices, performing outside watering activities at appropriate times and with proper tools.

d. Implementation

1. Educational materials have been distributed to area elementary schools starting the first year along with information regarding the availability for tours to the water and wastewater treatment facilities.

2. During the second year of implementation, the area intermediate/ middle schools were targeted for educational materials and informational tours.

3. The third year of implementation targeted the area high schools and higher education facilities. Tours for this level was also available. Materials and other such programs are made available.

4. Organizations, clubs and groups including scouting programs, 4-H, and boys & girls clubs were encouraged to participate in the tour programs and received educational materials.

5. Documentation of the educational materials and type of materials made available to the schools, groups, clubs and other organizations was kept on file and reported annually. The report included the approximate percent of students reached by the distribution of such materials

and that said materials met state curriculum requirements. This information is also reported on the required annual reports to TCEQ and TWDB.

6. Documentation of the number of presentations made on an annual basis will be kept on file and reported annually.

7. An annual budget for the educational materials and presentation programs related to conservation shall also be included in the annual report.

e. Plumbing Codes

The City of Tyler currently uses the 2015 edition of the International Plumbing Code as the plumbing code. This Code included requirements for the use of water saving plumbing fixtures in new construction.

f. Water Conservation Retrofit Program:

The City of Tyler encourages customers to utilize low demand fixtures and appliances through proposed educational sources described in this Plan. The City advises customers of low water demand items, shower heads, toilet dams, etc., by mail, and/or publication of newspaper articles, emphasizing the importance of water saving devices. The City will contact local suppliers of plumbing supplies advising them of the water saving drive content. Suppliers will be encouraged to stock low water usage fixtures and low water use supplies. Different programs for new more energy efficient appliances and household items will be offered either through the city or in partnership with the city to customers. Typically, these programs are brought to the attention of the customers via the city's webpage and/ or by publication using various types of media.

g. Conservation Oriented Water Rate Structure

City of Tyler Water Rate Structure

(30 TAC 288.2 (a)(1)(H))(City of Tyler Code Section 19.60)

Currently, the City of Tyler's rate structure is a "Declining Block" Rate Structure. The Declining Block Rate Structure is cost-based and does not encourage the excessive use of water. Tyler uses a declining block rate structure because it reflects the manner in which costs are incurred and equitably allocates these costs among the various types of customers served. Tyler reviews and updates its costs and usage patterns every five years and updates its rates accordingly. The City is currently reviewing this rate structure and plans to convert to an inclining block rate design to conform to TCEQ reg

h. System Water Audit and Water Loss

1. The city of Tyler will implement the System Water Audit and Water Loss BMP from the TCEQ and TWDB Best Management Practices Guidelines starting in the first year and in phases through the remainder of the first five year planning period.

2. The City conducted a system water audit in two parts, the first of which is known as a "Top Down" audit. The city used existing records to determine estimated annual water loss. Previously, the city of Tyler has a water loss of approximately 10 %. The city has been fortunate and continued diligently to keep other information such as customer billing summaries, leak repair summaries, meter change out summaries and other relevant water use summaries and was able to continue the current number of approximately 9 to 10%, depending on the season. The water utility billing software is currently capable of reporting the necessary "top-down" audit information needed. Annually the city gathers the "top down" audit information, they then determine the areas of concern and the proper conservation techniques to implement to bring down the water loss percentage and report this information to the appropriate agency. The City of Tyler's goal is to have the lowest percentage of "unaccounted for water" or "water loss" possible. The City has set a target goal of an ILI of 3. If the ILI of 3 is still not met with implementing the BMP, the city will continue with the second step of the water audit.

3. Several phases of the "bottom-up" portion of the water audit were implemented over the remainder of this last five year period. This second step, involved the detailed investigation of policies and procedures of the utility. The "bottom-up" portion of the audit also includes procedures for all water use by the fire department, for line flushing, street cleaning and all other authorized uses to be metered and or accounted for.

4. A "leak detection program" will be implemented to monitor the system for leaks. Records will be kept to track the repair of the leak including the length of time for repair, pressure of the repaired line, and approximate amount of water lost due to the leak.

5. A program to monitor system pressures will also be set up to monitor pressures throughout the system to aid in locating line leaks.

