

ORDINANCE NO. 2018-O-05A

WATER CONSERVATION PLAN ORDINANCE

AN ORDINANCE AMENDING THE CITY OF MARBLE FALLS, CODE OF ORDINANCES, AMENDING DIVISION 4 (WATER CONSERVATION PLAN), ARTICLE 11 (WATER) CHAPTER 26 (UTILITIES) TO REPLACE THE CITY'S WATER CONSERVATION PLAN IN ITS ENTIRETY WITH A REVISED PLAN THAT CONTAINS VARIOUS UPDATES; PROVIDING FINDINGS OF FACT; PROVIDING FOR REPEAL OF CONFLICTING PROVISIONS; PROVIDING AN EFFECTIVE DATE; PROVIDING FOR PROPER NOTICE AND OPEN MEETING.

WHEREAS, the City of Marble Falls (City), is legally empowered to enact and amend ordinances for the protection of the health, safety and welfare of its residents; and,

WHEREAS, pursuant to state law, the City Council hereby amends the existing Water Conservation Plan to include system updates and the associated best management practices to ensure responsible use of the water supply for the residents; and,

WHEREAS, the City Council has determined that adoption of the revised plan is in the best interest of the city and its citizens services.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF MARBLE FALLS, TEXAS, THAT:

SECTION I. FINDINGS OF FACT. All of the above premises are hereby found to be true and correct legislative and factual findings of the City of Marble Falls and are hereby approved and incorporated into the body of this ordinance as if copied in their entirety.

SECTION II. AMENDMENTS The City of Marble Falls Code of Ordinances Chapter 26, is hereby amended by the repeal of the current Division 4, Water Conservation Plan, and replacing it so that it shall hereafter read in its entirety as follows.

DIVISION 4. – WATER CONSERVATION PLAN

Sec. 26-55.1. – Utility Profile.

- (a) **Water System.** The City of Marble Falls obtains its raw water supply from Lake Marble Falls through a water supply agreement with the Lower Colorado River Authority (LCRA). The City's Utility Department is the managing municipal entity that operates the surface water treatment facility that withdraws raw water from the Colorado River/Lake Marble Falls and treats and delivers the potable water to its retail service

area customers. The City’s water utility operates as Texas Commission on Environmental Quality (TCEQ) Public Water System #270026 and serves the area defined by TCEQ Certificate of Convenience and Necessity (CCN) #1137. The City of Marble Falls currently serves a population of 6,700 comprising of approximately three thousand one hundred and ninety-two (3,192) connections of which approximately seventy-five (75) percent are residential and twenty-five (25) are commercial. The service area boundaries extended to the Subdivision of Highland Hills to the north, south to Texas State Highway 71, east to 3151 FM 1431 and west to FM 2400 1431. All residential and commercial properties are connected to the water system. The average daily usage from the three (3) past years is 1.405 mgd. Peak demand of 2.90 mgd for the City occurred in August 2012. The projected population for the service area is as follows:

YEAR	POPULATION
2020	8,784
2030	12,906
2040	18,684
2050	21,713
2060	23,732

A central water plant serves the City of Marble Falls; it controls the level in three (3) ground storage tanks, one (1) standpipe, and three (3) elevated storage tanks.

The water system constraints include geology and some undersized water mains which provide marginal fire flows.

The City of Marble Falls has created a Water/Wastewater Master Plan and has initiated several infrastructure improvements to the water system in recent years. The City is currently in Phase IV of water plant expansion, going from three (3) mgd to 4.8 mgd. We are replacing a five-hundred-gallon ground storage tank with a six hundred-thousand-gallon storage tank and have replaced multiple aging service lines in the distribution system.

The City is divided into seven (7) pressure planes to assure better service. The City of Marble Falls will continue to improve the distribution system with major construction as funding permits.

- (b) Wastewater System. The City of Marble Falls Wastewater System currently has an average daily flow of 1.034 mgd with a peak monthly flow of thirty-five (35) million gallons, which occurred in August 2017.

There are approximately five (5) percent of water service connections in the City that are served by private sewage facilities.

An extended aeration activated sludge plant currently serves the City of Marble Falls wastewater treatment needs. This plant has four (4) clarifiers, two (2) oxidation

ditches, an AquaDisk filtration system and an aerobic digester with belt press. The plant is approaching seventy-five (75) percent threshold. The City has recently upgraded to convert the process to a reclaimed water system enabling the City to produce Type 1 effluent. The City has begun irrigation of its parks utilizing the treated effluent and saving over 63 acre-feet of water annually, reducing the potable water demand. Capital Improvements for the coming years include beginning design on a second wastewater treatment plant and extending the reclaimed water system to additional parks and sports fields throughout the City as well as a neighboring municipal golf course to utilize treated effluent for irrigation.

(c) **Financial Data**

Water Rates:

Residential and commercial customers shall be charged the minimum monthly rates per metered water connection as established in the water/wastewater rate ordinance. These charges are levied in accordance with the size of the meter serving the customer and the type of customer.