6. A computerized water model of the Tyler water system will be prepared and added to as necessary.

i. Implementation

The City of Tyler has implemented the BMP using all available resources. The city's goal, as stated previously, is an ILI of 3. In order to reach this goal, the city will have to continue to be proactive in the actions and steps taken during the continued implementation of the Water Loss Audit Best Management Practice. Descriptions of the steps taken are as follows:

1. A utility system water model was prepared. The system model is instrumental in assessing large leakage loss amounts, system pressures and confirming pressure zones.
2. Staff will 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.
3. The water utilities staff will make regular inspections on water mains, fittings, and connections, to include fire hydrants. Results are kept as reference for annual updates.
4. A leak detection program was started including training for all water utilities staff.
 - (a) Staff performs leak surveys in addition to the regular inspections of the water mains and connections.
 - (b) Leaks are tracked by the Utilities Department for water loss estimation, time from report to repair, and volume of leak.
 - (c) Customer complaints/ reports of leakage, taste and odor and all other complaints are kept on file with the Utilities Department.
5. All meter readers and maintenance employees will have training on visual inspections and leak detection. A previously implemented citywide meter change-out program has been completed. A meter repair and replacement program will continue which includes the following procedures:
 - (a) Failed meters will be replaced when located.
 - (b) Meters replaced through the City's contract with Johnson Controls have a ten year warranty.
 - (c) 2 % of meters will be tested annually to be within 5% accuracy.
 - (d) All municipal connections will be metered for increased accuracy of water use.
 - (e) A street cleaner water use tracking method has been put in place and monitored.
 - (f) Unauthorized taps or water thefts will be assessed a charge for the illegal tap, and disconnection of the illegal tap.

j. Water Audits and Leak Detection

1. Another aspect to the water audit BMP is the monitoring of monthly consumption. All records are kept up to date and monitored for fluctuation. The Audit System has become a major tool in system management. This Plan has developed a reliable and effective leak detection program. It is estimated unaccounted for water can be reduced by approximately one percent (1%) per year. The City is aware that assistance in leak detecting surveys can be obtained from the Texas Water Development Board (TWDB) Staff. The TWDB has portable leak detection equipment available for loan to municipalities and can provide personnel for demonstration of equipment and assist in planning survey programs.

2. The city wide meter replacement and aggressive enactment of a stricter detection program has enabled city staff to determine the need for possibly seeking further assistance for the use of electronic equipment when necessary. The current detection program consists of the following observations and activities:

- (a) Leaks reported by citizens.
- (b) Leak detection by Meter Readers.
- (c) Continual checking and servicing of production, pumping and storage facilities.

(d) Quick response by water utilities staff to respond to reported problems.

k. Industrial Alternate Sources and Reuse of Process Water

1. Area industrial customers were contacted to determine if reuse and recycling is being employed. One such water customer, Kelly & Vesuvius, Inc., uses raw untreated water and reuses wastewater by returning it to their product line and reusing it for process again.

2. However, at this time wastewater reuse is not possible by the city of Tyler. The location of the Wastewater treatment plant with relation to industrial users is not conducive. The City is not located in an arid section of Texas, and therefore reuse for irrigation purposes has not been developed.

l. Prohibition on Wasting Water

1. The city of Tyler, through an ordinance already in place, requires water users to be conservation minded when watering and using water, whether it is residential or commercial. The adopted city ordinance is posted on the city's website. During the Education BMP, the education of the city's customers has been detailed. Educational materials have been available at the Tyler Water Utilities Office and others have been mailed directly to the customer.

2. A system has been developed to track offenders and include violations, compliance notification, and other pertinent information. Compliance notifications are kept up to date to help locate potential theft situations. The city of Tyler is committed to keep the citizens of Tyler educated on the importance of water conservation.

m. Industrial Site Specific Conservation

Southwest Dairies is a large industrial water user within the city of Tyler's water system. The dairy has installed new technology to reduce their water consumption and increase the efficiency of the water that is utilized in the operation of the plant.

n. Cooling Towers

Trane Corporation is an industrial business located within the Tyler water system. Trane Corp. has partial use of the G.E. Elevated Water Tank for use in their plant. This major industrial water consumer uses cooling towers in its process. The Trane Corporation has a policy to periodically modify and replace the cooling towers, as necessary. The replacement and modification to the cooling towers at the plant increases the efficiency of the systems as it relates to water usage.

o. Means of Implementation and Enforcement

The City Manager, through his staff, has implemented the Conservation Plan and Best Management Practices (BMP) in accordance with City Council adoption of the Plan updates and included Best Management Practices. Enforcement will be provided by:

1. Refusing to provide taps for customers who do not meet requirements for Water Conservation fixtures as established by adopted international Plumbing Code.

2. Nonpayment of water bills will initiate prompt discontinuation of service. Service will be disconnected.

3. Analysis of water rates and adjusting rates as deemed appropriately by the City Council.

4. Immediate repair of leaks or the service will be shut off until the leak has been properly fixed. (Currently in a city ordinance)

5. Prosecution of water thefts with enforcing tap fees and immediate discontinuation of the water service including but not limited to having the meter locked out on

any legal meters that were used for the illegal tap.

p. Contracts With Other Political Subdivisions

1. Any political subdivision and/or wholesale customer contracting for water from the City of Tyler must have (1) an approved Texas Commission on Environmental Quality Water Conservation and Emergency Demand Management Plan in effect and/ or (2) must officially adopt applicable provisions of the City of Tyler's Water Conservation Drought Contingency and Emergency Demand Management Plan. Currently the City of Tyler has wholesale water contracts with the city of Whitehouse, Community Water and Walnut Grove Water Supply Corporation.

2. All City of Tyler Wholesale Water Contracts include the following, under Article 6.3 Water Conservation and Demand Management:

"6.3 Water Conservation. Wholesale Water Buyer shall cooperate with and assist Tyler 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, or increase the recycling and reuse of water. 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. Wholesale Water Buyer agrees to develop and implement drought contingency and conservation plans or measures required by federal or state agencies or other regulatory jurisdictions, including but not limited to 30 TAC Section 288.2 (a)(2) and (3). The buyer shall provide a copy of such plans to Tyler within ten (10) days of Plan implementation date. Such Plans shall be consistent with and as stringent as Tyler's adopted Plans. If Tyler determines that the Buyer's plans do not meet this standard, Tyler shall notify the Buyer of the deficiency in writing. The Buyer shall then amend its plans to and re-submit the Plans for Tyler's review.

6.3(a) 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. See Exhibit below this section for approximate reductions based on Average Daily Demand.

Wholesale Connections (Average Daily Demand - ADD)								
			Stage I		Stage II		Stage III	
	Average Daily Demand (Gallons)	Average Daily Demand (MGD)	5 % ADD Reduction (Gallons)	5 % ADD Reduction (MGD)	10 % ADD Reduction (Gallons)	10 % ADD Reduction (MGD)	15 % ADD Reduction (Gallons)	15 % ADD Reduction (MGD)
Community Water	78,176	0.0782	3,909	0.0039	7,818	0.0078	11,726	0.0117
City of Whitehouse	68,281	0.0683	3,414	0.0034	6,828	0.0068	10,242	0.0102
Walnut Grove	538,829	0.5388	26,941	0.0269	53,883	0.0539	80,824	0.0808

6.3.(b) 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.”

See Code Sections 19-278 - 19-280.

q. Record Management System

(30 TAC 288.2 (a) (1) (B);

The city of Tyler has a record management system which allows for the classification of sales and uses into the most detailed level of water use data currently available to it, including lists in the sectors listed in clauses (i)- (vi) of (30 TAC 288.2 (a) (1)(B):

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

r. Annual Reporting

The City through adoption of this Plan, will continue to commit to report to the Executive Director of the Texas Commission on Environmental Quality Water, annually. The report to the Director will contain information describing:


- 1. Progress in Conservation Plan implementation.
- 2. Public response to plan implementation and operation.
- 3. Quantitative effectiveness with reference to:
 - (a) System reduction
 - (b) Reduction in customer or per capita use

4. List of public information released during the year. (Ord. 0-2011-15, 2/23/11)
(Ord. No. 0-2014-99; 10/22/14) (Ord. No. O-2019-71; 8/28/19)

PART 4: That if any provision or any section of this ordinance shall be held to be void or unconstitutional, such holding shall in no way affect the validity of the remaining provisions or sections of this ordinance, which shall remain in full force and effect.

PART 5: That this ordinance shall take effect immediately upon its adoption.

PASSED AND APPROVED this 28th day of August, A. D., 2019.



MARTIN HEINES, MAYOR
OF THE CITY OF TYLER, TEXAS


ATTEST:

APPROVED:



CASSANDRA BRAGER, CITY CLERK





DEBORAH G. PULLUM,
CITY ATTORNEY