The City implemented an inclined block water rate structure in 2013 wherein the unit cost of water increases within blocks as water usage increases. The inclined block structure encourages conservation with lower rates for lower volume users and higher rates for higher volume users. Annual audits are conducted to evaluate promoting conservation. The rate structure does not impact low end users alleviating the burden on low income and fixed income residents.

The water rate for Type I effluent is set at one-half of the current water rate for potable water.

Water rates for the sale of bulk water will be at the rate established in the water/wastewater ordinance. The purchaser is responsible for providing a container approved for transportation of the water. The sale of bulk water will not be allowed for resale purpose to residents outside the City limits once Stage 3 is reached or any stage beyond that, under the Drought Contingency Plan.

Sec. 26-55.2. – Plan Elements

(a) *Education and Public Information.*

Education. The City makes available water conservation education materials for its customers on an on-going basis. Such information shall be provided to customers through various mediums including but not limited to: utility bill inserts, pamphlets provided at public facilities, direct mailings, the City website, social media, school presentations, and periodic articles published in the local designated newspaper. When appropriate, the City shall also coordinate education efforts with local water suppliers, agencies, and regulators to promote water conservation education. Additionally, the City will conduct or participate in at least one (1) annual water conservation event or activity.

Public Information. The City has partnered with the Texas Water Development Board (TWDB) to implement the state wide public awareness program, Water IQ. The City currently utilizes literature, web links and informational packets to customers with material compiled by the TWDB to raise awareness of the need for water conservation in our community. New utility and change of service customers are provided water conservation literature as well as public service information regarding the status of the drought response stage during the application process. The same information will be made available to existing utility customers through the City website and at City Hall. Water conservation information for “Water Savings Methods” that can be practiced with the Individual Water User is also available in the administration offices.

- (b) *Plumbing Codes.* The City’s currently adopted version of the International Plumbing Code and the International Energy Conservation Code requires saving plumbing devices on all new construction. State and Federal laws require that homes constructed after 1992 have low flow (less than three (3) gallons per minute) showerhead, faucet aerators and ultra-low flush (1.6 gallons per flush) toilet installed.
- (c) *Retrofit Program.* The City will make available, through its education and information programs, information for water customer use when purchasing and installing plumbing fixtures, lawn watering equipment or water using appliances. The program will inform existing users of the advantages of installing water saving devices. Additionally, the City in partnership with LCRA, makes available to customers low flow shower heads and faucet aerators at no charge and upon request.
- (d) *Water Conservation Oriented Pricing Structure.* The City has implemented an inclined block water rate structure where in the unit cost of water increases within blocks as customer usage increases. The inclined block structure has been effective in encouraging conservation with lower rates for lower volume users and higher rates for higher volume users. Annual audits are conducted to evaluate promoting conservation. The rate structure does not impact low end users alleviating the burden on low income and fixed income residents.
- (e) *Universal Metering.* All water customers, including utility, City offices and public facilities, are presently metered. Also, master metered are currently installed and periodically calibrated at all existing water sources. All new construction is separately metered.

The City, through its computer billing system, currently monitors water consumption and inspects meters, which vary from its previously established norms. In addition, the City will adopt a meter maintenance and replacement program as follows

- (1) Production (master) meters – test once per year
- (2) Meters larger than one inch – test once per year
- (3) Meters one inch or smaller – test once every ten (10) years

Through a successful meter maintenance program coupled with computerized billing,

water audits, timely repairs, and leak detection program, the City of Marble Falls will keep unaccounted for water losses below fifteen (15) percent.

(f) *Landscape Irrigation Conservation Initiatives.* In order to reduce the demands placed on the water system by landscape watering, the City adopted new landscape regulations requiring all redevelopment and new development to adhere to the City's approved plants and trees list which includes only native, adaptive and drought tolerant trees, plants, grasses and vegetation. Additionally, the City will encourage customers and local landscaping companies to utilize water saving practices in installation and the maintenance of landscaping for residential and commercial institutions. Some of the methods to be promoted are as follows:

1. Require landscape architects to use native and adapted plant materials that can tolerate periods with low water input and require less fertilizers and pesticides to maintain, as well as water efficient irrigation system design and technologies, such as hydro zones to group plant materials of similar water needs.
2. Require licensed irrigation contractors to permit and install all irrigation systems with water efficient features, such as:
 - a. Proper irrigation system design techniques to match the landscape design, accommodate prevailing wind patterns, and minimize overspray onto hardscapes;
 - b. Sprinklers that emit large drops rather than fine mist;
 - c. Irrigation controllers that offer multiple start times, are capable of running multiple programs, have a water budget feature and are rain or moisture sensor capable;
 - d. Rain or moisture sensors to prevent irrigation system operation during rainfall events;
 - e. Drip irrigation where possible, and in all landscaped areas less than ten (10) feet wide (medians, parking islands, etc.).
3. Encourage commercial establishments to use drip irrigation for landscape watering, when practical, and to install only ornamental fountains that recycle and use minimal quantities of water.
4. Encourage the utilization of separate irrigation meters in an effort to more effectively monitor and manage landscape irrigation usage.
5. Partner with LCRA to conduct no cost evaluations of landscape irrigation systems for citizens and provide citizens with information regarding the irrigation technology rebate program.

(g) *Leak Detection and Repair.* The City conducts monthly water system audits in order to track for unaccounted water. Current loss is calculated to be at 8.0%. City maintenance technicians also conduct visual inspections at meters on a monthly basis in order to monitor leaks. Additionally, through its computerized billing program, the City can readily identify excessive water use determined to be a water leak. When identified, leaks are repaired immediately. In accordance with the requirements set forth by LCRA and the TWDB, the City performs a comprehensive water system audit annually.

(h) *Recycle and Reuse.* In 2017, the City completed the design of the Water Reuse Master

Plan. The City currently reuses all wastewater effluent produced at the City's wastewater treatment facility for irrigation of city parks, city owned soccer fields, for industrial use and a coastal hay farm. Future capital improvement projects will allow for additional City owned parks, a neighboring municipal golf course, and school sports facilities for irrigation with treated effluent.

- (i) *Drought Contingency Plan.* When conditions indicate a possible water shortage by drought or any other event that could occur to the water supply that would create an emergency situation, the City shall enact the drought contingency plan, Division 3 of Article II of Chapter 26 of the City's Code of Ordinances. The City prohibits inefficient water management under the various drought response stages in an effort to conserve water.
- (j) *Implementation/Enforcement.* The City Manager and/or his designee will act as the administrator of the water conservation program. The administrator will oversee the execution and implementation of all elements of the program. The administrator will be responsible to supervise the keeping of adequate records from program verification. The administrator will also ensure that the water conservation plan is properly updated and filed every five (5) years with the LCRA and TCEQ.

The City will adopt the final approved plan and commit to maintain the program for the duration of the City's financial obligation to the State of Texas should it be necessary.

- (k) *Annual Report.* In addition to the above outlined responsibilities, the administrator will submit the Annual Water Conservation Implementation report to the TWDB and TCEQ on the status of the water conservation plan. The report will include the following:
 - (1) Public information which has been issued.
 - (2) Public response to plan.
 - (3) Effectiveness of water conservation plan in reducing water consumption by providing production and sales records.
- (l) *Contracts with other Political Subdivisions.* The City will, as part of contract for sale of water to any other political subdivision, require that entity to adopt applicable provisions of the City's water conservation and drought contingency plan or have a plan in effect previously approved by the TCEQ that is at least as stringent as the City's. These provisions will be through contractual agreement prior to the sale of any water to the political subdivision.
- (m) *Conservation Goals.* The quantitative goals as required by Title 30, Texas Administrative Code, Chapter 288 (30TAC 288) are stated below. The city's annual average water use is 202 gpcd. The City's annual water loss is 8%.
 - (1) Five Year Conservation Goals
 - a. Reduce the average per capita day water use by 2.0% by 2024 with a goal of achieving 197.6 gpcd
 - b. Complete reuse infrastructure to allow for additional City owned parks and sports fields to be irrigated with treated effluent.

- c. Conduct an annual survey of scheduled portions of the water distribution system with acoustical leak detection and ultrasonic flow meter testing equipment as an extra measure in reducing water loss.
- d. The City will work with LCRA to offer irrigation audits to residential and commercial customers.
- e. Transition from manual meter reading to an Automatic Metering Infrastructure (AMI) system to target water loss more effectively and increase efficiency in metering.
- f. Reduce loss by 1% annually.

(2) Ten Year Conservation Goals

- a. Reduce the average per capita day water use by 2.0% between 2024 and 2029 with a goal of achieving 193.6 gpcd.
- b. Utilize all available treated effluent for irrigation throughout the City.
- c. Continue to reduce loss by 1.0% annually.

SECTION III. REPEALER. All other ordinances or parts of ordinances in force when the provisions of this ordinance become effective which are inconsistent or in conflict with the terms and provisions of this ordinance are hereby expressly repealed to the extent that such inconsistency is apparent. This ordinance shall not be construed to require or allow any act which is prohibited by any other ordinance.

SECTION IV. SEVERABILITY. If any section, subsection, clause, phrase or provision of this Ordinance, or the application thereof to any person or circumstance, shall to any extent be held by a court competent jurisdiction to be invalid, void or unconstitutional, the remaining sections, subsection, clauses, phrases and provisions of this Ordinance, or the application thereof to any person or circumstance, shall remain in full force and effect and shall in no way be affected, impaired or invalidated.

SECTION V. EFFECTIVE DATE. This ordinance shall take effect immediately upon passage.

SECTION VI. PROPER NOTICE AND MEETING. It is hereby officially found and determined that the meeting at which this ordinance was passed was open to the public as required and that public notice of the time, place and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of the Texas Government Code. Notice was also provided as required by Chapter 52 of the Texas Local Government Code.

ADOPTED AND APPROVED on this 1st day of May, 2018 by a vote of the City Council of the City of Marble Falls, Texas.

CITY OF MARBLE FALLS



John Packer, Mayor

ATTEST:



Christina McDonald, City Secretary

APPROVED AS TO FORM:



Patty L. Akers, City Attorney